

“Doctor Zoom will see you now”: an equity-focused perspective on virtual care in the era of COVID-19

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Prelude

The COVID-19 pandemic has dramatically impacted populations and healthcare systems worldwide, especially in regions deemed “hotspots.” Social determinants of health have now become even more evident amidst the circumstances imposed by the pandemic, as traditionally underserved and marginalized populations are disproportionately impacted.^{1,2} In the past decade, virtual care has been proposed as a means of improving access to care for patients and can be administered across various modalities such as telephone, asynchronous messaging (email or text), videoconferencing (e.g. Ontario Telemedicine Network, Zoom), and other secure platforms (e.g. Doxy.me).³ The abrupt shutdowns imposed by the COVID-19 pandemic have accelerated the transition to virtual care across the world.³ Recently published papers have primarily focused on the global impact of virtual care or nation-specific healthcare systems.^{4,5} Our commentary offers an equity-focused perspective on the landscape of virtual care during the COVID-19 pandemic with an emphasis on acknowledging and addressing factors unique to the Canadian healthcare system. Specifically, we will discuss benefits of virtual care and explore the challenges imposed by the rapid conversion to virtual care in the context of social and other determinants of health in Ontario.

Benefits of virtual care

The implementation and availability of virtual primary and specialist care confers benefits for some patients. A national survey conducted for the Canadian Medical Association in May 2020 reports that while most Canadians still rely on in-person physician care, almost half have accessed care using telephone, asynchronous messaging, or videoconferencing methods during the COVID-19 pandemic.⁶ Of these individuals, 91% were satisfied with their experience, and projecting beyond the pandemic, 38% of Canadians would prefer virtual first point-of-contact with a care provider in the future.⁶ The shift and expansion in how patients prefer to access health services may be attributed to the benefits of virtual care, including timeliness of access to routine care, specialists, and test results, as well as increased convenience for patients. Virtual care expands access across geographical regions and removes traditional barriers to clinic visits such as costs, time commitment, and transportation, especially for patients living in areas with fewer practitioners. Furthermore, virtual care may redefine wait times by providing timely access to clinicians, which has been a chronic challenge with in-person visits to either walk-in or appointment-based clinics.⁶ Numerous clinics now offer flexible appointment timeslots, conferring convenience for patients with unaccommodating work schedules who can now attend virtual visits during work breaks and avoid taking time off from work to commute to a clinic. When real-time updates on anticipated delays are well-implemented, they allow patients to better plan their time. Since they are free to proceed with their daily routine and wait for the “visit” in the comfort of their own space, patients may experience less uncertainty and frustration than while physically waiting in the clinic. Virtual visits also reduce patients' exposures to other sick patients since they would not be in close physical proximity (e.g. clinic waiting room). This separation is especially important during the COVID-19 pandemic for vulnerable or immunosuppressed individuals, during influenza seasons, as well as for patients with allergies, with anxiety, or who have privacy concerns due to being observed by others in the waiting room.

Challenges of virtual care

The rapidity and scale with which virtual care was implemented,

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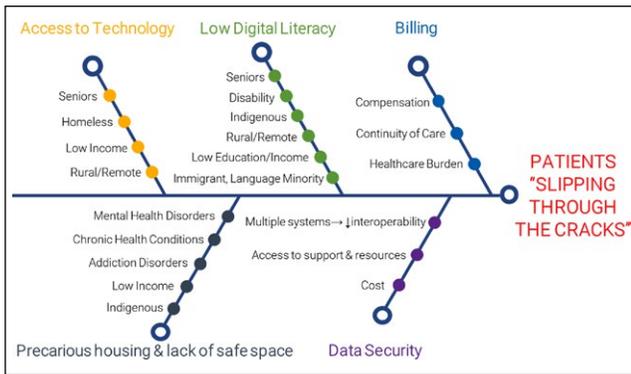


Figure 1. Visual representation of groups identified as at-risk of challenges in accessing virtual care

in a system that was not fully ready or adequately equipped for equitable access to care, present challenges that disproportionately disadvantage specific populations (Figure 1). At the most basic level, patients seeking to access virtual care require access to technology, digital literacy, and a safe space to converse.

The majority of Canadians have access to a telephone, whether mobile or landline, and are thus able to access telephone-based virtual visits.⁷ The concern regarding access to technology is centred around videoconferencing-based virtual visits – for which a device capable of capturing high-quality audio and video, as well as maintaining a stable internet connection (e.g. tablet, computer or laptop with webcam, smartphone) is required. Access to a suitable device is limited by availability (especially in rural settings) and affordability. Access to a stable internet connection is a prevalent concern as the Internet Use Survey found that 6% of Canadian households did not have internet access; with the main barriers being cost and availability.⁸ When stratifying by age, 29% of seniors reported not having access to the internet.⁸ These proportions are likely an underestimate as they only capture households with a permanent address. In households with connection, the reliability of connection can be variable, especially in more rural and remote regions. These concerns regarding access seem to primarily impact low-income individuals, seniors, homeless individuals, and those living in rural or remote communities.

