

Championing virtual care

to empower patients and build system capacity

By Dr. Brendan Carr

As healthcare leaders, we're challenged every year to find tangible, sustainable approaches to healthcare that are patient-focused, cost effective and in keeping with evidence-based best practice. Despite its many proven benefits, I believe one of the most overlooked opportunities in healthcare today is virtual patient-clinician care.

It's hard to pinpoint exactly why we have been so slow in Canada to embrace virtual care as a viable way to build capacity within an overwhelmed system. While the technology and expertise exist, particularly here in Ontario, there are few examples across the country where virtual patient-clinician services have moved beyond the pilot stage to successful implementation. Yet in a recent Ipsos survey commissioned by the Canadian Medical Association, seven in 10 respondents said they would take advantage of virtual physician visits, with many believing it would lead to more timely, more convenient and ultimately, better overall healthcare.

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At Osler, our own experience has convinced us that virtual care has a significant role to play in reducing the demand on emergency departments, building capacity in the system, and empowering patients to actively manage their own healthcare journey. It's among the many reasons why virtual approaches to care are among the priorities outlined in our new 2019-24 Strategic Plan, *Going Beyond for Healthier Communities*.

Osler is no stranger to virtual care having partnered with the Ontario Telemedicine Network (OTN) on its highly successful Telehomecare program in 2012. More recently, our work has focused on introducing virtual patient-clinician care in our palliative

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care program at Brampton Civic Hospital. While our multi-faceted program includes an inpatient care unit, inpatient consultation services, an outpatient clinic and physician home visiting, like many others we face growing wait times for outpatient consults and follow-up outpatient visits, with demand often exceeding capacity.

Our palliative care team was eager to increase access to the program while also empowering patients to self-report symptoms as a way to prevent unnecessary visits to the hospital in between appointments. This led them to pilot two virtual care initiatives: conducting virtual home visits using a secure online app on the patient's computer,

tablet or mobile phone, and introducing a mobile health app that enables patients to remotely self-report symptoms to their palliative care physician and clinical team to allow for more timely interventions.

Partnering with OTN, the team initiated virtual home visits with a select group of patients who were impacted by current wait times, lived more than a 30-minute drive away from Osler's Brampton Civic Hospital site, and were experiencing urgent pain or symptoms issues. By conducting home visits virtually, palliative care physicians were able to double their outreach from four to up to eight home visits in a single day.

Among our key learnings, we discovered that virtual patient-clinician care:

- Offers a platform for patient equity as it effectively removes barriers to accessing care like geographic location and financial issues (transportation, parking expenses);
- Helps lessen the burden on informal caregivers by minimizing the need for transportation to and from clinic appointments, and by reducing unnecessary visits to the emergency department;
- Provides for greater efficiencies through the timely digital submission of home care orders, consults and medication changes; and

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Medtronic Canada celebrates 50 years of innovation

By Neil Fraser

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- Facilitates out-of-town family involvement in family meetings about goals of care and care updates.

Patients and informal caregivers alike were surprised at how much care could be managed virtually without the need for an in-person physical exam. Patients also appeared to be more open and at ease discussing their pain and symptom issues from the comfort of their homes, leading to more informed decision-making about their care.

Osler also partnered with uCaret and the Centre for Aging and Brain Health Innovation to design, develop and study a mobile browser-based e-health app (RELIEF) that empowers palliative care patients to self-report their pain, symptoms and distress to their clinical team on a daily basis from the comfort of their own homes.

The app provides nurses and physicians with real-time data of patient self-reported symptoms and alerts them when there is a change to a patient's status, thus allowing for timely intervention and treatment when required. This helps reduce patient and family distress, prevent unnecessary hospitalizations and visits to the ED, and ensures that palliative care patients remain in their homes as independently and as safely as possible, for as long as possible.

While we're only beginning to scratch the surface when it comes to leveraging virtual technologies, this two-pronged approach to virtual care has yielded promising results that hold exciting possibilities for hospitals, Health Links, and other sectors including long-term and hospice care. Let us not lose sight of these opportunities to empower patients and build the much-needed capacity we need to sustain our health system. ■

Dr. Brendan Carr is President and CEO, William Osler Health System.

