TELUS Health is pleased to contribute to the Competition Bureau's market study of Canada's health care sector. We trust that this submission, provided as part of the Bureau's public consultation, will help inform your findings about the opportunities and challenges facing digital health care in Canada. TELUS Health is a firm believer that pro-competitive and forward-looking policies are instrumental in facilitating the growth of digital health solutions. We have devoted extensive resources toward products and services that support Canada's broad health care ecosystem. We believe that Canada will be best served by a competitive marketplace built on an open ecosystem that facilitates new entry and long term systemic innovation. Providing Canadians with a platform to develop homegrown digital health care solutions will support the availability of products and services that are responsive to the needs of Canada's public health care model and diverse populations.

Our focus is to empower patients to play an active role in managing their interactions with the health care system, while at the same time increasing efficiency for health professionals, promoting safe and secure flow of information among patient, providers and health systems, and ensuring "privacy by design" to protect patients' sensitive information. We are hopeful that the Bureau's market study – and the adoption of pro-competitive and pro-digital policies across Canada's health care system – will enable increased innovation by TELUS Health, its partners and its competitors and lead to better health outcomes for Canadians.

Virtual care has great potential to address many of the challenges faced by the Canadian health care system, for example by assisting in the management of increasing health care costs, or by providing more readily available access to healthcare to Canadians living in remote communities. Adoption of virtual care has accelerated as a result of the pandemic – primary care use of video visits has soared from 4% in 2018 to 60% as of May 20201. The uptake is promising, but without a patient-centric focus and appropriate and harmonized policies and investments, the window of opportunity for a true transformation and digitization of health care will be squandered.

1. Are there ways that policies can better support innovation, choice and access to digital health care solutions? For example, do specific rules unnecessarily impact the ability to offer virtual products and services to Canadians? Please explain.

In order to better support innovation, choice, and access to digital health solutions, policies must promote the integration of digital health solutions with existing health systems in a way that is patient-centric and facilitates the continuity of quality care, rather than treating virtual interactions as outliers or anomalies along the patent's care journey. Currently, virtual care is mainly viewed as a substitute for in-person care rather than a way to enhance and bridge in-person care. Policy changes that would help shift this view include:

Interoperability Standards

- Developing national digital interoperability standards that facilitate collaboration among health professionals in a patient's health care team can allow health care professionals to exchange information across the multiple systems used today in the health care system

[1] Deloitte, *Virtual Care is Here to Stay*, 2020

(hospitals, clinics, pharmacies, senior homes, laboratories etc.). At the same time, this would enable patients to access to their health records and those of their dependents (e.g. elderly relatives or children). The current health care system is a multitude of silos that cater to a specific health care environment, for example primary care, pharmacy, acute care, or home care, among others. The lack of interoperability between these silos prevents the provision of coordinated patient-specific care and poses a barrier to access to patients' complete medical records, which can present real risks to patient safety. The implementation of digital health care solutions that adhere to national interoperability standards will facilitate access to a patient's full medical record within and across all silos as well as across geographic boundaries. In this regard, our position is in alignment with the submission made by the Commissioner of Competition to the Government of Ontario regarding Digital Health Interoperability (July 23, 2020).

- To reap the full benefits of interoperable digital health solutions, a high-level of adoption among different health care professionals and health care settings is required. Governing bodies, including provincial ministries, and professional colleges, should be encouraged to take an active role in requiring the adoption of systems that meet standards and improve patient safety and continuity of care. For example, the ePrescribing solution built on TELUS Health technology and delivered through Canada Health Infoway (PrescribeIT), is a national, standards-based platform that enables prescribers to electronically transmit a prescription directly from an electronic medical record (EMR) to the pharmacy management system (PMS) of a patient's pharmacy of choice. While this ePrescribing solution presents an opportunity to integrate primary care prescribing with pharmacy fulfillment, it faces adoption challenges because ePrescribing requires that the EMRs and PMS systems are compatible and integrated with the ePrescribing solution and the decision to integrate such systems with the ePrescribing solution rests with each pharmacy and medical clinic. Provincial Medical Regulatory Colleges could play an important role in increasing adoption by recognizing common ePrescribing standards and requiring their members to adopt systems that align with these standards and support interoperability.
- Clear, robust and harmonized interoperability standards will allow hospitals and primary care systems to be connected. This connectivity is critical in supporting patients who have been recently discharged from acute care and need follow-up, or remote monitoring of their condition. Such connectivity will enable a shared patient health record, which would have several benefits, including (1) patients would be empowered to advocate for their own needs with full access to their record; (2) any clinician who sees a patient after a hospital stay (whether in-person or virtually) could easily refer to notes from the hospital stay to better inform required follow-up; (3) remote monitoring for patients who are stable, but at risk for re-admission could be followed by clinicians who have access to their full record.
- Clear, robust and harmonized interoperability standards will provide a national standard that will facilitate innovation and will allow existing companies and **new entrants** to invest the significant time and resources to launch new products and services with confidence. Private sector organizations should be involved in developing standards to ensure they are technically sound, and that any perceived deterrents to new entrants in the market can be assessed and mitigated early on.

