

## Imaging Portals: Driving Patient Engagement, Improving Patient Experience and Satisfaction

Patient engagement and electronic health information exchange are the game changers of Stage 2 meaningful use requirements, which were designed to further expand the meaningful use of certified electronic health record (EHR) technology. For patient engagement, the Centers for Medicare and Medicaid Services added two core objectives – providing patients with online access to health information and providing secure messaging between patient and provider. In addition, one of the Stage 2 menu objectives is making imaging results accessible through certified EHR technology. While EHRs remain the infrastructure through which information sharing and messaging will be executed, hospitals and health systems must look to other complementary health information technology to be able to meet these objectives.

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Several forward-thinking hospitals and health systems, including Kaiser Permanente, the Cleveland Clinic, the Mayo Clinic and the M.D. Anderson Cancer Center, have developed patient portals to engage and empower their patients, and in doing so achieve meaningful use. These portals allow patients to access their health information through

the EHR or as a standalone platform. Providing patients with their comprehensive health information includes giving them access to their medical images; however, many patient portals – of which the overall market is still in its early stages – are not equipped with this functionality.

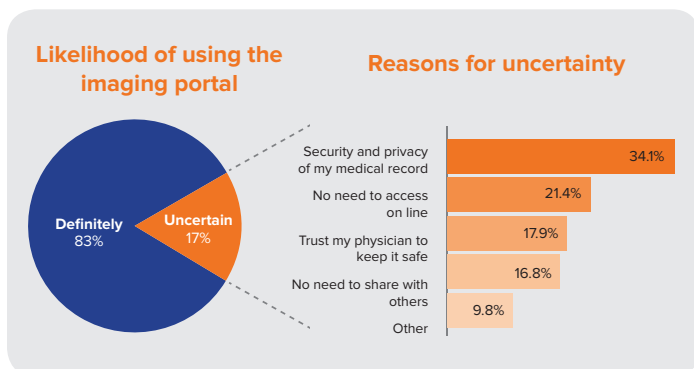


Figure 1

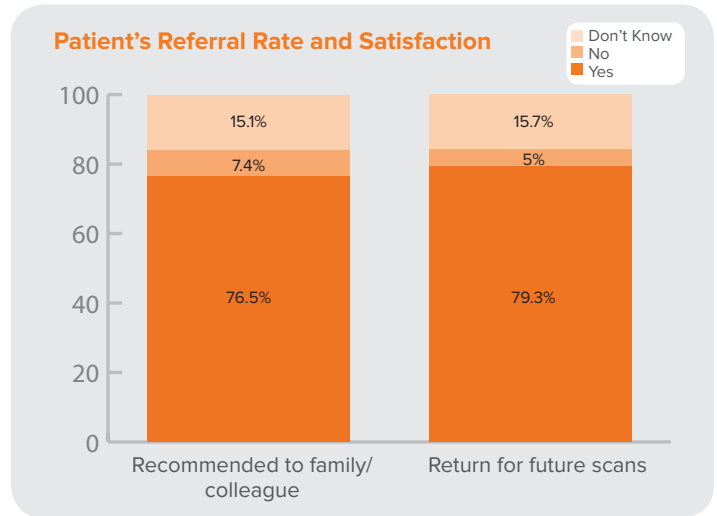


Figure 2

To understand patient needs and to determine patient views on portals in general and their potential use of an imaging portal, Carestream Health, a global provider of diagnostic imaging technologies, commissioned IDR Medical GmbH, an international marketing consultancy servicing the healthcare industry, to conduct a survey. The March 2013 Survey of 1,000 U.S.-based patients revealed that 83 percent of the patients see value in being able to access their medical images via a secure portal (See Figure 1). Furthermore, the survey shows that the ability to access their imaging data increases patient satisfaction. In fact, 76.5 percent of respondents said they would recommend such a portal to family and friends. A high level of patient satisfaction helps healthcare providers to engage their patients, as well as retain and attract more patients – 79.3 percent of respondents indicated that they would return for future scans (See Figure 2). Indeed, patients who are engaged and educated about their healthcare issues will lead them to be more involved in their care, which is an important component to transforming the healthcare delivery system under healthcare reform and one of the major objectives of the EHR Incentive Programs.

### Survey results: Validation for imaging portal demand and need

When exploring whether or not to implement an imaging portal, hospitals and health systems should look to the survey results, which not only identify what influences patients

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CMO, Senior Research Fellow,  
Harvey Neiman Health  
Policy Institute, American  
College of Radiology

to access their imaging data in the first place but also dispel common perceptions that may be barriers to deployment.

### Age doesn’t matter

The survey found that age did not impact patients’ attitudes toward an online imaging portal, contrary to conventional wisdom. On a scale of 1 to 7, with 1 being “extremely unlikely” and 7 is “extremely likely,” all seven age-segmented groups rated

their likelihood of using this tool greater than 4.75 (See Figure 3). While it was no surprise that the younger generation scored high and patients age 71 and above scored the lowest at 4.76, the age group 51-60 scored the highest at 6.08. Across the board in terms of age of patients, the survey showed that interest in an online imaging portal is high, which would translate to a healthy percentage of users among a hospital or health system’s patient population, even if the majority is Medicare enrollees.

