SUCCESS STORY

Minidoka implemented PACS while reducing costs.

Digital images routed to reading radiologists in real time.

Turnaround times within hours, allowing physicians to more timely diagnose and prescribe care.

PACS system handles 500 studies per month and supports six modalities, including two CRs, CT, ultrasound, nuclear medicine, and mobile MRI.

More than 50 physicians, nurses and staff use the Web viewer to search and view images online.

Eliminated all film, chemicals, courier and related costs for connected modalities, except for mammography or when requested by physicians.

HIPAA compliance, disaster recovery protection, backup and technology upgrades included at no additional cost.

Flexible and scalable to grow as imaging volumes increase with patient demand.

Minidoka Memorial Hospital

On-Demand PACS for Cost Reduction

Minidoka Memorial Hospital uses healthcare IT to upgrade systems and automate workflows without adding cost.

Minidoka Memorial Hospital (MMH) is an independently-operated, community hospital dedicated to improving the health and well being of the residents and visitors of the Mini-Cassia area in Idaho. Healthcare services offered at the 25-bed hospital include surgery, obstetrics, inpatient and outpatient treatments, long-term care, home health, ambulance and occupational health. A 59-bed long-term care facility is also connected to the hospital.

The hospital, located in the county seat of Rupert, Idaho, serves nearly 20,000 residents in the county, and nearly 40,000 in the greater Mini-Cassia area, which covers the counties of Minidoka and Cassia in the Magic Valley region of Idaho. As one of the county's largest employers, the hospital currently employs more than 250 people. In 2008, the hospital recorded its best performance in history.

MINIDOKA FAST FACTS

Minidoka Memorial Hospital
1224 8th Street
Rupert, ID 83350

www.minidokamemorial.com

Number of locations: 1
Number of hospital beds: 25
Number of long-term care beds: 59
Physicians: 24
Employees: 250

City of Rupert: 4,075 residents
County of Minidoka: 18,564
County of Cassia: 20,960

IMAGING MODALITIES:

- CRs (digital X-ray)
- CAT scan
- Ultrasound
- Nuclear Medicine
- Mobile MRI

IMAGING VOLUMES:

- 6,000 studies per year
- 500 studies per month

THE CHALLENGE

MMH wanted to switch from film to digital imaging. The move would dramatically improve patient quality of care. Higher quality (resolution) images would lead to more accurate diagnosis. X-rays and other images could be read and reports could be turned around in hours. Overall, higher accuracy, automated workflows and faster turnaround would increase patient satisfaction and reduce medical errors.

Digital imaging required upgrading analog X-ray equipment to digital and purchasing a picture archiving and communication system (PACS). Cost was the biggest factor, then integration and ease of use. Fortunately, a grant covered the purchase of new equipment, but there was not enough left to cover the full cost of the PACS. Unless there was a financially feasible solution, their digital imaging initiative would be dead in the water.

"I was nervous about pulling the trigger because PACS was all new to us," said Rae Jensen, Radiology Director of MMH. "We never thought we could afford it, and we were so used to doing everything manually, pushing paper and storing films. It was going to be a big change for us, and not all of us were tech savvy."

THE SOLUTION: Right Business Model, Right Now

7 Medical's PACS solution is based on an on-demand, or Software-as-a-Service (SaaS), business model. The on-demand PACS service lifted the budget constraint because it did not add cost, making it possible for MMH to implement PACS alongside two new Konica computed radiography (CR) units. With 7 Medical, MMH was also able to integrate to the existing Healthland, formerly Dairyland, health information system (HIS), further automating orders and radiology workflow and increasing efficiency.

"We were used to having to buy everything and to implement it between radiology and IT," said Jensen. "It was clear 7 Medical's on-demand model was a different way of thinking—no huge capital investment. The low monthly fee made the PACS service affordable. We no longer worry about maintenance and upgrade fees in future years. It was invaluable having people who knew what they were doing right there with us every step of the way, including integrating with our HIS provider."

With 7 Medical, healthcare facilities purchase PACS as a service, similar to how consumers buy Internet or cable TV services at home. As a turnkey PACS service, 7 Medical provides everything including hardware, software, integration, service and support for the PACS—no upfront or ongoing capital expenses involved for hardware

and software. Instead, MMH pays an affordable monthly fee to use the PACS service, while retaining ownership of all of their data.

7 Medical's solution includes a PACS clinical project manager to manage every step of the process, from workflow and project planning to installation, integration and testing—not to mention training on how to use the PACS system for physicians and staff. The on-demand PACS service is backed by 24/7 service and support, so 7 Medical's clinical and IT staff are on call to respond around the clock.

PACS AS A SERVICE: HOW IT WORKS

Prior to PACS, MMH was still on film and manual workflows. Patient information was entered into the HIS during registration. Imaging orders were hand-written or printed on paper forms and hand-carried by patients to the radiology department. In radiology, patient and order information were re-entered into the HIS for the imaging exam. Once the images were taken, the films were developed using chemicals in a dark room, placed in jackets, labeled and then taken to the onsite radiologist who dictated his findings. A transcriptionist typed the report, and the films and report were then physically routed to the referring physician via courier or fax.

