PROVIDER & PATIENT PORTALS

Deborah Kohn, MPH, RHIA, CHE, CPHIMS
dkohn@daksystcons.com

Deborah Kohn is the principal of Dak Systems Consulting, a national healthcare information technology consultancy.

Introduction

It's been a decade since the Internet and its derived technologies, such as the World Wide Web, intranets, and portals, appeared in health care organizations (HCOs) and had information technology (IT) departments scrambling to employ Java programmers and Web site developers. Even during the perilous times of Y2K, the dot-com bust, and HIPAA, strategic and tactical Internet initiatives continued to surface. Today, these initiatives are wisely based on HCOs' commitments to use technology to support their missions, operations and objectives – namely to deploy clinical information systems and components of the electronic health record (EHR) to advance patient safety, privacy, and care.

The birth of portals

Functionally, a Web portal is defined as a single point of personalized access (i.e., an entryway) through which to find and deliver information, applications, and services.

Web portals began in the consumer market with the large, public, online Internet service provider Web sites, such as AOL and CompuServe. Portals offered these Web sites' visitors fast, centralized access to Internet services and information found on those sites. In addition, in an effort to ensure that visitors would return to these Web sites, the large public directory and search engine Web sites, such as Yahoo and Lycos, began to offer customized and personalized interaction with the Web on their portals. Customized interaction allows Web site visitors / portal users to create customized, relevant views of the Web site at the role and individual levels. Personalized interaction provides Web site / portal sponsors a means to filter information to meet the unique needs of users based on their roles and preferences.

At about the same time, private organizations, such as commercial companies and HCOs began to deploy intranets to address their internal business needs. The intranets became analogous to internal "Internets". However, unlike the public, external Internet, these intranets were developed within secure, private environments and restricted access only to authorized users.

Soon, the private organizations recognized that Web portals were a way to provide easy access to all the private organizations' internal information, offering a central aggregation point or gateway to the organizations' data via a Web browser. As such, the portals became analogous to internal "World Wide Webs". However, unlike the public, external Web, these portals also were developed within secure, private environments, restricting access only to authorized users.

Web portals quickly evolved into an effective medium for not only providing secure access to private organizations' applications, but also an effective medium for including links to the many different applications and systems utilized by the organizations' diverse, disconnected participants. Consequently, technically, a Web portal became defined as a collection of software tools that aggregates information from internal and external data sources, presents information in a context that is intuitive, and provides users the ability to navigate within contexts from any piece of information related to it, no matter from what application the information is coming.

The birth of provider portals

For those in healthcare IT, the early 1990s was a time when, prior to the introduction in HCOs of the Internet and its derived technologies, the concept of the clinical or physician workstation was evangelized to assist HCOs in attracting physicians to the HCO and integrating the organizations' multiple, disparate information systems. However, by early 2000, clinical or physician portals began appearing as a way to develop loyalty to the HCO. This is because HCO portal brands, like the "Yahoo" brand, induced physicians to work with the organization that provided the portal. Also at this time, clinical or physician portals began appearing as a way for clinicians to easily access (via a Web browser from their office computers or any network-addressable device, such as a wireless Personal Digital Assistant [PDA]) an organization's multiple sources of structured and unstructured data, such as laboratory test results and diagnostic image data, respectively.

Similar to the evolution of commercial portals, but unlike the 1990s' clinical / physician workstation concept, clinical / physician (i.e., provider) portals became analogous to internal, private "Webs", restricting user access to the data and applications contained within the portal. This capability was crucial to protect the integrity of decisions made by healthcare providers and to ensure confidentiality of patient information mandated by HIPAA.

More important, provider portals began providing more functionality. As such, portals began to offer physicians an electronic, "one-stop shopping mall" of all the IT products, services, and clinical information a physician needed residing behind the browser.

For example, provider portals included customization functionality so that providers could individually customize the portal's "look and feel" based on each provider's unique roles and preferences, such as links to sports news or patient lists. They leveraged (personalized) the physician's previous habits and known, observed, and predictive profile information by making automatic decisions about what data to display and how to display the data. (This is the same functionality provided by Web sites such as Amazon.com, when Amazon.com knows that the user has a history of buying mystery novels and, therefore, automatically displays for that user new mystery novels at every sign on.)

