



Health Sciences Centre
FOUNDATION

2020

A Case for Support

Technology for Assisted Living

Innovative virtual care
for living well at home

A \$3 million campaign to accelerate the
next generation of virtual care in Manitoba



Home is where the health is

How technology improves care and well-being

Through the first wave of COVID-19, Manitobans have seen communications technology used in health care like never before. While people stayed at home—and continue to exercise caution—to avoid contracting the coronavirus, doctors, nurses, and other health care providers turned to technology to stay in touch with patients.

Physicals by phone. Skin exams by Skype. Counselling by Zoom. These are the types of care we have seen through the pandemic in Manitoba and, indeed, throughout the world. **And there is little doubt that the health and social care system will have to continue to use and adapt these technologies through the COVID-19 crisis and beyond.**

New communications, diagnostic, and telemonitoring technologies are essential and beneficial components of the new normal in health care, particularly for older Manitobans and persons of all ages living with disabilities.

Even before the coronavirus started to dominate the health headlines in early 2020, Health Sciences Centre Winnipeg and the College of Rehabilitation Sciences at the University of Manitoba started working together on an

ambitious and exciting program to accelerate the use of new communications, diagnostic, and telemonitoring technologies to improve patient care, enhance patient well-being, monitor patient safety, and provide families with peace of mind as their loved ones are equipped and supported to live independently.

The program is called “Technology for Assisted Living” and the Health Sciences Centre Foundation and the University of Manitoba are seeking to raise \$3 million to support the initiative. **Funds raised will be used to advance research in technology development, provide leading-edge service to HSC patients in need, evaluate new technologies, and train health care providers and students.**

Technology for Assisted Living is *virtual* care, but a *real* solution for a changing health care and demographic landscape.

Your support will help Manitobans live well at home as safely as possible for as long as possible, with a sense of dignity and independence.

With the Technology for Assisted Living initiative, patients will be able to use apps and video calls to communicate with doctors, nurses, and other care providers to determine whether an in-person visit is necessary.

Who will benefit from Technology for Assisted Living?



Meet Joyce*

Joyce is 84 and lives in the house she has called home for 50 years in North Kildonan. Her one child, a daughter, lives in North Vancouver. Joyce is starting to get forgetful. She often misplaces her glasses and last week she forgot how to get home after a walk around the neighbourhood. The other day, she called her daughter because she couldn't remember how to use the washing machine. **Joyce is growing concerned, and so is her daughter. Could these be the early signs of dementia?**

Through the Technology for Assisted Living initiative, **Joyce's home would be assessed and then equipped with sensors and other smart technology to help her get through the day safely.** A telepresence robot, equipped with a tablet, would allow her to connect with her daughter or her doctor's office with the touch of a button. That same robot would dispense her medication on a set schedule and advise her daughter if she misses a dose. Her washing machine would be equipped to respond to a variety of voice commands. And her smart phone would alert her daughter if she wandered too far from home.

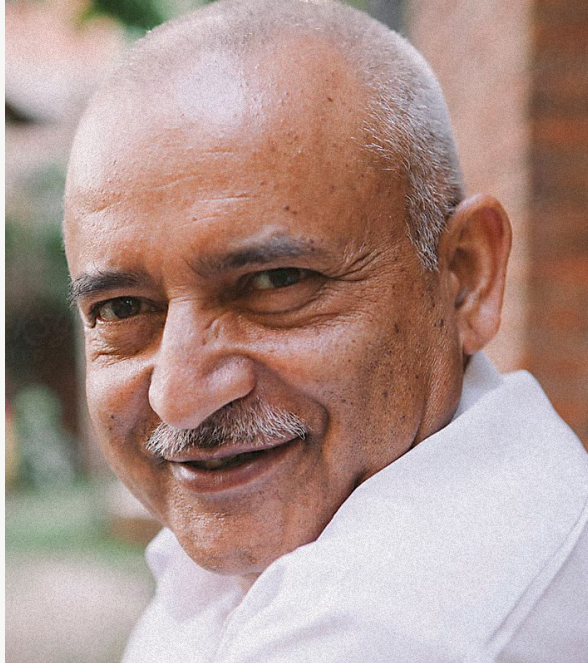
Without Technology for Assisted Living, Joyce might soon require live-in help or might have to move to an assisted living facility. With the technology, she can remain in the home she loves.

