

DEMAND-DRIVEN HEALTH INNOVATION IN ONTARIO 2017



**OFFICE OF THE
CHIEF HEALTH
INNOVATION STRATEGIST**



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A MESSAGE FROM THE CHIEF HEALTH INNOVATION STRATEGIST



It is an absolute honour and pleasure to be serving as Ontario's first Chief Health Innovation Strategist. I am especially grateful to lead the extraordinary team that makes up the office.

It has been clear to many that our province faces an urgent "innovation imperative," particularly in health care. Ontario now must win in the knowledge-based economy if it wishes its children and grandchildren to enjoy the standard of living and quality of life to which Ontarians have become accustomed. That requires investments of time, energy and resources in innovation. Being the principal end-user, Ontario's growing \$53-billion single-payer health care business puts the province in an enviable position in the highly competitive global health care sector. In addition to this economic component of the innovation imperative, we all know our health care system must do more with the amount government invests. That can only be done over the long term if we adopt health care innovation faster and more broadly. Improved care management can only do so much.

As complex and daunting as these two challenges are, if we leverage our state investment in health care as an economic driver, we can improve outcomes for Ontario patients and add value to our system while growing Ontario-based companies. At the same time, we can enhance our health innovation ecosystem by attracting investment of ideas and money from the world's leading health-innovation multinationals as part of a valuable health-innovation ecosystem to the benefit of all.

Investment in innovation will not only drive economic development, it will also allow for more patient-centred care. A shift to value-based care is inherent to

improving patient outcomes and demands a major change in the way health care is organized, measured and reimbursed – and its ultimate success relies on a steady pipeline of innovative, targeted technologies that are quickly approved and deployed.

From the outset, I have said we will judge ourselves by the impact we have with our work, not by the activity we generate. After two years, we are hearing and seeing that we are having that impact.

I am happy to provide this update report on the major milestones and successes our office has achieved, which have resulted in a major shift in the health innovation ecosystem. Our programs and projects are fundamentally optimizing and creating pathways to adoption of new health technologies and driving the shift to strategic value-based procurement. We do this all while fostering an ecosystem of collaboration across the continuum of care to improve patient outcomes.

More clinicians and health organizations feel empowered to explore new approaches to delivering better care using technology. More startups tell us they understand clinician needs and are building meaningful collaborations. There are more funding, mentoring and support programs available to facilitate the development and deployment of new technologies.

Without question, much remains to be done. The most fortunate thing is we have many smart, hard-working, passionate people in our work. I have met hundreds of them and truly believe we all are pulling in the same direction. As a result, I am convinced now more than ever that, with our office being a small part of a greater whole, we will achieve our purpose of improving patient outcomes, adding value to the system and creating lasting meaningful jobs for Ontarians.

I would like to thank the Ontario Health Innovation Council for building our roadmap and, most importantly, the many, many people who have advanced our cause this far. I look forward to working with you on an even more successful third year and beyond.

A handwritten signature in black ink that reads "W. Charnetski". The signature is fluid and cursive, with a large initial "W" and "C".

William Charnetski
Chief Health Innovation Strategist

ONTARIO'S HEALTH INNOVATION ECOSYSTEM

Ontario's medical technology sector has an impressive track record of developing life-changing technologies. From the cardiac pacemaker^{1,2} to the world's first artificial kidney³ to hospital-to-hospital telerobotic-assisted surgery,⁴ Ontario medical technology companies have improved people's lives all over the world.

Our health tech innovators have the ideas, the talent and the drive to advance patient-centred health. They also have access to an impressive infrastructure that includes incubators and accelerators.

However, they face major challenges in getting their innovative health technologies and processes through the crucial phases of development, procurement, adoption and on to widespread use.

These challenges include:

- A risk-averse provincial health care culture that is reluctant to change long-established procedures.
- A system that is slow to adopt health innovation.
- A complex regulatory system.
- Lack of financing – particularly at the early-stage.
- Too few opportunities to test and pilot innovations.
- Difficulty navigating through a fragmented, misunderstood and cost-driven procurement system.



1 <https://www.pressreader.com/canada/the-globe-and-mail-ottawaquebec-edition/20170501/281831463631958>

2 <https://globenewswire.com/news-release/2016/12/15/897773/0/en/Global-Cardiac-Pacemaker-Market-will-exceed-USD-12-00-billion-by-2021-Zion-Market-Research.html>

3 <https://academic.oup.com/ndt/article/14/11/2766/1807922/Gordon-Murray-and-the-artificial-kidney-in-Canada>

4 <https://www.ncbi.nlm.nih.gov/pubmed/15729068>

The Ontario government recognized these barriers needed to be addressed so that:

- Ontario's health innovators could succeed in getting new products onto the market and create jobs in the province.
- Ontario's health care system could adopt and spread health innovation more efficiently to improve patient outcomes.

