Environmental Scan:

Virtual Care in Canada

July 2019

Introduction

Providing all Canadians, across a federated health system, with equitable access to cancer care remains a challenge given the large distances between health care delivery centres and the fact that the population is concentrated in the southern part of the country. As the number of Canadians diagnosed with cancer increases, new models of care delivery that improve access, earlier diagnoses and sustainability are needed.

The Canadian Partnership Against Cancer (the Partnership) is the steward of the Canadian Strategy for Cancer Control (the Strategy). The recently refreshed second version of the Strategy (2019-2029) articulates that technology needs to play a more prominent role in accelerating the improvement of cancer outcomes for Canadians. More specifically, the Strategy calls for the provision of care closer to home. Newer care delivery models such as virtual care have the potential to offer solutions to availability challenges, as well as other unmet needs like diagnosing cancers earlier and improving the patient experience.

In order to understand where key opportunities exist within the Canadian cancer system to improve outcomes through the increased use of virtual care, the Partnership has undertaken this environmental scan on the current state of virtual care in Canada. To best understand the Canadian virtual care ecosystem, this scan explored virtual care use in both the public system and through private/commercial offerings.

This document is a précis of the full report which contains a synthesis of findings from academic and grey literature, conference presentations, health system strategies and eighteen interviews with stakeholders directly involved in deploying or delivering virtual care on the frontlines. Demonstrations with fourteen virtual care platform providers and an eConsult solution were also completed to provide insight into available functionality and user experience.

Defining Virtual Care

For the purposes of this environmental scan, virtual care was defined as:

> **"THE USE OF TECHNOLOGY TO FACILITATE A VISIT BETWEEN A PATIENT AND A CARE PROVIDER WHO ARE AT TWO DIFFERENT LOCATIONS, EITHER THROUGH VIDEO, AUDIO OR TEXT MESSAGING."**

Virtual care can also facilitate provider-to-provider interactions, however this scan focuses on interactions between patient and provider.

The following technologies often complement virtual care, but on their own are not considered "virtual care" technologies:

- General health and wellness apps
- Health monitoring devices
- Remote patient monitoring
- Artificial intelligence-driven assessment/diagnosis/triage tools
- Patient portals
- Electronic medical records
- eReferrals and eConsults

Objectives of Our Scan

The following objectives guided the environmental scan of virtual care:

- Investigate how virtual care is being used in Canada
- Identify virtual care's benefits, enablers, opportunities and barriers
- Discover and review software that enables virtual care
- Identify opportunities for how virtual care may contribute to the priorities and actions of the refreshed Canadian Strategy for Cancer Control

Canada's Virtual Care Ecosystem

Across the country, patients have been video visiting with specialists for years. However, these visits have traditionally required patients to travel to a telemedicine site. Doing so qualifies the visits to be covered under jurisdictional public health insurance plans. Although patients need to leave their homes for these visits, these programs have been successful, and have saved patients in remote and rural areas from having to travel great distances to see specialists in distant urban centres.

As technology advances, more emphasis is being placed on solutions which can keep patients in their homes for these visits through software that can be used on their own devices.

There is also an increasing demand for primary and/or episodic care to be delivered virtually to Canadians in their homes. Fueled by employers and insurance companies, Canada has a rapidly growing commercial virtual clinic industry.

Today, Canada's virtual care ecosystem is composed of three leading delivery models including the jurisdictional telemedicine networks, commercial software platforms that enable virtual care within clinical settings, and private virtual care clinics.

Telemedicine Network Example

The Ontario Telemedicine Network is one of the world's largest telemedicine networks. Throughout their 2018/19 year OTN provided:

2,847

Room-based systems in healthcare facilities

8,617

PC-based video accounts

1,045,389

Patient consultations

75,077

Video visits served to a patient's home

Source: Ontario Telemedicine Network

The Public System:

Telemedicine Networks

Provinces, Territories and First Nations organizations maintain their own telemedicine/ telehealth networks for secure virtual visits. These networks have primarily been used to connect patients in remote areas with specialists in distant urban centres. In doing so, patients visit a telemedicine site to conduct a virtual visit with a specialist. Visits at telemedicine sites are covered through public health insurance programs.

