GE Healthcare

Enterprise Imaging in the Large Enterprise

Today, progressive imaging departments manage images from myriad modalities— simplifying the viewing of and centralizing image management across complex health systems to broaden enterprise access and help exams get reimbursed. A large university medical center well-known as an imaging pioneer is using GE Healthcare's Centricity™ PACS and Edison™ Datalogue™[1] to optimize imaging across the enterprise.

Take a closer look at how they are doing it and why it might be the way to go for you, too.

The Challenges

About a year ago, the medical center's radiology department needed to expand their image archiving capabilities across more medical specialties. Physicians from around the healthcare enterprise were asking for help and seeking a strategy to more effectively archive and access medical images. With a cross section of specialties such as cardiology, sports medicine, dentistry, primary care and even the emergency department asking for help, radiology IT went in search of a way to centralize imaging across an expanding enterprise. They needed to get rid of external hard drives and printing hardcopy images, and gain access to images, reports and documents, as well as unstructured data. Physicians needed to access PACS images via the web.

Also essential was a way to view and store imaging exams that weren't scheduled and took place outside an imaging department. Needs were not being met for the busy emergency department as well as portable ultrasound, sports medicine and dental imaging, including X-ray and cone-beam CT. Consolidating multimodality, multivendor images was the plan. Together, these challenges became the drivers of change.

The Solution

A vendor neutral archive became their preferred solution. The medical center chose to build on its GE Healthcare Centricity PACS and Edison Datalogue, once again making GE Healthcare their vendor of choice. The multi-ology, multi-site clinical content repository they deployed enables archiving and managing of unstructured medical content including images, reports and documents, via DICOM and HL7. The vendor neutral archive connects multi-ology imaging studies with medical record numbers—a complex task across any health system, made simple by the archive.

An intelligent, standards-based approach with a longitudinal view helps to differentiate great storage options today. Edison Datalogue solution adds an intelligence layer as it creates a longitudinal view of patient data from different vendor systems. "We needed a way to view images from imaging device [connected to the internet] and link them to the network," says the director of imaging informatics. "We started with a simple, pretty basic implementation and have built on it. We will continue to expand our enterprise

Match studies and patients – the right doctor can access the right studies on the right patient view over time."

Challenge

- Centralize multimodality, multivendor images and reports, documents and unstructured data across specialties and departments
- Eliminate external hard drives and printing hardcopy images
- Access PACS images via the web
- View and store unscheduled imaging exams taking place outside an imaging department

Solution

- Single, multi-site clinical content repository for all images and data to optimize viewing, management and archiving of images
- Vendor-neutral archive connects multi-ology imaging studies with medical record numbers
- Intelligent, standards-based with a longitudinal view of patient data
- Added cardiology images to the archive

Outcomes

- Web-based access to medical images throughout the enterprise
- Storage consolidation savings
- Fast access, enabling informed decisions for enhanced patient care
- Match studies and patients – the right doctor can access the right studies on the right patient "

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The Enterprise View

The next largest cadre of images at the medical center comes from cardiology, including ultrasound, EKG and cardiac catheterization. Adding cardiology images to the archive brought ease of use for the enterprise and some overall cost savings due to consolidated storage volumes. “We watch everything we spend, so that was a welcome savings,” according to the director of imaging informatics.

The archive offers an effective and simple way to manage images and imaging systems in the ED, sports medicine and dental departments, especially with remote equipment not attached to the network. And ultrasound images, from previously disconnected systems, must be stored and accessible to be submitted for reimbursement.

“It was pragmatic to us because we have specific needs to service a lot of department interests outside of radiology,” he says. “This is a beginning. Baby steps, perhaps. But this is the way medical images need to be managed: as an enterprise, with widespread and fast access.”

The archive knows the location of images across the enterprise. “It can go out and get them whenever needed and very quickly,” the director of imaging informatics says. “From a worklist, it can go and fetch images from anywhere on the network. For healthcare organizations struggling on so many fronts to improve patient care, quality and reduce costs at the same time—this is what should be expected.”

Meta data from images carry the medical record number. That means no need for staff to try to reconcile patient information. “We have a high rate of exchange among patients and physicians across our health system,” the director of imaging informatics says. “The archive helps to ensure studies and patients are matched and that the right doctor can access the right studies, including priors, on the right patient, at the right time. The doctors are the important pieces here. They have to be able to get the patient images they need and I am confident to say that here, they always can.”

Think of the Edison Datalogue as the common repository that knows all exams in multiple archives and understands all the metadata. “This is the way images need to be managed. Most health systems bring in new hospitals or practices with different record numbers. This is the best way to sync those up efficiently,” he says.

GE Healthcare’s guidance has helped the medical center along the way to identify the next solution they need and be sure it works well with their current systems. “All of these pieces are building blocks. I recommend starting small and building from there,” says the director of imaging informatics. “Invest gradually and direct the investment where it makes sense. We considered our current PACS as a given and built off of that. Our initial requirements were modest and we put out a very simple solution. Over time, the whole organization has become more aware of this technology and they are leaning on us for more sophisticated options. This graduated approach has helped control cost and has given us a chance to learn how to manage this program organizationally.”

Success ultimately comes down to strategy, planning and project execution. “Hospitals and health systems need to develop a strategy that includes everything to optimize viewing, management and archiving,” he continues. “Look at this holistically. The image exchange, PACS and VNA need to be one, considered as a cohesive group of imaging technologies. Take into account the use cases, interfaces and integration. Be sure your images are truly accessible within the workflows your organization already has. It should be transparent to the radiologists and other specialists searching for and reading images. If you introduce the VNA as a separate archive that you need to view apart from existing imaging, users will be confused and frustrated. You need to carefully weave this into your existing imaging technology.”

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Director of Imaging Informatics

Imagination at work

GE Healthcare
500 W. Monroe
Chicago, IL 60661
U.S.A.
www.gehealthcare.com

About GE Healthcare

GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. GE works on things that matter - great people and technologies taking on tough challenges. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

[1] Edison Datalogue includes the following product components: Centricity Enterprise Archive, Universal Viewer ZFP, Centricity Clinical Gateway, ICW Master Patient Index (MPI), Lexmark PacsSCAN™

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