

King's Daughters Expands Its RFID Tracking System

The medical center will more than double the number of RFID-enabled cabinets deployed, recording which cardiac medical items are removed, and by whom.

By Beth Bacheldor

June 26, 2006—It's been just about a year since [King's Daughters Medical Center](#) (KDMC) in Ashland, Ky., began using six RFID-enabled storage cabinets to keep tabs on its cardiac medical items (see [RFID Heals Hospital's Inventory Problems](#)). The technology has proven to be such a healthy addition to the center's inventory tracking that it's now adding 14 more.

"Things have gone so well, it'd be foolish not to expand on it," says Brian Taylor, a cardiac systems analyst at KDMC. The hospital is installing the storage system, iRISupply—developed by Pittsburgh's [Mobile Aspects](#)—in its newly opened, five-floor, 200,000-square-foot Heart and Vascular Center.

The RFID-enabled cabinets measure approximately 7 feet wide by 6 feet tall, with glass doors through which staffers can view the coronary artery stents and other items stored inside. These cabinets will be situated near the cardiac catheterization labs on the second floor, and within the vascular catheterization labs on the ground floor.

The iRISupply system includes RFID identity cards worn by the center's nurses, passive RFID tags attached to items and 13.56 MHz RFID interrogators built into the cabinets. The cards and item tags comply with the ISO 15693 standard. The interrogators read the cards to track the identity of anyone who removes items; they also scan items' passive RFID tags, recording any that are removed from or returned to the cabinets.

Taylor says the initial deployment of six iRISupply cabinets was very well received by the nurses, simply because the system was so user-friendly. That implementation, however, had one glitch—an extra step requiring nurses to key in patients' names manually so the system could record which devices were being removed for which patients.

"Before, nurses had to type in the patient name and scroll through a list on the computer screen, then pick the patient, and that is where we were getting a little bit of a bottleneck," says Taylor. Therefore, KDMC worked with Mobile Aspects to add bar-code scanners to the front of the cabinets.

For example, when a nurse needs a stent for a patient named Bob Smith, she brings Mr. Smith's chart with her to the iRISupply storage cabinet, where she uses a bar-code scanner to read his bar-code number on the chart. This informs the iRISupply system that the nurse is about to remove an item intended for him. She then presents her ID badge to unlock the cabinet and remove the stent—an action recorded by the iRISupply system. "In a matter of 3 seconds, the system is able to tell who I am and what patient I'm treating," says Taylor. "Then it unlocks the cabinet door, and the reader scans items removed. Now the system has recorded what was taken, whom it was taken and who took it."

All this data is sent to the iRISupply database. Before adding items into the cabinets, KDMC employees affix the tags to them. The tag's unique ID number is associated with information input by employees into the database, such as the item's serial number, manufacturer, classification (type of device) and expiration date.

Since KDMC began using the RFID storage cabinets, Taylor says, the hospital has dramatically improved its ability to track expiration dates, saving money. "We can pull up a report anytime and see 30, 60 or 90 days out when devices will expire," he says. Armed with that information, nurses can opt to use those devices about to expire. In some cases, the device vendors will even exchange items nearing expiration for new ones, then sell them to other medical facilities that need to use them right away. "We've virtually eliminated all the costs associated with expirations," says Taylor.

As part of the expansion, KDMC plans to tag more devices and automate its processes for billing. When the RFID-tagged cabinets come in next month, KDMC will work with Mobile Aspects to build an interface between its back-end financial system and the iRISupply database. The link will allow the RFID system to create patient invoices by automatically sharing which items were used for which patients. Taylor says KDMC will run the interface through a good deal of testing before taking it live in the fall.

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