Advanced Features of CARESTREAM PACS Earn Higher Referral Volumes

St. John Health System Also Boosts Throughput With New PACS

Linking the past to the present and future. That's what the radiology staff at St. John Health System, Tulsa, Okla., was looking for when they selected a CARESTREAM PACS. They wanted to access seven years of imaging exams—without a lengthy data migration—as well as 10 years of reports. Looking ahead, they needed to make advanced user functionality and faster delivery of imaging studies available for off-site radiologists and referring physicians.

"The new CARESTREAM PACS synchronizes patient metadata across multiple PACS to provide automatic access to prior exams," notes PACS Administrator Rick Adams. "This allowed us to avoid a costly, time-consuming data migration. It took just a week to input metadata for seven years of archived studies into the central PACS database. Even though the studies still reside on our previous archive, they are available for viewing within three seconds."

After migrating 10 years of reports to the new PACS, any authorized user can view current and prior reports or imaging studies in seconds. That is a major accomplishment for a system that consists of four hospitals, including the 721-bed flagship St. John Medical Center and three smaller hospitals, 14 imaging centers and three urgent care centers. This growing organization produces 310,000 procedures a year and expects to see 1,500 patients a day by the end of 2009.

"CARESTREAM PACS equips us with a streamlined workflow that saves time and effort over our previous manual process for retrieving patient records," Adams reports. "This capability is especially important in serving our trauma patients since past reports and exams can be pulled immediately using the patient name."

Streaming Technology Speeds Exam Delivery

Workflow at the facility has improved in other ways as well. Intelligent streaming technology offered by the PACS delivers rapid distribution of imaging exams, even over 10 megabit connections. The first images appear in full resolution in just a few seconds, regardless of the size of the data set. Achieving high speed and image quality is accomplished by applying compression to the individual slice instead of a predetermined algorithm. Images are also streamed based on the region of interest so the user can begin reading the desired area immediately while the rest of the study continues to load.

St. John's new CARESTREAM PACS creates a streamlined workflow that saves time and effort in retrieving patient records, which is especially important in serving trauma patients since past reports and exams can be pulled immediately using the patient name, according to PACS Administrator Rick Adams.

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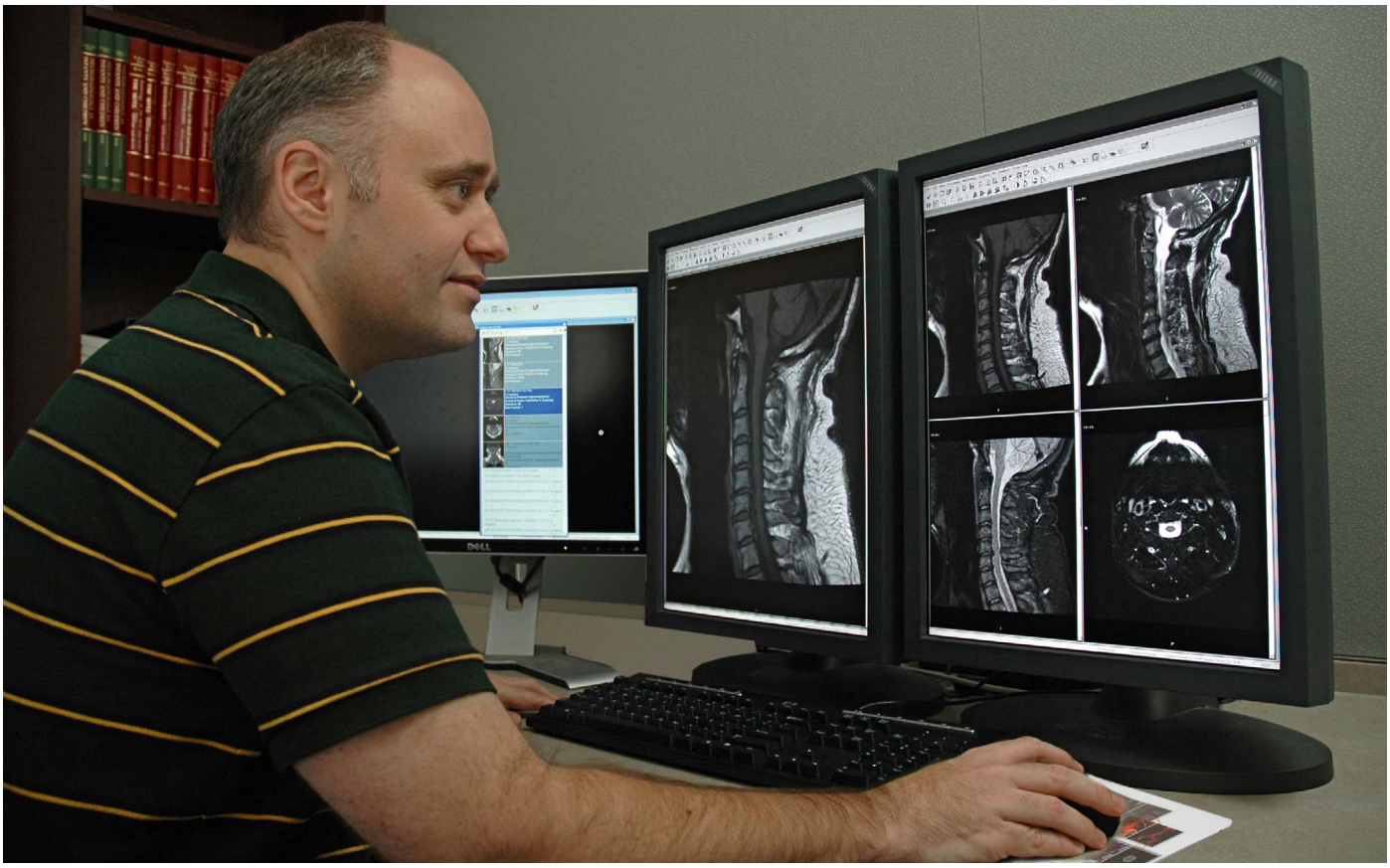

