



## SUCCESS STORY

HCMH implemented PACS while reducing costs by 50%.

Patient diagnostic images routed to reading radiologists in real time. Read-times and results returned in hours instead of days.

Physicians are able to diagnose and recommend treatment in a more timely manner.

PACS system handles 500 studies per month and supports five modalities: CR, CT, nuclear medicine, ultrasound and MRI.

More than 60 physicians, nurses and staff use the Web viewer to pull up and view images online.

Eliminated all film, courier and related costs except in the case of mammography (coming soon).

Disaster recovery protection, backup and technology upgrades included without additional cost.

Flexible and scalable to grow as study counts increase and to meet the needs of patients and the hospital, without limits.



## Committed to Serve. Compassion to Care.

*HCMH adopts digital imaging to improve patient care for greater Humboldt, Iowa community of more than 10,000*

For Humboldt County Memorial Hospital (HCMH), “committed to serve; compassion to care” is more than just a slogan. It’s a philosophy and a dedication to providing the highest level of patient and long-term care to local communities in their time of need. HCMH is a 21-bed critical access hospital in Humboldt, an Iowa city with a population of nearly 4,500, and serving a greater Humboldt County community of more than 10,000. The hospital specializes in acute and skilled care, as well as long-term care, and offers the following medical services: outpatient diagnostic testing, 24-hour emergency, ambulatory surgery, rehabilitation, home and community health, nutrition and ambulance. In addition to medical services, the hospital campus also includes Springvale Independent and Assisted Living for seniors.

## HUMBOLDT FAST FACTS

Humboldt County  
Memorial Hospital  
1000 North 15th Street  
Humboldt, IA 50548

[www.humboldthospital.org](http://www.humboldthospital.org)

Number of locations: 4  
Number of beds: 21  
Physicians: 5 and growing  
Employees: 200

City of Humboldt: 4,452 residents  
County of Humboldt: 10,381

### IMAGING MODALITIES:

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

### IMAGING VOLUMES:

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

## THE CHALLENGE

In its continuing effort to take advantage of technology to improve patient care and services, HCMH's progressive doctors looked to implement a picture archiving and communications system (PACS) for the diagnostic imaging department. The hospital launched an initiative to migrate from film and manual processes to more efficient digital imaging technologies. To do this, HCMH had to consider solutions that would best serve the hospital and patients in the following areas:

- Costs, including upfront capital and ongoing operational costs
- Experience and resources for planning and implementation
- Training and change management
- Ease-of-use for staff, reading radiologists and referring physicians
- PACS and IT resources for ongoing maintenance and support
- Disaster recovery protection and backup of patient data, including HIPAA compliance
- Flexibility for growth and integration

"Sometimes you have to think outside the box. We had to be open to considering all options. Any solution, regardless of whether it was in-house or outsourced, had to be the right balance of cost versus benefit," said Rob Colerick, Chief Executive Officer of HCMH. "We're all for technology as long as it makes sense for our physicians, staff and, most importantly, our patients."

## THE SOLUTION

In July 2007, after careful research and analysis, HCMH chose to outsource to 7 Medical Systems because its on-demand PACS solution, the 7i Digital Imaging-on-Demand Suite™, delivered on all counts.

"Looking at a five-year time horizon, we compared our current cost structure, which was based on film and manual workflows, to building our own PACS internally, and to 7 Medical's on-demand PACS model," said Colerick. "In the end, we were pleasantly surprised at the affordability of 7 Medical's PACS. We were able to implement PACS while reducing our current film-based costs by more than half. To build it in-house would have required a large capital purchase along with an increase in our current costs, making it cost-prohibitive. Without 7 Medical's affordable on-demand model, we would not have been able to implement PACS, or we would have had to delay it."

With 7 Medical, the on-demand PACS service is monitored and managed onsite and offsite through 7 Medical's data and network operations centers. This alleviated the need for HCMH to purchase all of its own servers, hardware and software to run and manage the system internally. A local PACS gateway server is installed at the facility in Humboldt that communicates back and forth between the HCMH facility and the data centers.

HCMH has four modalities onsite, including computed radiography (CR or digital X-ray), CAT scan, nuclear medicine and ultrasound, as well as a mobile MRI unit that connects into the hospital twice a week. Images are routed and stored on the onsite and offsite imaging servers, which are easily accessible using the "Google-for-images" functionality. Google-for-images is an advanced search feature that allows users to query and retrieve images that are stored anywhere on the network, both onsite and offsite, for Web viewing. Any onsite or referring physician, reading radiologist or staff with access rights can view studies online anywhere, anytime using the 7i Web™ viewer.