Health innovation is on the rise – the global med tech market is projected to reach almost \$500 billion by 2020¹. Other jurisdictions are creating comprehensive initiatives to support their health technology sectors. Moving quickly and decisively is critical if Ontario is to realize the health and economic benefits that go along with being a major health tech player.



CARDIAC PACEMAKER

The cardiac pacemaker is an electronic device that stimulates the heart with electrical impulses to maintain or restore a normal heartbeat. Initially developed in a lab at the University of Toronto in 1950, the life-saving device went on to be commercialized in Minneapolis. The cardiac pacemaker went on to be among Medtronic's first products kick-starting the global medical device company that currently employs 88,000 people worldwide and had a global annual revenue of over \$28 billion USD in 2016.² It's an early example of a missed economic opportunity for Ontario and its challenges with commercializing innovations created in the province. Today, the pacemaker – which was implanted in 1.3 million people in 2015 alone – is a \$7.5-billion-a-year industry that is growing at a rate of 8.5 per cent a year and is destined to grow faster as the world's population ages.

Ontario's medical technology sector at a glance³



1,300+
companies



more than
\$12 billion
in annual revenues



\$1.7 billion
in exports



24,000
people employed

¹ Med Device Online, October 6, 2015: <http://www.meddeviceonline.com/doc/report-by-global-medtech-market-worth-billion-medtronic-top-device-maker-0001>

² <http://www.medtronic.com/us-en/about/facts-stats.html>

³ Invest in Ontario – <http://www.investinontario.com/medtech#big-business>

THE ROADMAP

In November 2013, the Ontario government created the Ontario Health Innovation Council. Council members were thought leaders from health care delivery, research and industry as well as the not-for-profit sector, the council was tasked with making concrete recommendations on how to maximize Ontario's considerable med tech strengths by removing the systemic barriers that make it difficult for our technology entrepreneurs to succeed.

In its December 2014 report, *The Catalyst*, the council made six recommendations:

- Create a dedicated Office of the Chief Health Innovation Strategist to champion Ontario as a centre for health technology innovation.
- Use newly created Innovation Broker positions to connect innovators with resources.
- Establish a new \$20-million Health Technology Innovation Evaluation Fund to support made-in-Ontario technologies.
- Accelerate the shift to strategic value-based procurement.
- Create incentives and remove barriers to innovation.
- Optimize the pathways to adoption and diffusion of innovation.

OCULYS

Kitchener-based Oculys has developed a suite of practical solutions that helps hospitals manage their patient flow and improve their wait times, efficiency and patient care. The technology allows management and staff to see – in real time – what's happening in key areas of the hospital, including emergency room wait times, operating room performance, beds in use and patient-flow bottleneck, so staff can take appropriate action. It also lets patients know how long their ER wait time will be, so they can manage their own expectations and reduce their stress. And the information is available anytime, anywhere on a mobile device. First developed in 2011, Oculys's technology is in use at 22 sites in Ontario. "We thought it would be an easier sell given the excellent outcomes," says CEO Franck Hivert. The biggest challenge? "Getting face time with senior management teams." Now, the award-winning company has its sights set on a much larger market. It is one of 10 firms chosen by the Lazaridis Institute's 2016 Canadian Scale-Up Program, which helps promising tech companies go global.

"I know of a number of medical technology companies that are finding the environment in Ontario too challenging and plan to take their innovations directly to the U.S. We need the Office of the Chief Health Innovation Strategist to fulfil its mandate if we're going to realize the promise of technologies developed here."

—Franck Hivert, CEO, Oculys



THE OFFICE OF THE **CHIEF HEALTH INNOVATION STRATEGIST**

In September 2015, our office, the first-ever Office of the Chief Health Innovation Strategist (OCHIS) was created and given a clear mandate to drive collaboration across the health care system to accelerate the adoption and diffusion of innovative health technologies and processes to:

- Improve patient outcomes
- Add value to the system
- Create jobs in Ontario

Our office began by setting five priorities:

- Optimize pathways to adoption and diffusion for innovative Ontario health technologies.
- Enable effective procurement of innovation by shifting the health care system to strategic, value-based procurement and removing barriers for SMEs to participate.
- Provide “better care closer to home” using virtual, mobile and digital health technologies.
- Empower Ontarians through digital health by building a dynamic market of digital tools and supports to navigate and personalize their path to health and wellness.
- Enhance Indigenous health by advancing opportunities for made-in-Ontario health technologies that address challenges in their communities.



