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## THE 21ST CENTURY **HOME**

HOW TECHNOLOGY IS HELPING TO IMPROVE THE  
LIVES OF PATIENTS AT THE BOSTON HOME

Duncan Morrison's room is quite the thing. A former truck driver, he displays a variety of baseball hats on a shelf above his bed, which is covered with a brightly colored woven throw. Just a foot or two away is a computer with a high-tech voice-activated system he calls "Scottie" that responds to Morrison's command. Scottie changes the channel on the television, turns on the light, and even moves the cursor on the computer screen when Morrison tells it to. At this particular moment, however, Morrison's room is empty. That's because Morrison, who has quadriplegia, is downstairs hanging out in the activities room of The Boston Home, where he is a full-time resident. He was able to get there without help from anyone on the Home's staff because a special chip in his fully automated wheelchair, which was customized specifically for him, summoned the elevator to his floor. As he approached the door, the chip signaled for it to open - not unlike what happens when a vehicle passes through the Mass Turnpike's Fast Lane.

At The Boston Home, technology is everywhere, even though much of it isn't readily apparent to the eye. And it is making a huge difference in the lives of residents like Morrison, as well as in the day-to-day practice of the clinicians who work there.

## Turning Wishes Into Commands

The Boston Home is the only facility of its type in New England and one of only a few in the country. This past fall, The Boston Home--which is a not-for-profit, long-term-care facility that serves adults of all ages with multiple sclerosis and other progressive neurological diseases--celebrated a 30,000-square-foot building expansion and the introduction of a new technology center. Resident capacity was increased from 84 to 96 beds (to help reduce the waiting list for admission), and the building now sports a new activities center, an expanded dining room, and a more accessible outdoor terrace and garden. Along with the changes to the physical plant came a re-energized commitment to "make the resident's wish technologies command," according to Don Fredette, who is The Boston Home's adaptive-equipment technician.

On a walking tour of The Boston Home, it's easy to see Fredette is one of the most popular people on campus. Walk just a few feet and he is flagged down by a resident asking if Fredette can tweak a control on a wheelchair; a few more steps and someone needs him to customize the positioning of a button on a phone; a few more steps, still, and he's asked to help install a DVD player. One resident jokes that Fredette is his "wheelchair doctor."



With voice-activated systems, residents at TBH stay connected to the world.



Bite sticks enable residents to stay independent.

The residents at The Boston Home aren't passively coping with their conditions. They are busy getting on with life despite the enormous health challenges they face, and the adaptive technology at the Home is there to help them do that. Having Fredette on staff to address each resident's technology needs has boosted the residents' quality of life considerably, according to Cindy Walsh, RN, director of clinical services. One important reason is that placing a call to a vendor, waiting to hear back, waiting for an appointment for the vendor to visit, and then waiting for special parts to come in can take weeks or even months. Weeks of waiting, Walsh says, for a broken wheelchair to become operational means losing the independence of being mobile. And when that mobility is perhaps one of the only ways

a person can still be independent, losing it is not a mere annoyance. It can have a devastating impact on a resident's emotional and physical well-being. Fredette, on the other hand, Walsh says, can often get the job done within a few days or less. He can also quickly assemble an accessory that instantly enables a resident to gain more independence without having to place complicated orders and then wait for new equipment to arrive. His ability to piece together parts from different chairs and existing resources to create the exact combination that will improve quality of life for a resident has earned Fredette quite a reputation. Residents call his creations "Frankenchairs."

### **Keeping People Moving and Connected**

Clinicians, including nurses, physical therapists, and occupational therapists, continually work with Fredette to identify the residents' capabilities, physical realities, and equipment needs. For instance, physical therapist/seating specialist Faith Saftler-Savage, RPT, who has spoken widely on ways to promote independence, including through personal comfort, will team up with Fredette from time to time to create customized seats for individual residents. Fredette, who has a high aptitude for all things mechanical, has a background in social work and also worked at one time for a durable-medical equipment company. With a laugh, he explains that what he does, after assessing each resident's abilities, is "tinker till you get it." The goal, he says, is to keep people driving as long as possible. To illustrate what he means, he says that some of the residents who are still driving their wheelchairs have control only over their ability to bite, so they steer with a bite mouth stick through which they instruct the chair to go forward, backward, or turn right or left, depending on how the person bites. Others who have limited control of the hand can drive a chair by tapping a disc. Touching one area on the disc makes the chair go forward; tapping another part commands the chair to go in reverse.

