WHAT WE HEARD REPORT

CANADIAN HEALTH CARE'S DIGITAL FUTURE: VOICES OF KEY LEADERS

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ACKNOWLEDGMENT

This summary report was written by Usman Mohammad, Policy Lead, PPF, with support from Brian Bohunicky, Vice-President, Policy, PPF.

PPF would like to thank all participants who took part in the Dec. 8, 2021, virtual roundtable, and the March 11, 2022, in-person roundtable. We would also like to thank Queen's University and Johnson & Johnson for their support of the project.

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KEY TAKEAWAYS

Through digital health, Canada has a window of opportunity to transform the way its health-care system operates to better meet the needs of Canadians. Despite decades of reform and renewal initiatives and sustained increases in public spending, the COVID-19 pandemic has demonstrated the gap that exists between the expectations of citizens and the often-outmoded nature of health care in Canada. It has also served as a reminder to government and industry partners of what is possible through effective collaboration. The technology to improve patient outcomes already exists, but there needs to be a sustained effort to uplift our health-care system and transcend the status quo. **This report highlights the key outcomes and discussion threads of two roundtables of experts and stakeholders convened by PPF on Dec. 8, 2021, and March 11, 2022**. Key takeaways were:

1. **The COVID-19 pandemic has exposed shortcomings in Canada's health-care system with respect to digital health. These are systemic rather than isolated weaknesses** and have been exacerbated by the pandemic.
2. **There are significant gaps in coverage as well as huge disparities in who has access to good care.** These relate to factors including geography, socio-economic status and differentiated health outcomes for visible minorities and Indigenous communities. Access and quality of mental health services is an area of growing concern.
3. **Health-care journeys in Canada should be patient-centric.** This will happen when data follows patients and influences outcomes.
4. Mutual mistrust and negative past experiences are leading to **missed opportunities for public and private sector collaboration**.
5. **We need a paradigm shift to leverage the creativity of Canadian innovators in the private sector with public sector mandates to achieve value for money and ensure equitable access to health services** in Canada's public health-care system. The private sector is already delivering critical health-care services through its advanced technologies, and we can better leverage these to benefit the health of all Canadians.
6. **Our approach to health care is challenged by jurisdictional constraints and exacerbated by the diverse range of technologies deployed.** We need to capitalize on innovations to spread and scale them across provincial and territorial jurisdictions.
7. **The inefficiencies of a disintegrated health-care system will impose challenges** for future generation of Canadians.

FOREWORD

As Canada advances its course in the digital health space, taking a thoughtful approach to systems, processes and standards is critical. Amid this progress, we must also consider structurally marginalized populations. While these populations face challenges, they also bring enormous strength and are poised to make key contributions. Indigenous leaders, for example, have been front-runners in understanding best practices in health data for a long time, and there is a lot we can learn.

Similarly, one of the keys to the future of digital health is establishing data standards. While Ontario looks at a data authority writ large, a specific health data authority is also needed. Moreover, we need public and private sector collaboration now more than ever. By setting guidelines and standards, we can engage as partners to achieve our common aim of enhancing health care and improving outcomes for patients.

Dr. Jane Philpott

Dean, Health Sciences, and Director, School of Medicine, Queen's University

EVENTS

VIRTUAL EVENT

On Dec. 8, 2021, we convened a virtual roundtable with 65+ stakeholders representing academia, non-profits, government and business. The event started with five keynote speakers representing federal and provincial governments, the Organisation for Economic Co-operation and Development (OECD), the private sector and academia.

Our goal through this dialogue was to determine key thematic areas around the subject of digital health that warrant a deeper analysis.

IN-PERSON AND VIRTUAL GATHERING

On March 11, 2022, an invitation-only and in-person, two-hour conversation was held with 25+ participants to explore key thematic areas around digital health and their policy implications. The event convened leaders representing the broader health-care sector, government and consulting and information technology (IT) firms.

INSIGHTS FROM LEADING DIGITAL HEALTH JURISDICTIONS

WHERE DO CANADA'S OECD PEERS STAND IN THEIR DIGITAL HEALTH JOURNEYS?

