

Wisconsin Clinic Opts for RFID Solution

Advanced Pain Management is using a low-cost system from Reltronics Technologies that lets it use passive UHF RFID tags to track the medical charts of its 50,000 patients.

By Claire Swedberg

Dec. 28, 2006—Advanced Pain Management (APM), a Wisconsin-based chain of medical clinics, is using an RFID system that helps the company manage the patient charts it distributes to its 28 locations.

The health group stores its patients' medical records, a total of 50,000 charts, at one central location in southeastern Wisconsin. Each morning charts are gathered for scheduled patient appointments or for review in satellite offices, picked up by medical assistants and driven to various physicians and offices. "We have all these charts going to physicians, and coming back," says APM's executive director, Vishal Lal. "We were on the phone all the time trying to find a chart, it had become a real nightmare for locating any of these charts."

In September, APM adopted the SmartInstrument RFID-based solution provided by Reltronics Technologies, a middleware provider for the health-care industry. The solution Reltronics' SmartInstrument middleware, which communicates with RFID interrogators to collect tag data, and Reltronics' end-user application, ReALTrack-RMS (Record Management System), which is integrated into APM's enterprise resource planning (ERP) system, NextGen. APM is using Alien Technology Squiggle and Omni Squiggle 915 MHz EPC Gen 2 tags, and the Symbol Technologies XR400 passive reader. The entire solution, including hardware, software and integration, comes with a \$5,000 price tag, making tracking of medical charts automatically an affordable option, says Lal. The Reltronics middleware, he says, also spared the office from getting involved in the technical details of tracking using RFID.

"APM didn't want to spend lots on their tracking solution, so we gave them a very simple system," says Sanjay Ahuja, founder and president of Reltronics Technologies. He calls the system plug-and-play, because, he says, "the moment the SmartInstrument is connected to the LAN, it immediately identifies all the readers in the network." The SmartInstrument middleware includes an "SI Configuration" screen that provides the user an option of including and excluding the readers from which information can be gathered. "The true plug-and-play capability is due to the fact that the user does not have to create any additional interfaces to obtain tag reads," Ahuja says.

At the central site where APM stores its charts, Reltronics installed two reader antennas at the entrance door, with two more antennas installed near the records racks. When a chart is first created for a patient, APM personnel program the patient's tracking number into the RFID tag. After that, each time a chart comes into or out of the records-storage area, the antennas capture the patient ID number as it passes through the door. The company's ERP system then knows automatically when the records enter or leave the room. Putting a reader at each employee's desk or workstation, of which there are about 50, Ahuja says, would have allowed the company to track the folder automatically as it moved from the storage area to any desk, but such a deployment would have been too expensive. Instead of having an RFID interrogator at their desks, employees manually input data about the charts they have, indicating which chart will be delivered to which office. That data, which is entered into the office's ERP system, can be searched at any time by one of APM's office

employees.

APM had sought a low-cost solution because it eventually intends to transfer all paperwork to electronic files only, for access on a secure Web site via the Internet. That would reduce the need for the RFID-based chart-tracking system within about a year, as the paper charts are phased out. Ahuja adds that APM may install one RFID interrogator at each of its other sites, further automating the system. Doing so, however, would cost about \$3,000 per additional reader and associated antennas.

RELATED_ARTICLES SmartInstrument middleware is unique, Ahuja says, because it "supports both active and passive RFID readers, including support for fixed and mobile RFID readers and integrated support for barcode readers." And it saves the end user a lot of money by reducing integration costs.

The middleware, Ahuja says, is "ready out of the box and will immediately detect all the supported readers in the network." It supports all brands and models of 13.56 MHz, 433 MHz and 915 MHz RFID readers, he says, regardless of air-interface standard or protocol.

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