



THE STATE OF THE MEDICAL IMAGING MARKET

If You Haven't Opted for a VNA Yet, You're Not Alone

New independent research finds most hospitals don't operate vendor-neutral archive systems. However, many organizations are considering cloud-based image archive solutions.

It's no secret that the penetration of digital technology into all clinical operations and the information sharing demands of the Affordable Care Act are placing new demands on standalone hospitals and multifacility health systems alike. As a result, hospital leaders are seeing a need for more effective solutions for managing, storing, and sharing digital images. Ideally, such a system would act as a central clearinghouse for images coming from a variety of clinical settings, while also accommodating both DICOM (digital imaging and communications in medicine) and non-DICOM images.

Drawing from responses to a 2015 [IMV](#) survey of leaders in healthcare IT, one strategy for meeting these goals is an enterprise-wide vendor-neutral archive (VNA).¹ However, this study of 125 hospitals shows that VNAs remain out of reach for many of them: 74% of respondents haven't implemented an enterprise-wide VNA for nonradiology medical images.

Responses to the question of adoption from participating multihospital health systems, standalone hospitals, and local government hospitals identified a number of

perceived roadblocks that have slowed adoption of VNA technology. They include:

- High implementation costs
- Lingering concerns about data security
- Competing healthcare priorities
- Skepticism about the effectiveness of VNAs for performance

Fortunately, there's a practical way for hospitals to overcome these hurdles and successfully manage and share all types of digital images. It starts with creating an overall strategy for adopting a hospital-wide image archiving solution and leveraging the cloud, both as a model for delivery and long-term storage, for quick wins and building incremental benefits over time. With that data foundation in place, participants saw themselves positioned to easily access images regardless of their source, reduce medical errors, and achieve the most important goal of all—improve patient management and care.

74% of respondents haven't implemented an enterprise-wide VNA for nonradiology medical images.

Snapshot of the VNA Market

Aggressive marketing promotions by VNA vendors imply that many healthcare organizations are clamoring to implement VNAs, but the IMV survey found that's not how end users see things. Of the hospitals surveyed, almost half (48%) don't even have a plan in place for launching an enterprise-wide VNA for nonradiology medical images. In addition, only 19% are planning to implement a VNA within the next three years.

Despite the potential benefits of enterprise-wide VNAs, big barriers are keeping hospitals from moving forward. The cost of the solutions is an overriding concern for 72% of the survey respondents. Sixty-eight percent said that ensuring security of patient information is an important

concern. Other implementation priorities, such as EMR or ICD-9/10 initiatives, are important considerations for 59% of the hospital officials. Skepticism also reigns: "There is no such thing as an effective VNA," one respondent from a standalone hospital declared.

These concerns aside, survey respondents understand how the right enterprise-wide VNA could deliver important clinical benefits. Topping the list was reduced medical errors, something 73% of the executives ranked as an "extremely important" payoff. Similarly, 71% said improved patient management and care are extremely important, while 61% named seamless access to images regardless of the source and assistance in achieving meaningful use objectives as an extremely important incentive for considering an "ideal" VNA.

A Game Plan

Against this backdrop, how can hospitals prioritize the need for an enterprise-wide archive system with real-world cost constraints and other concerns? Two steps can lead the way.

First, create a strategy for implementing a hospital-wide clinical data management and archiving system. Identify the overarching goals for accessing data and how the unique needs of the hospital would be addressed by being able to accommodate any images needed to diagnose, treat, and document a patient's condition.

For example, images can flow into a VNA from a range of clinical departments, including ambulatory care, urgent and emergency care, hospitals, and long-term care. As a result, hospitals should consider using images beyond diagnostic reporting to document care given or to preserve a record of a patient's status at a point in time.

Survey respondents saw this type of integration as a key VNA goal. Eighty-eight percent of those that have a VNA for medical images or are planning to have one in the next three years will have it integrated into electronic medical record

(EMRs) solutions by the end of 2017, while 70% will have it integrated into health information exchanges.

In addition, the VNA solutions should make clinical collaboration and consultation easier and more effective. Sixty-eight percent of the hospitals that will have a VNA by 2018 said their solution will have a common storage management infrastructure for multiple departments.

With a central clinical data repository that supports sophisticated analytics, healthcare officials can examine hospital data to better understand population health trends and perform predictive analytics to track disease progression. A VNA also enables the IT staff to better focus their management activities for tight security.