OCHIS PROGRAMS

We are focused on driving collaboration to accelerate adoption and diffusion of innovative health technologies and processes with the goal of growing businesses – and building a health innovation ecosystem.

To achieve that goal, our office has introduced targeted programs.

Health Technologies Fund

The four-year, \$20-million **Health Technologies Fund (HTF)** aims to ensure that the best health tech ideas move forward quickly by accelerating their evaluation, procurement, adoption and diffusion in the Ontario health care system. Administered by the Ontario Centres of Excellence, HTF is a matching fund program with two streams:

- pre-market evaluation (demonstrating a validated technology in a health care setting)
- early adoption (implementing a validated technology across multiple health care settings)

To be eligible, projects require the participation of a Health Innovation Team, which, depending on the stream, includes a for-profit technology company, a procurement professional in a provincially funded health delivery organization, researcher(s) and end-users of the technology (doctors and patients).

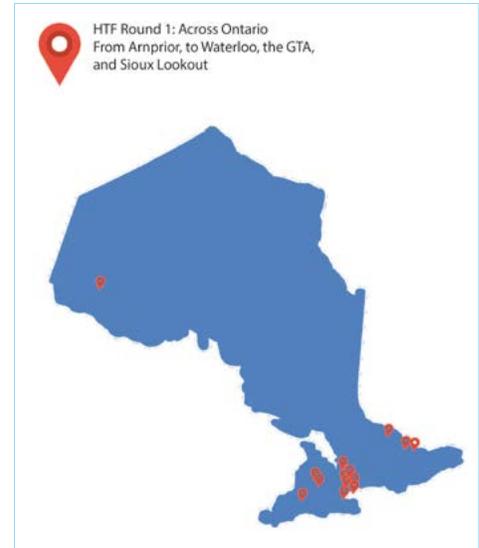
The fund, which is focused on “better care closer to home,” supports home and community care such as virtual, digital and mobile technologies that deliver better co-ordinated and integrated care in the community.

HealthIM

The Brantford Mental Health Crisis Support System has a powerful new tool to help improve mental health care in the community. It's technology developed by Waterloo-based HealthIM. The company's award-winning on-site assessment, risk appraisal and case management software allow police officers – often the first responders to mental health crises – to capture their observations in clinical terms and quickly share them with primary caregivers and community support workers to determine and deliver the right care. The result is better care for an individual in crisis and better use of the community's existing health care and support services. Now, thanks to the Health Technologies Fund, HealthIM will be able to take the software to the next level: identifying people in need of help before a crisis occurs and connecting them with the appropriate support. “We'll be able to build a platform that ties all the pieces of the mental health strategy into a cohesive system and test it,” says company co-founder Daniel Pearson Hirdes.

The first round received 230 applications, an indication of how important this kind of funding is – and how the system is ready and enthusiastic for change. Fifteen projects from across the province were awarded grants ranging from \$95,000 to \$500,000 each for a total of \$5.4 million.

Review of the second round of funding got underway in spring 2017. To stay up to date on the Health Technologies Fund, including the next wave of applications, visit healthtechnologiesfund.com. For a list of the first 15 recipients of the Health Technologies Fund, please refer to Appendix A.



230

applications

15 projects

from across the province
were awarded grants

\$5.4 million

total awarded

“Delivering timely, appropriate mental health care services is a big challenge in every community. The technology that HealthIM has developed – and that we are piloting in Brantford – is unique in that it brings all the players together to deliver the right care at the right time. It has a wide application for communities all across Ontario and beyond, and taking the technology forward wouldn’t have been possible without the support of the Health Technologies Fund. It is critical funding.”

—Anne Coombe, Director, Clinical Services, St. Leonard’s Community Services



OCHIS PROGRAMS

Innovation Brokers

The role of Ontario's **Innovation Brokers** is to enhance connections so that new, made-in-Ontario technologies and products can be quickly adopted and deployed for the benefit of patients.

Innovation Brokers help **innovators** access:

- funding/financing opportunities
- health system decision-makers
- test sites for gathering feedback from patients and clinicians
- guidance and mentorship

They also help **health service providers** identify and acquire new technologies that facilitate patient-centred care.

