

White Paper

Finding ROI in EHRs

3 Keys to Maximize Patient Portal Benefits

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To some health care providers, the value of electronic health records (EHRs) is controversial. Better access to patient information, clinical decision support, and automated reporting is often coupled with slower workflow, new opportunities for mistakes, and updated fraud schemes. While many practitioners understand the intended benefits of the platforms, the time consuming and often expensive process of maturing a complex EHR can elicit uncertainty from the most motivated health care change agents. After large investments in core EHR platforms, many are asking, where is the ROI?

In response to this question, we investigate the patient portal as a crucial complement to the core EHR platform that can produce significant value for providers and their patients.

The use of patient portals continues to grow¹, given impetus by Stage 2 Meaningful Use incentives with the goal of improving patients' understanding of their health and related conditions so they take a more active role in their health care. To qualify for the Meaningful Use incentives under this requirement, eligible professionals and hospitals must show that at least 5 percent of their patients view, download, and transmit their health information via a patient portal.

Increasing patient engagement is vital to improving patients' health outcomes, according to the U.S. Department of Health and Human Services (HHS)², since well-informed patients are better equipped to communicate important health information to their providers and more likely to comply with their provider's recommendations.

As patient portals continue to solidify their role in patient engagement and effective health care delivery, the right deployment considerations will help maximize the clinical and financial benefits.

“Approximately 50 percent of U.S. hospitals and 40 percent of U.S. physicians in ambulatory practice possess some type of patient portal technology....”³

¹<http://www.frost.com/prod/servlet/press-release.pag?docid=285477570>

²<http://www.hrsa.gov/healthit/toolbox/HealthITAdoptiontoolbox/MeaningfulUse/intro2meaningfuluseandpatientandfamily.html>

³<http://www.healthcareIT.frost.com>, U.S. Patient Portal Market for Hospitals and Physicians: Overview and Outlook, 2012-2017, Frost & Sullivan.

What is a Patient Portal?

A patient portal is a secure website that provides patients with 24/7 access to their personal health information. A portal also enables doctors and patients to communicate and share health information in a secure and confidential environment to supplement ongoing care management. Information on the portal also can be downloaded to a personal health record (PHR) and retained as part of the patient's medical documentation.

Patients can often complete various administrative functions:⁴

- Schedule appointments
- Check benefits and coverage
- Update contact information
- Make payments
- Download and complete forms
- View educational materials

Many patient portals also allow patients to view health information and complete certain advanced functions, such as:

- Self-care notes from recent doctor visits
- Discharge summaries
- Medication history
- Immunization records
- Allergy information
- Lab results
- Secure e-mail with their health care teams
- Refill prescriptions

Promoting Patient Engagement

Unlike traditional methods of communication, the patient portal allows for information exchange without the delays and risks of traditional mail, bad addresses, missed phone calls or misinterpreted voice messages. With a nimble, secure patient portal, information is at hand whenever and wherever it is needed.

This leads to our first key to maximizing patient portal benefits.

“One of the biggest obstacles with patient portal integration will be attracting patients to the online resource. This will depend largely on the site's ease of use and appearance...”⁵

⁴<http://www.healthit.gov/providers-professionals/faqs/what-patient-portal>

⁵<http://www.healthtechnologyreview.com/patient-portal.php>

Key #1. Maximize enrollment to help drive patient loyalty.

Today's busy consumer has come to expect anytime online access to the information they need – including their health records. Research on patient portals has shown that individuals feel a greater degree of loyalty toward health care providers who make patient portals available.

A recent study of radiology practices, for instance, found that 79 percent of patients would be more likely to return to a facility that offers a portal.⁶ A 2012 study conducted by Kaiser Permanente also showed strong support for this technology, with results indicating that patients who accessed their personal health record through Kaiser's portal were 2.6 times more likely to stay with Kaiser. Furthermore, the retention rate for new Kaiser members was 10 percent more for patient portal users.⁷

Illustration: Financial Impact of Patient Loyalty

To illustrate the financial impact of improved loyalty, let's examine a doctor with a consistent panel of 2,000 patients. The impact of a doctor retaining just 1% of the panel or 20 patients in the course of a year because of the patient portal is significant. Consider marketing expenses of \$50 to acquire each new patient and average monthly revenue of \$100 per patient. In the course of a year, the doctor can avoid \$800 in marketing expense and generate \$24,000 in revenue.

Avoided Patient Acquisition Costs		Additional Revenue
(20*\$50/new patient acquisition)	+	(20*\$100/month*12 months)
\$800		\$24,000
\$800 + \$24,000	=	\$24,800 of financial benefit

Translating patient loyalty into financial benefits doesn't happen by chance. Careful planning and the right technology can provide the positive experiences that help maintain stronger patient-provider relationships.

