TOWARD PATIENT-CENTRED PRIMARY AND COMMUNITY CARE: MAXIMIZING THE POTENTIAL OF VIRTUAL CARE

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EXECUTIVE SUMMARY

Driving meaningful change in primary and community care settings is always challenging. These important sectors of the healthcare system involve both the promotion of health and wellness and the management of chronic conditions for a huge variety of patients, including those with highly complex needs. Primary and community care providers are also spread out over large geographies, where they encounter many barriers to communicating with one another and with patients. However, if these areas of the system are to fulfill their role and drive improvements in population health, then one thing is abundantly clear: change is essential.

To achieve more patient-centred primary and community care, healthcare providers, patients, and many other stakeholders who support care in Ontario need to embrace innovation in many forms. One form of innovation that will be central to a patient-centred health system is virtual care, which is the application of technology to improve the flow of information between patients, their healthcare teams and other providers. Technology can help with coordination, decision-making, access to care, analysis, collaboration among providers, patients and caregivers and ultimately drive improvements in outcomes.

The Ontario Telemedicine Network (OTN), a key health system stakeholder in Ontario and the Women’s College Hospital Institute for Health System Solutions and Virtual Care (WIHV) consulted with key members of the healthcare community in Ontario to develop a set of recommendations for a virtual care action plan. These recommendations are intended to guide decision-making and the strategic direction of key health system leaders across the province, as they aim to build more patient-centred primary and community care through virtual care.
Key recommendations from the symposium

WIHV and OTN co-hosted a full-day symposium addressing the opportunities and priorities for the adoption of virtual care in primary and community care, with a focus on three distinct areas: (1) clinician to clinician support in primary care, (2) team-based care for complex patients, and (3) consumer access to care. There were 34 symposium participants, with representation from the Ministry of Health and Long-Term Care, healthcare organizational leaders, healthcare providers, and patient advocates.

The discussion and activities of the day were explicitly patient-centred. Following the symposium, WIHV analyzed feedback gathered in priority-setting activities and integrated current research findings to develop a virtual care action plan. Each of the four recommendations from the virtual care action plan are directly linked to concrete action items that can be taken up in Ontario to advance more patient-centred primary and community care. The key recommendations of the plan include:

Recommendation #1: Identify clear health system leadership to embed virtual care strategies into all aspects of primary and community care by:

- Engaging health system leaders as advocates of virtual care adoption to modernize the healthcare system and make primary and community care more patient-centred. Policy reform is much more likely to happen when multiple parties from across the healthcare system each call for change.

- Ensuring that political leadership identifies widely shared values and goals. For example, “enabling all patients to communicate with their primary care provider on urgent issues within a 24-hour timeframe.” Such specific goals would drive the implementation of virtual care in primary and community care, reinforcing our values of access and equity.

Recommendation #2: Make patients the focal point of health system decision making, by:

- Engaging patients in a process of developing health system metrics that will represent a more patient-centred health system. These metrics will help guide the application of virtual care so that they are sure to address the needs and wishes of patients in meaningful ways.
• Engaging an inter-professional, cross-sector group of stakeholders, including patients, to identify key virtual care strategies that will help the health system succeed when it comes to an evaluation using patient-centred metrics. This should involve collaboration amongst a range of stakeholders to identify high-reward virtual care strategies, and then support the broad availability of those strategies to both individuals and organizations across the system.

**Recommendation #3:** Leverage incentives to achieve meaningful health system improvements, by:

- Using outcome-based payment models to drive improvements in patient-centred primary and community care. The outcomes of interest should build on the patient-centred health system metrics described in Recommendation #2 of the virtual care action plan and the metrics for evaluating primary care established by Local Health Integration Networks (LHINs).

- Ensuring virtual care technologies and change management expertise are available to primary and community care providers to support the adoption and use of virtual care. These stakeholders may not yet have the necessary confidence and expertise required to fit virtual care into the everyday delivery of primary and community care.

- Closely examining the incentives for healthcare providers and organizations in the primary and community care sectors to identify where they may be re-aligned to promote more patient-centredness in the health system. An inter-sectorial team of stakeholders and virtual care champions, with backgrounds in public policy, health administration, and clinical care, would be instrumental in this process.

**Recommendation #4:** Build virtual care into streamlined workflows, by:

- Developing a process for the procurement of virtual care technology that closely considers and evaluates the ways in which technology fits into or alters existing clinical workflows. Well-designed virtual care strategies should align seamlessly with existing primary and community care processes or provide a clear and coherent mechanism for workflow changes.

- Developing processes to spread successful models of primary and community care that are enabled by virtual care across the province, in the effort to achieve excellent care for all across the population.
From a leadership perspective, the mandate here is not one of advocating for more use of technology in healthcare. Instead, it is one of advocating for patient-centred care that acknowledges the needs and wishes of people as they live their everyday lives. As stated in our introduction, models of virtual care are not about advancing “technology for technology’s sake.” Virtual care is about providing actionable strategies to better meet patient needs when, where, and how they choose.