An expert in health data infrastructure from the OECD who was a speaker at our first convening shared key insights from OECD members' digital health-care journeys. A decade ago, several countries lacked data governance structures and the ability to provide even basic information on outcomes, such as deaths following a procedure, but now progress has accelerated. There is growing realization that sharing data is critical, because seldom does the outcome of health care occur within the same facility or within a short period of time. Instead, outcomes happen at home, in the community and other care settings, therefore linking data should not be considered taboo. The expert suggested that Statistics Canada census data should have some interaction with that of the Canadian Institute for Health Information. Despite some progress made since the onset of COVID-19, linkages between large national organizations that are trusted to manage health-care data are still limited within Canada. However, within OECD countries, we are rapidly seeing such links being developed. For example, 16 OECD countries are tapping into their electronic clinical records for real-time health data at the national level. Canada also lacks a shared summary record (essentially a portion of the electronic clinical record at the national level), which 21 OECD countries possess already. Many countries also have national personal health records that allow individuals to see the data they have received from all points of health care.

Therefore, when we think about the advancement of digital technologies, health data is the rocket fuel that will pave the way for future tools such as artificial intelligence algorithmic developments.

Participants in our second convening had an opportunity to hear from a U.S.-based health-care leader who led the digital transformation at a reputable American-managed care company. This expert noted that the company's success rested on creating a single record for patients that is critical to enabling simplified user journeys. The company's leadership laid out a blue-sky vision in 2003 and framed what health care would look like in 2015. This vision was widely publicized within the organization at all levels, enabling a culture shift. The four pillars of the company's transformation were:

> ***Is it ethical to allow morbidity and mortality because we cannot generate insights that we need to treat disease and support R&D?***
>
> **Senior leader in Canadian health care and a speaker at our roundtable**

Home as the hub for health care

Secure and seamless transitions

Integration and leveraging

Customization

HOW HAS ESTONIA BECOME A GLOBAL LEADER IN DIGITAL HEALTH?

For our second convening, we invited a representative of the Ministry of Social Affairs in Estonia, who is currently leading interoperability initiatives. Estonians take immense pride in their electronic solutions, which were developed to meet the challenges of a lack of public money and a small labour force by focusing on digitalization. A cornerstone of Estonia's health-care system is an electronic ID (eID) which enables nearly 1.3 million citizens and residents alike to prove their identity online all of whom have the mandatory national card, which carries embedded files, functions as definitive proof of identification in an electronic environment and is used to access secure e-services and digitally sign documents. The eID is common across key government information systems and there are several eID carriers that allow people to use their mobile phone for identification.