In addition, Innovation Brokers liaise with the Office of the Chief Health Innovation Strategist to co-ordinate and integrate innovation with health system priorities and patient needs.

Meet Ontario's First Innovation Brokers

Jennifer Zelmer's career has focused on improving health and health care. She was vice-president of the Canadian Institute for Health Information and CEO of an international organization focused on global standards before moving on to Canada Health Infoway, where she was executive lead for the organization's national clinical adoption, innovation, consumer health and communications programs, as well as its Ontario investments. Today, Jennifer is the founder and president of Azimuth Health Group, which advises local, national and international clients who want to advance health and health care, and is acting as one of Ontario's first Innovation Brokers. Jennifer and the team at **Azimuth Health Group officially launched 3iOntario, a platform connecting health innovators and innovation champions with resources and opportunities to support innovation.** For smaller organizations and startups, it can be hard to navigate Ontario's health care innovation ecosystem and find the information needed to succeed. 3iOntario is designed to address this gap. Each week, it will share a range of available funding and contract opportunities, as well as recently published information and thinking related to health innovation. Follow @3iOntario on Twitter and visit azimuthhealthgroup.ca/3iOntario to subscribe for regular updates.



The Council of Academic Hospitals of Ontario (CAHO) works with the CEOs of 24 of the province's largest research hospitals to champion their academic and research missions. CAHO's mission is to harness the collective research and innovation strengths of its member hospitals to advance world-leading patient care and a sustainable health care system. CAHO members are committed to providing the best specialized care for Ontarians today and inventing the improved health care of tomorrow – which makes them uniquely qualified to act as an Innovation Broker. CAHO is brokering connections between innovators and Ontario research hospitals to find real-life validation test sites. **CAHO has published a template and process**

The logo for the Council of Academic Hospitals of Ontario (CAHO), consisting of the letters 'CAHO' in a bold, sans-serif font. The 'O' is stylized with a blue horizontal bar through its center. The logo is set within a light blue hexagonal border.

to help innovators request validation test sites and a list of problem statements that provide market intelligence to better align proposed innovations with the needs of the health system. In the fall of 2017, CAHO will begin brokering connections with hospitals that are ready to adopt specific innovations. In doing this work, CAHO is also building capacity for innovation adoption by creating standard procedures among CAHO hospitals that enable clarity, transparency and timeliness for innovators. Learn more about CAHO's role as an Innovation Broker at caho-hospitals.com/partnerships/innovation-broker.

Martin Gurbin led the startup of Sunnybrook International in 2011, an organization that brings Ontario health care expertise to other countries. Now, as vice-president of strategy and operations, he works with hospital leaders, clinicians, scientists, academics, innovators and governments to identify and promote new ideas within health systems that improve quality and efficiency of care – and generate economic returns. His expertise runs the gamut from health care technology development to multi-stakeholder partnerships, business development, strategic planning, capital and operations planning, supply chain management and entrepreneurship development. As an Innovation Broker, **Martin has met with a broad range of health tech companies to provide mentoring, business assessment and strategic advice to help drive deals forward.** Along with supporting companies, Martin is also building a network of community health care providers to serve as early receptors for new health technology.



“As a private company, it can be difficult to establish working relationships with publicly funded organizations, so it would have been helpful for us to have had an Innovation Broker to connect us with the resources we needed to accelerate adoption of our technology.”

—Binh Nguyen, CEO, eQOL

eQOL

Binh Nguyen got the idea for his company, eQOL (an acronym for enhanced quality of life), when he was working in the renal engineering department of a Toronto hospital. “Dialysis is a really time-consuming, disruptive and expensive treatment as delivered in hospital,” says the biomedical engineer. Convinced there had to be a better way, he and co-founder Jonathan Tomkun came up with a suite of solutions that enables patients to independently manage their day-to-day treatment at home and connect with their health care team when they need help – all by way of a personalized tablet. And the cost difference? About \$30,000 a year per patient. “Although the government provided us with great support for product development and initial testing, we encountered roadblocks trying to transition from the demonstration phase to adoption.” The biggest challenges? “The funding model isn’t geared toward innovative solutions and hospitals and clinics don’t have a lot of freedom, or incentive, to invest in change.”

OCHIS PROGRAMS

Value-Based Innovation Program

Ontario's health system is moving quickly to provide more seamless service care delivery by shifting to value-based care – patient-focused care delivered through a better-performing health system.

Innovative technologies and processes, like those being developed by entrepreneurs all over Ontario, will be a key driver in the move toward this new model of care.