This virtual care action plan represents a strong, evidence-informed approach to using virtual care to achieve more patient-centred primary and community care in Ontario. This paper outlines both challenges and opportunities linked with the wider uptake of virtual care and technological change, as we strive to build a healthcare system that offers care for patients when, how, and where they need it most.
INTRODUCTION

Healthcare in Ontario is changing. The demographic trends of an aging population, increasing rates of chronic disease, and a rise in complex conditions puts the health system in a challenging position. There is an increasing need to adapt to focus on prevention and wellness or we risk the consequences of excessive resource strains, like adverse events, professional burnout, and worsening patient outcomes. It’s a common refrain, but strategies to push the system to invest in primary and community care – the key settings in which we focus on the promotion of prevention and wellness— continue to lag behind. In this paper we present a virtual care action plan for building a healthcare system that uses its resources to strategically strengthen primary and community care – the bedrock of any sustainable health system.

Achieving a level of high-performing primary and community care is no simple task. Coordinating providers to deliver comprehensive care is a longstanding challenge, but recent advances in creative models of primary care and innovative applications of technology are making dramatic advances in patient-centred care possible. Taking further action to promote the re-design of the primary and community care sectors, including the active incorporation of virtual care strategies that support new models of care, will accelerate the evolution of Ontario’s health system. In the context of the primary goal of achieving a truly patient-centred health system, the Province of Ontario has a clear window of opportunity to build on momentum to advance excellent care by focusing on innovation in the primary and community care sectors.

Two recently published papers, Patient care groups: A new model of population based primary healthcare for Ontario and Patients first: A proposal to strengthen patient-centred healthcare in Ontario, highlight this window of opportunity for health system transformation. Presently, services in the province are fragmented, difficult to navigate, and specific patient populations have real challenges in accessing the care they need, especially outside of normal hours of care. These gaps in care make improvements in patient outcomes and experiences extremely difficult to achieve.
The 2015 Commonwealth Fund Survey found that only 41% of Canadians could get a primary care appointment on the same or next day after calling (2). Re-designing the health system, starting with primary and community care, will improve access and ensure that all Ontarians are able to obtain care from primary care providers and inter-professional teams when they need it. Although virtual care is just one piece of the health system transformation puzzle, it can act as an important enabler of high-quality care and it deserves close attention during this period of change in Ontario’s healthcare system.

**Moving beyond the “virtual” in “virtual care”**

In 2010, a group of clinicians and researchers published a paper in *Health Affairs*, discussing how health systems need a “policy push on patient-centered care”(3). These authors explained that a patient-centred health system is not about diseases, physicians, or hospitals – and it is also not about technology first and foremost. Instead, drawing on the Institute of Medicine’s (IOM) landmark report, *Crossing the Quality Chasm*, they explained that patient-centred care is about being “respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions.”(4) This approach is integral to health system change in many environments, including those in Ontario. And just as Epstein and his colleagues emphasized, a patient-centred health system does not revolve around technology. Rather, it uses technology to “reinforce healing relationships, continuity, and (a) shared mind” between patients and their healthcare providers.(3)

Despite the promise and the potential for technology to drive excellence in patient-centred care, promoting the widespread adoption of virtual care to improve healthcare delivery remains a challenge. There are many reasons for why this is the case, including (a) resistance by healthcare providers to change in existing patterns of thinking and acting, (b) regulations that prevent the easy flow of data between health silos, and (c) a lack of understanding of how to appropriately compensate providers who engage in virtual care delivery (5). So what can health system leaders do to achieve excellent, patient-centred primary and community care through the adoption of virtual care?
In March 2016, the Ontario Telemedicine Network (OTN) and the Women’s College Hospital Institute for Health Systems Solutions and Virtual care (WIHV) facilitated a focused process leading to a series of targeted, practical recommendations on how virtual care can best enable primary and community care transformation in Ontario. WIHV and OTN co-hosted a symposium, engaged a diverse group of key stakeholders in discussion and debate, and synthesized the insights that arose. This paper reports on that process, describing insights into key system-level recommendations that will help to facilitate the adoption of virtual care in primary and community care, in ways that promote a more patient-centred health system.

UNDERSTANDING VIRTUAL CARE

Understanding how to apply virtual care innovations for a more patient-centred health system requires us to work with a common definition of “virtual care.” In 2014, WIHV published a white paper on virtual care, defining the concept as follows:

**Virtual Care (noun):** “any interaction between patients and/or members of their circle of care, occurring remotely, using any forms of communication or information technologies, with the aim of facilitating or maximizing the quality and effectiveness of patient care.”

While often used interchangeably with “telehealth,” “eHealth” or “telemedicine,” virtual care is actually a broader concept. It involves the application of technology to improve the flow of information between patients and their healthcare teams (and within those teams themselves) in order to improve analysis, coordination, decision-making and ultimately, health outcomes.