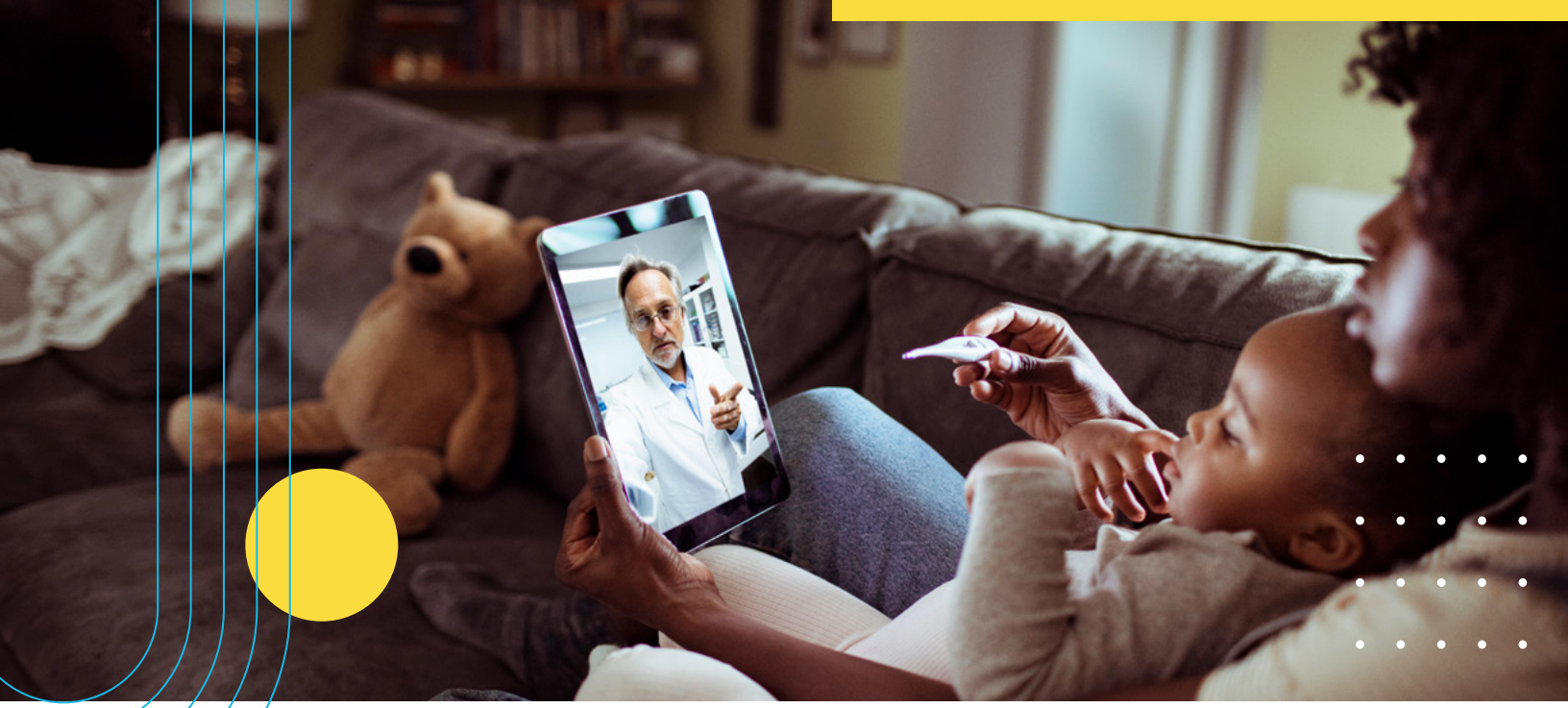
In the back end, Estonia uses X-Road, an information exchange system that encrypts and transfers data between public and private databases, and governments can decide which platforms and technologies they use over the system. Since 2013, e-consultation services have been available for doctors to seek advice from one another, reducing the need to refer patients to different doctors. And since 2020, all Estonian family doctors have been able to use a clinical decision support system.

Some of these e-services require no IT skills. For example, e-Prescriptions covers 99 percent of Estonia's medical prescriptions, which can simply be scanned by the pharmacist when provided with an eID. This is especially useful in aiding senior citizens to get the right prescriptions quickly and conveniently.

As of January 2019, European Union (EU) patients can use digital prescriptions issued by their home doctor when visiting a pharmacy in another EU country. For example, Finnish patients are now able to go to a pharmacy in Estonia to fill a prescription prescribed electronically by their doctor in Finland. Thus, Estonia is not only taking steps to connect nationally but also to build bridges across nations, recognizing that mobile lifestyles frequently transcend state borders.

In Estonia, the patient owns his or her personal health data and, since 2008, hospitals and doctors have been required to digitize personal health data and make it available in the country's National Health Information System.

> ***The right data needs to be in the right place at the right time to answer the right questions.***
>
> **Senior leader in Canadian health care and a speaker at our roundtable**



CANADA'S DIGITAL HEALTH-CARE JOURNEY

Since the onset of COVID-19, there has been significant collaboration between all levels of government to ensure Canadians have access to care during the pandemic, including through virtual means — offerings that continue to be sustained. The federal government provided financial support to the provinces and territories to support the implementation and introduction of virtual care services and supported Canada Health Infoway (an independent, federally funded, not-for-profit organization tasked with accelerating the adoption of digital health solutions) to work on pan-Canadian standards for these priorities.

> ***Piecemeal approaches to digital health implementation have resulted in fragmentation of health information and care delivery.***
>
> **Senior leader in Canadian health care and a speaker at our roundtable**

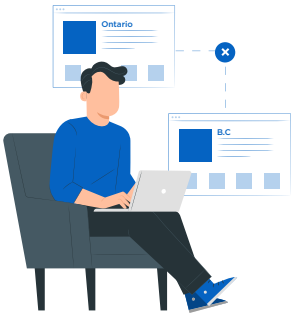
However, Canada is facing significant challenges due to a fragmented system both within and between jurisdictions that must be overcome to harness the power of health data and digital health technology to achieve better health outcomes. A pan-Canadian approach to support health systems, better leverage digital technologies and improved care is critical.