“Value-Based Health Care Delivery is a framework for restructuring health care systems around the globe with the overarching goal of **value for patients** – not access, cost containment, convenience or customer service.”

—Michael Porter, Harvard Business School¹



¹ Value-Based Health Care Delivery, Institute for Strategy & Competitiveness <http://www.isc.hbs.edu/health-care/vbhcd/pages/default.aspx>

In May 2017, the Ontario Healthcare Sector Supply Chain Expert Panel released *Advancing Healthcare in Ontario: Optimizing the Healthcare Supply Chain – A New Model*¹ recommending a new approach to procurement, enabling value-based procurement and building care through innovation. The **Value-Based Innovation Program (VBIP)** was created to accelerate the shift to strategic, value-based procurement of innovation. More than a program, VBIP provides a framework to leverage Ontario's single-payer health care system as a demand driver for health technology solutions that can be rapidly assessed, sourced, integrated into clinical practice and spread across the province. It is going to be our new way of working.

VBIP will:

- Improve patient experience across the whole patient journey using technology to drive quality of care and patient outcomes.
- Create open and fair procurement and implementation opportunities for both small- and medium-sized enterprises and multinational enterprises with health technology solutions.
- Provide new clearly defined options for health service providers to procure innovation through risk- and gain-share models.

The program aims to establish a muscle memory within the health care system to make value-based innovation procurement a clear, defined model for health service providers to bring patient-centred care to the forefront of technology procurement and adoption.



¹ *Advancing Healthcare in Ontario: Optimizing the Healthcare Supply Chain – A New Model* is available online at <http://www.health.gov.on.ca/en/pro/ministry/supplychain/>

MaRS EXCITE Program

The **MaRS Excellence in Clinical Innovation Technology Evaluation (EXCITE)** program connects health technology innovators with experienced, award-winning researchers to get the right evidence and data they need to show the value of their product. The program also facilitates discussions with relevant health system stakeholders – at home and abroad – to determine what it takes to get a technology adopted successfully.

In May 2017, EXCITE approved its first technology – a device that diagnoses sleep apnea at home – and going forward, it will be accepting applications on a rolling basis to keep med tech innovations moving steadily through the pipeline. For more information on EXCITE, visit marsdd.com/systems-change/mars-excite/mars-excite.



“I’m a big supporter of the Office of the Chief Health Innovation Strategist. I think it’s crucial to accelerating the rapid adoption of disruptive technologies such as ours, which ultimately improve patient care and create good jobs in Ontario.”

—Geoff Fernie, CEO, Bresotec

EXCITE AND BRESOTEC

The MaRS EXCITE program is charged with accelerating development and adoption of disruptive health technologies. Its first “tech grad” is Bresotec. The Toronto-based company has developed an innovative medical device, BresodX, for diagnosing sleep apnea. It’s a condition with serious health consequences, including a much greater chance of having a stroke, heart failure or a serious car accident. But it goes largely undiagnosed. BresodX is set to change that. It’s a cordless, battery-operated, highly accurate device that people can use at home in their own beds. “EXCITE has helped to shave a good two years off the development time by enabling us to do pre-market testing and analysis,” says Bresotec CEO Geoff Fernie, who notes that once BresodX hits the market, waiting lists for sleep labs will be a thing of the past.



OCHIS SERVICES

Our office is here to assist everyone involved in Ontario's health innovation ecosystem.

Patients: Your perspective and experience is at the forefront of everything we do. Your input will be incorporated in future OCHIS initiatives and program development.

We can help:

- connect you to available health technologies
- provide information on where new technologies are in the adoption process

Health technology innovators: Our office will help you navigate the health care system by:

- identifying your current stage of development on the pathway to adoption
- connecting you with resources tailored to your technology and business plan
- working with other ministry colleagues, industry and innovation ecosystem partners to provide programming that best fits your needs

Health service providers: We will work with you to advance value-based procurement by:

- identifying challenges to innovation
- sourcing solutions through a collaborative approach
- identifying needs and gaps to capacity



“I wish the Office of the Chief Health Innovation Strategist had been in existence a decade ago. We could have cut several years off the process of developing patient order sets and deploying them widely. There's a lot of excitement around OCHIS, which is already making a big difference in Ontario's health care ecosystem.”