Resident Linda Stranieri is able to operate her chair with the disc, and she also has a special speaker telephone in her room. She operates the phone with a touch pad and her voice. When activated, the phone scans through a list of preprogrammed numbers until she commands it to dial, and then she can converse over the speaker. The technology that allows residents to talk to mechanisms, Fredette explains, is known as XI O remote-control technology, and it can work with anything that has a switch. That includes thermostats, lights, televisions, radios, or computers. Fredette says his job is just a matter of adapting technology to suit the residents' needs.

In the computer lab, which the staff and residents call the Cyber Caf , Fredette collaborates with occupational therapists to help residents surf the Internet and send e-mail messages to loved ones. Just as Duncan Morrison calls out "Scottie" when he wants to activate the system in his room to turn on a light or his computer or call a nurse, residents simply drive up to the large-screen monitors in the Cyber Caf  and say "wake up" to make the computer start. Using software called Naturally Speaking, occupational therapist Abby Robinson, OTR, helps train residents like Lillian Carr how to use e-mail on the completely voice-activated system (which is also used in many professional settings for dictation purposes) so Carr can get in touch with her daughter.

The ability of residents to participate in and communicate with the world is critical, says Walsh. They think of the Home not as a nursing home, but more like a small town. The average age of residents is 54, and they are a diverse group with a lot to offer. Some are teachers, many have advanced degrees, some take voice lessons, and one even has his own radio show. They sit on the Home's various committees, and as Walsh points out, are very engaging.

### **Clinicians Can Focus on Their Own Expertise**

The adaptive technology at The Boston Home is not only a boon for the residents, but also delights the staff. Helen Hall, RN, associate director of nursing, explains that without these special devices and creative solutions and a technology person on staff, nurses could easily spend hours responding to problems with equipment or helping residents complete tasks. Nurses need and want to spend their time providing nursing care, she says, and since the residents at The Boston Home face such complex medical conditions, the PTs, OTs, and nurses need every moment to focus on their clinical expertise in caring for them.

Also important to clinicians is the fact that the Home has a "no lift policy" supported by transport systems that ride on ceiling tracks in bedrooms and in the physical-therapy gym as well as the fact that residents have special shower chairs. These devices help protect staff and residents from injury. In fact, in the past year, the Home has recorded no lost work due to back injuries, despite the fact that staff do more than 72,000 resident transfers a year.

"It all saves the staff a lot of time and aggravation," says Hall. At The Boston Home, she stresses, it is nice as a nurse to feel that if you have an idea for what would make life easier for a resident, and you can make it happen." She adds, "In a regular nursing home, a nurse would spend a lot of time trying to figure something out, and what could have happened maybe doesn't. You leave saying to yourself, 'I could do so much more.'"

Walsh believes that the support nurses receive for the work they do via the Home's commitment to technology helps with retention. Although she says the nursing shortage has an impact everywhere, most of their nurses have been there for more than five years, and The Boston Home does not depend on agencies for staffing.

### **Creating a Model**

The clinicians at The Boston Home take pride in creating a model for other facilities and in advocating for quality care. Walsh says she and other leaders like to think of The Boston Home as a proving ground for how creative approaches can work. "We can't care for everyone," she says, "but we can high- light things that will benefit and work for others." Staff, volunteers, and residents have taken on the role of advocating for those with MS and progressive neurological diseases by addressing legislators, healthcare organizations, and healthcare facilities about insufficient resources, funding, and residential facilities.

As an example of how the Home participates in the effort to make life better, Walsh points out that Medicaid used to pay for wheelchairs for individuals with complex conditions like those of the residents only if they lived at home. Through the Disability Law Center, some of the Home's residents filed a suit to fight for coverage for wheelchairs for those who live in facilities like theirs. "It is great to have a wheelchair at home," she explains, "but what if your home isn't equipped to drive a wheelchair around? Should a person be denied the independence he or she would have with a wheelchair just because he or she lives in a facility and theoretically could have a staff person move them from place to place?"

Walsh explains that The Boston Home embraces a philosophy of looking at the "bigger reality" for people who face long-term conditions. Rather than examining just the cost of an item or the immediate necessity of a piece of technology, The Boston Home staff puts a lot of thought and energy into understanding how something can impact a person's overall well-being and physical and emotional outlook. "As much as some technology can cost, the time and work that would otherwise be needed to have a staff person do the tasks instead --and the health ramifications of depriving patients of participating more fully in life--are more than worth considering."

The lesson that is quickly learned by talking with Fredette, Walsh, Hall, and the residents at The Boston Home is that a big part of what makes the facility such a well-renowned site for long-term care is that the staff are not only experts in managing disease, but are committed to thinking creatively and working collaboratively to empower the residents they care for each day.

#### **How to Find Out More**

For more information about The Boston Home, which is located at 2049 Dorchester Avenue in Boston, call (617) 825-3905 or visit the Web site at [www.thebostonhome.org](http://www.thebostonhome.org).