Participants at the symposium quickly recognized that the topic of the day should not be virtual care per se, but how to use technology to improve primary and community care. Just as Epstein and colleagues suggested in their paper on policy for patient-centred care, symposium participants explained that the discussion should focus on how to build care in these sectors to get patients the care they need, where and when they need it (3). Symposium participants acknowledged that this
kind of thinking is much more likely to lead to important applications of virtual care that help achieve the goals of the health system: the patient-centred mission to improve patient outcomes, enhance patient experience, and better control health system costs. Based on the expertise and opinions of symposium participants, the focus of the day emphasized innovative strategies to achieve these outcomes – many (but not all) of which involved virtual care as a central component.

UNDERSTANDING THE IMPLEMENTATION CHALLENGE: SETTING THE CONTEXT

Leveraging the benefits of virtual care to achieve more patient-centred primary and community care is a complex, multi-faceted task (6). In the course of developing, evaluating, and implementing virtual care strategies, there are many potential challenges to consider. In addition to examples already described above, these would include (a) privacy legislation and the importance of acknowledging when it is and is not a barrier to virtual care, (b) collaboration with industry partners in producing meaningful innovations in care, and (c) evolving roles for healthcare providers. Engaging in efforts to advance a patient-centred health system using virtual care strategies thus requires a strong conceptual framework for understanding how virtual care can navigate these issues during the process of spread and scale province-wide.

Here we present a “sociotechnical model” (Box 1) for understanding the various points to consider when planning the development and implementation of virtual care across health settings (7). By providing this, we aim to encourage readers to keep these key issues in mind when considering themes from the sections that follow.

The sociotechnical model acknowledges the complex settings into which virtual care is implemented, and identifies eight key dimensions that must be acknowledged to both generate and judge successful systems: (1) hardware and software; (2) clinical content; (3) human-computer interface; (4) people; (5) workflow and communication; (6) organizational policies, procedures and culture; (7) external rules, regulations and pressures; and (8) system measurement and monitoring. Only one of the eight dimensions is purely technical and it’s important to remember that mastery of
the human elements is what really spurs on success. The ability of systems to monitor, and be monitored is also of prime importance. This sociotechnical model will serve as the window through which we contextualize the outputs of the symposium.

**Box 1. The eight dimensions of the sociotechnical model for health information technology**

**Hardware and Software**
The hardware/software required to run applications.
E.g. mobile phones, portals, networks, operating systems, servers, etc.

**Clinical Content**
All data/information/knowledge stored in systems
E.g. prescriptions at pharmacy, labs, images, documentation in charts, patient-generated data from wearables, etc.

**Human-Computer Interface**
Aspects of system that users can see, touch, or hear
E.g. elements of design, hidden complexity, ergonomics, etc.

**People**
All the people involved in design, development, implementation and use. Includes their motivations, behaviors and how the technology does/does not change their cognitive processes.
E.g. patients, family members, clinicians, software developers, privacy/security officers, etc.

**Workflow and Communication**
The acknowledgment that workflow/communication must not only define the technology, but also be, at times, defined by the technology for maximal success.
E.g. interaction patterns, process maps, swim lanes, etc.

**Organizational Policies, Procedures and Culture**
The explicit, and implicit, rules that govern the interventions within any given stakeholder
E.g. hospital policies, budgetary and resource allocations, defined priorities, etc.

**External Rules, Regulations and Pressures**
The explicit, and implicit, rules that exert pressures on the stakeholders from the outside
E.g. privacy/security legislation, certification/regulation of mobile devices, incentives, consumer demand, market forces, etc.

**System Measurement and Monitoring**
The acknowledgment that availability/access, use, effectiveness and unintended consequences must always be considered
E.g. downtime, usage logs, evaluation of an outcome of interest, assessment of workarounds, etc.
Structure of the Day
The virtual care symposium brought together 34 health systems stakeholders, including government agency staff, clinicians, innovators, patient advocates and other industry experts. (See Appendix A) WIHV was tasked with engaging this diverse group in a dialogue about the challenges and benefits of adopting virtual care interventions in every day care, and identifying consensus on priority action items to promote the adoption of virtual care. The various components of the day are described in this section of the paper, and key takeaways are reported in our virtual care action plan below.

Pre-Symposium Survey:
One strategy used at the symposium to generate discussion involved asking participants to complete a pre-symposium survey, which was sent three prior. The overall goal here was to obtain a general sense of the knowledge and opinions of symposium attendees on the importance of virtual care and specific strategies that could be used to spread uptake across Ontario. Findings from the 19 surveys received helped to shape conversations and were anonymously presented to participants during the kick-off. (See Appendix B)

Breakout Sessions:
Following a wider group discussion on the morning of the symposium, attendees broke out into three groups to discuss various topics related to virtual care and its implementation in Ontario. The three topics were: (1) clinician to clinician support in primary care, (2) team-based care for complex patients, and (3) consumer access to care. Each group, led by a facilitator, focused on answering the following questions as they pertained to their topic:

1) What are the gaps?
2) What are the opportunities for virtual care to fill these gaps?