—Chris O'Connor, President and Founder, Think Research

THINK RESEARCH

One day in 2001, ICU physician Chris O'Connor had a eureka moment. Instead of jotting down instructions from memory on a piece of paper and handing them to a nurse or another clinician, why not develop an evidence-based checklist, or patient order set, that ensures the best treatment every single time while reducing health care costs? It was a brilliant idea, but as O'Connor discovered over the next decade, developing and selling it posed myriad challenges and took much longer than he imagined. “I expected everyone to see the value in it immediately, but some hospitals loved it and some didn't.” Even with those that did like the concept, getting buy-in from multiple departments – clinical, IT, finance – was time-consuming and frustrating for O'Connor, who was also challenged by raising capital and finding the right people to take the company forward. Despite an uphill battle, Think Research's patient order sets are used today in 400-plus hospitals across Canada, the United States and the European Union and the company is poised for rapid growth.

GROWTH IN ONTARIO'S HEALTH INNOVATION ECOSYSTEM

Since the inception of our office, OCHIS has worked to drive collaboration and alignment across the health care system in Ontario.

Over the past two years, we have connected with hundreds of health innovation stakeholders – clinicians, health executives, startups, global companies, incubation labs and patients – as part of our efforts to remove barriers to innovation and accelerate the adoption and diffusion of new technologies. OCHIS also works closely with colleagues in the ministries of Health and Long-Term Care; Research, Innovation and Science; Government and Consumer Services and Economic Development and Growth to co-ordinate efforts on the part of government.

As a result of collaboration across the system, Ontario's health innovation sector has been thriving. Emerging new companies are creating hundreds of new jobs, generating millions in new investment and revenue. We've seen companies grow as much as **243% in employment, \$142 million in new investment, and growth of over 13 times in new revenue** since September 2015.¹

These technologies are providing solutions to the most pressing health challenges of our time.

“The Office of the Chief Health Innovation Strategist has been immensely helpful to us by bringing together representatives from all the ministries impacted by our technology. As a result, we were able to make the case that our system substantially cuts GHG emissions while reducing health care costs – and creating new jobs.”

—Dusanka Filipovic, President, Blue-Zone Technologies



BLUE-ZONE TECHNOLOGIES

Ontario hospitals spend more than \$20 million a year on the chemicals used to anesthetize patients during surgeries, with 95 per cent of them vented into the atmosphere as toxic GHG emissions. Concord-based Blue-Zone Technologies has developed a patented turnkey, cost-effective, sustainable solution called Deltasorb/Centralsorb, in which the chemicals not used by patients are captured and converted into new anesthetics that are sold to hospitals at a reduced cost. The system is being used in 200-plus operating rooms across Ontario – that's about 25 per cent of ORs – but while many hospitals have been supportive, getting buy-in from others has been challenging. What does the company need to succeed here and abroad? “Ontario needs to support the scale-up and become a global showcase for our technology, which it has invested in heavily through various funding programs,” says president Dusanka Filipovic. “If the government were to require all hospitals to capture anesthetic emissions for recycling, we would be on our way to becoming the world's second-largest manufacturer of anesthetics.”

¹ Taken from a recent survey of 12 high-growth, Ontario-based health technology companies conducted in September 2017 by the Council of Canadian Innovators (CCI).

MEDTECH 2020

With Toronto's booming tech sector ranking among the top five in the world,¹ health innovation is strengthening Ontario's innovation ecosystem and is attracting the attention of global tech leaders to the province.

It is with great pride that North America's premier medical technology conference, MedTech, will be hosted in Toronto – and in Canada for the first time – in 2020. With a growing conference of more than 2,000 health tech leaders and innovators from around the world, MedTech has built a strong reputation advancing medical technology to achieve healthier lives and economies.

Hosting the MedTech conference in Toronto is not only a recognition of Ontario as Canada's hub for health innovation, it is also a true testament to showcasing the province as a global leader. OCHIS is a strong supporter and partner welcoming the world's greatest leaders in health innovation to Toronto in 2020.



“Over the past two years, it’s been immensely beneficial for our industry to have a dedicated partner in Bill Charnetski and his team at the Office of the Chief Health Innovation Strategist to collaborate on the complex task of increasing med tech innovation in Ontario’s health care system and growing the industry in the province. We’re thrilled that this progress and the commitment to innovation in Ontario are now being recognized internationally, with the largest medical technology-focused conference in North America choosing Toronto to be its host city in 2020.”

—Brian Lewis, President and CEO, MEDEC

1 The Best Cities in the World for Tech, World Economic forum; <https://www.weforum.org/agenda/2017/04/these-are-the-22-best-cities-in-the-world-for-tech>

LOOKING AHEAD

Going forward, OCHIS will continue to champion patient-centred value-based care by driving the collaboration required to help Ontario's health care system adopt and diffuse new innovative health technologies and processes.

