Fast-growing medical image archive managed with cloud services

Florida hospital expands its capacity for an ever-growing volume of cardiology and radiology imaging with a seamless cloud-based system
recovery

Industry: Healthcare
Country: United States
Employees: 4,300 employees (730 staff physicians)
Website: nchmd.org

NCH Healthcare System

NTT DATA

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"We're always working to improve our clinical care continuum, which ultimately boosts patient outcomes. Core to that is our NCH diagnostic imaging model based on our UCA managed services model from NTT DATA Services, formerly Dell Services."

Jim Bates, Radiology Director, NCH Healthcare System

Business need

Serving a growing population, the NCH Healthcare System sought a way to grow its image archiving facility while keeping costs in check and improving patient outcomes.

Solution

After considering competitive options, NCH renewed its agreement for seamless, cloud-based medical imaging archiving giving clinicians easy and secure anytime, anywhere image access.

Benefits

- Facilitates patient treatments, improving outcomes
- Automates imaging workflow for greater productivity
- Improves image archiving and retrieval efficiency

NTT DATA Services
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Naples, Florida, could be considered the demographic capital of U.S. baby-boomers. While the U.S. median age is 38 years, it's 65 in Naples. With age, of course, comes health issues. To serve those needs, the local NCH Healthcare System offers two hospitals and nine outpatient clinics, making it the area's largest healthcare provider. In a recent year it had 98,000 emergency room visits, 40,000 admissions and 12,000 surgical procedures.

That kind of patient volume keeps NCH's diagnostic imaging services extremely busy. Those services include traditional X-ray imaging, computed tomography (CT) scans, positron emission tomography (PET) scans, magnetic resonance imaging (MRI), 3D digital mammography, nuclear medicine, ultrasound imaging and coronary calcium imaging.

According to Radiology Director Jim Bates, the NCH imaging services team conducts about 360,000 patient studies a year, supporting up to 80 physician specialty practices. He estimates this volume is growing by six percent annually. "While patient numbers drive our overall volume growth," he says, "demand for diagnostic imaging, such as CT scans, ultrasound and 3D mammography, is also a factor. And file sizes are growing. For example, a CT study can generate up to three gigabytes of data."

Growing imaging demandssolution

The NCH Diagnostic Imaging Services team works to ensure NCH has quality diagnostic images and a reliable image archiving process. Dee Myli, assistant director for its Picture Archiving and Communications Systems (PACS), explains that fee reimbursements from insurance companies as well as Medicare and Medicaid continue to fall. This affects the entire NCH system, including diagnostic imaging. "Our imaging equipment is expensive to operate and maintain, so we look for solutions to ensure we are providing a quality service in a cost-effective manner," she says.

To help, NCH adopted a model of outsourcing its image storage, including archiving and retrieval, using the NTT DATA Services, formerly Dell Services Unified Clinical Archive (UCA) managed services offering, which provides a Vendor Neutral Archive (VNA). "We've gained a predictable cost model that's directly aligned with our imaging volume by deploying the UCA managed services model," Myli says.

Fully redundant, offsite image archiving

NCH's UCA comprises local onsite storage, backed up by redundant offsite archiving, plus all services and support. It complies with the Digital Imaging and Communications in Medicine (DICOM) standard for the secure handling, storage and transmission of medical images. This helps ensure the UCA integrates with the bigger context of NCH's PACS. At the same time, the system stores images in its VNA, which enables image accessibility by other vendors' PACS, if necessary.

"Today we have about three million images going back to 2003 that are accessible from two mirror sites, one in Kentucky, the other in Washington state," Bates says. "This provides the offsite disaster recovery backup we need, given our location in the hurricane-prone Gulf Coast. Each image in both places is automatically opened every 90 days to check its integrity. If one is corrupted, its backup restores it."

"We've eliminated manual image handling with an automated imaging workflow by using the UCA. This boosts clinician productivity and patient throughput."

Jeff Preyers, Radiology Systems Administrator, NCH Healthcare System

Recently NCH renewed its UCA contract for five years, although previous contracts were for three years. "Every three years, we have had to competitively bid this contract, but no other candidate could match the scalability of what they provide," Myli says. "In fact, many chose not to bid for that reason. And because our UCA model has worked so well, we extended it two years longer than we normally would."

Fully automated workflow

Ease of use is what Bates, Myli and NCH Radiology Systems Administrator Jeff Preyers like most about the UCA managed services model. “We’ve eliminated manual image handling with an automated imaging workflow by using the UCA” Preyers says. “This boosts clinician productivity and patient throughput. And because it’s cloud-based, our doctors can securely access images anytime, from just about anywhere and over any device, with full HIPAA compliance.”

Bates points out that the fully automated workflow and improved accessibility has helped NCH attract physicians and patients alike. “Clinicians can get patient images sooner, while patients don’t have to bring their images with them on DVDs, as some healthcare systems require—and which patients often forget,” he says.

Both he and Preyers are even exploring how to make the images of winter residents available to their doctors when they return north for the summer months. “We’re always working to improve our clinical care continuum, which ultimately boosts patient outcomes,” Bates says. “Core to that is our NCH diagnostic imaging model based on our UCA managed services model from NTT DATA Services, formerly Dell Services.”

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