These networks have been developed using videoconferencing hardware purchased from global device manufacturers such as Polycom, Cisco and Philips.

> ### Additional Insights
> British Columbia is the only jurisdiction where virtual visits with primary care providers are covered under their public health insurance plan for all residents. Coverage began in 2012 and covers visits through virtual clinics.

A Transition Away from Hardware-Based Virtual Care

As new technologies become available, telemedicine networks are beginning to take advantage of software-based virtual care solutions, which enable physicians to use their existing devices instead of relying on video conferencing hardware located in a telemedicine room.

In some cases, patients can also use their own devices, making home-based virtual visits a reality. However, as shown in the table below, adoption of newer virtual care modalities across several jurisdictions is fragmented and in early phases, sporadic or non-existent.

| | | | | | | | P: Provincial | T: Territorial | R: Regional | Pi: Pilot | |
CURRENT MODALITIES	BC	YT	AB	NWT	SK	MB	MB FN	NU	ON	ON FN	NB
Hardware-based VC	P	R	P	R	P	P	R	T	P	R	P
Software-based VC	R	RPi	R		RPi	Pi			P	R	P
Software-based VC to Home	R	RPi	RPi		RPi				R	R	P
Secure Asynchronous Messaging	R					P	P		R		

Source: Canada Health Infoway – ACCESS Virtual Jurisdictional Findings (2019)

Virtual Care Platforms

Software-based commercial solutions are available on the Canadian market and becoming more pervasive. These products enable healthcare providers with virtual care capabilities including setting up their own virtual clinics. These solutions are often coupled with other digital health technologies as part of a broader suite.

These platforms are behind several virtual care pilots and studies across Canada including those supporting virtual visits with primary care providers, follow-ups with specialists and tele-rounds in hospitals. Some of these solutions also offer remote patient monitoring (RPM) technologies, which have been used to support pilots for those with chronic conditions such as Chronic Obstructive Pulmonary Disease.

Most virtual care platforms are cloud-based, software-as-a-service solutions, which are licenced to healthcare organizations for a monthly subscription based on the number of healthcare providers using the platform.

> Currently, many of these solutions are used by care providers in mental health, homecare and among allied health professionals.

Most Common Features:

- Virtual waiting room
- Appointment booking
- Video, audio and/or text-based "virtual visits"
- Uploading photos/videos
- Access to visit history and accompanying notes
- Issuing/Receiving prescriptions and requisitions

Example Platforms:

AlayaCare

Akira

Cloud DX Connected Health Kits

InputHealth

iUGO Care

Livecare

Medeo

Maple

NexJ

Novari eVisit

OnCall

Think Research VirtualCare

Most Common Non-Emergency Services Provided:

- Acute care
- Chronic care
- Sexual health
- Mental health
- Medical advice
- Prescriptions and lab requisitions

Example Services:

Akira
Babylon by TELUS Health
Dialogue
EQ Care
GOeVisit
Maple
Medisys On-Demand Virtual Care
Wello

Private Virtual Clinics

Canada has several rapidly growing Virtual Clinics offering Canadians access to healthcare providers for primary care and/or episodic care. These services offer patients both on-demand as well as scheduled access to practitioners and allied health professionals, including 24/7 access. Coverage areas of these virtual clinics vary based on the jurisdictional licencing of their care providers.

These services often target employers or insurance companies who offer access to virtual care services as an employment benefit, though individual Canadians can also sign-up for many of these services. Fees are collected directly from the subscriber, typically on a monthly subscription.

