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University of Iowa Hospitals and Clinics: An Evolution in Security Management

Patients from all over the world are referred to the University of Iowa Hospitals and Clinics (UIHC) for treatment. UIHC, a public teaching hospital and Level 1 Trauma Center affiliated with the University of Iowa, has received countless recognition and awards for its doctors and technology, including being named by *U.S. News & World Report* as among the Best Hospitals in America every year since 1990.

UIHC is recognized as an NCI Comprehensive Cancer Center—the only hospital in the state of Iowa with such a designation—supported by the National Cancer Institute. In 2015, the Children’s Hospital, founded in 1919, cared for 67,239 patients from every county in Iowa, nearly every state in the U.S. and several other countries. UIHC is home to many discoveries, including the development of buffered aspirin and is the first hospital in the world to use robotic surgery for removal of an adrenal carcinoma and an adrenal mass from a pediatric patient, among many other recognitions.

The health care organization encompasses seven buildings at its main campus and more than 200 outreach clinics in the state of Iowa. At the main hospital campus, nearly 16,000 visitors come in and out of the hospital each day, with bed capacity typically running at 96 percent or higher.

UIHC is technology driven and technology forward. That classification extends beyond just its daily treatment of patients, but also to the safety and security it provides to those patients, its visitors and close to 9,000 staff members. The hospital system is a leader in using technology to its fullest, and one of those areas in which it does this is networking and security.

JOURNEY

UIHC’s journey in security has been an evolution. Security and safety are a definite challenge due to the large amount of traffic, number of buildings and continual renovations and new builds, including the recent Iowa River Landing clinic some 10 miles off-site from the main campus; a new off-site hospital support building; and the new Children’s Hospital, which alone includes 480,000 square feet in new construction plus 56,250 square feet of renovated existing space.

About 12 years ago, UIHC began a partnership with Control Installations of Iowa (CI3) by hiring the integration company to work on a few exterior doors. What started out as a relatively small job quickly turned into more projects as the hospital began to expedite the pace of its expansions, new builds and renovations. Since that first project, CI3, with three branches and 139 employees, and UIHC have teamed together to provide extensive surveillance and access control inside UIHC’s buildings and on the perimeter.

The health care organization has a long-standing relationship with Tyco Security Products too, extending almost as long as the hospital's relationship with CI3. About a decade ago, UIHC chose C•CURE 800/8000 for its visitor management and event needs, and eight years ago added victor management software for its video surveillance. With 1,600 cameras and 1,800 doors throughout UIHC's facilities, a flexible yet robust, enterprise-level security management system was of paramount importance to UIHC security officials.

UIHC's security management platform has allowed the organization to maintain a single, central security operations center for all of its buildings, regardless of facility location. In addition, the organization has non-security staff user groups in different departments throughout the hospital. Thus, having a completely integrated, flexible, efficient and user-friendly security management system has become a necessity for the organization. Perfecting its security operations, adding new devices and integrations, and implementing further feature sets has taken the organization the better part of a decade and is a continual work in progress.

"There is a lot of concern in a hospital environment with people feeling safe, inside and outside. And so, much of our job is helping to make people feel safe, providing staff the tools needed for an emergency, as well as being able to gather info for us or to summon the police in the event that something happens," said Douglas Vance, interim security manager of safety and security at the University of Iowa Hospitals and Clinics.

SOLUTIONS

Satisfied with C•CURE 9000 and victor's integration capabilities and user-friendly interfaces, when it came time to upgrade a few years ago, the



The integration capabilities of C•CURE 9000 and victor allow UIHC to continue using legacy security products and to access the hospital's HR database via C•CURE 9000 with a SQL interface.

PHOTOS COURTESY OF JOHNSON CONTROLS

organization transitioned to C•CURE 9000 because of their familiarity with the C•CURE platform.

"One of our biggest criteria with security products is making sure whatever we purchase is able to integrate with our current technology and equipment," Vance said.

With the upgrade of its security and event management system, UIHC is zeroing in on opportunities to run more efficiently and more in depth for a high level of situational awareness. For example, the staff is able to create different user groups for specific door management and control. The ability to assign staff members with specific access to the system based on department or job code is very important for UIHC because, with close to 2,000 doors, security staff in the operations center simply cannot handle immediate requests from everyone, according to Vance.

