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Enterprise imaging in action

How Presbyterian Healthcare Services increased patient engagement and met regulatory requirements by image-enabling their patient portal

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Introduction: how the Cures Act ignited an enterprise imaging journey

Passed into federal law in 2016, The 21st Century Cures Act mandated, among other things, that healthcare providers make it easier and faster for patients to access their own medical information – including images. Like it did for many U.S. healthcare organizations, this provision jumpstarted a years-long enterprise imaging journey at Presbyterian Healthcare Services in New Mexico. That journey ultimately ended with a user-friendly, image-enabled patient portal which has been shown to improve healthcare interactions for patients and clinicians alike.

The significance of the Cures Act extends beyond regulatory compliance; it represents a paradigm shift towards patient-centered care. By mandating easier access to medical information, the Act empowers patients to take an active role in their healthcare decisions. This empowerment is crucial as studies have shown that patients who have access to their medical records, including imaging, are more engaged and better informed about their health conditions.[1] This increased engagement can lead to improved health outcomes, as patients are more likely to adhere to treatment plans and make informed decisions about their care.[2]

The project began in 2018, with the health system first looking at how to move away from their stovepipe method of image storage towards a centralized archive. At the time, the state of play for Presbyterian Healthcare's imaging archive effectively put different sets of images into different databases: radiology studies, cardiology studies, GI, pulmonology, et al. were all stored in distinct databases.
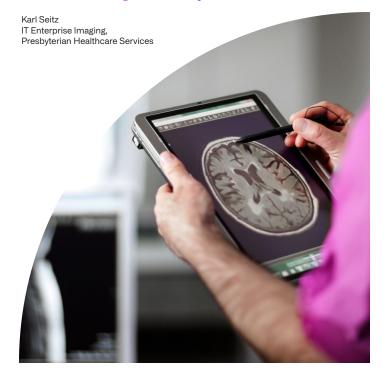
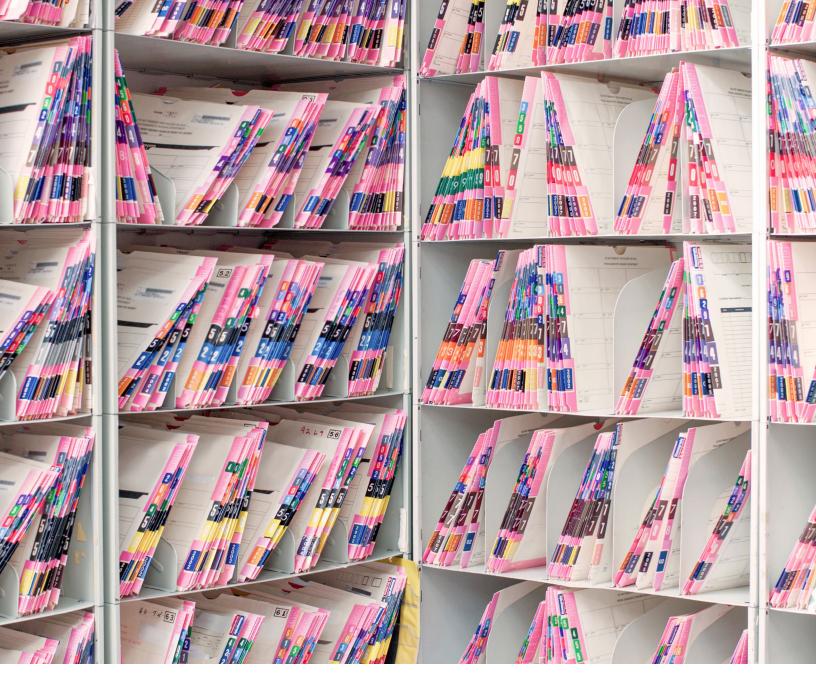This presented several challenges for clinicians, patients, and the business itself:

– Siloed imaging data made it difficult for Presbyterian to meet the regulatory mandates of making it accessible to patients.

– The lack of visibility between data sources meant that clinicians who needed to make clinical decisions might have to do so without the complete patient information available, and finding the information could take time that delayed care.

– Similarly, the disparate data burdened care teams who would have to manually share images to collaborate on cross-disciplinary issues. Decisions on diagnosis or treatment could not readily consider the full scope of the patient's present circumstances or medical history.

– Stovepipe image storing drove up inefficiencies and costs. Each system had its own timeline for upgrades and, eventually, end of life. Therefore, each technology decision would be made separately, and each with their own maintenance requirements, price tags and deployment paths. Add to this the increase in the number of applications can increase cybersecurity risk.

To address all these needs – streamlining patient access to imaging, enabling clinician visibility into patient imaging, and managing IT costs and maintenance – Presbyterian Healthcare concluded that their DICOM images would best be archived in one central system as part of a concerted enterprise imaging strategy.

At the time of the project's outset, Presbyterian Healthcare was using Merge Cardio for its cardiology imaging. As part of their new enterprise imaging project, they chose to expand the Merge footprint, adopting the vendor neutral archive Merge VNA along with Merge Universal Viewer, as a combined implementation with Merge Cardio, Radiology imaging, and eventual integration with Pulmonology and Gastroenterology DICOM exam images.

"We wanted to get away from stovepipe systems for storing images, and go toward a centralized archive. We had different databases for different sets of studies. It was inefficient, driving up costs, and made it more difficult for our clinical side to see a patient's images and for our IT side to maintain those systems. Merge helped us streamline all of that by consolidating to one system."