> Acknowledging the opportunity for market growth in Canada, Teladoc, described as a global leader in virtual care, announced it was expanding its portfolio to the Canadian market in March of 2019. Teladoc serves more than 20 million patients and offers solutions in 130 countries.[i]

Adoption

Though adoption of virtual care in Canada is increasing, many experts believe Canada is falling behind. Consider that Kaiser Permanente in the United States was already conducting 52% of its 110 million patient-physician encounters through smart phones, videoconferencing, kiosks and other technologies by the end of 2016. [ii]

Growing Demand Among Patients

A 2018 Canada Health Infoway survey of 2,406 adult Canadians discovered that 41% of respondents said they would like to interact by video with a healthcare provider. Further, 74% of respondents desired the use of technology for routine touchpoints such as prescription renewals.[iii]

Few Virtual Care Providers

In their 2018 Canadian Physician Survey, Canada Health Infoway discovered that only 4% of primary care physicians offer their patients virtual visits through video, and 5% use an online tool to allow patients to request prescription renewals. The same study found that 9% of responding specialists offered virtual visits. [iv]
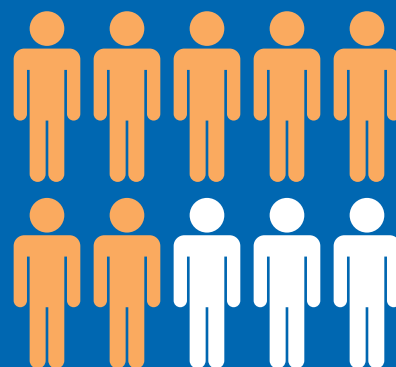
7 in 10 would take advantage of virtual visits

Source: Canadian Medical Association, Shaping the Future of Health and Medicine (2018)
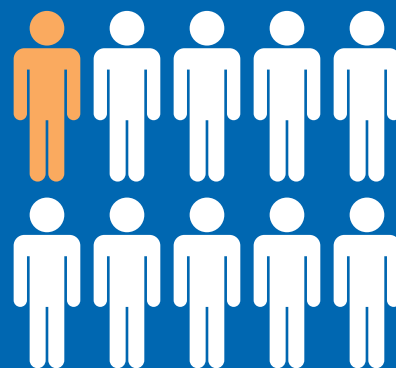
Less than 1 in 10 have had a virtual visit

Source: Canadian Medical Association, Shaping the Future of Health and Medicine (2018)

91%

of patients who had a virtual visit found it very helpful or somewhat helpful

Source: Canada Health Infoway, Virtual Visits in BC (2016)

89%

of patients find their follow-up appointments as useful as a face-to-face visit

Source: NSHA Medeo Study (2018)

99%

of patients would use virtual care again
Source: Ontario Telemedicine Network, eVisit Primary Care Pilot (2019)

62%

of physicians found virtual visits as useful as face-to-face consultations

Source: NSHA Medeo Study (2018)

1 in 3 physicians felt virtual visits were better than in-person visits.

Source: eHealth Centre of Excellence, 2019 eHealth Conference

User Feedback

Results from Canadian pilots indicate a high-level of satisfaction with virtual care among patients and care providers.

Patients Value Virtual Care

Studies have shown that patients find value in the convenience, time and cost savings provided by virtual care. They also rate their virtual care experiences highly in terms of helpfulness and quality of care.

Providers See Virtual Care's Benefits

Studies have also shown that care providers who have offered virtual care find virtual visits useful and understand the benefits for their patients, though providers caution that virtual care should not replace in-person visits as the "core relationship" between patients and providers.

> *"TELEMEDICINE HAS ALLOWED US TO PROVIDE ACCESS TO CARE THAT OTHERWISE WOULDN'T BE AVAILABLE IN ALBERTON."*
>
> — PAUL YOUNG, ADMINISTRATOR, WESTERN HOSPITAL

Potential Benefits of Virtual Care

Virtual care is acknowledged as being well-positioned to improve access to care, provide an improved patient experience and help in the long-term sustainability of our health system.