We will work with all stakeholders in the province's health innovation ecosystem to:

- Address risk aversion, the No. 1 barrier to health technology adoption and diffusion.
- Provide health officials with the clarity, confidence and champions to execute value-based procurement.
- Use outcomes-based drivers as part of value-based care, shifting from "volume to value".
- Focus on continuum of care rather than silos and help shift the investment decision above the silos.
- Continue to strengthen collaboration between providers and industry.
- Ramp up the use of data and data analytics to understand the barriers, establish cost baselines, set metrics and drive continuous technology improvement.
- Encourage "openness", namely open innovation whenever and wherever we can.

Our OCHIS is driven by the knowledge that we are an important catalyst for enhancing Ontario's health innovation ecosystem with more jobs for Ontarians in a sustainable health care system.

We will judge our success by the impact we have not by the activity we generate. We will examine how many jobs have been created, how many more companies are selling into Ontario's health care market and how much their sales and exports have grown. We will quantify the higher level of investment into Ontario. Most importantly, we will judge ourselves by our ability to answer one question...

"From a patient perspective, in two years, what will I see that's different as a result of your work?"



APPENDIX A

HEALTH TECHNOLOGIES FUND PROJECTS

Ontario has committed to funding 15 innovative health technologies via grants from the new Health Technologies Fund (HTF). The grants support the development of software and mobile devices that focus on the delivery of better home and community care. These projects will undergo assessment and evaluation over the next 18 to 24 months to facilitate their success for adoption and scalability in Ontario's innovative health care system.

In 2016–17, \$5.4 million will be distributed to 15 projects. The projects are:

1. Intelligent Scheduling to Reduce MRI and CT Wait Times

A patient-friendly scheduling platform that connects patients and doctors with hospitals to improve patient access to appointments for high-demand medical procedures.

- Health Innovation Team: Southlake Regional Health Centre, Michael Garron Hospital, Markham Stouffville Hospital, University of Toronto, NextUp Care
- Grant amount: \$100,000

2. iUGO: Improving Diabetes Care Through Real-Time Monitoring

Diabetes needs to be closely monitored and that can be a challenge for people living in remote areas of Ontario. iUGO connects patients with their health care team in real-time, allowing them to receive care in their own homes.

- Health Innovation Team: Sioux Lookout Meno Ya Win Health Centre, Reliq Health
- Grant amount: \$100,000

3. Connecting Patients and Caregivers with a Mobile Platform

This innovative mobile platform seamlessly connects patients with caregivers. Patients and family members are able to find caregivers as simply as point-click-connect, creating a patient-centred care environment. Bookings, ongoing care, best practice guidelines, training and at-home remote monitoring are managed through the platform.

- Health Innovation Team: Brain Injury Services/Step Up! ABI Recovery, Waterloo Wellington LHIN, Health Quality Ontario, Wilfrid Laurier University, Alauus
- Grant amount: \$100,000

4. Diagnosing Alzheimer's Through Speech Analysis

A tablet-based speech assessment tool that detects and monitors cognitive impairment, reliably identifying Alzheimer's disease, aphasia and Parkinson's disease. In residential care, the tool can help determine when to transition to a higher level of care.

- Health Innovation Team: WinterLight Labs, Revera Inc., Baycrest Centre for Geriatric Care
- Grant amount: \$94,836

5. SMARtVIEW: Monitoring and Self-Management for Patients Following Cardiac and Vascular Surgery

Specifically designed software to help patients who have just undergone serious cardiac and vascular surgery to receive continuous vital sign monitoring in the hospital and at home. The technology aims to prevent serious complications post-surgery, including infections and blood clots, and reduce post-surgical emergency room visits and readmissions to hospital.

- Health Innovation Team: Hamilton Health Sciences Corporation through its Population Health Research Institute, Philips Healthcare, QoC Health, ThoughtWire Corp., CLOUD DX, XAHIVE Inc.
- Grant amount: \$499,313

6. A Telepathology Network to Improve Cancer Diagnosis and Treatment

This software eliminates the need for patient travel while helping pathologists do their job faster and more accurately. Pathcore's technology takes glass slides and converts them into digital slides that can then be viewed, shared and analyzed anywhere using computer networks.

- Health Innovation Team: Eastern Ontario Regional Laboratory Association, Pathcore Inc.
- Grant amount: \$197,760

7. MyTeam: Software to Connect Patients, Caregivers and Doctors

A health self-management application to facilitate collaborative development, monitoring, communication and improvement of individualized patient care plans. It will allow patients and providers to develop intuitive care plans that can be followed in the home and assessed by their physician during consultation.