CI3 was even able to create a SQL interface between the hospital's HR database and C•CURE 9000, that allows for auto assignment of clearances and door access based on job position, as well as automatic removal of clearances,

and the ability to pull reporting through the HR system. It saves the operations center and hospital staff significant time in managing the large number of employees and contractors coming in and out of the facilities.

"Previously, if someone left the organization, turning off their clearances was a manual process, but now it automatically shuts off their access, and that's huge for us," Vance explained.

The organization uses victor's video wall capability, called victor Command Center, in its central operations center and also in its medical psychiatric unit. Control room operators can easily display, manage and prioritize video and events. A "push" feature, which works with IP or analog cameras, video clips or other event information, allows virtually anything an operator has on their screen to be pushed to any other operator, even remotely.

Another way in which UIHC has used its security management platforms to add efficiency and an additional layer of safety is by creating an emergency lock down button on the C•CURE 9000 interface, enabling users in each



UIHC's high-resolution IP and IP infrared cameras aid security operators with investigations into accidents and other events.

department or user group to put their department on lock down in the event of an emergency or active shooter situation. The hospital has implemented this capability in many of its new, off-site outreach clinics as well.

"In the past, a department had to call the operations center and a supervisor would have to make a decision and lock down in a timely manner," Vance said. "Now, staff can immediately lock all exterior doors and disable card readers with one click if danger is sensed."

UIHC is installing high-resolution IP cameras and IP infrared cameras in all of its new construction and renovations, but 40 percent of the organization's cameras remain analog as it continues to migrate its legacy systems to IP through attrition. Victor has the ability to integrate seamlessly with IP or analog cameras without losing quality, and also improve video quality of some of its older, legacy cameras in the process.

"We aren't able to switch all of our cameras to IP right now, so victor's ability to digitize the images allows us to zoom in on footage even if the camera that recorded the video wasn't a PTZ camera," Vance said. "Footage used to just get blurry if you zoomed but, with victor you get a very clear image," Vance explained.

Video quality is of paramount importance for UIHC. Vance said that security staff has used video clips countless times for investigative purposes, such as accidents or other incidents, or for sharing with law enforcement.

High-resolution Illustra IP cameras, paired with VideoEdge NVRs for efficient storage back at the operations center, are used in countless areas for crystal-clear images, such as at the hospital pharmacy's service windows and cash handling points. Cameras are used in the four children's playgrounds and numerous parking lots to track incidents and record images of people's faces and license plates. The Illustra cameras are used for safety as well. Two years ago, a fire broke out in the hospital's sub-basement, and simple review of the footage was able to pinpoint the cause.

Perhaps most impactful, UIHC and its integrator CI3 are currently working toward a completely unified security management system by implementing the victor unified security management software through 100 percent of the organization. While C•CURE 9000 is integrated with video through pop-ups, the organization is almost done moving to victor for unified, single-platform operation.

"A single solution helps the organization in the internal management of the system. Enabling each department to manage their own doors and view their own cameras using one packaged software reduces the day to day management of the system by the Safety & Security department," said Cary Vavricek, project manager at Control Installations of Iowa.

THE FUTURE

Moving forward, UIHC is considering expanding its use of biometrics by integrating facial recognition with the security management platform for visitor management purposes, such as in waiting rooms. In addition, the hospital system is in the midst of moving toward a completely keyless facility.

"We are in the process of replacing the remaining keys with card access. Then UIHC will use C•CURE 9000 to fully manage the doors," Vavricek said. For an organization with 9,000 employees and 16,000 average daily visitors, a keyless organization will cut down on waste, lost keys and time spent for physical key management, as well as add another level of situational awareness to the organization's already robust security management system.

"UIHC sees the value in taking advantage of multiple integrations," Vavricek said. "They are surely a leader in security and technology in this field."

With so many projects planned, a strong continued working relationship between UIHC, CI3 and Tyco Security Products is important.

"We have been able to do so many things through our partnership. Working together is based on a very strong trust," Vance said. "Our integrator knows what our goals are and what we are trying to achieve. It's key for us to have someone we trust and someone who offers the reliability and service we need." +



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He brings over 15 years of technology experience with market leading security manufacturers preceded by a decade of IT industry expertise. His background as a technologist has led him to be credited as contributor to ONVIF as well as being interviewed in several leading security trade publications.