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Half a century after it first established roots in this country, Medtronic capped a milestone year by doing what we have done consistently over five decades – launching a series of innovative medical devices that will help to improve the lives of thousands of Canadians.

In the fall, Health Canada licenced the world's first self-adjusting insulin pump – the Medtronic MiniMed™ 670G system for use by people with Type 1 diabetes seven years of age and older in Canada. The game-changing technology promises to give people with diabetes and their caregivers more freedom from constant worry, daily insulin injections, and an improved quality of life that has been out of reach until now.

Bringing the new pump to market here, along with a series of other technologies for chronic pain, neurosurgery, and ear, nose, and throat procedures, is a fitting way for Medtronic to put an exclamation mark on 50 years of innovation and commitment to patient care in Canada.

We are proud of our long-running history here and our many Canadian connections.

While Medtronic currently has operations in more than 160 countries, its growth beyond its home base in the United States began in Canada. Our late co-founder Earl Bakken, who died on Oct. 21, 2018 at the age of 94, opened Medtronic's first subsidiary outside the U.S. in Canada in 1968. Since then, over one million Canadians have benefitted from a Medtronic technology or service.

Bakken, an electrical engineer who began the company in his Minnesota garage as a medical equipment repair service, had long followed the work of Canadian medical researchers. He was inspired by the research of pioneers such as Dr. Frederick Banting and Dr. Charles Best, whose discov-

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ery of insulin led to today's sophisticated insulin pumps.

He was also captivated by research carried out by Dr. Wilfred Bigelow, Dr. John Callaghan and electrical engineer Jack Hopps, known as the Toronto Group, who are credited with coming up with the world's first alternating current (AC)-powered pacemaker in the late 1940s.

Bakken built on the research and ingenuity of these Canadians by developing the first wearable, battery-powered pacemaker, paving the way for long-term pacing for cardiac patients around the world and leading to the development of the world's smallest pacemaker. Interestingly, both pioneering engineers – Jack Hopps and Earl Bakken – had their own lives extended by the very technology they helped create.

Developing the modern pacemaker was only the beginning of a long tradition of Medtronic collaborating with Canadian scientists, medical researchers, patients and partners to deliver better patient outcomes.

For example, Dr. George Klein at University of Western Ontario and Medtronic Canada jointly developed Reveal™ an insertable cardiac monitor that offers continuous monitoring to help determine the cause of unexplained fainting or stroke.

Dr. Marc Dubuc at the Montreal Heart Institute developed Medtronic's Arctic Front Cryoablation system to treat patients with paroxysmal atrial fibrillation (AF), or irregular heartbeats in the heart's upper chambers.

The technology is novel because it ablates or blocks the conduction of AF in cardiac tissue through the use of a coolant, rather than heat. It is proudly manufactured in Canada and more than 180,000 patients in more than 1,300 centres worldwide have been treated with the cryoballoon.

In all, Medtronic holds more than 80 patents for therapeutic technologies and devices involving Canadians and has done over 100 clinical trials in Canada.

I've been with Medtronic Canada for over 34 years and I've discovered that to achieve the mission Earl Bakken penned almost 60 years ago – to alleviate pain, restore health, and extend life – launching innovative products that improve patient outcomes is not enough. That's why we've been collaborating with hospitals to reduce wait times through our Integrated Health Solutions service. And its why we've been educating the government and the health system about the importance of moving towards value-based procurement and payment models that consider the total cost of care and outcomes that matter most to patients.

As our 50th anniversary year in Canada draws to a close, we look back with pride on what we've accomplished with our Canadian partners to help people overcome pain and disability and to live longer lives. We look forward to further collaborating with Canadian patients, doctors, and health system leaders for decades more to come. ■

Neil Fraser is the president of Medtronic Canada, a member of the Health and Biosciences Economic Strategy Table, and a contributor to the book "A Canadian Health Innovation Agenda" published by McGill-Queen's University Press.