

# Elmhurst Hospital Case Study



## About Elmhurst Hospital

Elmhurst (Illinois) Hospital opened in 1926 as a single building with 85 beds and a mission: "To enhance the health of the communities and customers we serve."

Today, the hospital's 50-acre main campus boasts a state-of-the-art hospital that opened its doors in June 2011, as well as medical office buildings and other amenities. With 866,000 square feet, the hospital has 259 private inpatient suites, and offers full-service acute health care, including a Level II trauma center, surgical suites, and a family birthing center. The main campus is also home to the Elmhurst Memorial Center for Health/William and Carol Parrillo Building, a 178,000-square-foot, 4-story facility that houses physician offices and outpatient healthcare services, including outpatient surgical suites; and an 80,000-square-foot Medical Office Building, with a second identical facility planned for the opposite end of the campus in the future. All buildings are connected via walkways for patient ease for office visits, diagnostic tests, and inpatient or outpatient treatment.

In addition to the main campus, Elmhurst Hospital serves Chicago's western suburbs with facilities throughout the area.

**PANDUIT**<sup>®</sup>



## Company

Elmhurst Hospital

## Country

United States

## Industry

Health Care

## Business Challenges

To provide a robust, reliable infrastructure to support patient-centered care and embrace new medical technologies, with the flexibility and scalability to allow for future growth.

## Panduit Solution

Panduit Enterprise and Data Center Solutions featuring TX6A™ 10Gig UTP Copper Cabling System with MaTriX Technology, TX6A-SD™ 10Gig UTP Copper Cabling System with MaTriX Technology, and Opticom® Fiber Optic Cabling System for proven performance, high reliability and scalability; Net-SERV® Cabinets, FiberRunner® Cable Routing System, and NetManager™ Cable Management for greater accessibility and space utilization.

## Business Benefits

Panduit's Enterprise and Data Center Solutions enabled Elmhurst Hospital to optimize its infrastructure, helping the hospital to sustain its reputation of providing the highest quality medical care in the community.

# Hospital Introduces Intelligent Medicine by Design, Built on the Strength of Panduit's End-to-End Enterprise Solution

**Elmhurst Hospital relied on a Panduit infrastructure solution to create a campus-wide network that places the most advanced equipment and techniques in the hands of top medical talent, and creates a home for high-level medical services to grow and thrive.**

## Business Challenges

Elmhurst Hospital started plans for its new healthcare facility with a blank slate. The hospital was able to decide what they wanted to achieve, and then design the facility around that ultimate goal. "It allowed us to rethink every step of the patient experience, asking 'how can we do this better?'" We knew if we focused on the patient, everything else would follow – including the most technologically advanced care. We have been given a tremendous opportunity to create a unique healing environment. Planning for this new campus has allowed us to rethink the care-giving process and ensure that we are creating a superior healing environment now and for years to come," said Leo Fronza, who was CEO of Elmhurst Hospital at the time of construction.

## Strategic Objectives

Technology was an integral piece of the healthcare solution that Elmhurst Hospital wanted to offer the local community. A robust infrastructure assures Elmhurst Hospital that doctors can rely on the latest technological advances in medicine to treat patients, while patients have access to systems that make their stays more comfortable. These advances are smart from a business perspective, as it helps the hospital attract the best and brightest physicians and staff members, and positions the hospital within the region as the first choice for acute, emergency, and critical care. Toward that end, a key strategic goal of the project was to install an infrastructure that was robust, reliable, and scalable to support critical systems and provide staff and patients uninterrupted access to resources.

A long-term solution was also a key objective for the hospital, as renovations and upgrades that interrupt day-to-day operations are highly undesirable in the hospital setting. Therefore, installing an infrastructure that met both immediate and long-term needs was a must. Today Elmhurst Hospital uses only a fraction of its installed capacity, and hospital officials have peace of mind that the solution will meet its long-term needs. "When a vendor eventually comes in with new equipment that needs a 10 GbE copper connection, I know we have the technology to support it," said Matt Sterling, former Director of Information Services at Elmhurst Hospital. For example, when hospital officials decided late in the construction cycle to install a da Vinci surgical robot, "the vendor was able to drop it into the room, plug it in, connect and go," Sterling said. While in this case the additional speed was not required, the 10 GbE copper and fiber network means those types of decisions can be based on medical and business needs, not infrastructure limitations.

## Strategic Objectives (continued)

Another key objective that was critical during the construction of the new hospital was service. Panduit representatives from both sales and product management were frequently on hand throughout the construction of the project, and were able to resolve any issues that came up. "Panduit's commitment to support us and Elmhurst was very important," said Joe Kowols, Project Manager for Jamerson & Bauwens, the electrical contractor for the project. "During the course of the project if we had questions or needed support, it was always one phone call away."