Groups engaged in meaningful and productive discussions and feedback was then summarized and taken into consideration in developing the virtual care action plan itself.
Nominal Group Technique:
In order to foster consensus and spark further discussion on key, actionable priorities for virtual care in Ontario, a modified Nominal Group Technique (NGT) exercise was completed at the symposium. This strategy is used to identify consensus priorities among groups of stakeholders during face to face meetings (8, 9). Nominal Group Technique involves a facilitator hosting a process of idea generation, discussion, and phased ranking of ideas among the group to identify their priority areas for future focus (8). The end result is a consensus-driven list of priorities that each stakeholder can endorse in their subsequent activities.

A list of priorities for advancing virtual care in Ontario, based on the pre-symposium survey and the morning discussion, was used in an initial ranking phase at the end of the symposium’s morning session. Participants viewed the list, added additional priorities after a group discussion, and then ranked them. This list was then consolidated and the top five priorities were re-ranked following the afternoon session. The final list of consensus-based priorities is reported below; this final list was integrated with the rest of the symposium discussion, and these priorities are represented throughout the virtual care action plan.

Final Rank:
A. Funding and policy changes to enable patient-centred virtual care.
B. Implementing platforms for data sharing and communication between providers, patients and families, and specialty physicians.
C. Accountability based on patient-defined outcomes (ensuring call-backs etc.) to both patients and the system.
D. Leveraging the OHIP card/unique identifier as a portable link for patient information (personal health information attached to the card).
E. Mandating that all physicians in Ontario use a secure email address (email capable of transferring patient information).
THE VIRTUAL CARE ACTION PLAN: EMBEDDING VIRTUAL CARE IN PRIMARY AND COMMUNITY CARE

The virtual care action plan described here integrates the pre-symposium survey, group discussion, and priority ranking in a series of action items intended to support more patient-centred primary and community care. The virtual care action plan identifies action items that will help achieve improvements across all three key areas in which virtual care has the strongest potential to make improvements: 1) clinician to clinician support in primary care, 2) team-based care for complex patients, and 3) consumer access to care. These action items are directed at health system leaders from across the system who want to drive more patient-centred care.

1. Identify clear health system leadership to embed virtual care strategies in primary and community care

Creating more patient-centred primary and community care through innovative applications of virtual care requires leadership to get engaged from across the healthcare system, spanning from healthcare providers at the point-of-care to the highest reaches of government. Political leadership is especially important, as the Ministry of Health and Long Term Care (MOHLTC) has access to policy levers that are not available to other health system leaders. The first recommendation in the action plan is therefore to identify individuals throughout the system, beginning with the MOHLTC, who will become vocal leaders in promoting this agenda.

The leadership mandate that has the most potential to promote the integration of virtual care into the regular routines of primary and community care might be unexpected. The leadership challenge is not one of advocating for more use of technology in healthcare.

Instead, it is one of advocating for patient-centred care that acknowledges the needs and wishes of people as they live their everyday lives. As stated in our introduction, models of virtual care are not about advancing “technology for technology’s sake.” Virtual care is about providing actionable strategies to better meet patients’ needs when, where, and how they choose.
Leadership throughout the healthcare system and especially at the MOHLTC is essential for achieving the top priorities identified from the Nominal Group Technique process: *Funding and policy changes that enable patient-centred virtual care*. Two action items in particular come from this observation:

- Engaging health system leaders as advocates of virtual care adoption to modernize the healthcare system and make primary and community care more patient-centred. Policy reform is much more likely to happen when multiple parties from across the healthcare system call for change.

- Ensure that political leadership identifies publicly valued issues to drive the implementation of virtual care in primary and community care.

These recommendations together suggest that patients, providers, organizations, and policymakers all need to step up to bat. There are many reasons to be optimistic about this kind of “distributed leadership” in Ontario’s health system and there are clear examples from across the province where this is already working.

One example is Community MD, in Brampton – a Family Health Team that facilitates an online appointment booking system and the option to communicate with healthcare providers through video conferencing. In addition, Community MD has an electronic service that allows patients to digitally request prescription renewals or refills from their healthcare provider. This service was awarded the national ImagineNation E-connect Impact Challenge Adoption Award by Canada Health Infoway in 2015, and is a good example of how leadership is driving the system toward a stronger focus on patients first. Here we also see that change, supported by top levels of government, can be essential in making meaningful progress toward patient-centred home and community care.

**2. Make patients the focal point of health system decision making**

Although this recommendation has been emphasized throughout this paper, it is worth stating again. If virtual care is to be applied in ways that promote more patient-centred home and community care, then patients themselves must be central to driving change. Putting patients at the centre of care means holding the health
system to account based on metrics that patients themselves care about. Increasing health system accountability based on outcome indicators that are explicitly patient-centred was ranked as the third most important priority action item in the Nominal Group Technique process and forms the second virtual care action plan recommendation.

