

Converting to Digital Mammography: It's Not Just About the Capture Device

An efficient workflow requires highly productive digitizers and multi-modality workstations

St. John Medical Center of Tulsa, Oklahoma, has fully embraced digital mammography.

All screening mammograms are captured on seven FFDM systems that serve patients at the hospital's breast center, two imaging centers and a new hospital across town. The hospital and its affiliates conduct 38,000 screening exams a year. Patient volumes have expanded since digital technology was installed and continued growth is expected.

Prior to the conversion, a multi-disciplinary team documented current processes and created a plan to convert to an efficient all-digital workflow. Two areas—handling prior exams and soft copy image viewing—proved to be major challenges.

“Everyone thinks going digital is primarily about selecting the right capture device. Our team found that delivering highly productive viewing of current and prior imaging exams was equally important,” said Phil Ames, St. John's Administrative Director of Radiology.

As the team evaluated the handling of prior exams, it ruled out the use of automated film viewers due to space, staff and budget concerns and began looking at ways to digitize priors. “We achieved a rapid ROI on the installation of two digitizers due to the cost of couriering, hanging, and refiling films. Our team decided to digitize priors in the archive room for the greatest efficiency and security,” he notes.



Criteria for selecting a digitizer

The team devoted the same effort to evaluating digitizers as it had for selecting digital mammography platforms, according to Ames. Basic considerations were: speed, resolution, worklist capabilities and ease of connectivity.

“We needed worklist capabilities to prevent the need for manual data entry. We also found that with some vendors, transmitting DICOM images to the PACS takes a lot of work. We wanted a smooth interface that would not cause us added effort or expense,” Ames said.

In addition, finding a digitizer platform with the ability to accept more than four images per patient and automatically recognize and label each image view also proved critical to achieving a productive workflow.

"This process would be too time consuming if our staff had to input patient information, enter each exam view or develop a separate procedure for patients with more than four images," Ames explains. "Our team selected the KODAK Mammography Digitizing System because it was the only platform that could offer all these features. Our technologists select the patient name from a worklist and this digitizer recognizes and labels each view. In addition, this platform delivers excellent speed and resolution and a seamless image transfer with our PACS."

Exams are digitized the day before a patient's current exam. Two digitizers operate up to 10 hours a day to handle the high patient volumes. "Having a single person run two machines really works well. It optimizes the process for both the person and the equipment," he said.

Implementing convenient image viewing

The other focus of the team's efforts was creating convenient image viewing for screening and diagnostic exams. The FFDM workstations were limited to FFDM exams and could not display diagnostic exams from MRI, ultrasound and other modalities, according to Ames.

"Our radiologists need to be able to read diagnostic and screening mammography exams as well as general radiography exams on the same workstation. Moving radiologists around due to workstation limitations is not an acceptable situation," Ames notes.

The hospital solved this problem by purchasing multi-modality KODAK CARESTREAM Mammography Workstations that display breast exams from all digital modalities on 5 megapixel monitors, and also provide diagnostic viewing of general radiography exams as well.

"These workstations will deliver the flexibility we need, along with specialized tools for reading of breast images that further enhance convenience for our radiologists," he explains.

An added benefit of the facility's conversion to an all-digital mammography workflow is better patient service, Ames notes. "We moved one person from our file room to help with patient scheduling. This helps us maintain efficiency during patient check-in and eliminates delays that both inconvenience patients and disrupt the imaging process."

Improving the delivery of radiology services requires looking at every element in the imaging chain and eliminating any weak links, Ames notes. "We believe our current digital mammography workflow maximizes staff productivity, equipment utilization and patient satisfaction. We work hard every day to make sure our patients receive the excellent care they deserve."

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