



## MINNESOTA

### SUCCESS STORY

Glacial Ridge adopts cloud-based PACS and reduces costs by 50%.

Integrated PACS to CPSI (Healthland) HIS, sending electronic orders to the DICOM Modality Worklist (DMWL) to eliminate duplication and errors.

Eliminated all image sharing costs while enabling quick online access to images by the care team.

Images automatically routed to reading radiologist. Reports turned around in hours instead of a days.

Xi-View™ Pro thin-client and Xi-View™ Web/mobile viewers allow ordering physician to display images and offer immediate diagnosis to patient 24/7.

New digitizer, document scanner and CD/DVD burner automated and improved workflows.

Enabled ER personnel to respond significantly faster in treating emergency patients.

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

## Glacial Ridge Health System



### Cloud PACS Reduces Costs by 50%

***PACS adoption results in revolutionary cost savings for rural healthcare facility; integration to CPSI HIS key to success***

Glacial Ridge Health System (GRHS) is a rural, critical access hospital (CAH) located in Glenwood, Minnesota. Committed to providing high quality services, enhancing the quality of life and promoting healthy lifestyles for patients, clients, employees, and communities, Glacial Ridge delivers services including general medical and surgical care, obstetrics, and cardiac intensive care; and plays host to a trauma center, emergency department, and health education program.

Located in Pope County, the 19-bed hospital and satellite office serve more than 4,300 residents in the Glacial Ridge Hospital District, including Grove Lake, Chippewa Falls, Gilchrist, Glenwood, Lake Johanna, Reno, Bangor, Westport, and Leven, and the individual cities of Brooten, Glenwood, Villard, Westport, Long Beach, and Sedan. Glacial Ridge employs more than 200 people.

## GLACIAL RIDGE FAST FACTS

Glacial Ridge Health System  
10 Fourth Avenue SE  
Glenwood, MN 56334

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

Number of locations: 2  
Number of hospital beds: 19  
Physicians: 9  
Nurse Practitioners: 3  
Employees: 200

City of Glenwood: 2,532 residents

Glacial Ridge Hospital District:  
4,300 residents

Pope County: 11,065

### IMAGING MODALITIES, ONSITE

- 2 CRs (digital X-ray)
- CAT scan
- Ultrasound
- Mammography

### IMAGING MODALITIES, MOBILE

- Nuclear Medicine
- MRI

### IMAGING VOLUMES:

- 6,600 studies per year
- 550 studies per month

## THE CHALLENGE

Glacial Ridge was upgrading from analog to digital X-ray with two new CR (computed radiography) units. As a part of its digital strategy, the hospital was moving from film to a picture archiving and communication system (PACS).

GRHS weighed the costs and benefits of purchasing and maintaining a PACS system in-house against subscribing to a cloud-based PACS service. The key criteria included costs, integration to its existing hospital information system (HIS), turnaround time on radiology reports, ease of use and training for physicians and staff, improved workflows, and bandwidth.

"We were all for PACS and going filmless, but getting there was a challenge. We had lived in an analog world for so long. There was so much to consider, and fear of change made us guarded," said Jean Mattson, Radiology Manager of GRHS. "7 Medical delivered a cloud-based solution that achieved our goals and saved us money. Timing was tight, and our 7 Medical project manager kept the project moving to ensure on-time completion."

## THE SOLUTION

7 Medical's Xi-Imaging™ PACS offers hospitals and clinics an innovative way to take advantage of the same technologies traditionally available only to large hospitals with big budgets. Its cloud, or Software-as-a-Service (SaaS), business model removes barriers to entry such as budget constraints; lack of clinical and technical expertise; and long implementation cycles..

"The Xi-Imaging cloud PACS was different than anything we had ever heard of," said Mattson. "We didn't know you could buy a system where you paid for only the new studies every month and we didn't have to worry about storage or backup. Eliminating that huge upfront capital investment made it possible for us to get a PACS service at a monthly fee we can afford. And all the technology upgrades are included, so we don't have to worry about getting hit with maintenance and upgrade fees after the first year. That was huge."

GRHS adopted a turnkey solution that integrated the PACS to its CPSI (Healthland) HIS, further increasing efficiency by automating orders and workflow. Mattson said, "By removing film, we dramatically cut costs 50 percent. 7 Medical managed everything for us, and even worked with our HIS provider

and CR vendor for integration. Their expertise and support during and since roll-out has been exceptional. Training for our physicians and staff made the transition less painful than anticipated. We wish we had done it sooner.”

## CLOUD-BASED PACS SOLUTION

With 7 Medical, healthcare facilities purchase a cloud-based PACS solution, the Xi-Imaging™ Suite, similar to how you buy Internet, cable TV or cell phone services. As a turnkey service, 7 Medical delivers everything GRHS needed for the PACS, including hardware, software, integration, service and support—no upfront or ongoing capital expenses involved for hardware and software. Instead, GRHS pays an affordable monthly fee to use the cloud PACS service, while retaining ownership of all of its data.