Privacy and Security

- Developing national security and privacy standards or, at a minimum, encouraging provinces and territories to have harmonized legislation in this area will support the availability of effective digital health care solutions. Successful adoption of digital health care solutions (like many other virtual services involving the management of personal and health information) can only be achieved if we can reasonably control and mitigate the privacy and security risks that could adversely affect patients' and clinicians' level of trust and willingness to adopt and use virtual care platforms. The current regulatory framework, including personal information legislation, does not create an environment that fosters and supports the development of digital health care solutions. For example, there is a lack of clarity on how consent should be obtained in the virtual setting. Similarly to billing and licensing requirements that vary from province to province, the privacy legislation applicable to personal and personal health information is a patchwork of varying legislative requirements (for example, data sovereignty requirements vary from province to province - which results in increased complexity to launch national product offerings). A comprehensive and harmonized privacy regulatory framework will foster and increase adoption and the development of new technologies specifically designed to meet the challenges of the health care system. For companies (existing companies and new entrants) to invest in the development of innovative technologies in this sector, they not only need funding, they need a clear and predictable regulatory framework.
- Clear, robust and harmonized privacy and security standards will also inspire trust among patients, which is critical to the adoption of new digital health care solutions. This is particularly relevant with respect to services being provided to more sensitive or vulnerable populations, such as the elderly and those with mental health challenges where the needs are constantly evolving and where having "just in time" access to care can immensely improve health outcomes.

Promotion of New and Purpose-Built Technologies

- Promoting the use of new or existing digital technologies to streamline and improve patient care while managing clinical considerations such as patient load and appropriate compensation to health care professionals will facilitate the implementation of digital health care. The adoption of digital technologies will allow clinicians to invest their time and energy where their expertise is most valuable – treating patients. For example, artificial intelligence (AI), with proper guidelines, can support the triaging of patients by directing the patients to the right provider at the right time. With AI, patients who present with red flags for a medical emergency can be automatically routed to a local emergency department, or AI can automatically share a patient's location with EMS providers to ensure timely support in a crisis. Such technologies are not a substitute for clinical judgement, but rather an opportunity to reduce burden and risk to clinical teams. Similarly to what was highlighted by the Competition Bureau in the 2017 FinTech Market Study Report (Technology-Led Innovation in the Canadian Financial Services Sector), usage of AI and automation in specific use cases in the health care sector has the potential to improve both the quality and efficiency of health care services.

- Unfortunately, there are regulatory challenges facing the development of new technologies in health care. The application of the Medical Devices Regulations (established under the authority of the Food and Drugs Act) to software is far from clear. The Medical Devices Regulations and concepts such as “medical devices” are not compatible with emerging software solutions, including AI. This incompatibility makes it very difficult to assess the medical device classification of software-based medical devices (now being referred to as “software as medical device” or “SaMD”). Despite Health Canada’s recently released “Guidance Documents: Software as a Medical Device (SaMD): Definition and Classification”, which has provided a constructive framework for the interpretation of SaMDs, it continues to be challenging to classify emerging software technologies under the Medical Device Regulations.

- While COVID-19 has demonstrated that virtual care can work efficiently (provided health care professionals have access to the required technology and are properly compensated), it has also introduced a temptation to adopt generally available standard communication platforms that can easily hyperscale. While scalability is essential, so too is capacity to securely enable specific virtual care features that are able to handle clinical and patient workflows. Not only will this enhance the ability to connect currently siloed elements of the healthcare ecosystem and bring truly connected, patient-centred care to Canadians, it will facilitate further innovation that supports the needs and workflows of the Canadian healthcare system. We encourage adopting a holistic mindset when considering how to best facilitate systemic Canadian innovation in this space.

Access to Care

- As we know, digital health solutions are, in many cases, tools that support and improve the quality and delivery of clinical care by health professionals. While virtual care can improve access to care for underserved populations, there are still not enough physicians in the country to meet the needs of the entire population. This deficiency is exacerbated by the health care needs of our aging population and the fact that many patients do not have access to a family physician. We need to manage the current shortage and future shortage of health professionals in order for any digital strategy to be successful. One way to expand access to care is to increase the scope of practice of health professionals other than physicians. For example, Nurse Practitioners have the education and expertise to support many of the health needs currently provided by virtual care. Supported by a uniform regulatory framework, the expansion of the role of nurse practitioners will be critical to expanding access to care.