Maximizing the enrollment of new patients calls for an intuitive patient portal enrollment process. A desirable process allows first-time users to access their electronic health information at the time and place of their choosing – without physically traveling to a medical practice to register or to receive an activation code.

This is accomplished with sophisticated technology that remotely verifies the accuracy of patient-asserted information and authenticates that the patient is who they claim to be. Mature patient portal implementations

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⁶<http://www.carestream.com/publicNewsEventsArticle.aspx?vertical=news&id=457211>

⁷<http://www.ajmc.com/publications/issue/2012/2012-7-vol18-n7/Association-Between-Personal-Health-Record-Enrollment-and-Patient-Loyalty>

achieve this remote, self-service enrollment process by using knowledge-based authentication (KBA) to prevent impersonation and ensure the patient's identity has not been compromised.

Key #2. Utilization barriers for chronic disease patients.

While patient portals are seen as integral to promoting health and wellness in the general population, the effects on those with chronic illnesses are often more dramatic.

The cost of non-adherence for chronic disease patients can be significant, for instance:

A study in the *Journal of Medical Care* found that patients with diabetes who exclusively used an online patient portal to refill medications increased their medication adherence and improved their cholesterol levels.⁸ In another publication, medication non-adherence for a single diabetic is associated with a 250 percent increase in the risk of hospitalization and an additional \$2,000 of annual physician costs.⁹

For providers in risk-based agreements with insurers, improving the health of patients with chronic disease and therefore reducing avoidable costs may have a big impact on provider incentive reimbursement. If a single hospitalization can cost over \$12,000 with an additional \$2,000 of avoidable annual physician costs, identifying each chronic disease patient and getting them enrolled in a patient portal is an important component to achieving better patient health and lowering the cost of care delivery.

Streamlined enrollment can remove barriers that may otherwise hamper the chronic disease patient's motivation to access the portal. A diabetic who wants to check their medications on the patient portal demonstrates motivation, but if the enrollment process can't be completed online and without another visit to the practice, then they may abandon the effort altogether.

A self-service enrollment process closes the gap of time between when the patient is motivated to answer a health-based question and when they can get access to the desired information. The automated process of identity resolution uses knowledge-based authentication to enable the patient to complete enrollment and get access to personalized health information – all in about 60 seconds. This initial positive experience can promote reuse and reinforce the beneficial nature of the patient portal.

⁸<http://www.pnewswire.com/news-releases/personal-health-record-associated-with-improved-medication-adherence-238856331.html>

⁹http://www.phrma.org/sites/default/files/pdf/PhRMA_Improving%20Medication%20Adherence_ExecSummary.pdf

¹⁰<http://www.frost.com/prod/servlet/press-release.pag?docid=285477570>

"As health care reform and transformation advances, providers will seek new ways to engage patients and influence behavior beyond the point of care and will increasingly look to the more advanced solutions that are proven to consistently motivate patient compliance and sustained behavioral change."¹⁰

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Connected Health
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In another scenario, the diabetic forgets their password and has to call a contact center and go through an interactive phone tree before speaking to a person who can reset their password. Cumbersome multi-step password reset processes can also thwart patients from re-using the patient portal simply because they don't remember their password.

One-time passwords can help remove this utilization barrier. A type of out-of-band token called one-time passwords can call, text, or email a passcode to the patient's phone or personal email address. The patient then enters that code into the patient portal, and they can reset their password. In light of the high costs that chronic disease patients can incur, it is prudent for health systems to outfit their patient portals with the enrollment and accessibility tools that can help reduce barriers to patient participation in their health care.

Key #3. Promote the portal to prospective patients.

Limiting the utilization of a patient portal to existing patients unnecessarily diminishes the power of the portal as a promotional tool for a care delivery system. While certain features like online access to the care delivery team or access to lab results don't make sense for non-patients, certain informational, educational, and administrative resources may be exactly the features that will attract prospective patients to visit a health system when health care needs arise.

If a prospective patient can identify a practitioner, schedule an appointment, and fill out new patient forms online, the care delivery team acquires a new patient at an extremely low cost and wins the revenue stream from subsequently provided health care services. There are however, some unique identity-related challenges to allowing non-patients to access patient portals.

First, the patient portal needs to recognize that the prospective enrollee is not an existing patient. When the patient remotely enters their demographic enrollment information, the health system must compare the asserted demographic information against all of the patient identity information on file at the health system.