Quality of Life Benefits to Patients

- Comfort and convenience of being at home

- Avoidance of visits to hospitals for those who are immunosuppressed

- Lower risk of falling for frail and/or elderly

- Ease of family members joining visit(s) (with patient or in another location)

- Reduced time off work for patients and families to attend appointments

- Reduced travel/parking costs and time incurred for appointments (especially for rural and remote communities)

Benefits for the Health System

- Complements patient-centred care

- Improves access to care
    - *Provides expertise and specialists to underserved communities*
    - *Provides new alternatives for 24/7 access*

- Improves patient outcomes

- Offers a new alternative for staffing shortages

- Reduces wait times

- Supports professional development

- Supports collaboration among providers

Sources of Potential Cost Savings for the Health System

- Reducing inappropriate visits to emergency rooms and walk-in-clinics

- Reducing admissions and re-admissions from unmanaged chronic conditions

- Reducing travel costs and travel reimbursements (patients and physicians)

- Reducing unnecessary specialist visits

Barriers and Facilitators

Across Canada, mass adoption of virtual care has been constrained by barriers in policy/regulation, organizational readiness, individual buy-in, and technology. To help overcome these challenges, several facilitators are being established and utilized. As use of virtual care increases, clinical champions, success stories and best practices are emerging.

Policy/Regulatory

Barriers

- Lack of centralized and coordinated decision making
- Lack of national standards
- Jurisdictional licensing
- Provider compensation models
- Budgetary
- Privacy legislation

Facilitators

- Increase collaboration and sharing of best practices across jurisdictions
- Establish national licensure
- Start with "salaried" physicians

Technological

Barriers

- Access to patient records (integrating back to EMRs and HMISs)
- Internet connectivity and bandwidth in remote and rural areas
- Data security and privacy

Facilitators

- Build virtual care into EMR/HMIS platforms
- Select virtual care platforms which integrate into EMR/HMIS platforms
- Copy/paste from virtual care platform into EMR/HMIS

Organizational

Barriers

- Readiness

- Existing clinical workflows

- Scheduling

- Space for virtual care equipment

- Patient awareness

Facilitators

- Involve all stakeholders in planning to deploy virtual care (and use project managers)

- Build virtual care into existing workflows to support buy-in

- Establish a centralized mechanism for scheduling of virtual visits

- Educate patients before their first experience (what to expect)

> ### Additional Insights
> The Provincial Health Services Authority in British Columbia has established a model to support clinicians/organizations in deploying virtual health.

Individual

Barriers

- Additional work responsibilities (especially for clerical or coordinating staff)

- Awareness and willingness of practitioners

Facilitators

- Invest in Virtual Care Coordinators

- Educate, using evidence-based insights

- Leverage clinical champions for peer influence

> ### Point of Interest
> Acknowledging the need to increase adoption of virtual care to improve access and quality of care for patients coast-to-coast, several national organizations announced the establishment of a task force in March of 2019. The task force includes the Canadian Medical Association, the Royal College of Physicians and Surgeons of Canada and the College of Family Physicians of Canada. In their joint press release, they explained that the "task force will identify what regulatory changes are required for physicians to deliver care to patients within and across provincial/territorial boundaries while also addressing its administrative challenges. In addition, the task force will explore how health information can be effectively captured and available to both physicians and patients". [v]

Virtual Care and Cancer

Through Telemedicine Networks, rural and remote cancer patients have been able to travel to a local telemedicine site for virtual visits with their distant specialists. As technologies advance, several pilots and trials for in-home virtual visits for cancer patients have been launched or conducted to support follow-up appointments and patients taking oral chemotherapy.

Additional Insights
In Saskatchewan, Oncology was the specialty that had used telemedicine the most, with 5,600 patients being seen virtually in 2016-2017. [vi]

Telemedicine for Prostate Cancer Patients
Provides in-home virtual visits for prostate cancer patients who are receiving oral chemotherapy at Grand River Regional Cancer Centre. The pilot began in 2016.

Virtual Care for Cancer and Mental Health and Addictions Patients
Provided in-home virtual care, using the Medeo platform, to patients of the Nova Scotia Health Authorities' Cancer Care and IWK Health Centre's Mental Health and Addictions programs. The pilot began in 2018.

Specialized Care at Home
Provincial Health Services Authority and BC Cancer-Victoria's Virtual Health program offers in-home follow-up visits for cancer patients through virtual care. The demonstration project began in 2018.

