Community Hospital's RIS/PACS Streamlines Workflow

Ohio Hospital Boosts Patient Satisfaction and Report Turnaround, Achieves 75% Paperless Environment

As a mid-sized community hospital, the radiology department at Joint Township District Memorial Hospital in St. Marys, Ohio, needed a fully featured, fully integrated RIS/PACS at an affordable price. It got all that—and more—with its RIS/PACS suite from Carestream Health, Inc.

After implementing CARESTREAM RIS/PACS, the 110-bed hospital now achieves 24-hour turnaround on all radiology reports, and averages just 15 hours for reports on inpatient exams. It has trimmed its imaging process from over 70 steps to about 25 steps and has become 75 percent paperless. "Our productivity is greatly improved. We are spending more time working with patients and less time on administrative tasks—and that translates to a stronger bottom line," notes RIS/PACS Clinical Coordinator Rob Homan.

With the recent economic downturn, the department's increased efficiency couldn't have come at a better time. "This technology allows us to track everything we do so that we can improve our processes and our product. This is critically important since the only way to achieve growth in our region is to gain market share through improved performance," he said.

Improved Turnaround Earns Loyalty

Improving report turnaround has been a major factor in winning the loyalty of the region's 80 referring physicians and their patients. The CARESTREAM PACS has streamlined workflow by enabling radiologists to use the same diagnostic tools and hanging protocols outside the facility that they do at an on-site workstation. Its advanced streaming technology speeds response time on all connections but is particularly important for remote reading. A unique feature of this intelligent technology is that clinicians can place their cursor on the region of interest and all the data in that area will load first to permit rapid examination of the desired area. The department also uses "canned normal" reports and built-in digital dictation as part of its workflow.

RIS/PACS Clinical Coordinator Robert J. Homan, RT(R)(CT) looks on as Diane Gayer, RT(R), views a patient image and information on a single RIS monitor.

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Dr. Eric V. Jelinger, MD, evaluates a carotid ultrasound study on a CARESTREAM PACS workstation.

The hospital has one radiologist on-site during business hours and taps into a second "roaming" radiologist from the same group as needed to handle peak periods. Since the second radiologist may or may not be on-site, enhancing the remote reading experience directly impacts the hospital's reporting capabilities. It's also a benefit for on-call radiologists that read from home until 10 p.m. and for the nighthawk service that takes over after 10 p.m.

Native advanced visualization tools such as 3D, MPR and vessel tracking are also available on any workstation, anywhere. "Carestream Health's PACS platform allows functionality to follow the user and not be limited to a specific workstation. This flexible, virtual workflow is a huge advantage to facilities of all sizes that have radiologists and

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other clinicians working at remote locations," Homan explained.

The PACS platform also features reading tools, including customizable hanging protocols and a programmable mouse, which radiologists find especially helpful. "Rob created my protocols to mimic the image presentation I was used to with film. This made it very easy to transition to a digital environment," said Radiologist Eric Jelinger, MD. "I also appreciate being able to initiate commands with the mouse while continuously viewing images."

Since these advanced reading tools are embedded in the PACS, Homan does not have to manage separate systems from other vendors. "It's a matter of convenience and cost. Having all of this functionality built

into the PACS saves time and also reduces expenses related to equipment purchase and maintenance."

Women's Imaging Focus

The radiology department also has focused on women's imaging as a pathway to future growth. The new women's imaging center is located adjacent to the radiology department, and has its own exterior storefront. The department completely revamped its women's imaging center with the installation of FFDM and breast-specific gamma imaging (a molecular breast imaging procedure that captures the metabolic activity of breast lesions through radiotracer uptake), as well as DEXA bone mineral density testing and ultrasound.

"Studies have shown that women make the majority of healthcare decisions for the family and we want them to know that we have the advanced technology and experienced staff to meet their own imaging needs and those of their families," Homan said.

Both the RIS and PACS support advanced mammography capabilities that translate to more personalized service for patients and improved productivity for staff. "The mammography module on the RIS is exceptional. We are able to generate personalized reminder letters with the date of each patient's last mammogram that automatically incorporate updated information such as a change in name or address. This

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Amy Albers RT(R) uses the CARESTREAM RIS to view a patient's mammography report.

package also provides all the tracking and reporting required to meet MQSA requirements, which is a huge advantage over our previous manual methods," he notes.