Making primary and community care more patient centred requires a comprehensive and reliable collection of patient metrics on health and healthcare. The importance of having quality metrics in the health system that directly represent what matters to patients also came into focus at the symposium. These metrics should go beyond what we use now for assessing direct care delivery, like patient-reported outcome measures (PROMs) and patient-reported experience measures (PREMs).

For example, patients at the symposium emphasized the importance of reasonable call-back times from their primary care providers’ receptionists (e.g., within 24 hours) and suggested this could be a simple but very important patient-centred indicator of quality. On the same theme, patients should be able to communicate with their primary care provider regarding urgent issues within a 24-hour timeframe. Yet another example was the number of healthcare provider interactions that took place in a location preferred by the patient. All of these metrics could be used to assess whether healthcare is delivered in the right place, and the right time, by the right provider.

At least two of the top five priorities from the Nominal Group Technique process could be connected to actionable health system metrics to drive change in primary and community care:

- **Priority #2**: Implementing platforms for data sharing and communication between providers, patients and families, and specialty physicians.

- **Priority #4**: Leveraging the OHIP card or another unique identifier as a portable link for patient information (personal health information being attached to the card).

Patient representatives strongly suggested that they wanted to see these priorities become a reality in Ontario’s healthcare system. Recurring questions arose related to these priorities including, why do patients and primary care providers not have a better communication infrastructure in place? Why do healthcare providers not communicate more efficiently with one another, considering the range of options available
through advances in technology? Linking these priorities to health system metrics will push Ontario’s healthcare toward a stronger focus on meeting the needs of patients in the ways that work best for them.

These key priorities highlight the need for metrics in three distinct areas where stakeholders identified that virtual care could make an important difference: (1) better consumer access to information, (2) improved communication between patients and providers, and (3) improved communication between primary care providers and specialty physicians. These were three major topics discussed during the Symposium’s breakout sessions outlined above.

Importantly, progress has already been made in each of these domains in Ontario. One example is the Integrated Comprehensive Care Program as St. Joseph’s Healthcare in Hamilton. This program is a unique patient-centred model that directly integrates acute, primary and community care to decrease confusion during transitions in care and thus reduces hospital readmissions. When a patient moves to a different environment, the same care team remains in place.

As part of the program, each patient is also assigned an Integrated Care Coordinator who helps them navigate the system. In times of need, patients can call a central number and communicate with a member of the healthcare team to get more information. An inexpensive tablet computer hosts an electronic patient record and this is used by healthcare providers to communicate with patients or their other healthcare providers, thus helping to advance all three priority functional areas for virtual care stated above. Building metrics to foster more patient-centred primary and community care will help programs like the Integrated Comprehensive Care Program to spread province wide.

Two specific action items arise out of the second recommendation in the virtual care action plan:

- Engaging patients in a process of developing health system metrics that represent a more patient-centred health system. These metrics will help to guide applications of virtual care that address the needs and wishes of patients in meaningful ways.

- Engaging an inter-professional, cross-sectoral group of stakeholders to identify key virtual care strategies that will help the health system meet those patient-centred metrics. This
should involve collaborating with a range of stakeholders to identify high reward virtual care strategies, and then support the availability of those strategies to individuals and organizations across the system.

3. **Leverage incentives to achieve meaningful improvements in primary and community care**

Behavioural economics teaches us that we often cannot see the incentives that guide our behaviour (10). Instead, incentives blend into the organizations, social groups, and systems that we each play an active role in. Some are of course quite obvious, such as the ways in which healthcare providers are paid. But in an effort to leverage virtual care strategies to bring about more patient-centred primary and community care, it will be essential to align both obvious and less obvious incentives in healthcare.

Incentives are at the root of Dr. Paul Batalden’s popular phrase, “Every system is perfectly designed to get the results it gets” (11). The third recommendation of the virtual care action plan is therefore to align incentives to achieve meaningful improvements in primary and community care.

Financial incentives, in the form of unique approaches to funding virtual care strategies, are obviously a key consideration. Pay for performance, which enables primary care providers to bill the government for the use of things like virtual visits (via web-enabled videoconferencing), are referred to as “marginal incentives.” These incentives are based on specific achievements such as the performance of a single virtual visit (12). However, applying strategies like these to the use of virtual care increases the risk of incentivizing inappropriate use. It may end up encouraging healthcare providers to use new technologies indiscriminately where they have the opportunity to directly increase their revenues.

This “activity-based” (vs. outcome-based) funding model is more likely to lead to an outcome similar to what was observed in the British Columbia telemedicine program in 2014, where in a single-year you saw a 735% increase in healthcare provider billing linked with videoconferencing visits (13). This level of increase in a specific type of virtual care activity over a short period of time is not sustainable, and may lead to unnecessary care.
Alternative incentives based on funding models in primary and community care are certainly important and possible. One example is embedding incentives into outcome-based payment models that reward healthcare providers for achieving easier to reach outcomes via applications of virtual care. For example, models that fund a patient’s care journey from the time of admission to hospital through a period of time following their discharge (e.g., 30 days). This can help incentivize the prevention of hospital readmissions. Virtual care technologies such as remote patient monitoring can also be leveraged to ensure that certain patients remain well at home and help avoid readmissions (14). The idea is that so long as these technologies are made accessible to organizations and care providers, they are much more likely to be applied in practice along with outcome-based incentives.