During normal business hours, images from the PACS are routed directly to the reading radiologist workstation at Medical Imaging and Radiology Associates (MIRA), 20 minutes away in Fort Dodge, IA. After hours, and during high-volume daytime hours, images are routed to St. Paul Radiology in Minnesota. Reading radiologists call and dictate directly into the hospital's transcription system, and reports are transcribed into the health information system (HIS). Dictation reports can also be scanned, imported or interfaced into the PACS for storage and viewing if necessary.

"In addition to cost, it was a major benefit to us that 7 Medical provided a project manager who understood PACS and clinical workflows to manage implementation," said Stacy Clarken, Radiology Director at HCMH. "Our project manager walked us through how to migrate from manual film-based processes to automated, digital workflows. As a smaller facility, we didn't have the technology and IT resources to manage that ourselves and the learning curve was significant."

"Managing the change for our physicians and staff was also very important to us," added Clarken. "7 Medical provided the necessary training for our staff during implementation. We've had very few issues with the PACS system. We have to be realistic and expect some issues will arise, and we value having a PACS support team at our fingertips 24 hours a day. Had we known how easy it was going to be, we would have done it sooner. Our workflows and productivity have increased dramatically since we've installed the system."

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Rob Colerick  
Chief Executive Officer, HCMH

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Stacy Clarken  
Radiology Director, HCMH

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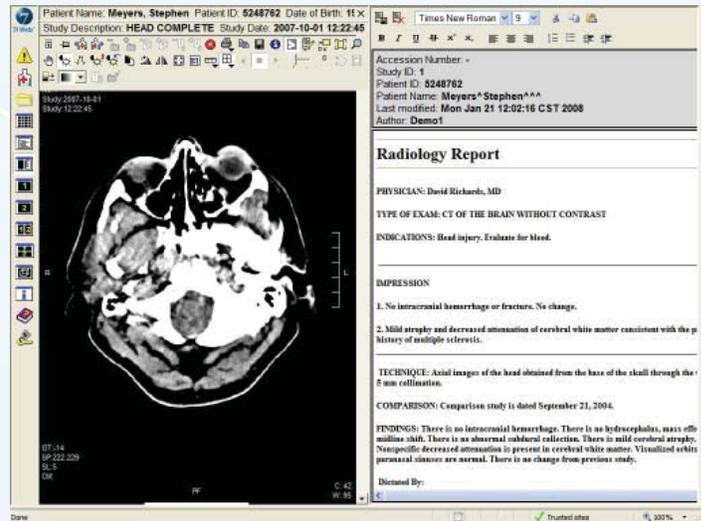
The 7 Medical PACS solution provides HCMH with built-in disaster recovery protection without any additional cost. In addition to being available on the onsite PACS gateway server, an original copy of each study in its native format at full resolution is stored, archived and backed up in 7 Medical's secure redundant data centers. In the event of an emergency or natural disaster, images can be quickly and easily fetched from the offsite archives for Web viewing.

“In light of recent natural disasters such as the tornadoes here in Iowa and throughout the Midwest, we're pleased that our data is stored in a safe place that protects patient privacy and that is easily accessible,” said Colerick. “Overall, we're very satisfied with the system because the PACS provides all the features and functionality we need without being too costly.”

## HCMH PACS MAKES THE GRADE

After nine months of use, HCMH's PACS supports five modalities, including CR, CT, nuclear medicine, ultrasound and MRI. The system successfully manages and routes images electronically between the hospital and reading radiologists, handling volumes of 500 patient studies each month. More than 60 physicians, nurses and staff are currently use the Web viewer to pull up and view patient images online. HCMH has completely moved away from developing images on film, eliminating all costs relating to film, chemicals, jackets, labels and courier fees except in the case of mammograms, although digital mammography is in the works.

The hospital implemented PACS while reducing costs by more than 50 percent. Patient information and images are routed to reading radiologists in real-time. Read-times and results are returned to physicians significantly quicker than with film—hours instead



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

of days. That means physicians can diagnose and recommend treatment in a more timely manner. Images can be burned to CD or DVD at no extra cost if patients need their images sent to other care providers or specialists.

In addition to built-in disaster recovery benefits, the PACS solution also is easily scalable for growth. As the hospital adds more physicians and additional modalities, imaging study counts will increase, and the system is designed with the flexibility to scale as necessary, without limits. All technology, hardware and software updates and upgrades are automatically included, so costs are predictable and there are no surprises.

**To learn more about the 7i Imaging-on-Demand PACS Suite, call us today.  
800.440.7119 | [info@7medical.com](mailto:info@7medical.com) | [www.7medical.com](http://www.7medical.com)**