RFID Improves Safety at Assisted-Living Facility

Ohio’s Light of Hearts Villa deployed a real-time location system to better identify residents in need of services.

By Bob Violino

LIGHT OF HEARTS VILLA (pictured above), a faith-based assisted-living facility located in Bedford, Ohio, provides a residential living environment for more than 400 senior citizens. The facility is a co-sponsored ministry of the Sisters of Charity of Cincinnati and the Sisters of Charity Health System, and one of its main priorities is to ensure the ongoing safety of its elderly residents.

Since Light of Hearts Villa opened its doors in 1989, residents in need of help have used fixed pull cords installed in living areas and bathrooms, as well as landline or mobile telephones, to call for assistance. “However, in many instances it was difficult for residents to reach these locations, especially if they had fallen and were immobile,” says Elizabeth Hickle, the facility’s executive director. “When a pull cord is engaged, it sets off a very loud alarm throughout the facility, which can be disturbing to residents.” The audible alarm, as well as a blinking light outside the apartment, would remain active until a staff member arrived to deactivate the cord.

Light of Hearts Villa’s managers sought a better
method of identifying residents requiring services. In 2013, the facility deployed a real-time location system (RTLS) from Stanley Healthcare, a Waltham, Mass., provider of safety, security and operational efficiency products for the health-care industry. The solution enables residents to call for assistance from any location within the multi-story building, Hickle says, as well as from the surrounding gardens.

GOING WIRELESS
The facility's managers knew they needed to upgrade the existing nurse communications system, Hickle says. In May 2012, they began working closely with the Sisters of Charity Health System's IT department to determine how best to update the communications infrastructure. Together, she says, they selected a local company called Zenith Systems to install routers and Wi-Fi capability throughout the facility, as well as in the gardens.

Each resident wears an AeroScout wireless tag on a lanyard, which enables him or her to call for help from anywhere in the facility or on its grounds—such as while playing bingo.

Following the network upgrade—which began in mid-2012 and took roughly six months to complete—management at Light of Hearts Villa began searching for a company that could provide a wireless emergency call system. The managers had several criteria for the selection, Hickle says. First, they wanted to increase residents' safety, both inside and outside their apartments, and reduce the number of audible alarms. Another requirement was to leverage the new investment in Wi-Fi coverage throughout the premises. Finally, the organization sought to collect data regarding response times and resident call patterns, to further improve its performance and care levels. "When a resident pulled the [emergency] cord, it was impossible to determine the response time of staff to the resident's need," Hickle explains.

"In that situation, you're left with peoples' impressions," such as residents complaining that it took a nurse a long time to respond, says Steve Elder, Stanley Healthcare's senior marketing manager. "Or you have to actually shadow a staff member and measure response
times manually—and that is just not feasible. Without the day-in-day-out data, you can’t really know what your performance is.”

According to Hickle, Light of Hearts Villa evaluated four vendors, and Stanley Healthcare was the only firm able to provide a solution that met all its goals. “We only looked at wireless tag systems that would tie in with our existing Wi-Fi installation,” she explains. “It was essential to have wireless technology so that residents could carry a call pendant with them to call for help from any location.”

Stanley Healthcare deployed its AeroScout Wireless Emergency Call solution at the facility. The implementation process took roughly two months, Hickle says, including the time required to install the tracking equipment and train personnel and residents. The RTLS solution was fully operational by September 2013.

Each resident wears an AeroScout wireless tag on a lanyard, enabling him or her to call for help from anywhere within the facility or on its grounds. The call pendant is provided at no cost to the resident. The tags are designed to be worn in the shower, but cannot be immersed in water.

When a resident presses the tag’s button, a signal is transmitted to AeroScout’s Location Engine software via Wi-Fi access points. There are 63 access points located throughout the facility, provided by the routers. The Location Engine software processes the collected information and forwards it to AeroScout’s Web-based MobileView software, which generates an alert displaying a resident’s name, along with the time and location of the read event.

Employees can view system data from computers at nursing stations, and receive alerts via text messages on their mobile devices. All system activity is captured in a database, and a variety of reports can be generated in MobileView to measure performance, as well as analyze residents’ changing needs.

Light of Hearts Villa did not experience any major challenges during the implementation, Hickle reports, other than training staff members and educating residents about the system. “Residents are still adjusting to having portable pendants with them,” she notes, adding that there were only a few residents whose family members felt they would not use the pendant due to confusion or dementia. These individuals now reside in a secured unit.

**BETTER DATA, BETTER SERVICE**

The AeroScout solution implementation has reduced the number of pull cord signals, Hickle says, thereby contributing to a quieter and more home-like environment. “When a resident presses the button on their pendant to call for help, staff members are notified immediately via their phones, so there is no need for sound alarms,” she states.

“MobileView has provided us with excellent data, whereby we can share with our nursing staff their response time to the activation of the tag,” Hickle says. “This data alone will improve the performance of the
nursing staff, as we have established timeframes for measuring response time."

Families and residents agree that this technology is a welcome added benefit providing peace of mind.

The MobileView software includes a feature known as automatic call escalation that issues alerts. The first alerts are sent to a specified group of users for response. If the alert is not cleared within a certain period, it escalates to a second group, and then to a third if the system continues to register no action being taken. The time settings and groups are configurable, but generally follow the chain of command: The first alert goes to the nursing assistant or other caregiver assigned to that resident, the second is sent to the registered nurse for that floor or wing, and the third is issued to the administrative staff.

At Light of Hearts Villa, automatic call escalation is set in five-minute increments, Hickle says. From zero to five minutes, the call is sent to the nursing assistant's mobile phone via a text message. From five to 10 minutes, the call is sent to both the nursing assistant and the floor nurse. And from 10 to 15 minutes, the call is sent to the nursing assistant, the floor nurse, the assistant director and the director of nursing.

The average response time is between three and four minutes, according to Hickle. "Automatic call escalation ensures that the call is responded to in a timely manner," she says. "The system provides us with daily activity reports that document the activation of the tag and the response time from the staff."

The AeroScout solution "has further increased the safety and security of our residents, which is an important attribute for our facility," Hickle says. "The solution has given us the ability to demonstrate the responsiveness of our nursing staff to a resident's call for help. Families and residents agree that this technology is a welcome added benefit providing peace of mind."

Hickle adds, "The strategic investment in improving care for our residents and our performance was the right decision." In fact, she says, Light of Hearts Villa is promoting the RFID RTLS solution in its marketing efforts with prospective families and residents seeking assisted-living facilities.

While Hickle declines to disclose the system's cost, she notes, "We can say that we see this as a strategic investment in improving care for our residents and our performance." The facility, she says, received financial support for the project from the SC Ministry Foundation, The Bruening Foundation and the Sisters of Charity of Foundation of Cleveland.

Light of Hearts Villa plans to look into converting its existing pull cord setup into a wireless system. "The advantage of wireless pull cord systems is that they are much easier to install and move around," Elder says. "And because they use the same reporting infrastructure as pendant tags, alerts can be directed right to staff."

The pull cord system, Hickle says, continues to provide a sense of security for residents and their families. "The pendants represent new technology, and some residents feel comfortable having the pull cord available, as well as the pendants," she says.

In the meantime, Hickle reports, the new wireless alert system has provided the facility with a modern method for helping ensure residents' safety and comfort. "This system," she adds, "clearly demonstrates to the residents, families and staff that their safety and security are of the utmost importance."

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