If the core patient identity data doesn't match, then the patient portal continues with the enrollment process. Once enrollment is completed, the patient portal functionality will be specifically tailored to non-patients. The quality of the core demographic information in the patient registry is paramount here.

Algorithms that can't match patient-entered information with the outdated or incorrect core data in the underlying patient registry may unintentionally constrain existing patients to only the administrative features of the portal, diluting the intended patient experience. Periodic assessment and maintenance of a patient registry can help prevent these false failures.

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Second, confirmation that the prospective portal enrollee is a real, live person is valuable. Beyond guarding against nefarious non-patients who might concoct a way to use access to the portal for malicious purposes, verification of the demographic data captured about the non-patients may be of high value when analyzed.

Instead of constraining portal utilization analysis to the pages of the patient portal most visited by non-patients, verified identity data collected during enrollment may indicate where outreach efforts have been successful or where they are needed. Using a real-time identity verification service during enrollment helps ensure that patient-entered demographic data represents a real and live person and that the data they presented about themselves is accurate.

Enrolling non-patients into the administrative functions of a patient portal may be a valuable way to market a health system's capabilities and acquire new patients. With the right identity resolution and verification technology, a frictionless process can allow patients and non-patients safe and secure access to appropriate and valuable patient portal features.

Conclusion

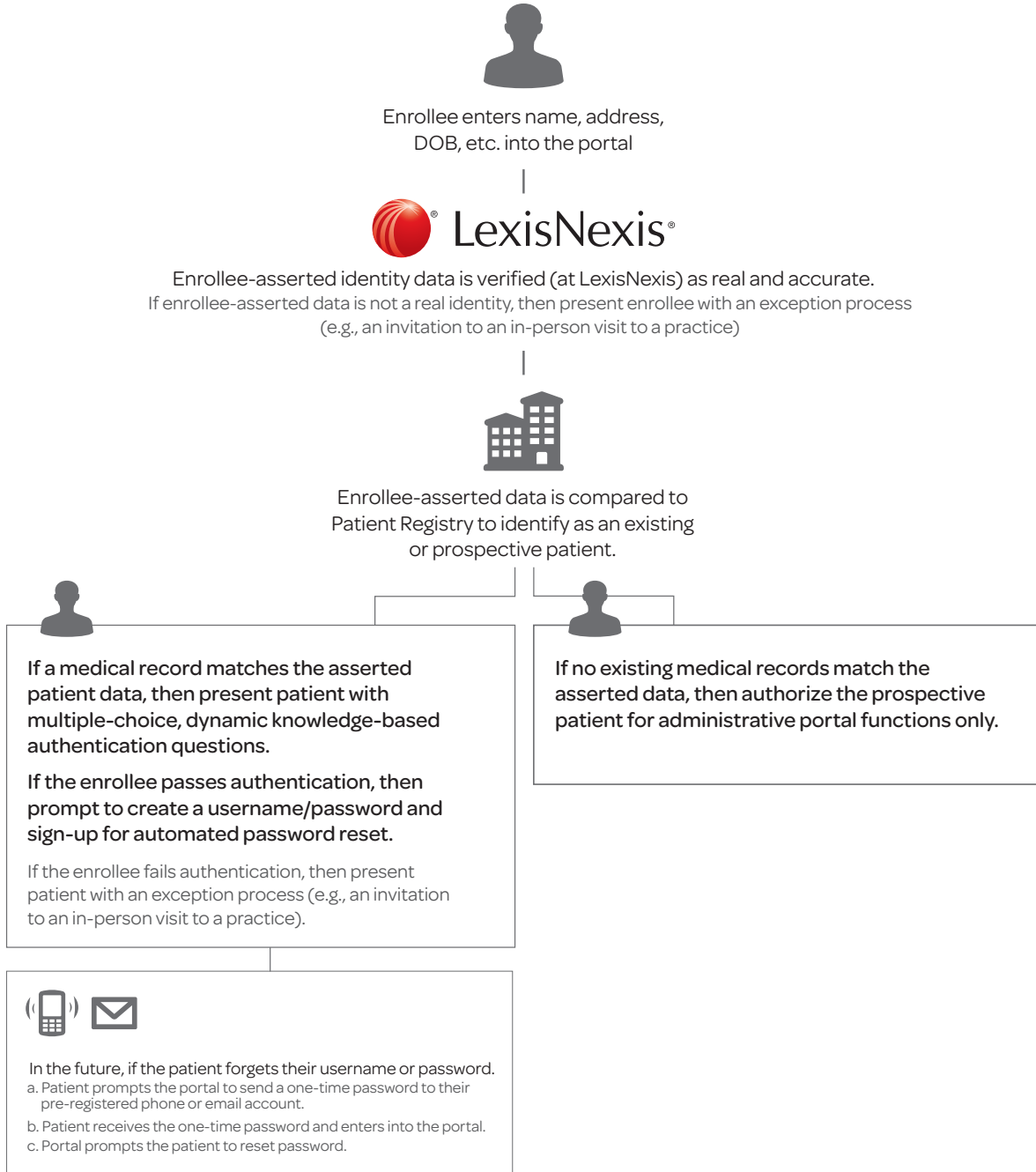
Selecting the right identity resolution technologies for a patient portal is crucial to creating a patient-friendly and secure online experience that increases patient enrollment, drives utilization, protects patient health information, and prevents malicious behavior and fraud.