Another requirement for being able to access virtual care is digital literacy, or the ability to use technology to communicate information effectively. Digital literacy is the basic understanding required to traverse digital systems and is thus essential to the successful navigation of virtual care platforms. Recent estimates show a national divide in digital literacy, with a higher proportion of the population at both the highest and lowest levels.⁹ Specifically, the Canadian government identified certain populations at high risk for low digital literacy, including: seniors, people with disability, immigrants, Indigenous individuals, low-income individuals, language minority groups, those who have not completed high school, and individuals living in rural or remote communities.¹⁰ As such, these groups are placed at increased risk of being precluded from navigating virtual care.

Moreover, a fundamental and often-overlooked aspect of virtual care is the availability of a safe space to converse. Medical appointments can involve the sharing of intimate information and the traditional model of care facilitated these visits by occurring in private examination rooms. In order to replicate this level of

privacy in virtual care, patients shoulder the responsibility of finding a safe space. This can be extremely difficult for individuals who have precarious housing situations (e.g. subsidized housing, crowded living spaces) or those without a permanent address and can result in reluctance to share pertinent concerns. Examples range from teenagers unable to have a candid, private conversation with their healthcare provider about safe sex and contraception for fear of familial repercussions to victims of intimate partner violence or domestic abuse feeling unsafe and being unable to voice their concerns or obtain medical support. While there are no clear numbers regarding the proportion of the population who experience these barriers, precarious housing has been well documented and can serve as a surrogate measure. Precarious housing is a prevalent concern, as 12-26% of Canadians experience housing insecurity and a private indoor space may not be readily accessible, especially during inclement weather conditions.^{11,12} Sociodemographic factors associated with housing insecurity include: Indigenous ancestry, low income, chronic medical conditions (e.g. tuberculosis, HIV), mental health disorders, and addiction disorders.^{12,13} This triad of access, literacy, and a safe space form the basic requirement for patients to effectively participate in virtual care with deficits in any one aspect serving as a barrier to care. The current implementation of virtual care shifts the onus of accessing care from the provider to the patient, as the patient is now responsible for obtaining this triad. While this can be empowering to some, it can also be extremely distressing and debilitating to others and can preclude them from receiving appropriate care. Moreover, the health care infrastructure is fragmented, with each clinic operating independently without provincial or national uniformity. The adoption and implementation of systems are dependent on the individual provider with patients of poorly implemented systems suffering from the consequences. If additional efforts are not made to standardize virtual care and identify vulnerable groups that cannot readily access it, these patients will be in further danger of slipping through the cracks of a fragmented and rapidly evolving healthcare system.

Practical considerations for providers

In addition to patient concerns regarding accessing virtual encounters, several provider challenges have arisen, namely digital vulnerability, fragmentation, inability to conduct physical exams, and nuances regarding virtual billing.

Digital health systems, including virtual care platforms, are prime targets for cyber-attacks and are thus associated with information privacy concerns. While larger organizations have the resources to employ full-time information technology teams to maintain secure networks, reducing their susceptibility to attacks, this is not a luxury afforded to most independent providers. Furthermore, the EMR landscape is free-market-driven and thus, there are many different systems varying by cost, functionality, connectivity, etc. The inadequacy of dedicated healthcare videoconferencing platforms may drive providers towards “off label” usage of free informal platforms (e.g. Zoom, WhatsApp, FaceTime) which are not designed for implementation in healthcare, consequently posing greater security risks.¹³ Given that each private practice uses multiple different systems, the provision of seamless integrated care is only possible if these systems are able to communicate with one another: a concept called interoperability. Virtual care introduces yet another system into the mix which stirs the balance of interoperability within the

existing infrastructure. Ultimately, the security risks associated with formal and informal telehealth platforms, as well as interoperability concerns, must be balanced with the need of providing adequate care when in-person visits are unviable or inaccessible.

The physical exam, second in importance only to a thorough history, is an essential element in a physician's diagnostic toolkit. While some exam manoeuvres can be performed over virtual care, others must be done in person. This can lead to greater diagnostic uncertainty in virtual care and may result in increased healthcare resource utilization, either through increased testing, increased appointments (one for virtual and one for in-person to supplement the virtual encounter), or increased urgent care clinic and emergency department visits since the scope and ability of primary care providers to diagnose and manage patients is restricted by virtual means. This may result in delayed or suboptimal care for patients and, on a macro-scale, place additional burden on an already-strained healthcare system.