Incentives to promote the patient-centred use of virtual care strategies in primary and community care go far beyond funding mechanisms. Other examples include accountability mechanisms with implications for the awarding of future contracts, audit and feedback programs, public reporting, and award programs for the implementation of patient-centred virtual care strategies. One key opportunity to build patient-centred incentives for the use of virtual care can be found in Family Health Team (FHT) accountability agreements with Local Health Integration Networks (LHINs). These agreements represent an opportunity to build objectives for FHTs like “ensuring patients have web-enabled access to their own data” and “providing the option for patients to book appointments with primary care providers online.” When objectives like these are built into the agreements themselves, healthcare provider organizations are obligated to follow through on them, creating a clear incentive for change.

At least three specific action items relate to the importance of getting incentives right:

- Leveraging outcome-based payment models to drive improvements in patient-centred primary and community care. The outcomes of interest should build on the patient-centred health system metrics described in the second recommendation of the virtual care action plan.

- Ensuring virtual care technologies and expertise are available to primary and community care providers to support the adoption and use of virtual care. These stakeholders may not
yet have the necessary confidence and expertise required to fit virtual care into the everyday delivery of primary and community care.

- Closely examining the incentives acting on healthcare providers and organizations in the primary and community care sectors, in order to identify where incentives might be realigned to promote more patient-centredness in the health system. An inter-sectorial team of stakeholders and health system leaders, representing interests that range from public policy, health administration to clinical care, would be instrumental in this process.

4. **Build virtual care into streamlined workflows**

One common criticism of efforts aimed at integrating virtual care in primary and community care is that it is often treated as an “add-on” to existing care models, instead of an entirely new model (15). Historically, virtual care initiatives have been added to existing routines and practices without strong consideration for the ways in which they may affect workflow (7). However, as symposium participants made clear, the widespread implementation of many virtual care initiatives in primary and community care will likely lead to changes in existing workflow for healthcare providers. The fourth and final recommendation of the virtual care action plan is therefore to embed virtual care strategies into clinical workflow as smoothly as possible – and in cases where workflows need to change, ensure transitions to new routines are well planned and supported.

The implementation of virtual care technologies into primary and community care requires time and attention (16). In their study of workflow for videoconferencing visits between nurses and patients, Kaufman and colleagues found that the technology was overly complicated, leading to unnecessary mental effort and communication challenges between patients and care providers (17). These authors described a process for informing the design of technologies to ensure that users remain at the centre, boosting the technology’s ease of use and increasing the chances of successful implementation. The “usability” of technologies such as this applies to both patients and health care providers and is an essential area of focus in technological design and evaluation. This point was also clearly emphasized by symposium participants.
Symposium participants ranked “mandating that all physicians in Ontario use a secure email address capable of transferring patient information” in fifth place on the list of priority actions. This example demonstrates the importance of workflow considerations: if physicians are enabled to send secure emails, including communicating via email with patients regarding their health, where would this fit into clinical routines? Physicians would also be required to set aside dedicated time to respond to emails and establish expectations for responsiveness and the content of email exchanges with patients— one example of where workflow considerations are paramount.

The need to consider clinical workflows for healthcare providers draws out one key action item:

- Developing a process for the procurement of virtual care technology that closely considers and evaluates the ways in which it fits within or alters existing clinical workflows. Well-designed virtual care strategies should either allow for seamless integration or provide a clear and coherent mechanism for workflow changes.
THE WAY FORWARD

The challenges and opportunities that accompany the use of virtual care are clear. We’re talking about an important shift in the evolution of healthcare. In this paper, we have outlined a virtual care action plan, building on priorities identified at the Virtual Care Symposium. These findings will help health system leaders across Ontario with ushering in a new era of patient-centred healthcare.

The four recommendations from the virtual care action plan apply to areas in which virtual care stands to contribute the most to stronger patient-centredness: (1) clinician to clinician support in primary care, (2) team-based care for complex patients, and (3) consumer access to care.

Undertaking the actions outlined here will help to ensure the patient voice is central to improvements in each of these key areas of primary and community care.

The virtual care action plan identified a series of specific action items, presented here again:

Recommendation #1: Identify clear health system leadership to embed virtual care strategies into all aspects of primary and community care by:

- Engaging health system leaders as advocates of virtual care adoption to modernize the healthcare system and make primary and community care more patient-centred. Policy reform is much more likely to happen when multiple parties from across the healthcare system each call for change.

- Ensuring that political leadership identifies widely shared values and goals. For example, “enabling all patients to communicate with their primary care provider on urgent issues within a 24-hour timeframe.” Such specific goals would drive the implementation of virtual care in primary and community care, reinforcing our values of access and equity.