The Campaign in Brief

- The Health Sciences Centre Foundation and the University of Manitoba are seeking to raise \$3 million to help HSC and the College of Rehabilitation Sciences to develop the Technology for Assisted Living initiative.
- The program aims to develop systems and software to help people who are elderly; recovering from illness, injury, and surgery; or who live far from HSC to live safely and independently in their own homes while receiving the medical and therapeutic support they need.
- Aside from virtual care, the program can equip homes to monitor the safety of residents; provide easy, one-touch video access to loved ones; and install smart technology so that people with cognitive challenges can use home appliances safely and with no confusion.
- There is compelling international evidence that programs like Technology for Assisted Living can shorten hospital stays, improve overall patient well-being, give families peace of mind, and create overall efficiencies in the health care system.
- Many thousands of Manitobans per year will benefit from Technology for Assisted Living.

* Names and case details have been modified.

Who will benefit from Technology for Assisted Living?



Meet Sunil

Sunil is 76 and recovering from hip surgery. He needs physiotherapy twice a week to regain his strength, mobility, and confidence.

He knows he needs the physio, **but with the melting snow, he is reluctant to leave the house.** After all, it was a slip on the ice two years ago that caused his hip problems in the first place.

Through the Technology for Assisted Living initiative, Sunil can borrow video communications equipment that will allow his physiotherapist to coach him through his exercises and assess his progress. Sunil can get the care he needs without having to leave his home.

His home can also be equipped with sensors to make sure he is moving around enough during the day without putting his healing hip at risk.

By using specialized communications technology, patients recovering from injuries and surgeries can heal and rehabilitate safely at home.



Meet Gwendolyn

Gwendolyn, 47, lives in a northern community and has had type 2 diabetes since the age of 22. In recent years, **she has developed foot ulcers that have caused devastating infections and enormous discomfort.**

Her specialist in Winnipeg wants to see her legs and feet at least three times a year to ensure that the ulcers are under control. The drive to Winnipeg is nine hours long, which means Gwendolyn needs to stay in Winnipeg for at least two nights, miss at least two days of work, and has to spend significant amounts of time away from her teenage children and her elderly mom. On top of all that, driving that long with an ulcerated foot is painful.

Through the Technology for Assisted Living initiative, **Gwendolyn's specialist can examine her legs and feet by remote controlling a high-definition camera in her community while viewing a video monitor in Winnipeg.** He can coach the local health care provider on wound care, and advise Gwendolyn on her medication. Gwendolyn can retain her relationship with her specialist, but now only needs to visit her in person once a year.

The Technology for Assisted Living initiative will offer more complete and more timely care to First Nations and other remote communities in Manitoba, reducing the number of trips required to Winnipeg.



Meet Max

Max is almost 90, lives alone in an apartment, and has a battery of health issues including chronic obstructive pulmonary disease (COPD) and high blood pressure.

He should be seeing his doctor every couple of months, but at his age, getting around is difficult.

Through the Technology for Assisted Living initiative, Max now wears a wrist device (like a FitBit or Apple Watch) that can continuously monitor his blood pressure and send readings to his care provider digitally. **The doctor will be alerted if Max's blood pressure gets too high.**

Max's caregivers can also monitor his COPD through home spirometry testing. Max can blow into a device and a measure of his lung function will be sent digitally and automatically to his doctor. If the reading is abnormal, Max's doctor will call to discuss next steps.

Wearable technology will help monitor the well-being of seniors in their homes or when out and about. Health care professionals and family members can be alerted immediately and automatically of irregularities.



Meet Clarice

Clarice is 97 and lives in a personal care home. She keeps to herself at the home, and lives for Sunday visits from her son and his family.

When no visitors were allowed at the home during COVID-19, every Sunday **Clarice would be taken to a window in the home's dining room where she could look at her family through the window**, and they could look at her. When she reached up to touch the glass, her son, daughter-in-law, and three grandchildren would touch the glass as well. A loving moment, but deeply unsatisfying.

Through the Technology for Assisted Living initiative, the home could be provided with a number of telepresence robots equipped with tablets so that Clarice could have a virtual visit with her family in Winnipeg and with relatives elsewhere. They could walk down the hall with her virtually, and accompany her to dinner while enjoying a face-to-face conversation.

The Technology for Assisted Living initiative will keep our elderly more connected to their families across the city and around the world.