Provider portals offered simplified methods of creating taxonomies (i.e., categories of data), such as diagnoses, dictations, test results, or patient lists. They included single sign-on functionality, allowing providers to sign on to the multiple data sources with a single password and user ID. They provided search functionality, such as Google, so that providers could access one of the finest tools for disease and care management research. They included proactive notification functionality that "pings" physicians on wired or wireless devices, if / when appropriate to react to abnormal test results, diagnoses, etc.

In short, in HCOs with EHR implementations, provider portals allowed physicians to easily access and use the EHR!

The birth and implementation of patient portals
As EHR implementations progressed, it soon became clear that provider portals not only offered a way of addressing some of the deployment and even cost issues of implementing EHRs across

the enterprise, but included other EHR information and transactions that could benefit patients. Consequently, savvy CIOs and marketing executives determined that extending the reach of the portal to the patient could further enhance HCOs' images and relationships with their patient customers as well as develop community loyalties.

However, to do this, HCOs first had to determine the primary patient audience: Current patients? Past patients? Potential patients? Then, they had to identify the specific kinds of information and transactions that patients wanted as well as what components of the medical record and administrative services it made sense for the portal to offer.

This required a new understanding of what information patient customers were interested and what keeps them coming back. For example, developing a group of regular portal users who return to the Web site time after time requires an on-going effort. Tactics, such as email reminders and online support groups for various diseases are crucial for obtaining repeat usage.

Consequently, HCOs quickly learned that launching a patient portal vs. launching a provider portal requires a different yet complementary set of HCO planners and developers. The planning for patient portals includes knowledge of both marketing and patient customer service. For example, patient portal marketing requires integrating portal information with traditional marketing materials and developing reciprocal links. Also, it requires bringing physicians and nurses into the program so that they can encourage patient use by assisting in the development of a variety of online and offline materials. In addition, it can involve patient-centric incentive programs as effective means of encouraging patients to try the site.

Patient portal customer service requires extensive planning skills so that HCO staff can handle portal inquiries and questions seamlessly and within the guidelines of HIPAA. Also, strategic planning skills are required to evaluate patient expectations ahead of time and develop metrics that measure outcomes.

Today, more than 25 percent of Hospitals & Healthcare Networks' Most Wired Magazine's "Most Wired" hospitals and health systems offer patients access to services and information through patient portals and related, interactive, Web site services. Physician referrals, requests for medical advice, appointment scheduling, prescription renewal, and bill payment top the list.

Other services include pre-registration, claims queries, and accessing test results. [1] All these services allow patients to manage their own care at their convenience and reduce HCO staff time associated with patient inquiries. Also, these services dovetail well with HIPAA by empowering patients with the authority to determine who can have access to their health information.

Clearly, patient portals can significantly enhance HCOs and their customer services, but they can lead to expensive and embarrassing failures. Recently, the University of Pittsburgh Medical Center dismantled its patient portal online prescription renewal capability because it was discovered that the form, which asked patients for their names and Social Security numbers, lacked adequate encryption safeguards to ensure patient privacy[2].

Conclusion

Provider and patient portals can have a significant impact not only for HCOs but for regional health information exchange initiatives, such as Regional Health Information Organizations (RHIOs). For example, portals can provide the electronic *foundation* for a community's patients' longitudinal (i.e., pre-natal to post-mortem) medical records, consisting of hundreds of community-based encounters with hundreds of diverse, community-based providers and provider organizations (i.e., providing continuity of care in today's fragmented healthcare system).

Typically, HCOs, including RHIOs, acquire their portal platform applications from their core, clinical information system vendors. Unfortunately, many of these organizations are finding that the portal applications are not what they expected. This is because Web portal software is often perceived as an add-on to a larger information system purchase. And, typically, vendors, for their part, do not put a lot of effort in customizing and implementing the portal software because it's a "lower-ticket" or smaller item on a large contract.

Therefore, HCOs and their healthcare IT decision-makers should not ignore the connections between the portal technology solutions and their organizational and IT business strategies and planning processes. They should think of their portals as independent, robust and scalable architectures that feature integrated solutions to the challenges of healthcare user diversity and technology evolution.   In addition, as stated earlier, they should continue to use this Internet-

derived technology to deploy clinical information systems and components of the EHR to
advance patient safety, privacy, and care.

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[1] 2004 Most Wired Survey and Benchmarking Study; Hospitals & Health Networks' <u>Most Wired</u> Magazine, Spring
2005, page 44.
[2] Snowbeck; <u>Pittsburgh Post-Gazette</u>, May 27, 2005.