

For Improving Elderly Care, RFID is on the Button

Five facilities in Nottingham, England, are sewing RFID-enabled buttons to clothing of dementia patients as a discreet way of making sure garments don't get mixed up.

By Beth Bacheldor

Dec. 12, 2008—At five elder-care facilities managed by the city of Nottingham, England, RFID-enabled buttons affixed to clothing help staff members track which items belong to which particular residents. The implementation, initiated by the [Nottingham City Council](#) (NCC), is designed to help improve the care and experience of elderly clients suffering from dementia, by making sure their clothing doesn't get mixed up with others' garments during the laundering process.

The system, known as Stayput, was developed by [Tunstall](#), a U.K. provider of telehealth-care solutions. Stayput leverages 11 millimeter-sized buttons embedded with passive high-frequency (HF) 13.56 MHz RFID tags that support the ISO 15693 standard. The buttons, designed to withstand multiple launderings, are reprogrammable and reusable, and can store up to 200 characters, including the garment owner's name and room number, as well as other information. They are affixed using a motorized desktop button applicator, and later removed via a handheld tool. The system also incorporates a handheld RFID reader-writer.

The NCC opted to implement the RFID system as part of a broader effort to support the United Kingdom's [Dignity in Care Campaign](#), aimed at promoting a care system with a zero tolerance of abuse and disrespect. The council first learned of Tunstall's system in 2007, and "the idea was seized upon by our managers," says Kate Fisher, a project officer with the Nottingham City government. "The staff is always looking to develop services to improve the experience of people living with dementia in the community, and in their care facilities."

Central to this mission, Fisher notes, is helping dementia sufferers to preserve their identities, and their dignity as adults. "Staff had previously raised concerns that writing names in clothing or attaching labels was somehow not an appropriate thing to happen to older people," she explains. "It seemed that older people were being treated as we treat children. The Stayput system addresses this issue by providing a discreet and dignified clothing-identification system."

In the summer of 2008, the first implementation of Tunstall's Stayput system was deployed at the Laura Chambers Lodge, an elderly residential home run by the NCC and located in the southern part of the city. The facility has 30 bedrooms, 20 of which are designed specifically for patients with dementia. The center's laundry worker, Sheila James, "is a very committed advocate for the system," Fisher says. "She is able to use her time more effectively in the laundry, and spend more time supporting residents who are able to take a more active part in the care of their clothing, therefore increasing their well-being." Families and residents like the RFID-enabled system, she adds, because the buttons can be easily affixed to clothing and are more discreet.

Since installing the Stayput system at the Laura Chambers Lodge, the NCC has expanded it to the city's four other elderly facilities, and now utilizes it to track and identify clothing for more than 140 elderly clients. The RFID buttons are attached to a resident's wardrobe when that individual is admitted to the facility or receives new clothing.

The buttons are typically encoded with the necessary information using the handheld RFID interrogator, then affixed to the clothing on the care label of a garment or on a seam, in the resident's room, with that client present. That way, the belongings need not be taken away, which the resident might find distressing. After laundering (the clothing of several residents is washed together), the items are then ironed, scanned with the handheld reader, and sorted by owner.

When residents leave the facility (some stay only for short-term durations), the buttons are removed. Although there is no limit to the number of buttons a resident can have, Fisher says the average is about 30 to 50 per person. Undergarments are washed separately, with each person's items placed in net bags that have the buttons attached to them.

For long-term residents, in addition to their names being encoded onto the buttons, other information (such as any allergies to detergents) is encoded into the system as well. For short-term residents, only each client's room number is encoded to that person's buttons.

RELATED_ARTICLES Radio frequency identification has become an increasingly popular tool for companies with large inventories of linens or uniforms, such as hospitals. The 352-room [Star City Casino](#), located in Sydney, Australia, manages a wardrobe inventory of thousands of uniforms and employs a wardrobe control system that involves having RFID chips sewn into clothing so each garment's movements can be tracked down laundry chutes, into washing machines and back into stock (see [As You Like It](#)).

In addition, RFID is being used in other ways at residential facilities, to help improve the care of patients suffering from dementia. At the [Nesconset Center for Nursing & Rehabilitation](#), on New York's Long Island, employees are utilizing an RFID-enabled real-time location system (RTLS) to keep patients safer by tracking their whereabouts and alerting staff members if they wander off (see [Rehab Center Monitors Patients With Ultra-wide Band](#)).

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