## Panduit Solution

Building an acute care hospital from the ground up offered Elmhurst Hospital a rare opportunity to carefully craft every inch to maximize its potential. In doing so, the facility was designed around the unique needs of patients and the health care services the hospital provides.

"The new Elmhurst Hospital is an ideal blend of the practical and the beautiful. We have carefully designed it with the future in mind so that it can accommodate changes in health care, ensuring it will be as functional 50 years from now as on opening day," said Leo Fronza, former CEO of Elmhurst Hospital.

Elmhurst Healthcare partnered with Chicago-area contractor Jamerson & Bauwens Electrical Contractors for the infrastructure installation, including the data center and telecommunications closets. With a history of excellence in medical installations, J&B understands the very stringent and ever-evolving requirements that health care facilities have for accurate and consistent power, shielding to protect diagnostic results, and uninterruptible power supplies.



Jamerson & Bauwens selected Panduit as its primary solution for this project, supplying copper and fiber cable and connectivity, cabinets, racks, and cable management. The hospital upgraded to TX6A™ 10Gig UTP Copper Cable with MaTriX Technology, TX6A-SD™ 10Gig Small Diameter Copper Cable, and Opticom® Fiber Optic Cabling to support the greater demands of new technology. Close to three million feet of copper cable and more than 150,000 feet of single mode, and 50-micron laser-optimized multimode fiber cable form the backbone for the facility. Each telecommunication closet connects to the main data center with a primary fiber that consists of 72 strands of single mode and 24 strands of 50-micron multimode fiber. A redundant duplicate fiber also runs from a back-up center to each closet. Copper and fiber connectivity – jacks, patch panels, faceplates, patch cords, fiber enclosures, fiber adapter panels, and LC connectors create a complete end-to-end Panduit infrastructure solution.

Panduit cable and Cisco switches drive the infrastructure, which includes a number of high-tech offerings, including an innovative nurse call system, physiological monitoring, video conferencing, radiology systems, internet access in all patient rooms, security cameras, and even a robotic surgical system. Wireless access points support an extensive wireless infrastructure within the facility, while stationary systems such as in-room computing and televisions, analog telephones, and refrigerator monitors are wired, freeing up wireless capacity for other devices.

The 6A/10Gig Solution, including the small diameter component, has performed well for the hospital. One of the key features in selecting the cable was headroom performance, which provides both superior internal electrical performance and alien crosstalk suppression beyond the TIA/ANSI Cat 6A standard. In addition, the margin above the industry standard also eliminated the need for alien crosstalk testing that provided significant time and cost savings to the project.

The hospital also installed Panduit racks, cabinets, and cable management. The data center houses 33 Net-SERV® Cabinets with Cisco® technology installed. In addition, 127 4-post racks were installed in data closets throughout the hospital, with various configurations to meet the needs in each closet. Cable management includes NetManager™ Horizontal Cable Managers, and 6-inch, 8-inch, and 10-inch high-density vertical cable managers.

*"The new Elmhurst Hospital places the most advanced equipment and techniques in the hands of the area's top medical talent and creates a new home for high-level medical services to continue to grow and thrive."*

Leo Fronza, former CEO, Elmhurst Hospital

## Business Benefits

Since Elmhurst Hospital first opened its doors more than 80 years ago, it has operated with a mission to “enhance the health of the communities and customers we serve.” The new facility contributes to that mission in a big way, providing the community with a level of health care that will take them well into the future.

The TX6A™ 10Gig Copper and Opticom® Fiber Backbone enable electronic medical records, X-rays, lab results, and other test results to be shared electronically. This provides up-to-the-minute information on patient care to the patient, physician, nurses, and other caregivers. The entire care team can securely view test results at the same time, despite being located in different places.

As information is documented into the patient’s medical record, alerts are sent to that patient’s nurse via a portable phone, enabling more efficient and accurate delivery of services. Caregivers spend more time at the patient’s bedside attending to their needs and less time at the nurses’ station. A computer next to the bed allows each member of the care team to review patient records and talk with the patient and family about the plan of care.

The nurse call center system that is used in the hospital knows when a caregiver enters a patient room, and if the appropriate caregiver enters the room when there is an alarm, that alarm is cleared. The system sends reminders and escalates the alert as needed.

Patient beds are not only comfortable, but also smart. They feature translation modules that can translate more than 70 languages in a pleasant voice, schedule medication alerts, and sense the patient’s movement to alert a nurse to come help the patient sit up or get out of bed.

In addition to these and other improvements in the speed and ease of care, patients of the Elmhurst Clinic, an affiliated physician practice, can manage prescriptions, appointments, and test results online through their own Next MD account.



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