- Health Innovation Team: Sunnybrook Health Sciences Centre, Think Research, University of Toronto
- Grant amount: \$499,500

8. MindMerge: A Patient Portal for Breast Cancer Survivorship

A new model proposed by Cancer Care Ontario is seeing follow-up care move from specialists to family physicians, which is more convenient for patients and less costly for the health system. This software connects patients with family physicians to bring care closer to home. Patients automatically get information about upcoming tests, appointments and treatment recommendations and family doctors can consult with specialists on care questions.

- Health Innovation Team: North York General Hospital, Verto Inc., North York Family Health Team
- Grant amount: \$500,000

9. A New Platform to Help Spinal Cord Injury Patients Get Coordinated Treatment at Home

Rather than returning to the hospital when they need assistance, which can be inconvenient for patients, they will have access to health care providers and community services through a web- and mobile video-based platform.

- Health Innovation Team: Spinal Cord Injury Ontario, ForaHealthyMe Inc., University Health Network Toronto Rehabilitation Institute, Centre for Family Medicine – Family Health Team
- Grant amount: \$424,638

10. Remote Pharmacy Coordination for Seniors

A communication and documentation tool to ensure the accuracy of medications when vulnerable patients transition from hospital to long-term care. The system promotes efficient collaboration among pharmacist, physician and nurse to prevent medication errors.

- Health Innovation Team: peopleCare Inc., Hogan Pharmacy Partners Ltd., PointClickCare, University of Windsor – World Health Innovation Network, McMaster University, Northwest Pharmacy
- Grant amount: \$476,348

11. aTouchAway: Tablet App to Connect Patients with Caregivers

The app offers in-home video conferencing to improve the client experience. Using the app, patients can make or receive calls to their caregivers, signal emergencies, view their appointments and check on their medications. Benefits include increased flexibility and capacity of care coordinators to address client needs with diverse care teams.

- Health Innovation Team: Arnprior Regional Health, Boehringer Ingelheim Canada Ltd., Aetonix Systems Inc., Samsung Canada, Winchester District Memorial Hospital, Priority Business Services Inc., Women's College Hospital, Champlain LHIN
- Grant amount: \$500,000

12. Improving Mental Health by Connecting Police and Community Services

Software to facilitate assessment, risk appraisal and case management of individuals with serious mental disorders. It will provide patients with access to existing community services, police officers, primary caregivers and community support workers to prevent inappropriate hospitalization and deliver the right care for an individual in crisis.

- Health Innovation Team: St. Leonard's Community Services, Brantford Police Service, HealthIM, Nipissing University, Brantford General Hospital
- Grant amount: \$498,000

13. Software to Provide Self-Care Tools to Youth with Mental Health Challenges

It will support education, collaboration, engagement, intervention and goal-focused coaching for young adults with mental health challenges. The technology will be accessible via an app or desktop computer.

- Health Innovation Team: Reconnect Community Health Services, Stella's Place, NexJ Health Inc., Centre for Addiction and Mental Health, St. Joseph's Healthcare, University Health Network, Toronto General Hospital, The Royal's Institute of Mental Health Research, Children's Hospital of Eastern Ontario Research Institute Inc., St. Michael's Hospital, St. Joseph's Healthcare Hamilton
- Grant amount: \$500,000

14. Developing a Screening Strategy to Reduce Falls in Seniors

Falls are responsible for 85 per cent of seniors' injury-related hospitalizations. An expanded screening and focused identification strategy will be examined for the potential to reduce the incidence of falls and the associated ER visits, hospitalizations and costs to the system. Proactively identifying seniors at risk of falls across a community provides evidence to support intervention planning and targeted falls prevention programs.

- Health Innovation Team: GE Healthcare Canada, Champlain LHIN, University of Windsor – World Health Innovation Network, The Ottawa Hospital
- Grant amount: \$500,000

15. Remote Patient Monitoring to Better Manage Chronic Obstructive Pulmonary Disease

This innovative software measures a patient's vital signs including blood pressure and oxygen saturation and automatically notifies a health care provider when readings change. The kit includes a custom Android tablet computer with a secure two-way video connection between patient and clinician. The equipment provides patients with remote access to rehab programs to better self-manage their condition at home.

- Health Innovation Team: Closing the Gap Healthcare, CLOUD DX, Women's College Research Institute, Markham Stouffville Hospital
- Grant amount: \$409,605



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