

*Not only did they implement a digital and physical image solution – but also one that allowed us to bridge the two media for our radiologists.*

*Erin Gathright – PACS Administrator*

The Medical Center of South Arkansas is a 166 bed hospital, affiliated with Community Health Systems and servicing central and southern Arkansas with portions of northern Louisiana, provides acute patient care services to a population of 125,000.

As the Medical Center of South Arkansas' radiology department readied themselves for a move to a digital imaging system called PACS (Picture Archiving and Communications System), they were challenged with how to manage the large volumes of active and inactive analog film X-rays. Additionally, due to the growing needs of the community, valuable floor space needed to be reclaimed for renovations and upgrades to services within the department.

Although only a small percentage of historical X-rays (approximately 20%-30%) are typically needed in future diagnoses, state laws dictate that they must be retained for a period of approximately five years. The situation at the Medical Center of South Arkansas, like most other healthcare organizations that switch to PACS, meant that their radiologists would have to compare historical, analog X-rays films viewed with a light-box against digital X-rays viewed on a computer monitor. While film-based X-rays can be digitized and fed into standard PACS, conversion of all historical X-rays is cost prohibitive due to the large number of films involved combined with the staff necessary to undertake such a tremendous project.

In this specific case, although a PACS had been implemented, the benefits of the migration had not been achieved as the hospital still maintained two separate methods of viewing and storing films. The challenges of high costs and management issues persisted and some of the specific issues faced were:

- Multiple storage locations existed to support file availability.
- Medical staff had to leave their location to view files.
- Secure and timely access to files
- Delays resulted in a decline of timely and quality patient care.
- No system to monitor the requests or location and availability of files.
- Resources and overhead costs to support file rooms were not reduced.

A further complication for Medical Center of South Arkansas involved the separation of mammography and general radiology departments within the hospital. While radiologists clamored for an all digital reading environment, mammography had no intentions of making the transition in the near future.

Through a unique purge, Starpoint Global Services migrated all mammography envelopes to a separate area for hospital retention while maintaining an error rate of less than 1%, exceeding hospital guidelines.

X-ray on Demand (XOD) is a unique solution offered by Starpoint Global Services that bridges the physical and digital radiology record. Patient films are requested via telephone, fax or via a Web-portal called RSWeb, then pulled at the Starpoint Global Services Record Center. The radiology films are digitized and formatted into a "DICOM" (Digital Imaging and Communications in Medicine) image that can be read and archived by standard PACS, regardless of the vendor. This digitized image is then window leveled and combined with an indexing of patient demographic and exam information, encrypted for security, and sent directly into a hospital's PACS over a secure connection using a Virtual Private Network (VPN). They are then available for analysis and comparison with existing digital images from within the hospital's PACS.

After hearing about the XOD service, John Brewer, Director of Imaging Services, invited Starpoint Global Services to meet with him and his IT

staff to discuss their needs. It was clear from an early stage that the XOD service was a good fit. Instead of digitizing thousands of X-ray films in advance, Medical Center of South Arkansas now processes and archives only those that are needed – thus saving significant costs in both labor and digital storage. Starpoint Global Services won the contract based upon the flexibility of its XOD solution and the cost savings made possible by transferring the existing radiology film library to our information management center.

After a year, the XOD service has proven to be a great success. The radiology department receives digitized images with superior service levels than with film; multiple standard deliveries are scheduled throughout the day, with STAT deliveries processed within minutes. XOD has provided a number of benefits to Medical Center of South Arkansas, including a streamlined workflow process, faster diagnoses resulting in improved patient care, and the reduction/reassignment in a significant number of full-time employees. XOD provides a critical component of Medical Center of South Arkansas's PACS strategy in their efforts to ultimately become a filmless radiology environment.