The rapid expansion of virtual care has also required healthcare systems to adapt billing methods. In March 2020, the Ontario Ministry of Health expanded the applicability of billing codes for virtual care to encompass more virtual forms of delivery, including telephone and video-based applications.¹⁵ Previously, these billing codes were employed with Ontario Telehealth Network, but are now able to encompass more types of virtual care to streamline billing for physicians. However, the expansion of billing codes presents potential problems with the resultant increased use of these services. Patients may find that access to primary care is streamlined through ad-hoc virtual care services offered by physicians other than their primary care providers. While this may hasten access to healthcare for specific needs, continuity of care through comprehensive and personalized physician-patient relationships is compromised and replaced with fragmented visits to different providers based on availability, increasing future healthcare utilization burden and costs. The billing code amendments made by the Ministry of Health will be in place until March 2021, when further examination of billing may take place. Other jurisdictions have considered and implemented similar measures of ensuring that virtual care billing is not misapplied, including the establishment of billing code amounts that encourage the adoption of these systems, but prevent their misuse.^{15,16} The instalment of an adequate compensation model is essential to ensuring widespread adoption and use of these services beyond the decline of the pandemic, thereby cementing this form of care for patients unable to seek frequent in-person care. Moving forward, we must balance the need for physicians to be appropriately and timely compensated for providing virtual care with the consideration of preventing unnecessary costs to the healthcare system through inefficient visits, unnecessary tests, and potential billing code confusion or misuse.

The increase in efficiencies that patients may experience through virtual care can also be extended to providers. Although potentially tempered by specialty, physicians may notice an increase in workflow through streamlined patient encounters, allowing for more time to complete administrative tasks such as charting, testing, or referral follow-up. The overall increase in free time can therefore have positive implications for physician fatigue and burnout.^{17,18} Conversely, the new “norm” of virtual patient interactions may re-define physician-patient relationships by emphasizing technical aspects and efficiency over the importance and skill of establishing

rapport and maintaining connections with patients during these encounters. This shift may percolate from physicians in practice to medical learners and model a new practice of medicine in the future which favours the “science” over the “art.” As a result, patients with more complex medical issues complicated by social determinants of health, such as socioeconomic status and living conditions, may be deprived of more comprehensive care that accounts for their unique health challenges. Physicians should remain committed to retaining thorough communication with these patients to mitigate these concerns.

Future directions

With the changing landscape of virtual care, the medical community will need to respond to associated challenges as they evolve, especially towards the populations at greatest risk. Irrespective of the solutions, one facet which has been exposed is the fragmentation of the healthcare system: one where there is no national direction. Rather, each clinic operates in an independent silo. As seen, certain populations in Canada face many barriers in accessing the health care system. The fragmented nature does nothing to ensure appropriate care for the most vulnerable within our society. As such, there needs to be, first and foremost, a concerted push for uniformity. A national initiative that aims to outline standards can ensure that the most vulnerable are accounted for, especially during the COVID-19 pandemic.

As for specific solutions, access to technology can be addressed through expanding programs such as the Universal Broadband Fund, a federal initiative which provides funding for network infrastructure in rural communities.²⁰ Alternatively, improving national cellular service coverage can provide an alternative means for access. Inability for patients to access safe spaces during virtual consultations can be addressed with housing reform that provides affordable housing. In the interim, some temporizing measures can include dedicated space with private rooms to facilitate a safe environment for patients to converse with providers. Even a simple measure of ensuring access to asynchronous care over email or text could serve as a means to ensure privacy. Furthermore, determining areas that may have a greater need for secure and safe spaces to access virtual care is essential to the equitable distribution of these resources, which will require coordination with public health agencies and community partners.

Although COVID-19 has generated numerous challenges for the healthcare system, it has also hastened the widespread adoption of virtual care that is likely to remain in place beyond the pandemic. Virtual care confers flexibility and convenience for both patients and physicians and provides an alternative method of accessing healthcare for those who are reluctant or unable to attend in-person appointments. Despite these benefits, numerous challenges remain that threaten the successful implementation and equitable access to virtual care. Steps must be taken to address the lack of access to technology, improve digital literacy among patients, and establish safe spaces for patients requiring them for privacy. In their practice, physicians must be cognizant of security threats associated with virtual care, risks to patients regarding uncertain or emergent presentations, inefficient burdens on the healthcare system, and continuity of care. These factors must be examined and evaluated in a systematic way to better understand the impact of virtual care in different Canadian jurisdictions. Overall, virtual care can be beneficial to patients facing

barriers to healthcare access, but practitioners must recognize its current limitations in sustainability and equity, proactively address challenges outlined above as we continue providing virtual care both during and beyond the pandemic, and work to ensure that no patient is left behind as virtual care establishes a permanent foothold in our evolving healthcare system.

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