As the long-term benefits of EHRs continue to be measured, patient portals are a beacon of encouragement. As a single component of or complement to an EHR that helps achieve better care, better health, and reduced costs, the patient portal that can drive significant value. Optimally deployed with self-service identity management tools, health systems can magnify the importance of their patient portals to enhance patient loyalty, increase enrollment and utilization of targeted patient groups, and increase the quantifiable clinical and financial benefits for patients and providers alike.

Choosing the right identity management technologies for your patient portal is crucial to creating a patient-friendly and secure online experience that increases patient enrollment, drives utilization, protects patient health information, and prevents malicious behavior and fraud.

Creating a Superior Patient Portal Enrollment Process

A superior patient portal enrollment experience streamlines online connectivity with existing patients, chronic disease patients, and even prospective patients to help drive portal utilization and desired clinical and financial benefits. Mapping the workflow of this process and describing the technology involved at various steps are helpful in conveying how and where the right identity management technology can assist. The following information is provided to help convey a practical patient portal enrollment workflow to aid information technology professionals in the planning process.



As noted in the diagram, four aspects important to the patient portal enrollment workflow are: Identity Verification, Patient Registry Hygiene, Identity Authentication, and Self-Service Password Resets. Taken together, these processes ensure ease of access and provide layers of security.

Identity Verification: Is the patient-asserted information correct?

The first step in the enrollment process is to verify the accuracy of the patient-asserted information. Identity attributes such as name, address, and date of birth are compared to a trusted, nationwide consumer dataset to ensure the enrollee is a real person and that identity attributes are accurate.

Health systems will increasingly seek conformance to National Institute of Standards and Technology (NIST) standards, which indicate how to reach specific levels of identity assurance during remote identity vetting processes. Generally speaking, more patient identity attributes need to be verified to reach higher levels of assurance.

Patient Registry Hygiene: Is the enrollee an existing patient?

A prudent step in the authentication process is to compare enrollee-asserted data to the health system's internal patient registry to identify the person as an existing or prospective patient. Key functions of patient registry hygiene are to standardize patient matching attributes, identify potential mis-entered information, and fill in gaps where important patient data was never captured. These functions enable a higher quality match between the patient identity attributes captured during the patient portal enrollment process and existing patient identity attributes within the patient registry.

Identity Authentication: Is the patient who they claim to be?

Once identity information is verified as accurate, and we know it represents an existing patient, dynamic knowledge-based authentication strengthens the confidence that the patient is who they have claimed to be. First, the unique patient identity profile is scanned for suspicious patterns or events that are known to indicate fraud. This information helps adjust the authentication process in real time by stepping up the degree of difficulty of the knowledge-based quiz, if appropriate. These components help prevent impersonation and strengthen the identity-vetting process.

With an awareness of identity risks associated with the patient's profile, the patient is presented with dynamically-created multiple-choice questions that, if answered correctly, help to bind the asserted patient attributes to the person presenting them. Questions are specific to the individual patient and may include topics specific to the person, about relatives, education, information on cars owned, or previous addresses. A robust, nationwide dataset is crucial to avoiding sensitive questions that could make patients uncomfortable, achieving high quiz generation rates to prevent false negative quiz results, and selecting questions based on difficult-to-research facts that also have top-of-mind answers.

Self-Service Password Resets: How do we remove barriers from ongoing patient portal use?

From this point, the goal is to make it as easy as possible for patients to access the information they need to take a more active role in their health care. This includes contingencies for a forgotten username or password. In addition to being one of the most frequent calls to contact centers, forgotten passwords that cannot be automatically reset are a hassle for patients and a barrier to ongoing utilization.

With a one-time password process, enrollees choose how their one-time password is delivered to them: SMS, text, email or phone. Once they receive it, the patient enters the alphanumeric passcode into the patient portal to confirm their identity. This simple process reduces contact center requests for password resets and creates an extremely easy way for patients to retain access to their health information.

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