The federal government recognizes that integrated digital health systems create efficiency — in both operations and from an expenditure perspective — and have the potential to generate productivity gains at the individual patient level and through the broader health system. They also have a strong potential to

address systemic inequities and provide culturally sensitive care, which can have a profound impact on certain communities, including Indigenous ones. Such digital health is not the future of health care; it is already here. The issue is how best to harness it.

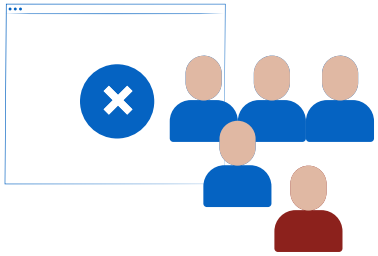
KEY CHALLENGES FACING CANADIAN HEALTH-CARE:

A strained workforce



A fragmented health-care structure

Lack of co-ordination on standards and solutions



Marginalization of Indigenous and remote communities

Challenges in access for visible minorities

Missed opportunities for public and private sector partnership

WHAT IS REQUIRED FROM A FEDERAL GOVERNMENT PERSPECTIVE?

The federal government has voiced the need for a broad data infrastructure and standards agreement across the country, an effort that has recently been undertaken by the **pan-Canadian Health Data Strategy** team. The government believes a pan-Canadian multi-stakeholder governance mechanism is key to ensure proper stewardship of the data and enable sharing across the health-care system. From a federal perspective, there are five key areas of focus as it relates to digital health:

1. Recognize that meaningful care matters, including how it is delivered and who delivers it.
2. Establish that any solution must have pan-Canadian interoperability as it relates to technical exchange standards. In this area, Ontario has made excellent inroads with the **Digital Health Information Exchange Interoperability Regulations**.
3. Create an environment that supports citizen access to their own health data in a usable format. The government wants to enable sharing of data across the health system to improve individual health outcomes and for broader public good, including public health and population health research and health system improvements.
4. Provide the supports to scale and adopt digital health innovations, including recognizing the need for investment in innovative approaches and care models, making significant investments to harness the benefits of digital health and tackling barriers that prevent the broad uptake of innovation within health systems. There is also an option to look for synergies with the Pan-Canadian Artificial Intelligence Strategy, which has an important focus on health.
5. Commit to inclusion and equity to ensure all Canadians benefit from health care, to address racism in the health-care system (particularly anti-Indigenous racism), and to ensure Canadians benefit from digital health.

ONTARIO'S DIGITAL JOURNEY

Digital services and open data have been central to the Ontario government's role in providing information to people, businesses and communities. To benefit from the province's learning experience, PPF invited an Ontario government official to our second roundtable. The audience learned from the experiences of Ontario Digital Service (ODS), which partners with teams across ministries to create consumer-centric services and the right environment for new approaches to take root. Within ODS, there is recognition that while there are no magic ingredients to becoming digital, fundamentally, it is a culture shift that enables the government to better respond to people's rising expectations around customer service. Within the Ontario government, ODS has put together a core

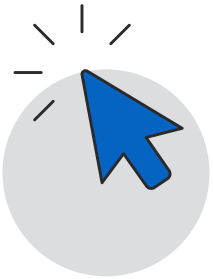
delivery unit that is a small, integrated team of policy advisers, software developers, content designers, experience designers and data analysts, with a product manager at the helm and a wicked problem to solve. This is a fundamental reorientation of how ODS organizes public service teams.

> ***Digital is at its heart about putting people at the centre of our delivery.***
>
> **Senior leader in Canadian health care and a speaker at our roundtable**

COVID-19 was an accelerant to the digital transformation already underway within Ontario, given that the nature of the problem to be solved made real-time data no longer a nice-to-have but a must-have. As a result of the pandemic, people sought guidance on how to respond from the government. In Ontario, since the pandemic, more than 50 million self-assessments have been completed on government portals. There have been more than 220 million visits to the province's COVID-19 website and 740 million page views. Similarly, there was a 425-percent increase in visitors and an 800-percent increase in page views, proving that people are relying on the government for trusted, verified information and data, and government itself has become the digital front line.