Consider the impact; consider the possibilities

- ✓ With remote monitoring and virtual care, the Technology for Assisted Living initiative can help shorten hospital stays for stroke patients and surgical patients as they recover at home.
- ✓ Shorter hospital stays mean greater patient well-being, reduced risk of hospital-acquired infections, freed-up hospital beds, and financial savings for the health care system.
- ✓ During pandemics, flu season, and other periods of stress in public health, most patients can get care and live well at home thereby reducing the risk of community spread of disease.
- ✓ With the program's high-tech residential test suite on the HSC campus, patients can be effectively assessed on their abilities to manage alone and then their homes can be properly equipped and customized for their return.
- ✓ While the primary population for the Technology for Assisted Living initiative would be seniors, persons with disabilities, and people recovering after hospitalization, there are applications for children and youth as well. For example, an asthmatic child can be coached through breathing exercises via technology, and a hospitalized teen can virtually attend class at her high school.
- ✓ Under the name "ambient assisted living", a great deal of work in this field is happening around the world, especially in Europe—with impressive results. Our program in Manitoba has already entered into important research partnerships that will help accelerate the implementation of the program in Manitoba.
- ✓ The ingenuity to develop and adapt the required software for the technology being considered already exists in Manitoba. With a fully funded program, HSC and the College of Rehabilitation Sciences at the University of Manitoba can enter into exciting partnerships with local businesses and technology professionals.
- ✓ By launching a fully funded program as soon as possible, we will be in a position to introduce some of the latest technological innovations in augmented reality and artificial intelligence in the provision of health care.

"To me, this is even bigger than providing care for someone with physical or cognitive issues. This is about mental health, keeping families connected, and helping people feel less isolated. This is the total picture of well-being."

**-Dr. Reg Urbanowski, Dean, College of Rehabilitation Sciences;
Project Lead, Technology for Assisted Living**

Technology for Assisted Living allows seniors with respiratory conditions to take spirometry tests at home and send the results to their physician digitally. When it is -30 outside and the senior has mobility challenges, the ability to measure lung function at home could be life-altering.

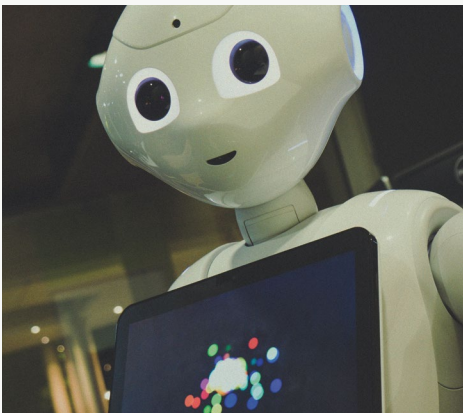
A photograph of an older man wearing a blue and white checkered shirt and a VR headset. A woman with glasses and a light blue shirt is standing next to him, with her hand on his shoulder, appearing to assist him. The background is a simple indoor setting.

The Technology for Assisted Living initiative is about using technology to enable the best in health care and the best in humanity

With virtual reality goggles, an isolated senior can enjoy breakfast with a distant loved one, thereby reducing feelings of isolation. Technology for Assisted Living helps strengthen family relationships.

- **More connection with doctors and other health care providers.**
- **More connection with family and friends, near and far.**
- **Greater independence, safety, and dignity for our most vulnerable seniors.**
- **Greater peace of mind for the families of seniors and patients of all ages living on their own or far away.**
- **Better care for Manitobans who live far from HSC but still require care for complex medical conditions.**
- **Greater overall sense of well-being.**
- **A stronger, more efficient, better connected health care system.**

When visitor restrictions were in place at hospitals and long-term care homes during the first wave of COVID-19, children and grandchildren were forced to visit their elderly loved ones through windows. “I saw hands pressed up against the glass and I was heartbroken,” says Dr. Reg Urbanowski. “I know we can do better. We have to do better.”



Telepresence robots equipped with smart technology will make it easier to provide virtual care and to simulate visits with loved ones and care providers.

Health Sciences Centre is Manitoba's flagship hospital with specialized support for trauma, neurosurgery, burns, transplants, and psychiatric health. Donations to the HSC Foundation enable HSC to improve care in these and other areas through important research initiatives, training opportunities for health care staff, the acquisition of cutting-edge medical equipment, and the development of new state-of-the-art facilities. **Your support saves lives, changes lives, and brings comfort to families throughout Manitoba.**

To make this life-changing project a reality, or to learn more, please contact the HSC Foundation.

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