Radiologist John Fitter, M.D., views an MRI of a cervical spine. The ability to quickly pull up previous patient images is an important benefit of the PACS. After migrating 10 years of reports to the new PACS, any authorized user can view current and prior reports or imaging studies in seconds.

This capability, combined with integrated PowerScribe speech recognition software, equips radiologists with highly productive remote reading and referring physicians with fast and convenient remote viewing. As a result, the radiology group reads after-hours exams from home and one radiologist is also reading portable exams from home. "In the past, radiologists would only read exams captured at one of our networked hospitals," said Adams. "Now radiologists at any location read exams from any of our remote facilities. This creates tremendous flexibility and leads to faster reporting for patients throughout our system."

Enhanced Tools Facilitate Reading of Complex Exams

The company's PACS also delivers enhanced reading tools that can help speed exam interpretation and reporting, particularly for complex exams where data sets need to be compared. Its unique PowerViewer builds a single virtual study with real-time volume matching of all relevant studies to automatically register and synchronize them in one click. This feature synchronizes views of the region of interest from multiple data sets and makes it much faster and easier for radiologists to measure and compare tumors, nodules and other anatomical structures.

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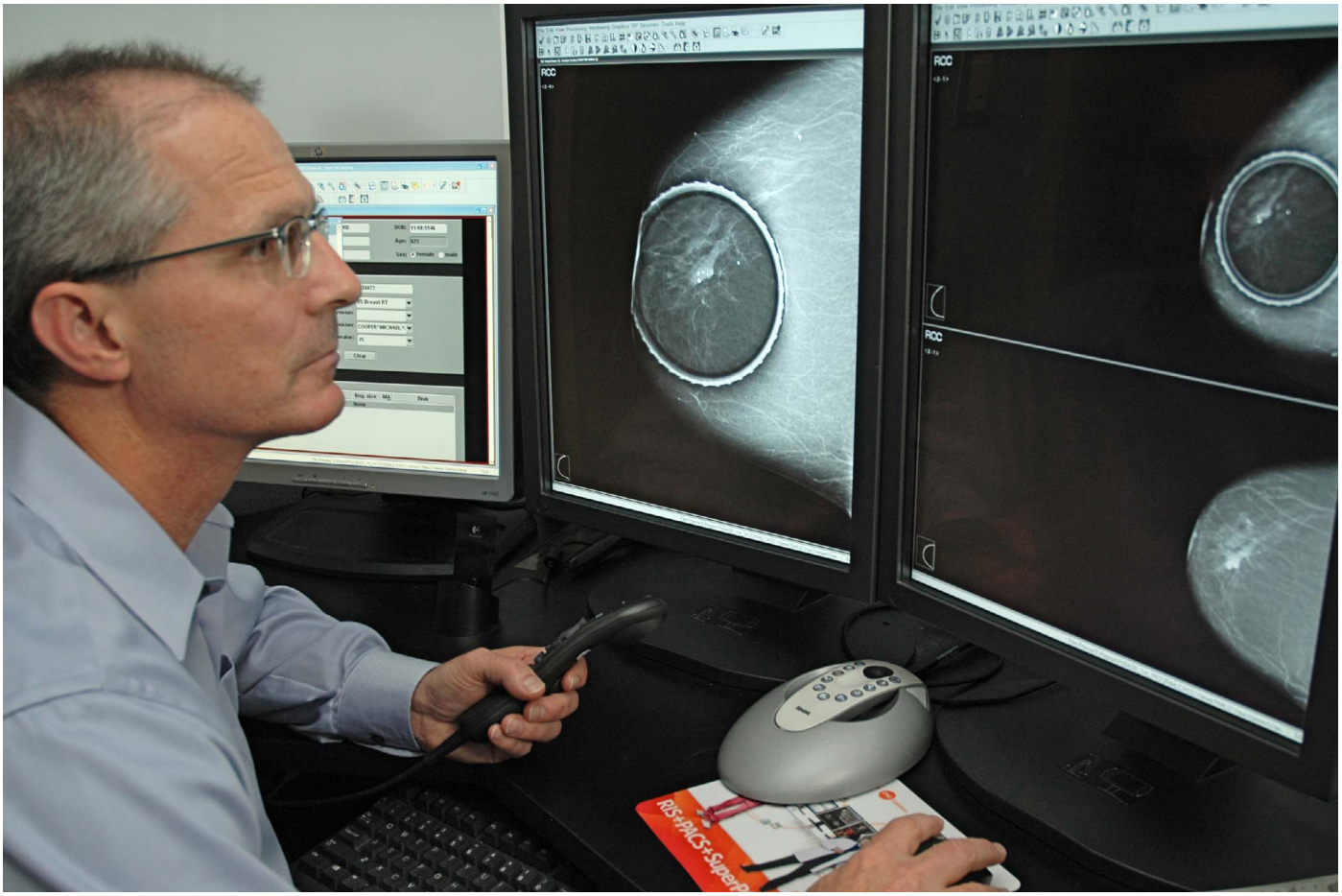
Neuroradiologist Rodney Shaffer, M.D., uses the PowerViewer to compare metastases in different planes. "If I see a metastasis, particularly in the brain, I want to confirm it by viewing it from another plane. The ability to immediately localize the area under my cursor in another plane speeds my comparison of current and prior cases," he said.