50 million

self-assessments have been completed

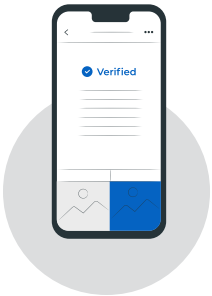


220 million

visits to the province's COVID-19 website

425-percent

increase in visitors



People rely on the government for trusted, verified information and data

Collaboration between ODS and the Ontario Ministry of Health was instrumental in laying the foundation of digital delivery. Firstly, digital platforms provided decision-making support to the government. The dashboards that were developed make it easy to understand which numbers are moving in the right direction. The government has several COVID-related open datasets, such as case numbers, hospitalizations, recoveries, testing data and vaccine data. By many standards, Ontario is producing some of the best data in Canada, which has provided opportunities for data experts for various communities outside of government to actively improve the public's understanding of COVID-19. Building with an Application Programming Interface-first mindset, ODS makes it easier for people outside government to create bespoke tools. Data has been at the heart of everything and there is a continued desire to make more data available for public use and sharing.

KEY THEMATIC AREAS IDENTIFIED TO BUILD A HEALTH-CARE VALUE CHAIN

Enhanced federal-provincial co-ordination

The room for federal-provincial-territorial collaboration is immense. Provinces have taken leads independently in developing localized data frameworks and set precedents for data standards. To avoid deploying fragmented systems across Canada, the future must be brokered nationally. An integrated digital experience will also need foundational elements, such as creating a digital ID, which must be prioritized by governments.

Integration and interoperability standards

A critical piece of developing sustainable systems that allow for innovation is to set integration capabilities (such as the Application Programming Interface-first mindset discussed in Ontario's example) and data standards that do not vary by jurisdiction.

Creating organic demand

Governments respond to public demand and that demand is critical to making significant progress in the digital health domain. In a publicly funded system, governments can set a precedent by offering certain care services but, with a sustained feedback loop through websites and social media platforms, an iterative process of building on top of previous progress can be achieved.

Private and public sector co-ordination framework

Modern data infrastructure systems can allow for accessibility and enhance interaction through third-party systems. However, this needs to be guided by regulation. There is also a need to set a national standard for health-care data so that private companies can invest in new products and services with confidence. Investing in an environment of disparate health-care systems poses business risks for companies.

Inclusion – one system for all

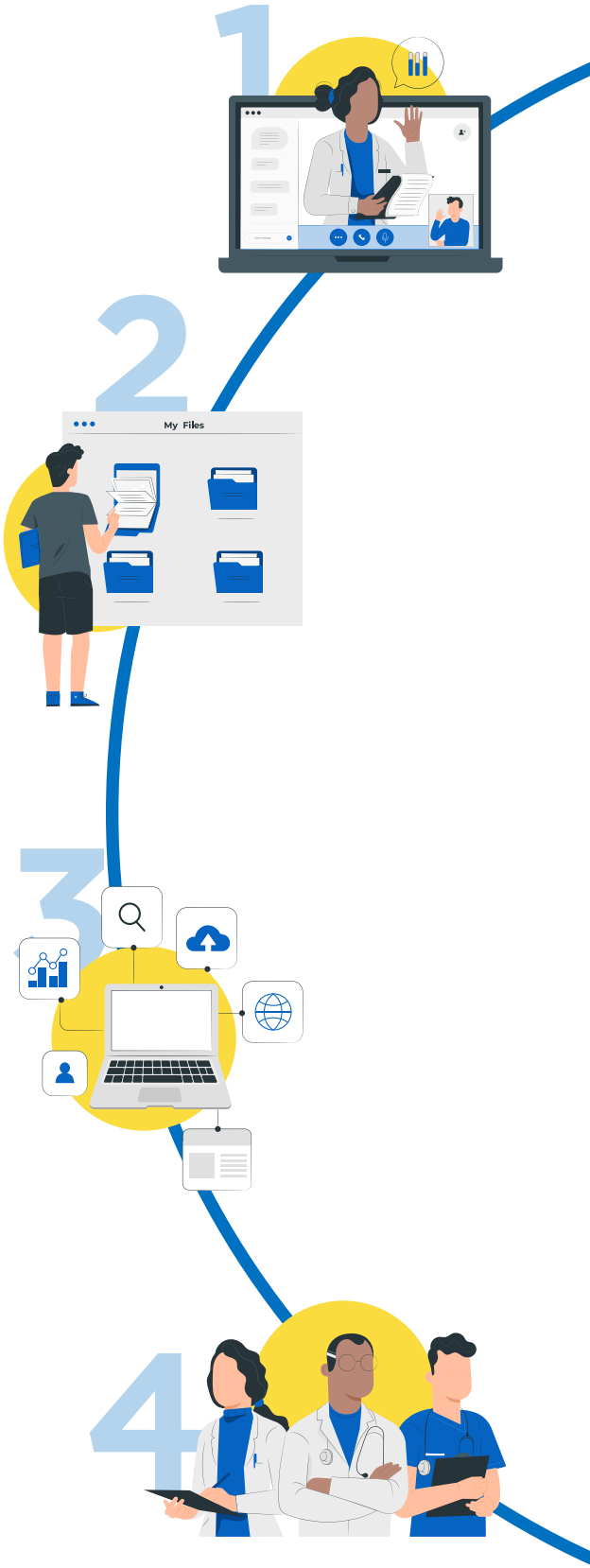
Any health-care system should be inclusive and accessible, yet provide experiences customizable to individual and community needs. Jurisdictions across the globe have proven this is possible.