Further bolstering the notion that all ages have a favorable view of an imaging portal is another survey from users of the RSNA Image Share Network. Bradley Erickson, MD, PhD, neuroradiologist and professor of radiology and informatics at the Mayo Clinic and former chair of the Society of

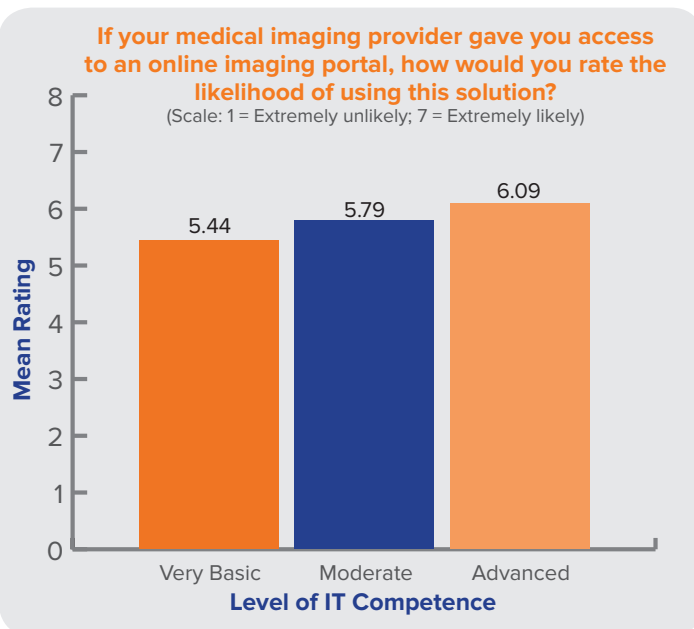


Figure 4

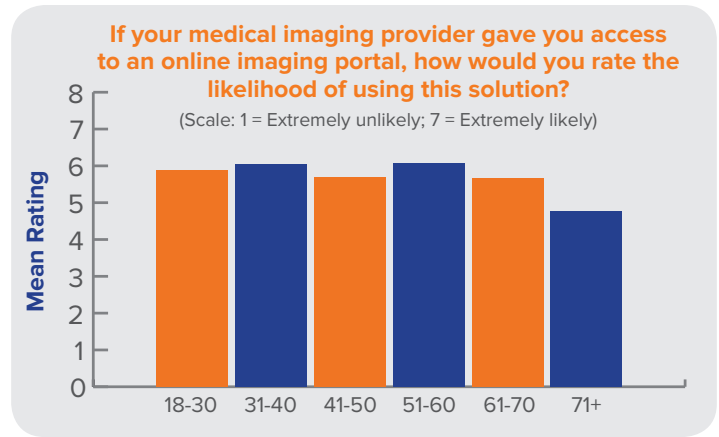


Figure 3

Imaging Informatics and Medicine, has been involved with this project funded by the National Institute for Biomedical Imaging and Bioengineering and National Heart Lung and Blood Institute and administered by the Radiological Society of North America. The network allows radiologists from medical centers across the country to share images via a web portal with patients through their personal health record (PHR) accounts. Of the 2,000 patients who enrolled in the network, which went live two years ago, 400 users responded to a survey a year into their enrollment. Like the Carestream Health survey, the RSNA Image Share Network survey found that older patients were competent and comfortable with interacting with the network, in part, Erickson pointed out, because they use e-mail and other communication tools such as Skype to communicate with their children and grandchildren. As each generation grows older, expect competency and comfort level with most forms of technology to increase in all segments, which will ultimately make age irrelevant when it comes to deploying tools and applications, such as an imaging portal, for patients. While across the board users see value in the RSNA Image Share Network, Erickson noted that older patients – particularly the many snowbirds who are residents of his home state of Minnesota and go south during the winter months – would see the value of being able to transport images and have access to their medical record anywhere.

### High levels of patients’ e-competency

Going hand in hand with patients’ age and interest in using an imaging portal is the current levels of patient e-competency. Technology such as smartphones and tablets has been adopted widely by the masses and their use continues to grow. According to the Pew Research Center’s Internet & American Life Project, 34 percent of American adults ages 18 and older own a tablet and 56 percent of American

adults now own a smartphone. As a result, their e-competency is high, which makes their proficiency as patients with healthcare information technology and their desire to use it likely to be high as well. Indeed, in the Carestream survey, on a scale of 1 to 7, with 1 being “extremely unlikely” and 7 is “extremely likely,” respondents who characterize themselves as having very basic, moderate and advanced levels of IT competence scored 5.44, 5.79 and 6.09, respectively, for the likelihood of their using an imaging portal (See Figure 4).