Productivity is also improved since all mammography imaging exams can be read on a PACS workstation that is equipped with five megapixel monitors. "Radiologists don't have to get up and move to another workstation to read mammography exams. That's a huge advantage," he adds. "
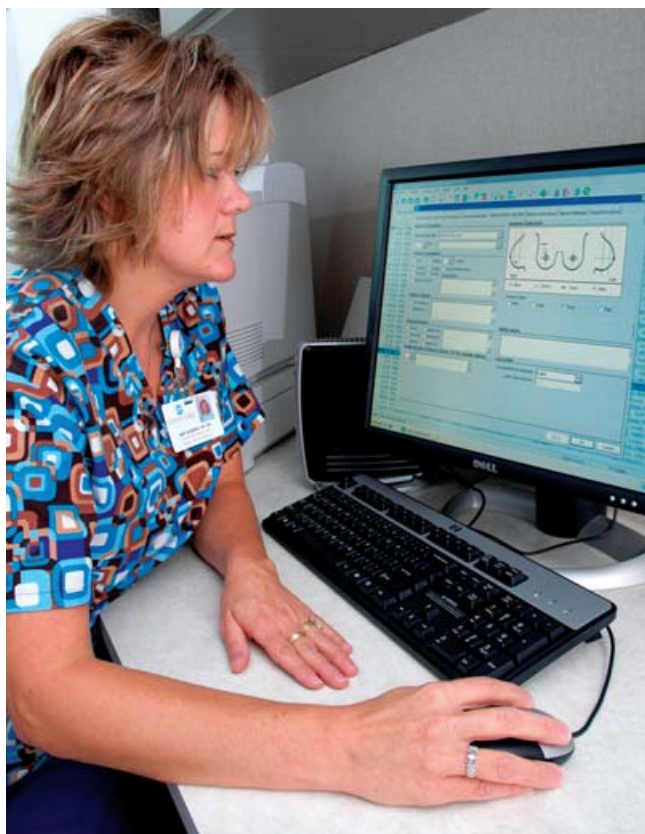
Patients Appreciate Shorter Wait Times

Patients also benefit from the department's streamlined workflow through shorter wait times. Color-coded exam status results are displayed on a large screen in the staff area, in addition to the scheduler's monitors. Once a patient has waited 10 minutes, the name goes to yellow and it converts to red at 20 minutes. "This display helps us streamline the process and ensures that no one gets overlooked. Our goal is wait times of 10 minutes or less and we are usually able to achieve that," he explains.

From an administrator's perspective, Homan touts the advantages of the CARESTREAM Digital Dashboard. The dashboard monitors network and device functions and allows Homan to quickly identify problems when they occur. "One morning I came in and found that 25 percent of the network connections

were down. I was able to determine that a specific network switch was out. The network administrator was able to replace that switch and restore service in less than 30 minutes."

In another case, Homan got a call in the middle of the night that CT exams could not be sent to the PACS. He booted up the dashboard from home and could see that the CT system was offline. He instructed the staff to switch network cables with another device so they could make it through the night and the problem was fixed in the morning.

The RIS/PACS is configured for full redundancy. Its primary RAID is backed up by a secondary SATA RAID that is located with a tape library at a facility 11 miles away from the main data center. The hospital also utilizes the company's Enterprise Information Management (EIM) software to manage storage of DICOM and non-DICOM data. Currently the only non-DICOM data is coming from the RIS, but Homan said the hospital needed this capability to support future applications.

"We did not want to be locked into supporting disparate storage silos as we add new applications. Carestream Health's EIM architecture can support efficient centralized management of all kinds of data and imaging applications."

Joint Township District Memorial Hospital is located in St. Marys, Ohio.

Looking back on the hospital's implementation, Homan notes that community hospitals have the same need for increased productivity as larger facilities. "We want to offer our patients the highest level of care available, but we have limited resources. So when we made this investment in RIS/PACS technology, we expected it to improve our efficiency, speed turnaround times and enhance our service to referring physicians and patients. I am happy to report that our CARESTREAM RIS/PACS has satisfied our goals and exceeded our expectations."

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