

Healthy RFID Rivalry for Hospitals

A number of companies have begun marketing RFID-enabled healthcare management systems; Mobile Aspects says it's already at the cutting edge.

By Jonathan Collins

Aug. 24, 2004—The potential for RFID and wireless systems in healthcare management systems is drawing a number of companies and solutions to the market. Although a handful of companies have recently announced planned products or trial deployments, [Mobile Aspects](#) maintains it has a healthy lead on its competitors. "Mobile Aspects was the first in the marketplace with RFID cabinets [for medical supplies] and has had RFID cabinets in the marketplace for more than two years," says Suneil Mandava, president and CEO at Mobile Aspects, which is based in Pittsburgh.

Mobile Aspects designed its Intelligent Radio-Frequency Inventory System (iRIS) system to replace the labor-intensive systems that hospitals currently use to catalog products and replenish essential medical supplies and surgical parts such as pacemakers and replacement joints. Existing systems often fail to track which items have been used. At most hospitals, each item has a bar-coded sticker that is peeled off and stuck to the appropriate patient's paperwork as the item is used.

"The trouble is that when doctors and nurses grab a pacemaker to use in surgery, they tend to be in a hurry and that bar code system is often overlooked," says Mandava. With poor inventory management, hospitals not run the risk of not only having the right equipment at the right time but also of losing money.

"Hospitals typically lose 8 to 12 percent of billable items," says Mandava.

His company's iRIS system consists of iRISupply, which includes an RFID-enabled cabinet for tracking supplies; iRISynergy software, to manage the data collection; and iRISense server software, to automate the tracking, billing and ordering of these surgical items and link the system with a hospital's information system. The iRISupply cabinet is available in six configurations, which differ in terms of the arrangement of shelves and the number of antennas. There is also a choice of touch screen display and keyboard, magnetic card swipe or RFID-controlled access.

The iRIS system requires the hospital to apply [Texas Instruments](#) RFid Systems ISO 15693 Tag-it smart labels to the items' packaging. The items are then placed in an iRISupply cabinet, which records each item's entry presence and notes which shelf that item is on.

"The antennas are our own static 3D antenna designs so that tags can be read at any orientation," says Mandava. The cabinet can have any number of antennas according to the configuration of the system, but one TI-RFid reader can support a number of cabinets group together.

When an authorized member of the hospital staff needs items in the cabinet, he or she enters a personal pass code on a built-in keypad to gain access to the cabinet. The system then records each item that is removed, along with the time of removal, and the identity of that staff member. The cabinets can also be configured to

provide access to the iRISupply cabinet by recognition of an RFID tag issued to each authorized employee, but currently, this option is not being used by any of Mobile Aspects' customers. Access can also be authorized for supply companies to restock supplies as required. Those requests for new inventory can be handled automatically by the iRIS system, or by hospital staff acting on iRIS-generated reports or alerts.

In addition to tracking items, the system can also help ensure that items are used in a timely fashion. This is increasingly important with a number of items, such as the steel mesh stents that are used to open clogged arteries. "These used to cost \$1,100 each and have a shelf life of 18 months but newer versions that are drug-coated are \$3,000 each and last just six months on the shelf," says Mandava.

Mobile Aspects deployed the first trial system of its iRIS for managing inventory and access to medical supplies and surgical parts in May 2002 at the Massachusetts General Hospital. By the end of that year, the company had installed six iRISupply units in the hospital's operating rooms. The hospital now tracks more than \$500,000 worth of supplies, most of which is used orthopedic implants. The iRIS system is fully integrated with the hospital's scheduling and billing system, and it is the only system the staff uses to track and reorder inventory. Subsequent to Massachusetts General's implementation, Mobile Aspects installed its iRIS system at the hospital of the University of Pennsylvania, the University of Pittsburgh Medical Center and the Carolinas Medical Center.

Mobile Aspects faces increasing competition from a variety of companies. Last month, hospital supply chain automation specialist Omnicell revealed an RFID-enabled prototype of its OptiFlex medicine and equipment cabinet that will enable its customers to automatically record when items are removed and which hospital personnel has taken them (see [RFID Cabinet Manages Medicine](#)). In April, TrenStar spin-off Agility Healthcare Solutions announced that it will deploy, operate and manage an RFID network to track mobile medical equipment at the three Virginia hospitals operated by Bon Secours Richmond Health System (see [Hospitals Get Healthy Dose of RFID](#)).

Other companies have developed systems that integrate RFID with other wireless technologies: Exavera Technologies' eShepherd system combines RFID and Wi-Fi technology to help ensure patients receive correct treatments and medications (see [RFID Remedy for Medical Errors](#)), and Parco Wireless has developed an ultra-wideband RFID system for tracking patients, staff and equipment (see [Hospital Gets Ultra-Wideband RFID](#)).

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