Enterprise PACS packs the punch when it doubles as a VNA too

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There is no doubt that vendor neutral archives (VNAs) have gained favor over the last several years in managing medical images. But there is some debate over whether hospitals really need both a VNA and a PACS. If PACS can do double duty as VNA and PACS, why do you need both? As we see it, you don't, as long as you have a true enterprise PACS and here's why.

ProMedica is multitasking when it comes to image management. Our health system's Sectra enterprise PACS fills the roles of both PACS and vendor neutral archive. A VNA stores images in a central location in a vendor neutral format, as well as providing a universal viewer to be used anywhere. Our enterprise PACS sits at the center of orders, image viewing, reading and archiving radiology, mammography, cardiology and ophthalmology images. Other departments like maternal fetal medicine and wound care are on our short-term list to bring on, while others like pathology are part of our longer term plan.

When you speak with people who have both a PACS and a VNA, the terms expensive and complex are often part of the conversation. It is expensive to manage both systems and complex because you must manage your images and archive in both locations. Slowdowns in image viewing via the VNA are another common concern. That's probably the top complaint that I hear about people who have a VNA.

The first goal of most facilities seeking a VNA is storing images in a vendor-neutral format, with a close second being that multiple departmental images can reside in the same place. They also want images to be integrated with the EMR and provide a universal viewer to the EMR. About three years ago, we integrated PACS with our EMR and brought on a zero footprint viewer, making the transition from PACS to enterprise PACS and also adding the capabilities of a VNA.

A VNA, including one nestled within a PACS, supports DICOM and non-DICOM images, JPEG 2000, GIFs, JPEGs, MPEG video files and PDFs. The VNA manages images, orders and order updates, communicating that information with the EMR to keep information always in sync.

In my experience working with VNAs, when you store your images in a VNA, you continue to have to expand your storage, and expand it, and expand it, to continue to grow forever. There are some data retention policies to think about, but for the most part, you're going to have to continue to grow your storage for your VNA. Our enterprise PACS performs all these functions without adding the cost, overhead and staff of another system to manage.

My opinion stems from experience, namely recently as ProMedica acquired a hospital that owns a PACS and a VNA from the same vendor, and another hospital that owns a PACS and a VNA from different vendors. One sounds easy and the other a bit more challenging, but truthfully both are a challenge. The PACS and VNA from the same vendor are actually two completely separate systems, with the PACS utilizing a Windows server solution while the VNA has a Linux server. In addition, the vendor's support for the PACS and VNA involves separate support personnel which adds to configuration and continuity challenges. It is so much of a challenge that we are transitioning the site to our enterprise PACS in a couple of months. The other site with PACS and VNAs from different vendors was equally problematic. Once we got inside, we realized they had bought the VNA but never got it up and running because it was too slow. So here again, we are bringing them into our enterprise PACS.

Our PACS has been our radiology imaging solution for the past 12 years but within the past five years, it has expanded well beyond radiology. Our PACS is able to store and manages images from cardiology, vascular, mammography and soon ophthalmology, wound care and maternal fetal medicine. Our enterprise PACS stores images in a vendor neutral industry standard using JPEG 2000 Image Compression (Transfer Syntax UID 1.2.840.10008.1.2.4.90) and we have integrated a zero footprint image viewer with our Epic EMR. To take this a step further, we have enabled HL7 ORM/ORU (orders and reports) messages for cardiovascular into our PACS so those images can be viewed directly from the EMR via integration with our enterprise PACS/VNA.

In ophthalmology, we have completed the proof of concept and are just waiting on the operational side to go live with the workflow.

Orders are placed in the EMR's ophthalmology module and also sent to PACS. We have used those orders to build a modality worklist for ophthalmology and successfully received those images into PACS where we can integrate with our EMR.

We are near complete bringing wound care images live using an encounter-based workflow. Within our tightly integrated EMR and PACS, physicians can take a photo that gets saved in PACS. The PACS notifies the EMR of the new image, the EMR creates an order message and associates it using the information PACS sent. At this point, anyone with access and permission to our EMR and PACS is able to view the wound care images using the EMR enterprise PACS/VNA integration.

Maternal fetal medicine will be coming online this year too. We'll be getting the order into our PACS, much like our vascular solution. They will do the entire workflow on their system, pick it off the work list, gather the ultrasound images and read them. When they send that exam to PACS, because we already received the order, we now have an integrated image solution to our EMR, where we did not before.

Managing pathology also is on the horizon. That will be an integrated solution as well, fully within our PACS.

From my experience, if you have the right vendor, you can accomplish the goals of a PACS and a VNA with one enterprise PACS/EPACS. There are other advantages to using a single system in terms of cost savings in hardware, backend and staff support. Consolidation allows us to avoid the hassles of vendor to vendor finger pointing.

Free Beck is an Enterprise Imaging PACS Administrator at ProMedica, a mission-based, not-for-profit healthcare organization serving northwest Ohio and southeast Michigan. The 12-hospital system has more than 15,000 employees, nearly 2,100 physicians and advanced practice providers with privileges, and more than 800 healthcare providers employed by ProMedica Physicians.