Rapid image access quickly lead to higher referral volumes and the addition of a large neurology group and a prominent breast surgeon, Adams notes. "We previously offered exam access over a web server but it took a while to download large image files like MR or CT exams. Our referring physicians are extremely pleased with the speed offered by our new PACS."

"Providing a fast and easy way for physicians to view current and previous exams from a single PACS platform is a strategic advantage. If a surgery takes place at our hospital, the surgeon and the patient's primary doctor can view pre- and post-surgical exams from our PACS. They love the simplicity and the speed our system provides."
PACS Administrator Rick Adams

The hospital is also attracting additional referrals by importing imaging exams from other facilities. "Providing a fast and easy way for physicians to view current and previous exams from a single PACS platform is a strategic advantage. If a surgery takes place at our hospital, the surgeon and the patient's primary doctor can view pre- and post-surgical exams from our PACS. They love the simplicity and the speed our system provides."

A new licensing structure provides an affordable way for the hospital to expand image access. In the past, functionality was limited to specific licensed workstations and fees were based on the number of users and workstations. Now St. John's licensing fee is based on the number of concurrent users. Advanced functionality including 3D or mammography tools is available at any workstation. "Being able to offer full software functionality and high-speed image delivery at any



Radiologist Jonathan Schmitker, M.D., views mammography images on Carestream Health's multi-modality breast imaging workstation that includes specialized reading tools as well as a tracking feature that helps gather information for MQSA reports. CAD markers for digital mammography studies are available with a single click.

PC or workstation is extremely attractive for our referring physicians," said Adams.

Mammography Functionality Is Important Attribute

The CARESTREAM PACS' support for full mammography functionality is also an important advantage. "Carestream Health's PACS mammography module includes specialized reading tools as well as a tracking feature that helps gather information for MQSA reports. Radiologists and breast surgeons have the ability to use these specialized tools remotely, and our staff gains a more automated reporting process," Adams reports.

The hospital installed multi-modality breast imaging workstations from Carestream Health to equip radiologists to read general radiology and all breast imaging exams on the same workstation. This flexibility enables faster throughput during peak periods as radiologists throughout the healthcare system pitch in to read cases.

Radiologists previously used two different workstations for breast imaging modalities. Reading for general radiology exams required a third workstation, which was not installed in the breast reading area.

CAD markers for digital mammography studies are available with a single click. Additionally, integration with Confirma CADstream provides CAD for breast MRI studies from the same desktop. Productivity gains offered by the workstation were immediate and dramatic, according to Adams. "Carestream Health's workstation is extremely well-designed. It is easy to use but offers all the tools needed for reading of breast exams. After just 30 days, our radiologists were reporting a 20 percent increase in reading volumes."

The 721-bed St. John Medical Center is the flagship of St. John Health System in Tulsa that also includes three smaller hospitals, 14 imaging centers and three urgent care centers. It produces 310,000 procedures a year and expects to see 1,500 patients a day by the end of 2009.

PACS Satisfies Needs of Radiology Users, IT Staffs

St. John is one of many U.S. hospitals that are searching for a replacement PACS that offers better clinical functionality along with tighter integration with RIS and HIS/EMR systems. When St. John began evaluating PACS platforms, its radiology IT staff looked at the design and flexibility of the platform and its ability to integrate well with other systems. This process ruled out several vendors. Workstations from the remaining prospects were set up in a testing area so radiologists could evaluate the functionality of the diagnostic tools and overall ease of use, according to St. John's Radiology Director Phil Ames.

"Carestream Health was a clear winner because its PACS platform is designed well from an IT perspective and it also delivers exceptional clinical tools that are easy to use," Ames reports. "We have been extremely pleased with its performance."

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MORE INFORMATION

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