

Carolinas Medical Center Expands Its RFID Deployment

The hospital has added 26 RFID-enabled medical supply cabinets to its cardiac catheterization and electrophysiology labs, helping it cut inventory costs and improve operations.

By Beth Bacheldor

Jan. 9, 2008—A successful, three-year implementation of three RFID-enabled medical supply cabinets has spurred Carolinas Medical Center (CMC) to add 26 more units—all to improve inventory tracking and patient care. The hospital's Carolinas Heart and Vascular Institute (CHVI) is using Mobile Aspects' iRISupply, a clinical resource management system that manages medical devices and supplies via RFID-enabled storage cabinets. CMC, an 861-bed hospital in Charlotte, N.C., is the flagship hospital of Carolinas HealthCare System (CHS).

The cabinets measure approximately 7 feet wide by 6 feet tall, and have glass doors through which employees can view drug-eluting (drug-coated) stents and balloon catheters stored inside, each tagged with a 13.56 MHz passive RFID label. The system includes 13.56 MHz RFID interrogators built into the cabinets. The tags and interrogators comply with the ISO 15693 standard. The interrogators scan the items' passive RFID tags, recording any that are removed from or returned to the cabinets.

CHVI's inventory materials coordinator applies an RFID tag to each item as it is received into inventory. The coordinator uses a handheld device to scan a bar-coded label placed on the item's packaging by the manufacturer before that item is shipped out. The scanned bar-code numbers for all the items are downloaded into the iRISupply system database, which correlates each number with a unique ID that is encoded onto a chip embedded into a label. That label (also imprinted with the bar-code number) is then affixed to the item's package.

In 2004, CHVI deployed its first three iRISupply cabinets, in a cardiac catheterization laboratory suite. Two weeks ago, says Dennis Chadwick, CHVI's technical supervisor, the hospital began using 26 additional units to manage more of its inventory of stents and balloons in other cardiac catheterization labs, as well as cardiac pacemakers and implantable cardioverter-defibrillators (ICDs) in its electrophysiology labs.

CHVI opted to try RFID because Chadwick specifically wanted technology that could help the hospital improve its inventory tracking of high-cost medical supplies without requiring extra work from the staff. "I researched RFID because I was looking for something that was hands-free. I didn't want the staff to have to do anything other than pull something off the shelf," he says. "Mobile Aspects didn't come to me; I searched them out."

Chadwick says the initial implementation proved RFID and iRISupply were up to the task. Shortly after deploying the technology, the hospital conducted a study over a 90-day period, comparing what was manually tracked by staff members and what was automatically tracked by the RFID-enabled cabinets. "In that time," Chadwick notes, "we found about 10 to 15 balloon catheters and three drug-eluting stents that had not been

recorded." And from its first implementation of iRISupply, CHVI has been able to save nearly \$65,000 annually by more accurately charging for the medical supplies, and by having inventory that meets the hospital's needs.

CHVI hopes to advance its RFID implementation by integrating it with its inventory and replenishment systems, so that data from the iRISupply system will be automatically downloaded into both applications. Currently, the staff must manually compare a printed inventory report provided by iRISupply with records from the hospital's own inventory system, then make any necessary changes. Integration of the RFID, inventory and replenishment systems would enable the hospital to automate ordering—according to iRISupply's inventory counts—up to three times per day. The hospital hopes to complete this integration in 2008.

RELATED_ARTICLES Not only are the RFID-enabled cabinets saving the hospital money by improving inventory tracking, but Chadwick says the system also allows CHVI employees more opportunity to do their jobs well. "The reception from staff has been very good. They know this will make their jobs easier, and will allow them to spend more time on patient care, which is what they want to do," Chadwick says. "Most people get into health care because they want to take care of people."

In addition, CHS is in the process of implementing a Wi-Fi-based RFID real-time location system (RTLS) to track thousands of medical devices, such as infusion pumps and ventilators (see [Carolin's HealthCare System Deploying RTLS at Its 20 Hospitals](#)). Other hospitals that have deployed Mobile Aspects' iRISupply medical cabinets include King's Daughters Medical Center (KDMC) in Ashland, Ky. (see [King's Daughters Expands Its RFID Tracking System](#)) and The Heart Hospital Baylor Plano in Collin County, Texas (see [New Heart Hospital Plans Major RFID Operation](#)).

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