CONCLUSION

Collaboration is critical to advancing digital health in Canada. The problem is not one of technology; it is rather one of working collaboratively to get the right policy frameworks, incentives and governance in place to enable health data sharing and digital adoption in a manner that puts the patient at the centre of care and enables integrated and connected care. Governments need to provide clear rules of engagement and a level playing field for innovators working in the space, as well as to be clear about short- and longer-term priorities for the use of scarce public funds. As with any major information technology and management initiative, costs will be significant and distributed over many years. To maintain momentum, and the support of Canadians, both government and industry partners will need to be conscious of tracking and demonstrating tangible progress to patients, citizens and taxpayers.

The following were identified as key priorities for a successful transformation:

1. A digital-first, seamless experience for care seekers starting from diagnostic test results, prescriptions, consults and referrals. This requires interoperable systems and trust is ensured through digital identification.
2. Patient ownership and access to protected health information data. Ensure transparency on its usage and build in provisions for consent on data sharing.
3. Improved governance and co-ordination mechanisms through a new framework between federal/provincial/territorial governments that ensures innovation and new approaches are fostered, without introducing a patchwork of incompatible systems.
4. Carving out roles for clinicians, patients, researchers and innovators in an expanding health-care value chain.



ROUNDTABLE AGENDAS

THE FUTURE OF DIGITAL HEALTH IN CANADA

DECEMBER 8, 2021 | 12 TO 2 P.M. (EST)

12:00 – 12:02 p.m.	**Welcome and opening remarks**
12:03 – 12:10 p.m.	**Why digital health?**
12:11 – 12:18 p.m.	**Insights on health data and digital technologies from the OECD**
12:19 – 12:26 p.m.	**The growing role of the private sector in healthcare**
12:27 – 12:34 p.m.	**Opportunities to enable better health care for all Canadians through digital health**
12:35 – 12:42 p.m.	**The future of data and digital in health systems governance**
12:43 – 12:50 p.m.	**The role of an expanding healthcare ecosystem**
12:51 – 1:50 p.m.	**Roundtable discussion**
1:51 – 2:00 p.m.	**Closing remarks**

DIGITAL HEALTH: WHAT IS NEXT FOR ONTARIO?

MARCH 11, 2022 | 10 A.M. TO 12:30 P.M. (EST)

TORONTO REGION BOARD OF TRADE,
77 ADELAIDE ST. W, TORONTO, ON M5X 1C1

10:00 – 10:05 a.m.	**Opening remarks**
10:05 – 11:15 a.m.	**Why Digital Health?** **Insights from Estonia & United States** **Designing Digital Health Services to meet People's Needs** **Digital Health in Ontario** **Opportunities for Private and Public Sector Collaboration** **The Role of Intent in Digital Health**
11:15 – 11:25 a.m.	**Break**
11:25 a.m. – 12:25 p.m.	**Plenary discussion**
12:25 p.m.	**Closing remarks**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