Recommendation #2: Make patients the focal point of health system decision making, by:

- Engaging patients in a process of developing health system metrics that will represent a more patient-centred health system. These metrics will help guide the application of virtual care so that they are sure to address the needs and wishes of patients in meaningful ways.
• Engaging an inter-professional, cross-sector group of stakeholders, including patients, to identify key virtual care strategies that will help the health system succeed when it comes to an evaluation using patient-centred metrics. This should involve collaboration amongst a range of stakeholders to identify high-reward virtual care strategies, and then support the broad availability of those strategies to both individuals and organizations across the system.

Recommendation #3: Leverage incentives to achieve meaningful health system improvements, by:

• Using outcome-based payment models to drive improvements in patient-centred primary and community care. The outcomes of interest should build on the patient-centred health system metrics described in Recommendation #2 of the virtual care action plan and the metrics for evaluating primary care established by Local Health Integration Networks (LHINs).

• Ensuring virtual care technologies and change management expertise are available to primary and community care providers to support the adoption and use of virtual care. These stakeholders may not yet have the necessary confidence and expertise required to fit virtual care into the everyday delivery of primary and community care.

• Closely examining the incentives for healthcare providers and organizations in the primary and community care sectors to identify where they may be re-aligned to promote more patient-centredness in the health system. An inter-sectorial team of stakeholders and virtual care champions, with backgrounds in public policy, health administration, and clinical care, would be instrumental in this process.

Recommendation #4: Build virtual care into streamlined workflows, by:

• Developing a process for the procurement of virtual care technology that closely considers and evaluates the ways in which technology fits into or alters existing clinical workflows. Well-designed virtual care strategies should align seamlessly with existing primary and community care processes or provide a clear and coherent mechanism for workflow changes.

• Developing processes to spread successful models of primary and community care that are enabled by virtual care across the province, in the effort to achieve excellent care for all across the population.
This Virtual Care Action Plan and the specific action items it recommends represents the priorities identified by symposium participants that will help Ontario to embrace the opportunities presented by virtual care and technological change. Such opportunities and the clear demand for more patient-centered primary and community care present a burning platform required for action on this here in the province. Now it is necessary for health system leaders to embrace these priorities and make a more patient-centered, virtually-enabled health system a reality in Ontario.
**Appendix A: Symposium Participants**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Payal Agarwal (Presenter)</td>
<td>Family Doctor, WIHV Innovation Fellow</td>
</tr>
<tr>
<td>Dr. Geoffrey Anderson</td>
<td>IHPME, WIHV Innovation Fellow</td>
</tr>
<tr>
<td>Matthew Anderson (Presenter)</td>
<td>CEO, Osler Health Systems</td>
</tr>
<tr>
<td>Krista Balenko</td>
<td>Change and Evaluation Specialist, Canada Health InfoWay</td>
</tr>
<tr>
<td>Dr. Bob Bell</td>
<td>Deputy Minister of Health, MOHLTC</td>
</tr>
<tr>
<td>Maureen Boon</td>
<td>Director, Strategy, College of Physicians and Surgeons of Canada</td>
</tr>
<tr>
<td>Dr. Andrew Boozary</td>
<td>Special Advisor, Health Care Transformation, MOHLTC</td>
</tr>
<tr>
<td>Dr. Sacha Bhatia (Co-host)</td>
<td>Director, Institute for Health System Solutions &amp; Virtual Care (WIHV)</td>
</tr>
<tr>
<td>Dr. Edward Brown (Co-host)</td>
<td>CEO, Ontario Telemedicine Network</td>
</tr>
<tr>
<td>Dafna Carr</td>
<td>Executive Lead, Online Centralized Public Reporting, Health Quality Ontario</td>
</tr>
<tr>
<td>Brian Clark</td>
<td>Patient Advisor, Patients Canada</td>
</tr>
<tr>
<td>Thomas Custers</td>
<td>Director, Policy and Innovation, MOHLTC</td>
</tr>
<tr>
<td>Dr. David Daien</td>
<td>Division Head - Primary Care, Trillium Health Partners</td>
</tr>
<tr>
<td>Sholom Glouberman</td>
<td>Patient Advisor, Patients Canada</td>
</tr>
<tr>
<td>Brian Golden (Presenter)</td>
<td>Vice-Dean, Rotman School of Management</td>
</tr>
<tr>
<td>Rosemary Hannam</td>
<td>Senior Research Associate, Rotman School of Management</td>
</tr>
<tr>
<td>Greg Hein</td>
<td>Director, eHealth Strategy and Investment, MOHLTC</td>
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<tr>
<td>Dr. Jennifer Hensel</td>
<td>WIHV Innovation Fellow, Psychiatry</td>
</tr>
<tr>
<td>Dr. Trevor Jamieson</td>
<td>WIHV Virtual Care Lead</td>
</tr>
<tr>
<td>Zayna Khayat</td>
<td>Senior Advisor of Health System Innovation, MaRs</td>
</tr>
<tr>
<td>Dr. Joshua Landy</td>
<td>Chief Medical Officer and Founder, Figure1</td>
</tr>
<tr>
<td>Samantha Liscio</td>
<td>Senior Vice President, Enterprise Planning &amp; Reporting, eHealth Ontario</td>
</tr>
<tr>
<td>Brian Lewis</td>
<td>President and CEO, MEDEC</td>
</tr>
<tr>
<td>Jovan Matic</td>
<td>Manager, Office of the Chief Health Innovation Strategist for Ontario</td>
</tr>
<tr>
<td>Alies Maybee</td>
<td>Patient Advisor, Patients Canada</td>
</tr>
<tr>
<td>Danielle Martin (Presenter)</td>
<td>Vice-President, Medical Affairs &amp; Health System Solutions, WCH</td>
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<tr>
<td>Terry Moore</td>
<td>Vice President Business Development, Canada Health Infoway</td>
</tr>
<tr>
<td>David Murray</td>
<td>Chair, Board of Directors, Ontario Telemedicine Network; CEO, Sioux Lookout Meno-Ya-Win Health Centre</td>
</tr>
<tr>
<td>Nancy Naylor</td>
<td>Associate Deputy Minister, Delivery and Implementation</td>
</tr>
<tr>
<td>Dr. Thuy-Nga Pham (Presenter)</td>
<td>Family Physician and Director, South East Toronto Family Health Team</td>
</tr>
<tr>
<td>Payam Pakravan</td>
<td>Vice President, Strategy and Planning, Ontario Telemedicine Network</td>
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<tr>
<td>Laurie Poole</td>
<td>Vice President, Telemedicine Solutions, Ontario Telemedicine Network</td>
</tr>
<tr>
<td>Rob Williams</td>
<td>Chief Medical Officer, Ontario Telemedicine Network Telemedicine</td>
</tr>
<tr>
<td>Marcia Visser</td>
<td>Vice-Chair, Board of Directors, Ontario Telemedicine Network</td>
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Appendix B: Summary of Pre-Symposium Survey Responses

