

Asset Tracking Underway at WakeMed Cary Hospital

The multi-facility operator launches an RFID system at its Cary hospital, with plans to expand to Raleigh and other locations.

By Claire Swedberg

April 29, 2008—[WakeMed Health & Hospitals](#) is deploying an RFID-based system employing technology from [RadarFind](#) to track assets in its two-story, 114-bed facility in Cary, N.C. The system automatically monitors the location of assets, alerting the staff if an asset ends up in the wrong spot.

Once WakeMed installs the system this summer, the medical center intends to use it to better manage assets and ensure they are cleaned and serviced for reuse in a timely manner. WakeMed has also agreed to allow RadarFind to test product enhancements at the Cary facility in the future.

WakeMed, which operates numerous facilities in Raleigh and other North Carolina cities, has been seeking an RFID solution for two years, according to Mary Schilder, the organization's director of information services consulting. "We identified, through information systems and corporate strategy planning, that we wanted to look at RFID for tracking and locating assets," Schilder says. "We like to go after the latest applications that current technology offers." WakeMed chose to begin with an RFID tracking system at its Cary facility, which is considerably smaller than [WakeMed Raleigh Campus](#), to provide a manageably sized initial deployment.

WakeMed Cary's nursing and clinical staff regularly spend an exhaustive amount of time searching for such patient-care devices as infusion pumps, stretchers, telemetry monitors and wheelchairs. What's more, there is often a delay before used devices are cleaned and prepared for reuse, simply because the staff is unaware they are no longer in use.

WakeMed selected the RadarFind solution, Schilder explains, in part because it required very little time to install. Rather than having to add wiring to the patient rooms to connect the readers to the back-end system, the RadarFind interrogators plug directly into an outlet and wirelessly transmit the collected tag data. "With this product," she states, "we didn't have to interrupt patient care." As part of the decision-making process, Schilder visited [Wayne Memorial Hospital](#), in Goldsboro, N.C., which already had the RadarFind system installed (see [N.C. Hospital Looks to RadarFind to Improve Asset Visibility](#)).

RadarFind's active ultrahigh-frequency (UHF) RFID transponders are attached to assets. The interrogators capture an RFID tag's signal, which includes its unique ID number, and transmits that data wirelessly over the 902-928 MHz RF band, to one of 15 collectors installed around the hospital. WakeMed Cary is not using the readers' ability to send the collected information via the facilities' power lines (employing the ANSI 709.1 protocol for power line data communications).

The interrogators calculate an item's location within several feet on the floor on which it is located, using a combination of signal strength and trade-secret technologies. In addition, the readers utilize wireless

synchronous multiple-input multiple-output (MIMO) technology, a communication technique employing multiple antennas to receive data from the tags and eliminate multipath interference, thereby enabling an item's location to be determined more accurately.

The collectors then transmit the unique ID number, time and location where they were read via an Ethernet cable to the server, located at and hosted by WakeMed but accessible by RadarFind through a virtual private network (VPN) for software updates and other services. RadarFind software translates that data and makes it available in a dashboard style, in which staff members can either type in the name of the item they are looking for, or click on a category and see a hospital map showing a dot pinpointing the item's exact location.

RELATED_ARTICLES Each RadarFind asset tag also features a switch to indicate the asset's condition. When an asset has been cleaned and is available for use, a hospital employee slides a switch. This causes the tag to modulate its signal, signifying that the asset is ready for use, and its status is then displayed on the server.

WakeMed provided RadarFind with its facility's computer-aided design (CAD) drawings—a digital layout of the building, floor by floor—to create that virtual hospital in the server. The hospital is beginning with 250 tags to chronicle how well the service works in a limited setting for the first three months. Beyond that point, Schilder says, it intends to expand to additional items, and eventually to deploy the system at WakeMed Raleigh Campus.

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