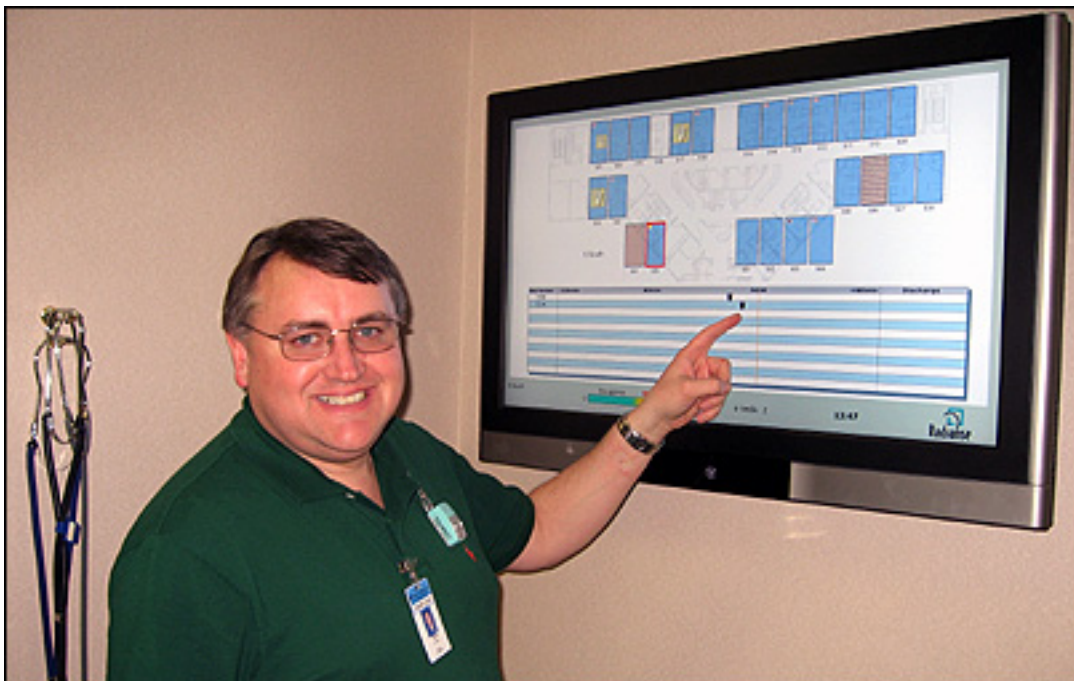


The software has already helped the hospital uncover inefficient processes and better understand its staffing, patient and room needs.

By Beth Bacheldor

March 6, 2007—Providence Health Center in Waco, Texas, has implemented a real-time locating system (RTLS) that leverages active RFID to track patients, staff and equipment. The hospital, part of the [Providence Healthcare Network](#), wants to improve its patient and operational processes and better track medical devices.

Providence Health Center is using active RFID tags from [Radianse](#), which operate at 433 MHz and communicate via a proprietary air-interface protocol to Radianse receivers. The receivers—small box-shaped devices typically mounted on the walls—plug into the hospital's local area network and relay the RFID data collected to a Radianse server.



Alan Carlson explains the Prospective Patient Flow Manager, which presents location data via 42-inch plasma displays in a hospital's general nursing units.

The hospital began installing the RTLS, including the cabling, back in June 2006. In October, the hospital started running the system in its 170-bed acute-care facility. Subsequent floors went live by the end of November.

So far, Providence Health Center has deployed nearly 500 receivers and ordered about 2,000 active tags with a battery life of up to seven years. The staff have been given 850 of the tags for them to wear. The remainder has been affixed to hospital equipment, such as beds, infusion pumps and wheelchairs.

Additionally, the hospital is ordering about 20,000 disposable tags that have a battery life of about 30 days. These will be attached to wristbands given to patients when they check into the hospital. Each tag has a unique ID number that will be associated with a patient in the hospital's admission, discharge and transfer (ADT) software. That software is integrated with the Radianse software, including the Prospective Patient Flow Manager, which helps the hospital track the location of staff, patients and assets. Other hospital systems, including the lab reporting and order management systems, are also integrated with this program.

The Prospective Patient Flow Manager displays the location data via two 42-inch plasma displays in each of the general nursing units—one for patient flow management and one for asset tracking—so that staff can easily view patient status throughout the hospital, locate assets and track staff.

Once patients are discharged from the hospital, their rooms need to be cleaned and prepped for subsequent patients. The Prospective Patient Flow Manager documents that a patient has left and the environmental services workers, who wear tagged badges, have arrived to clean the room, explains Mark Sakaniwa, Radianse CEO. The software can be set to alert managers if a worker has not reported to a room in an allotted time frame, and also lets nurses and others, such as in-patient admission staff, easily determine which rooms are available.

Readying rooms as quickly as possible is important for a busy, growing hospital like Providence Health Center, says Alan Carlson, the facility's director of business technology. Its emergency room department alone sees 58,000 patients a year. Sometimes the hospital is so full that admitted patients need to be housed in the emergency room. "We were really looking for something that will help us with our patient-capacity issues, patient turnover, patient throughput and staffing."

In addition to monitoring room status, the RTLS will help the hospital quickly locate patients who may be out of their rooms and being treated at another department, such as radiology.

Also, by studying trends documented by the Prospective Patient Flow Manager, the hospital will be able to more accurately determine staffing levels. So far, the software has helped Providence Health Center uncover some inefficient processes and better understand its staffing, patient and room needs. "This has really been an eye-opener," Carlson says.

The hospital is in the midst of an expansion, and will add the Radianse RTLS to its new five-story building, opening in April, as well as a two-story addition that will include a new radiology wing and a new ER department that will double its current capacity of emergency patient beds from 26 to 52.

Providence Health Center Calls Its RFID System an 'Eye-Opener'

Topics/Verticals: [Operations](#), [Asset Tracking](#), [Health Care](#)

Providence is not the only hospital using Radianse's system. In 2004, St. Vincent's Hospital began deploying Radianse hardware and software to track patients and subsequently improve the quality of care, increase revenue and deliver an ROI (see [Frees Up Patient Beds](#)).