73% of the executives surveyed ranked reduced medical errors as an "extremely important" payoff of using an enterprise-wide VNA.

Finally, survey respondents indicated that the solution should include appropriate workflows for each type of content. This approach provides a foundation for quality data collection, enabling the sharing of studies and integrating them with EMRs. The VNA should also enable care coordinators to trigger workflows that specify how data is shared across the spectrum of caregivers and with patients.

To do all of this, respondents said the VNA solution should be vendor neutral to avoid the rise of proprietary data silos that thwart easy information sharing among clinical departments. Vendor neutrality also supports unified workflows and simplifies the integration of imaging data within EMRs for a patient-centric view.

"Flexibility would be the main reason" for a vendor-neutral solution, said a representative from a large government

hospital. "There are a lot of VNA archiving solutions that provide different access than what we currently have."

An executive at a large, suburban hospital system said a vendor-neutral archive "is just the lay of the land. It's the way things are going for the future." This executive added that planners at the health system are exploring ways to replace their existing picture archiving and communication system.

"We have lots of different clinics, and working them into the enterprise-wide solution we have right now is not an option," reported an official at a health system in a small city.

Attitudes like these help explain why a third (32%) of those who don't consider their PACS (picture archiving and communication system) to be vendor neutral anticipate that their organization will move toward a VNA solution over the next three years, according to the survey.

Consider the Cloud

With clear goals in place, the next step is for hospital leaders to evaluate pure cloud-based software-as-a-service solutions or a hybrid of SaaS and private cloud implementations.

Of the hospitals that have an enterprise-wide image archive solution for medical images from departments other than radiology, 15% said they are using the cloud as a component of their archive and distribution solution for medical images. Of these organizations, 78% said their cloud is private and 22% said it is a public service. Many of those who don't rely on a cloud-supported archive and distribution solution are keeping that option open. Twenty-five percent said their organization will implement a cloud-based system over the next three years.

There are a number of reasons to use the cloud for non-DICOM and DICOM medical images, including improvements in cardiology standardization, physician

workflow, image accessibility and sharing across locations, and the ability to support secure patient portals, as well as eliminating the need to burn CDs when sharing images.

A cloud-based solution “allows the physicians to read [images] from whatever location they are viewing them from,” said an official at a rural healthcare system. “It frees up the physicians’ workflow.”

A respondent at an urban, government-run hospital summed up cloud benefits succinctly: “It gives us the ability to access from multiple locations without having access to the facility or the network.”

A Practical Path Forward

With the right strategy and VNA in place, healthcare organizations can start on a practical and economic path to an enterprise-wide image archive solution for medical images across all clinical departments. ■

[Get all the details](#) about the Dell Unified Clinical Archive integrated with partner solutions and learn about our clients’ success.

1. [IMV](#), “VNA Needs Assessment Custom Research Study,” sponsored by Dell Healthcare Life Sciences, July 2015.

Dell: A Full-Service Partner

Expertise and solutions available from Dell can help hospitals successfully implement a vendor-neutral archive (VNA) for DICOM and non-DICOM content to gain access to evidence-based medicine.

Dell provides capabilities for integrating a VNA into a hybrid system that includes both on-premises and cloud platforms. With Dell, hospitals can take advantage of a co-managed software-as-a-service solution. SaaS gives hospitals fast access to new technologies for sharing, viewing, and making a diagnosis, without the cost or complexity of using internal IT staff to adopt the capabilities in-house. That’s especially important given the evolving needs generated by the demands of accountable care organizations and coordinated care.

An example of such a system is the Dell Unified Clinical Archive, integrated with Apollo EPMM® (Enterprise Patient Multimedia Manager) as software-as-a-service. With the Dell managed solution, all the software and hardware components needed are integrated into a hybrid system that includes both on-premises and cloud platforms.

Beyond data management, Dell offers imaging analytics, ready integration with electronic health records, and sophisticated tools for managing workflows for both DICOM and non-DICOM images alike.

Choosing a VNA solution is a long-term relationship that requires a partner who can sustain technology, empower users to integrate new applications, and understand how their investments are improving patient care. Dell delivers all the components, eliminating provisioning guesswork, ensuring services with service-level agreements, and providing access to clinical data now and in the future.