Improving Quality of Care Through Faster Access to Diagnostic Quality Images
Marshfield Clinic Standardizes on eUnity™ Universal Viewing and Collaboration Platform Across its Healthcare Enterprise

AT A GLANCE
Client: Marshfield Clinic, the largest private group medical practice in Wisconsin, and one of the largest in the United States.

Physicians & staff: More than 750+ physician specialists, representing more than 80 specialties and subspecialties, and additional 6,000 support personnel supporting more than 400,000 unique patients.

Solution: eUnity™ Universal Viewing and Collaboration Platform

CHALLENGE:
• Enable secure access to diagnostic quality medical images from anywhere in the healthcare setting and from any device.

SOLUTION:
• An affordable, easy to use, high performing universal viewer providing speedy access to diagnostic quality images, and better collaboration.

RESULT:
• Full deployment to 750 physician specialists within the Marshfield Clinic healthcare enterprise, and over 17,000 additional users through its commercially available CattailsMD EHR, which has integrated the eUnity solution.

• Reduction in retrieval of studies from archive from minutes to seconds.

Diagnostic images facilitate better patient conversations

The pace of healthcare is accelerating at an astonishing rate. New medications, new devices, new procedures are now available to healthcare institutions, changing -- and improving -- the nature and quality of patient care.

At the same time, patient expectations related to care are also changing. Patients are more educated, technology savvy, and increasingly mobile and expect healthcare institutions to effectively collaborate to deliver a high standard of technologically advanced care at every step in an individual’s personal healthcare journey.
As digital imaging is embraced across the healthcare enterprise, the transition from terabytes to petabytes of data has put radiology on the brink of information overload. In fact, medical images are projected to require 30% of the world’s storage, and could soon represent 10% of all US healthcare costs or about 1.5% of the US GDP.

Over the last number of years there has been a growing trend within healthcare institutions to respond to this challenge by migrating from the traditional picture archiving and communication system (PACS) to Cloud-based Radiology Information Systems, enabling secure, anywhere, anytime access to medical images from any devices.

In 2012, Marshfield Clinic, the largest private group medical practice in Wisconsin, and one of the largest such organizations in the US today, embarked upon a project to extend the Clinic’s traditional PACS viewing platform with a universal viewer that would allow its clinicians, partners and customers access to diagnostic quality images and the ability to collaborate on that information from anywhere within the healthcare setting.

“Within the healthcare discipline, clinicians are relying more and more on diagnostic medical imaging not just for diagnosis, but as part of the patient conversation. Practitioners now have devices in hand that allow them to leverage imaging directly at the bedside and at the point of care,” explains Jean Tichy, Solutions Manager, Marshfield Clinic Information Services, a wholly owned IT subsidiary of the Marshfield Clinic.

“For instance, within our Orthopedic practice, every exam room is now equipped with 52 inch flat screen TVs. A review of diagnostic images with a patient is a critical part of a physician’s examination. It is strategically important to us at the Marshfield Clinic to ensure that our physician specialists have easy and quick access to diagnostic quality images anywhere within the healthcare enterprise.”

Tichy goes on to explain that performance and speed of access is critical to physicians and for patient care. “We are living in a world of Big Data, and medical images are very large files (Marshfield typically archives 300 gigabytes of studies a day). With our previous viewer, it could take as long as a minute to call up an archived study, and in many instances that study may not be retrieved at all. When you are a physician sitting in front of a patient, even 30 second feels like an eternity.”

Equally important – especially to an organization such as Marshfield that has an extended partner network – is the ability for physicians and other clinicians to not only view diagnostic quality images, but also collaborate on diagnosis and treatment plans. Says Tichy, “Patients don't necessarily go to one place anymore for their healthcare needs. Healthcare enterprises are collaborating more through access to electronic health records. In the past physicians in hospitals would refer cases to Marshfield, but they weren't adjacent to radiology, and found it very difficult to talk through images over the phone – especially if they were very large.

Ability to easily integrate with Marshfield’s homegrown electronic health records system, the CattailsMD Software Suite, and into future technologies was another key consideration. “When considering vendors, we looked at system performance, back end storage efficiency, complexity of system set up, ease of integration into existing and future technologies, and of course cost,” says Ryan Cournoyer, Product Manager with Marshfield Clinic Information Services. “Performance of the system was a key area of concern for our stakeholders,” said Jean Tichy, Solutions Manager, at Marshfield Clinic Information Services.

“One of our first pilot areas was to work with referring physicians in the hospitals to improve their ability to collaborate with our specialists on diagnostic images. eUnity was able to greatly facilitate this collaboration. Parties on both sides are now easily able to call up the same image at the same time to discuss a diagnosis, and treatment options. Communication is much easier, and that’s directly translating to improved patient care, and more referrals to our Clinic,” says Jean Tichy.

The Marshfield Clinic team has also been very impressed with eUnity’s performance capabilities. “We have been able to bring retrieval of an initial study from the cache down from nearly a minute to 12 seconds, and retrieval of subsequent studies down to 3.4 seconds,” says Tichy. “eUnity stood head and shoulders over the other viewers in its ability to deliver speed of access. When prepping for a patient, physicians used to start bringing up images, and go for a cup of coffee while they waited. Now they are getting all the necessary images, and everything they want to see on that patient with near immediacy. And when it comes to performance, time is money.”

SOLUTION

Faster retrieval of studies, universal access and better collaboration

Recognizing the need to upgrade the Marshfield Clinic’s viewing solution to meet physician’s needs for faster access to diagnostic images and easier collaboration, the Marshfield Clinic Information Services team embarked on its search for a new universal viewer in 2012. After a search of the market, the team selected three solutions for proof of concept, including eUnity™, a universal viewing and collaboration platform from Client Outlook.
The ease of roll out to Marshfield Clinic’s 750+ physicians, located in 54 locations across Wisconsin was very easy. “Adoption has been quite smooth,” says Tichy. “Installation is very easy. There is almost zero downloading for users to access the eUnity viewer. And there was very little training required to get users comfortable with the technology. The tool is quite intuitive. We provided a short quick reference guide to new users via our online learning library, and attended a few department meetings to get people rolling, but that was it.”

And eUnity’s scope of use goes far beyond the Marshfield Clinic’s own 750-person physician network. The eUnity universal viewer is also leveraged by an additional 17,000 customers and partners of the clinic to participate in patient care, such as physicians from other entities, and Tier II users who have the need to review patient records, such as public health, nursing homes, registered nurses, medical assistants and so forth. “Again, having nothing special to download and an intuitive interface is a big deal when rolling a viewer out to these kinds of user numbers,” asserts Jean Tichy.

RESULT

In just two years, eUnity has moved from initial pilot to become the default universal viewer across Marshfield Clinic’s health enterprise. After approximately a year running in tandem alongside the previous viewer, Marshfield Clinic fully converted over to eUnity in April 2014. Says Jean Tichy, “access to diagnostic quality images at the point of care is extremely important to our organization. Time is money in healthcare today, and providers are always looking for technologies that are faster. eUnity has delivered the performance, collaboration and ease of use we consider to be strategically important to our organization.”

The Marshfield Clinic continues to work with the team at Client Outlook on ongoing performance improvements, and ongoing features that improve quality of care, such as the ability for patients to access images through the ‘My Marshfield Clinic’ client portal. Says Tichy, “the Client Outlook team has been very good to work with. They have been very responsive to our feedback and have actively worked with us to deliver the level of performance we required. We have been very pleased with our decision to move forward with eUnity and the Client Outlook team.”