Survey respondents reflect the diverse participants in the virtual care symposium, as depicted in Figure 1.

**Figure 1:**
**Respondent Professional Backgrounds**

![Professional Backgrounds Pie Chart]

The survey asked symposium participants if they had seen virtual care used in primary care. A total of 56% of respondents answered yes and reported having primarily positive experiences with it. Examples of virtual care that respondents had used included e-consults, online appointment booking and registration, secure messaging and telehomecare and telemonitoring.

Other respondents had not seen virtual care used in primary care and identified several ways in which they would like to see it used. Some suggestions included:

- “A digital alternative to the current end-to-end primary care experience should be readily available and should be easier/faster/cheaper/more pleasurable.”

- “A host of simple innovations that are commonplace in so many other sectors: real-time text messaging, the ability to send images, virtual consults…”
• “Embed virtual care as a channel option (legally, practically) that is no different from the physical modality.”

When asked to rank the particular area of the health system in which virtual care would be most important, WIHV heard that: ‘accommodating variation due to geography’ came in first place. Second on the list of priorities was, ‘improving integrated care horizontally and vertically across the system.’ (see Figure 2) These responses provide concrete examples of where virtual care strategies could assist with achieving real health system improvements. Figure 2 depicts additional key areas for the application of virtual care.

**Figure 2:**
**Question:** How important is virtual care in the following areas from 1 (not important at all) to 10 (very important)?

<table>
<thead>
<tr>
<th>Importance of Virtual Care in:</th>
<th>Mean (out of 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensuring universal access to primary care*</td>
<td>7.1</td>
</tr>
<tr>
<td>Ensuring equitable access to primary care</td>
<td>7.3</td>
</tr>
<tr>
<td>Ensuring clear lines of accountability</td>
<td>7.5</td>
</tr>
<tr>
<td>Improving integrated care</td>
<td>8.0</td>
</tr>
<tr>
<td>Ensuring that quality and fiscal responsibility are rewarded</td>
<td>6.7</td>
</tr>
<tr>
<td>Accommodating variation due to geography**</td>
<td>9.5</td>
</tr>
</tbody>
</table>

The pre-symposium survey also included questions on the best ways to support the implementation and spread of virtual care across Ontario. Participants reported that aligning incentives and ensuring technological compatibility across the province were the most important policy actions to promote the successful implementation of virtual care. Interestingly, changing privacy legislation and ensuring equitable access were reported as
being less important when it came to enabling virtual care in primary and community care settings (see Figure 3).

**Figure 3:**
**Question:** How important are the following in enabling virtual care in primary care?

<table>
<thead>
<tr>
<th>Enabling Virtual Care in Primary Care:</th>
<th>Mean (out of 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensuring technological compatibility across the health system</td>
<td>8.2</td>
</tr>
<tr>
<td>Ensuring equitable access</td>
<td>6.3</td>
</tr>
<tr>
<td>Changing privacy legislation</td>
<td>6.8</td>
</tr>
<tr>
<td>Aligning incentives</td>
<td>9.4*</td>
</tr>
</tbody>
</table>
References