Results from PHSA & BC Cancer-Victoria's Demonstration

75%
of patients chose VH-Visits because it saved them travel

86%
of patients experienced savings on bus fares or gas

87%
VH-visit success rate (excluding cancellations and no shows)

9/10
the average overall experience with VH-Visits score indicating high satisfaction

Source: BC Cancer Victoria / Office of Virtual Health (2019)

Opportunities to Benefit Cancer Care

Virtual care provides many opportunities to improve the experience of cancer patients throughout the cancer continuum. Among these opportunities, virtual care can support patients in:

- Accessing primary care when cancer suspicion arises

- Receiving treatment at home for appropriate cases (e.g., oral chemotherapy)

- Collaborating real-time with care teams and family members to develop surveillance or end of life treatment plan

- Decreasing wait times to see specialists for diagnosis

- Participating in follow-up visits at home during treatment

- Accessing mental health supports at every stage of the cancer continuum from diagnosis through survivorship

Conclusion

The recently refreshed 2019-2029 Canadian Strategy for Cancer Control calls for equitable access to cancer care for all Canadians, care closer to home, earlier diagnosis and improved patient experience. Newer care delivery models such as virtual care have the potential to address all these priorities. The benefits of virtual care are well-acknowledged and even promoted among those in healthcare, from policy makers to front-line providers. Despite these benefits, adoption of virtual care across Canada is fragmented, both by jurisdiction as well as in purpose.

Most of the virtual care in Canada is delivered through jurisdictional telemedicine networks, where patients have traditionally visited a telemedicine site, equipped with videoconferencing hardware, to meet with a specialist in a distant location. Over the past several years, new software-based virtual care solutions have come to market. These technologies allow care providers and even patients to use their own devices

to participate in a virtual visit. With these solutions emerging, jurisdictional telemedicine networks are gradually moving towards "anywhere-to-anywhere" virtual care.

Feedback from patients and care providers indicates that both groups acknowledge the value, convenience, cost savings and high quality of care delivered through the virtual care experience. Demand for virtual care amongst patients is high and exceeds supply.

Several policy, technology, organizational and individual barriers need to be overcome to support increased adoption of virtual care by physicians nationally. As facilitators to adoption emerge, so do

clinical champions, success stories and best practices. Several virtual care pilots have also been successful, indicating positive results for patients and providers.

Virtual care has the potential to positively impact access to care, the patient experience and sustainability of our healthcare system. In turn, there are several opportunities to further integrate virtual delivery of care into a cancer patient's experience. Because cancer intersects with many parts of the health system, e.g., specialty, acute, primary, community and home care, cancer patients may be among the greatest beneficiaries of this innovation.

Endnotes

i   Teladoc. (2019, April 10). "Teladoc launches virtual visit service in Canada" [Press Release].
Retrieved: https://www.canhealth.com/2019/04/10/teladoc-launches-virtual-visit-service-in-canada/

ii   Fortune (2016). "More than Half of Kaiser Permanente's Patient Visits Are Done Virtually" [Online].
Available: http://fortune.com/2016/10/06/kaiser-permanente-virtual-doctor-visits/ [2019, February].

iii   Canada Health Infoway (2018). "Connecting Patients for Better Health: 2018" [Online].
Available: https://www.infoway-inforoute.ca/en/component/edocman/3564-connecting-patients-for-better-health-2018/view-document?Itemid=101 [2019, February].

iv   Canada Health Infoway (2018). "2018 Canadian Physician Survey" [Online].
Available: https://infoway-inforoute.ca/en/component/edocman/resources/reports/benefits-evaluation/3643-2018-canadian-physician-survey [2019, March].

v   Canadian Medical Association (2019). "National medical organizations come together to examine how virtual care can improve access and quality" [Online]. Available: https://www.cma.ca/national-medical-organizations-come-together-examine-how-virtual-care-can-improve-access-and   [2019, March].

vi   University of Saskatchewan College of Nursing (2017). "Telehealth in Northern and Indigenous Communities" [Online]. Available: https://nursing.usask.ca/documents/telehealth/2017telehealthreport.pdf   [2019, March].