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New York Medical Center Tracks OR Equipment for Trauma Care

Topics/Verticals: Operations, Asset Tracking, Pharmaceutical, Health Care

The SUNY system's University Hospital has deployed a Wi-Fi-based RFID solution to track the location of its emergency equipment, as well as the temperatures of drugs and tissue samples in 100 refrigerators, and expects an ROI within one year.

By Claire Swedberg

July 2, 2009—University Hospital, part of the State University of New York (SUNY) Upstate Medical University, is employing a Wi-Fi-based RFID system provided by AeroScout, a Wi-Fi tracking solutions firm based in Redwood City, Calif., to locate equipment at its emergency operative centers. The hospital is also using the system to track temperatures of pharmaceuticals and tissue samples stored in 100 refrigerators.

The hospital, a Level 1 trauma center for central New York State, often has a critical need for fast medical services in its surgical rooms. The facility's operating room (OR) is located in two sections of the hospital, with four surgical rooms for children on the third floor and another 12 for adults on the fifth floor.

Mark Zeman

Equipment is shared between the two areas. Because of the high level of activity and limited space, the hospital also stores equipment, such as specialized operating tables and diagnostic machines, in storage units in its basement. As such, surgeries sometimes had to wait until the proper equipment could be located. "Every second counts in the trauma unit," says Steffan Haithcox, AeroScout's senior director of marketing.

Because of the multiple storage and operating locations, says Mark Zeman, SUNY Upstate's associate administrator of integrated materials and technical support, "it's easy to understand how complex—and yet, how important—it is to have items where they need to be for scheduled procedures, and also for unexpected needs."

Before installing the AeroScout system, with frequent unexpected and urgent needs for equipment, staff members often had to physically search for required equipment. "It is critical," Zeman says, "that we can locate items quickly, and that we have the ability to know where equipment is at all times."

However, it was not the OR equipment-tracking concerns that first drew the hospital to a Wi-Fi-based tracking system. In fact, SUNY initially sought a solution to track other equipment, particularly IV pumps. Because the hospital had installed a Cisco Wi-Fi network and access points for communications throughout its 1.3 million-square-foot facility in 2007, it wanted to leverage that technology to improve its asset visibility—and, ultimately, its patient care.

The hospital decided to implement AeroScout's Wi-Fi RFID Asset Management solution, which includes

the company's MobileView software to view the location of an item on a PC, as well as Wi-Fi tags that transmit to the existing Wi-Fi nodes deployed throughout the facility.

The first phase of the system was deployed in the 366-bed hospital in November 2008. When the facility's management selected the AeroScout solution, Zeman states, "We wanted to improve IV pump utilization because we suspected it was too low, and that with better information, we could improve utilization and decrease further capital purchases."

However, Zeman notes, after the hospital tagged and began tracking 600 IV pumps, the reduction in storage space for the OR equipment brought the department's needs to the forefront. "It became clear that the immediate challenge we should tackle was the management of our OR equipment," he says.

With the RFID system, Haithcox says, employees can log into the MobileView software at the nearest PC, and view a graphical interface that displays the location of an item that a staff member keys into the system, such as a specialized operating table.

The department has employed a clinical engineer to manage the inspection and maintenance of hospital equipment, and tagging has been made part of this process. Thus far, the hospital is attaching tags to 3,000 assets, according to Joel Cook, AeroScout's marketing director for health-care solutions. SUNY's Central Equipment Services department, responsible for locating items as well as cleaning and maintaining them, is tagging equipment as it arrives in that area for servicing. The hospital is continuing to tag items as they are serviced.

In addition, the facility has installed a temperature-monitoring system in approximately 100 refrigerators that store pharmaceuticals, vaccines and bone and tissue samples. Before installing the AeroScout system in the refrigerators, nursing and pharmacy workers were tasked with manually tracking temperatures in the refrigerators several times each day, then recording those measurements on paper. The system was slow and had the potential for errors.

With the AeroScout system, Wi-Fi tags attached to refrigerators transmit temperature data at pre-set intervals. This information, as well as the date and time, is transmitted along with the unique ID number of the tag within the refrigeration unit. The MobileView software associates the temperature data with a specific refrigerator.

The hospital can record data regarding refrigerator health, as well receive alerts if the temperature reaches an unacceptable level, which could put any temperature-sensitive contents at risk.

Have the temperature-sensing and asset-tracking systems delivered a return on investment? "We are saving a little bit of time for a lot of people," Zeman says. "We know that the staff now has more time to focus on other areas of their jobs, such as direct patient care." With greater productivity, equipment utilization and OR throughput, Zeman anticipates a payback period of less than a year.

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