With 7 Medical's on-demand PACS, MMH was able to automate workflows. They had upgraded analog X-ray rooms to digital with the purchase of two Konica CRs. The CRs come with digital plates that replace the film in the cassettes; CR readers to digitize the images; and a computer workstation for viewing the modality worklist and images.

MMH had also purchased the 7i Connect, 7 Medical's interface engine that integrates the PACS to their existing HIS. Rather than re-entering patient (ADT messages) and order (ORM messages) information, the information was sent electronically from the HIS. The interface engine receives ADT and ORM messages from the HIS, converts the information into DICOM format, and electronically routes the information to the modality worklist.

After images are taken, the CR plate is inserted into the CR reader, where the images are digitized, then electronically routed to the 7i Gateway, a 7 Medical-managed server installed onsite. The 7i Gateway serves as the "brains" of the PACS system, providing the intelligence and rules for managing all of the routing, storage and retrieval of images to and from the PACS, reading radiologists, and referring physicians. Images are temporarily stored on the onsite gateway, and a copy is routed to 7 Medical's offsite data center for long-term storage. The image is also electronically routed to the daytime radiologist's workstation onsite, or to a nighttime service.

"It was clear 7 Medical's on-demand model was a different way of thinking—no huge capital investment. The low monthly fee made the PACS service affordable. We no longer worry about maintenance and upgrade fees in future years. It was invaluable having people who knew what they were doing right there with us every step of the way, including integrating with our HIS provider."

Rae Jensen
Radiology Director, MMH

"The other added insurance is 7 Medical," said Jensen. "Besides being there to walk us through ever step, they were there to train us, and they're only a call away anytime we need them. They are very responsive and go above and beyond. You can't put a price on that level of service."

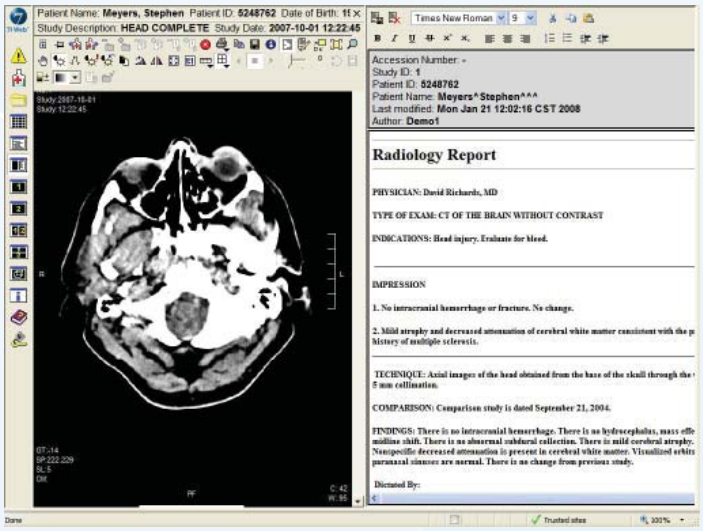
MMH also purchased a radiology workstation that included two high-resolution, three-megapixel monitors side-by-side in a dual-monitor configuration for viewing images. A third monitor was used for viewing the modality worklist. During daytime hours, the onsite radiologist dictates his findings and a transcriptionist types the report into the HIS. The report and order are scanned, converted to DICOM format and sent back to be stored in the PACS alongside the image, which can be viewed together in the Web viewer.

MAKE YOUR BUDGET, DON'T BREAK IT

For MMH, budget was the gating factor. "With 7 Medical's solution, it wasn't a budget decision at all," said Jensen. "In fact, it was a no-brainer. We wanted to go digital and we were able to do it without adding cost. The 7 Medical model is exactly what we needed, and just what the industry needs to make PACS available to all."

MMH has been filmless since September 2008. The 7 Medical on-demand PACS supports six modalities including two CRs, CT, ultrasound, nuclear medicine and mobile MRI. More than 50 doctors, nurses, referring physicians and staff are currently using the system and the Web viewer to view patient images online. "Referring physicians particularly like the convenience of viewing reports alongside the images in the viewer," said Jensen. "That was a big win for us with physicians located remotely around the area."

"The PACS made a huge difference in improving our workflows," said Jensen. "Modality worklist integration saves us from having to re-enter patient and order information, so everything is more efficient, and there are less errors resulting from manual data entry from multiple sources. The PACS routes images electronically to onsite or offsite radiologists, and turnaround times are so much faster because of it. And patients really like having the their own images available to them on CDs."



The 7i Web viewer allows physicians, nurses and staff to view patient images and reports online—anywhere, anytime.

In addition to cost savings, improved workflows, and automatic maintenance and upgrades, MMH benefits from built-in backup and disaster recovery protection—not to mention regulatory and HIPAA compliance. A copy of all patient images is archived in 7 Medical's offsite data center and can be quickly and easily recovered. In the event of a natural disaster or emergency, that gives MMH, and its patients, peace of mind. "The other added insurance is 7 Medical," said Jensen. "Besides being there to walk us through every step, they were there to train us, and they're only a call away anytime we need them. They are very responsive and go above and beyond. You can't put a price on that level of service."

To learn more about the 7i Imaging-on-Demand PACS Suite, call us today.
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