Karl Seitz
IT Enterprise Imaging,
Presbyterian Healthcare Services

Merge and Epic MyChart: creating an image-enabled patient portal

Presbyterian Healthcare was looking at a few projects to comply with the Cures Act, but chief among them was the patient portal MyChart. Specifically, the Enterprise Imaging team collaborated with their internal Epic MyChart team to make patient exam data and imaging available in MyChart for patients to see alongside their physicians' notes in the post-visit summaries. Related Presbyterian projects had a concurrent goal: making patient images available to other provider organizations and networks, to make it easier for clinicians to access a patient's imaging history, and vice versa.

To achieve this, Presbyterian leveraged a combined deployment of Merge VNA and Merge Universal Viewer (MUV). The VNA produces a basis study content notification, which goes to the patient's chart in Epic. That chart is then linked to the patient portal, with MUV, to make the study visible externally to the patient within the context of the portal. This same setup was also used to facilitate image sharing and viewing between teams across the organization: because Merge VNA consolidates the images in one archive, it enables MUV to generate links to any images, regardless of study type, so that the images are viewable within MyChart.

Success quickly realized

After a few months of trial and error, the new image-enabled MyChart portal went live in October 2022 – with no outside advertising to patients. The health system's leadership decided to let the experience speak for itself. So, the team didn't post announcements about the new portal or distribute emails or direct mail to make the new feature public. It was decided that word of mouth would be best, spreading primarily from patients to other patients. In many cases, patients simply found it on their own thanks to the portal being so user-friendly.

The new feature gained momentum and caught on quickly. Patients not only found the portal simple to navigate and the image retrieval easy, but also seemed to understand what they were reading in the images as well as how they matched to the physicians' reports themselves. One concern by the project team was whether the team managing the MyChart portal might be overwhelmed by questions from anxious patients not understanding a report or knowing how to read an image. But that never developed. Instead, patients started telling others – and it caught on quickly.

In the portal's first month, Presbyterian Health saw over 15,000 DICOM imaging exams accessed by MyChart users. Six months later, that number had increased to 20,000 exams – the highest single month of imaging exam access during 2023. As of September 2024, Presbyterian Healthcare has recorded over 250,000 imaging exam views in the MyChart portal.

"Merge enabled us to create our own image-enabled portal that interfaces with MyChart. We never advertised it to patients; it got around completely by word of mouth. And it has been a real success. We've gotten positive feedback, particularly from patients who have been able to access their imaging exams through the portal via MyChart. Even one of our own executives, as soon as they could start accessing their own images, began showing family members how to access their own exams through MyChart."

Karl Seitz
IT Enterprise Imaging,
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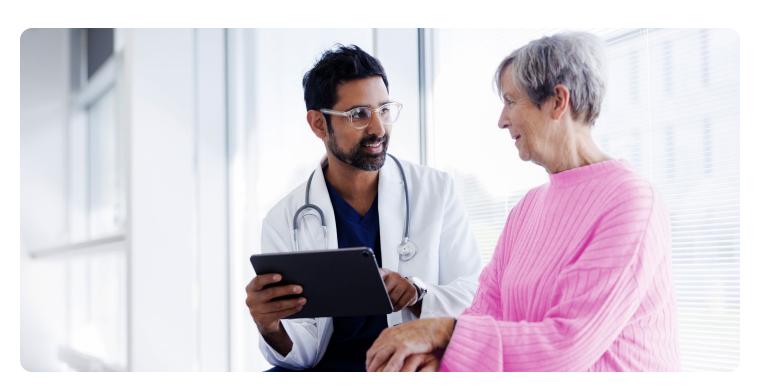
Reimagining the patient care experience

Presbyterian Healthcare's ambition to create an image-enabled patient portal that complies with the Cures Act and provides patients with quick and easy image access – and have it spread entirely by word of mouth – has not just been completed, it's been a resounding success.

All of which begs the question: what is next on their enterprise imaging checklist?

– **Health information exchange:** Leveraging Merge VNA to allow participating providers to download and access studies from the Presbyterian Healthcare archive.

– **Palliative care:** A novel handheld solution is in the works for using Merge Universal Viewer to remotely send and receive images from the central archive across the enterprise, to better accommodate palliative care needs. Presbyterian has a current Palliative care solution in place that leverages Merge VNA, and the enhancements to MUV could augment the current implementation.

– **Expanded capacity:** Standing up new servers to expand computing capacity that will support broader enterprise imaging use cases. Presbyterian is considering ways to leverage their infrastructure based on Merge VNA and Merge Universal Viewer to help implement measures that could eliminate the need for patients to transport their medical information on physical media like CDs. They are currently leveraging web uploads and PACS gateways with MUV, and are considering other approaches to facilitate enhanced image sharing.

Presbyterian Healthcare's story reflects how enterprise imaging strategies are not only invaluable for complying with government mandates like the Cures Act; they're also integral to creating more user-friendly patient experiences, that grant patients more visibility, access, and transparency into their own health information. Just as imaging solutions enable health systems to simplify and transform workflows for their own personnel, they can also be leveraged – with the right strategy and buy-in from all the necessary stakeholders – to reimagine the imaging experience for the patients themselves.

The relevance of image access in patient care cannot be overstated. High-quality medical imaging is essential for accurate diagnoses and effective treatment planning.[3] By integrating image access into patient portals, healthcare providers can ensure that patients have the information they need to understand their health conditions and treatment options. This transparency not only enhances patient satisfaction but also reduces the likelihood of unnecessary repeat scans, thereby lowering healthcare costs and improving overall efficiency.[4] As Presbyterian Healthcare continues to innovate, their commitment to leveraging technology for better patient outcomes sets a benchmark for other healthcare organizations to follow.

About Merge

Merge medical imaging solutions, offered by Merative, combine intelligent, scalable imaging workflow tools with deep and broad expertise to help healthcare organizations improve their confidence in patient outcomes and optimize care delivery.

Learn more at merative.com/merge-imaging.

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