### History and frequency of image taking

Conventional wisdom would assume that those who have a history of image taking and retakes would be the ones most likely to use an imaging portal. While the survey showed that respondents with a history of having their images taken were interested in a patient portal, those who had no history were just as interested. On a scale of 1 to 7, with 1 being “extremely unlikely” and 7 being “extremely likely” to be interested, those who have not had to undergo an image retake scored 5.8, compared to those who have needed to have their image retaken at 6.0. Respondents’ overall scores ranked from 5.75 to 6.02 across X-ray, ultrasound and mammogram testing. The percentage of patients who have a history of image taking and retakes is small compared to the general population; however, as the survey shows, which hospitals and health systems should take note, interest is high across the board.

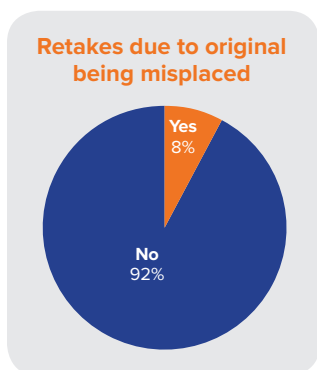


Figure 5

Given that patients who see new physicians often undergo imaging retests for convenience sake, having an imaging portal would eliminate such retests. The survey also noted that 8 percent of the patients had retakes because the original results were misplaced (See Figure 5). “Having the information available with the patient in

the driver’s seat, with regard to control and access, would help with the reduction of unnecessary imaging and its associated cost,” said Richard Duszak, MD, CMO and Senior Research Fellow for the Harvey Neiman Health Policy Institute of the American College of Radiology. Just as important, according to Duszak, patients with control over their health information would be more engaged with their care and clinical outcomes.

### Security remains an issue

Seventeen percent of survey respondents had reservations about using a patient portal. While this is a low number, hospitals and health systems should examine what the barriers are. For those less likely to use an imaging portal, 34 percent of respondents cited concerns about security and privacy of their medical record as the primary barrier. In order to successfully roll out an imaging portal, hospitals and health systems need to ensure that their processes, policies and procedures for securing patient information extend to their patient portal. Equally important, healthcare providers must select a robust platform from a trusted healthcare IT partner.

### Carestream MyVue: Attracting and engaging patients, driving cost efficiencies

Carestream developed its MyVue, a secure patient portal accessible through Web-enabled browser devices, to bring value to patients by allowing them to access, manage and share their medical images and radiological reports. Patients control what is shared with physicians and non-physicians, letting them hide patient details, send automatic e-mails, and message, among other functionalities. MyVue can operate as a standalone patient portal as part of Carestream’s Vue PACS or Vue Archive, or be integrated with an existing health information system or an electronic medical record’s patient portal.

Houston Medical Imaging (HMI) in Texas, a pioneer of MyVue, found that implementing the imaging portal helped to differentiate itself in a competitive market. HMI expects that the ability to provide better service to referring physicians and especially its patients will draw more patients to its three facilities over its competitors, which is a realistic expectation. According to the Carestream survey, providers who offer patient portals would be viewed favorably by their patients. More than 79 percent indicated they would go back to the imaging facility and more than 76 percent would give referrals to the provider.

HMI saw more than half of incoming patients sign up within three months of deploying MyVue. Thus far, 91 percent of HMI patients with MyVue accounts indicated that the portal was easy to use and 88 percent said they would continue accessing and sharing their images via the Web, according to an HMI survey.

Furthermore, CEO Randall Stenoien, MD, discovered that the deployment also saved HMI time and money,

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interface, which has kept help desk calls low – an important indication of patient ease of use and competency and patient satisfaction – and overall IT investment low. HMI conservatively estimated that it saves nearly \$15,000 annually. In addition to the cost savings, instead of performing related administrative tasks, the staff is helping patients

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particularly with the labor associated with putting images on CDs and DVDs and sending them out. The portal enables faster, easier access to images, which streamlines the workflow for administrative staff and clinical workflow for physicians, thereby helping to improve the quality of care.

Technological impact has been minimal, as a result of MyVue’s zero-footprint technology design and its user-friendly interface, which has kept help desk calls low – an important indication of patient ease of use and competency and patient satisfaction – and overall IT investment low. HMI conservatively estimated that it saves nearly \$15,000 annually. In addition to the cost savings, instead of performing related administrative tasks, the staff is helping patients with registration and education, which further differentiates HMI through its high-touch quality service. Indeed, Stenoien noted that the ability for patients to access their images has led to greater patient engagement. “For the first time in my practice,

I feel like I’m able to engage my patients at a level that really none of my competition can,” he said.

## Patient portals: The Key to achieving healthcare reform

While the benefits of having an imaging portal also accrue to clinicians, Erickson pointed out, “Having information almost always makes you do a better job, and getting it right is almost always going to be more cost-effective and better for patients, which is the biggest benefit.” According to Duszak, the challenge for radiologists is to move from being a purely technological industry – providing interpretations and sending out reports – to one that is helping to engage patients. Sometimes a “black hole” of information exists about test results that a patient doesn’t have on hand. Duszak contends that real-time access to data and the opportunity for patients to annotate them would help get patients more involved with their care and therefore help him to provide better care. “The key opportunity to get patients engaged in 2013 and beyond under healthcare reform is through informatics and integration,” he said. “To that extent, I think that patient access and patient portals are the beginning of a very exciting trend.”