

Installed a VNA? Your Enterprise Imaging Journey Has Only Just Begun

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Bill Lacy

If your hospital or healthcare system is like most others in the U.S. today, you have an EHR that's proving expensive to maintain while working well below its potential for centralized, cost-saving image sharing. You're fretting over non-DICOM images acquired with smartphones and insecurely siloed in numerous clinical departments.

And you're also talking a lot about enterprise imaging (EI) as a way to broach both those touchy topics and a host of others.

So how can all that tentative talk be transformed into a comprehensive EI strategy—one that can show returns on investment relatively quickly while laying the foundation for long-term growth, adaptability and scalability? The short answer is, by securing clinical leadership and IT buy-in, laying out a detailed, flexible roadmap and understanding VNA technology not as a be-all-end-all EI solution but as a critical component in a much broader whole.

That's a skeleton summary of an in-depth webinar presented by Bill Lacy, vice president of medical informatics at Fujifilm, and Kenneth Buckwalter, MD, chief informatics and innovation officer at Indiana University Health Physicians. Lacy laid out the guiding principles of ideal EI implementation, and Buckwalter fleshed them out with descriptions of real-world scenarios, in a session titled, "Enterprise Imaging Strategy Beyond Radiology."

Lacy began by pointing to a recent survey in which 70 percent of healthcare IT executives said their health system is working on EI. However, he added, most of them have been struggling for years to expand EI beyond the usual DICOM duo, radiology and cardiology.

"The VNA is the key piece to expanding an enterprise imaging strategy," Lacy said. "As soon as the VNA is installed as the core to the enterprise imaging strategy on the IT side, that opens up the ability to then store and eliminate silos from all the different departments and -ologies in the health system."

A process, not a project

One of the first questions most organizations run up against is which "other -ology" to begin with as the surest entry point for expanding EI

beyond radiology and cardiology. At Indiana University Health, point-of-care ultrasound worked well, as Buckwalter would later show. At other hospital and health systems, Lacy noted, it makes good sense to start with, say, dermatology or wound care—areas in which the enterprise is looking for image management and storage while trying to make everything accessible through the EHR.

"You can have an enterprise viewer that represents the view of all imaging that has been stored from all the different departments," Lacy said. "The EHR would then lean on the enterprise viewer as the single view to any content that has been stored to the VNA."

And he did mean any content. Lacy displayed a slide depicting all clinical areas sharing imaging data via centralized virtual-server architecture, hosted either by cloud or data center. An enterprise viewer allows outside organizations and affiliates to tap in, and so too all other EHR users as well as patients.

Such an all-encompassing EI system "is not something that a healthcare system could purchase and deploy in a year," he said. "This would really be the result of a five- to seven-year enterprise imaging evolution. [This] is why having an effective enterprise imaging strategy—understanding that you need to put in a VNA and you need to put an entry point beyond radiology and cardiology and begin expanding it—is such a necessity today."

Lacy wrapped up his part of the presentation by characterizing the quintessential EI strategy as one that walks the implementing organization through six distinct steps: education, governance, assessment, strategy development, securing of approval for EI project and funding and vendor/partner selection.

"You move forward with your vendor selection," he said, "and then you begin the effort of deploying enterprise imaging with the appropriate governance and the right technology."

Ultrasound as an entry point

With 15 hospitals and four physician groups comprising around 2,400 doctors, Indiana University Health is the dominant healthcare-provider system in the Hoosier State. Buckwalter, who serves the system in multiple roles, counted among them chief of radiology for IU Health Physicians before becoming chief informatics and innovation officer last spring.

For the webinar, he recalled how IU Health purchased a VNA to

manage the organization's growing storage needs. The VNA went live during the third quarter of 2016. By then, Buckwalter had been working as the executive sponsor of a point-of-care ultrasound project for several months. That project is now folding into IU Health's single-site demonstration—its entry point—for true enterprise imaging.

"One of our goals was to implement storage and recording of a subset of point-of-care ultrasound studies at IU Health," Buckwalter said. "We wanted to make sure that reports and images were available to all system clinicians through the EMR. We wanted also to facilitate both technical and professional billing of point-of-care ultrasound."

Other goals included creating a "learner workflow" for residents and other trainees, including physicians who lacked credentials to perform point-of-care ultrasound, and using the EI project to standardize credentialing while they were at it.

"As we started to work on this project, we decided to form a steering committee that would steward the project through," Buckwalter said. "We also wanted to form multiple subcommittees for the purposes of credentialing, to look at financial aspects of the project and to look at workflow."

The momentum from such smart governance moves resulted in the naming of a project manager and the launching of the EI pilot program in December 2016.

"We tried to be as inclusive as possible," Buckwalter said. "We involved representatives from ENT, sports medicine, OB, critical care, emergency medicine, rheumatology, cardiology and radiology. We hoped to have a wide spectrum of representatives across the institution of folks who perform ultrasound or point-of-care ultrasound."

Forward into true EI

The EI demonstration project got into high gear after an internal survey uncovered many insights. For example, the majority of IU Health physicians expressed that they support equipment standards, Buckwalter said. "When we looked at our own equipment, we have a jumbled group of ultrasound devices from a number of vendors," he said. "This represents an opportunity for future improvement."

Buckwalter described numerous advances IU Health has adopted as a result of the experience, including encounters-based imaging and barcode scanning at the bedside.

"To date, we have had about 70 examinations successfully stored in the VNA," he said. "Our reports from those exams are visible in the EMR. And we have an EMR link in the system to launch images in a universal VNA viewer."

The encouraging early results and the governance structure for

point-of-care ultrasound "will help guide us in our enterprise imaging work," Buckwalter concluded. "We will shortly create a systemwide steering committee for enterprise imaging."

Moderated by Michael Walter, editor of Radiology Business Journal, the webinar included post-presentation input from Nathan Gurgel, director of healthcare IT marketing at the TeraMedica division of FUJIFILM Medical Systems U.S.A., Inc.. To view a video of the session in its entirety, [click here](#).