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

## AUTOMATED WORKFLOWS: Everyone Wins

Prior to PACS, imaging orders were entered in the HIS and patients walked order forms to radiology for their exams. In radiology, patient and order information were re-entered into the HIS; exams were taken; films were processed and placed in jackets; then given, with priors, to the reading radiologist who worked onsite one day a week. Films were couriered to the radiologist daily during his four days offsite. The radiologist’s dictation was transcribed, and reports, along with current and prior films were delivered to referring physicians. Turnaround under this manual process was three days.

To automate order entry, 7 Medical integrated the cloud PACS to the CPSI HIS using X-Connect™, an interface engine that integrates the PACS to any HIS, RIS or EMR. The interface engine receives patient (ADT) and order (ORM) messages from the HIS, translates that information from HL7 to DICOM format, and routes it to the DICOM modality worklist (DMWL). After completion, order status (ORU) messages are sent from the PACS, translated from DICOM to HL7 and routed to the HIS to close out the order.

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Jean Mattson  
Radiology Manager, GRHS

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*“The PACS system is easy to use and the service we receive from 7 Medical has exceeded expectations. We have peace of mind knowing our costs are predictable and that there are no surprises coming down the line,” said Mattson.*

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7 Medical's cloud PACS eliminates manual processes for more efficient workflows. "Sending orders electronically and having them populated in the worklist at the modality reduced duplication and errors," said Mattson. Images are routed to the Xi-Gateway™ server installed onsite. The gateway is the brains of the PACS, providing intelligent rules for routing, storing, and retrieving images among the PACS, HIS, reading radiologists, and referring physicians.

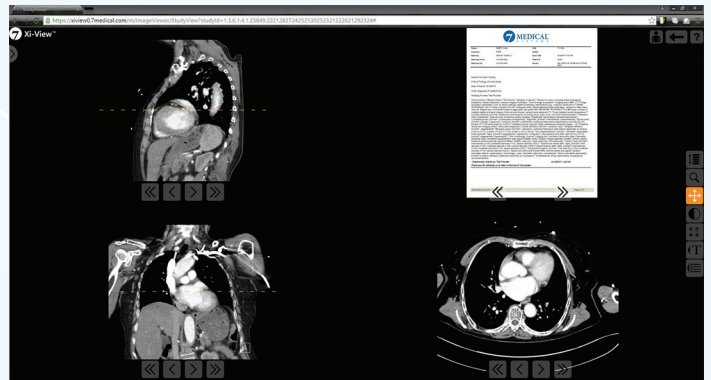
The Xi-Gateway also routes copies of images to 7 Medical's secure, redundant data center for long-term storage, giving GRHS built-in backup and disaster recovery protection. Images can be quickly recovered in the case of a natural disaster. The PACS also handles patient health information (PHI) in a secure manner to ensure HIPAA compliance.

Glacial Ridge also purchased a digitizer, a document scanner and CD/DVD burning. Films are digitized and stored in the PACS. Reports and documents can be scanned and stored in the PACS. CD/DVD importing allows prior images to be viewed and sent to the PACS. In turn, all images in the PACS can be burned to CD/DVD with a built-in viewer.

## THE OUTCOME: Peace of Mind

Filmless since April 2008, the on-demand PACS at GRHS supports six modalities including two CRs, CT, ultrasound, mobile MRI and nuclear medicine. More than 75 doctors, nurses, referring physicians and staff are currently using the Xi-Imaging PACS and viewing images via the Xi-View Pro thin-client and Xi-View Web/mobile viewers.

**To learn more about Xi-Imaging PACS, call us today.  
800.440.7119, option 3 | [info@7medical.com](mailto:info@7medical.com) | [www.7medical.com](http://www.7medical.com)**



**The Xi-View™ Web viewer allows physicians, nurses and staff to view patient images and reports online—anywhere, anytime.**

"Radiology reports are turned around quicker than ever imagined. Our doctors and referring physicians like using the Web viewers to see images and reports online," said Mattson. "Patients like being able to see their images immediately after they're taken, especially in the ER," said Dr. D. Eric Westberg. "We can show patients their images in the exam room, and they can take images with them on CD to referring physicians. Very impressive."

GRHS achieved its goals with an affordable, cloud PACS solution that is integrated to its HIS and that allows for growth. An added bonus, the system has built-in disaster recovery protection and HIPAA compliance. Mattson adds, "Xi-Imaging is easy to use and the service from 7 Medical has exceeded expectations. We have peace of mind knowing our costs are predictable and that there are no surprises down the line."