National Licensing

- Encouraging provincial governing bodies regulating the practice of health professionals (including physicians, nurses and pharmacies) to implement harmonized standards and policies for the delivery of digital health care solutions and to facilitate the ability for those health care professionals to practice “out of the province”, but within Canada, will support the use of digital health care solutions. Patients should have the ability to be treated by the health care professional of their choice, regardless of the patient’s present location in the country. “Out of Province” measures would allow for the more efficient utilization of health

care resources by removing geographic constraints, allowing: (a) reduction of costs through the reduction of "wasted" health care capacity in areas where supply exceeds demand; and (b) improved service to "underserved" communities (e.g., northern areas) where demand does not justify permanent health care resources (physicians and nurses). Currently, requirements for registration or licensing are different in each province/territory. This makes the adoption of digital health care technology for patients and health professionals complicated or impossible in certain cases. In some cases, the clinician needs to be located in the same Province as the patient to deliver care, in other cases, the clinician can be located in another Province so long as the clinician is licensed in their own province as well as the other province where care is delivered to the patient. There are also discrepancies in pharmacy regulations with respect to the types of "out of Province" prescriptions that are permitted and even whether "out of Province" prescriptions are permitted. These regulations have not been revised to account for how easily and frequently Canadians travel across Provincial borders, and pose a threat to the fundamental Canada Health Act tenet of portability, as well as continuity of care.

2. What other barriers are impeding Canadians' access to virtual care and restricting innovation and choice in the health care sector? Can these barriers be reduced—and, if so, how—in order to facilitate the entry and expansion of digital solutions?

There are several barriers impeding Canadians' access to virtual care and restricting innovation and choice. In some cases, these barriers impact virtual care specifically, and in others, virtual care shines a brighter light on issues that have been left unaddressed in the traditional health care system. These barriers are often interconnected and none are trivial challenges to navigate. In our view, addressing these obstacles will require bold and courageous leadership from the private and public sectors and unprecedented collaboration and partnerships.

- **Compensation mechanism**. As well explained by other groups/associations (including the Canadian Medical Association[2]), the compensation/billing regulations that exist in each province or territory are a significant barrier to the widespread adoption of virtual care, especially for physicians. While temporary fee codes were issued in all jurisdictions, in one form or another, to limit the spread of COVID-19, they are insufficient to address the ongoing provision of modern virtual care. Likewise, where permanent fee codes do exist e.g. in Alberta, BC, and Ontario, they are subject to certain limitations. At a basic level, virtual care is care. Physicians must be able to both deliver full care virtually and be compensated. This situation is perhaps the most significant barrier to the permanent adoption of virtual care by physicians. Fee codes for virtual visits should become permanent and not subject to limits in terms of number or nature of consultations. In addition, fee codes should ensure that physicians are fairly compensated for both in-person and virtual visits, and that reimbursement rates and regulations do not inadvertently encourage clinicians to see patients through a particular method. Rather, patients should be free to choose whether in-person or virtual consultations suit them best, without posing an issue to clinician payment.

[2] https://www.cma.ca/sites/default/files/pdf/News/Virtual_Care_discussionpaper_v2EN.pdf

- **Change management and education**. Virtual medical consultations represent a change for most health care professionals and patients. They require health care professionals and patients to learn how to interact virtually and how to use the necessary technology, including how to overcome the limitations of the technology. Physicians should be incented to learn and use virtual care, especially since after COVID-19 many physicians may be tempted to revert back to the "legacy" model of providing medical care. Supplementing existing continuing education programs that are available for health care professionals with requirements relating specifically to virtual care and the use of technology would reduce the barriers to entry for new technology by increasing awareness of technology across the medical professions. In addition, developing effective education materials or tools to help certain patient groups that could be facing inherent challenges and disadvantages in using virtual care (e.g., patients with mental or physical challenges that make effective use of technology more challenging; elderly patients and/or patients with limited computer literacy) can help patients overcome these challenges (e.g., by educating family members about how to facilitate virtual care for patients) and thereby improve successful adoption and outcomes.
- **Usage of legacy technology**. While other industries have long since moved on to more reliable technologies, health care continues to depend on the use of fax machines and paper documentation as the primary method of communication for many tasks, such as specialist referrals and pharmacy communications. In addition to posing additional risk to patient privacy and creating additional interoperability challenges, this is particularly troublesome in virtual care where clinicians cannot provide a patient with a physical copy of a prescription or referral as back-up to what was faxed, in the event that there is an issue with the fax. The expansion of solutions such as ePrescribing and eReferral solutions would significantly reduce reliance on fax, benefiting both the traditional system and virtual care offerings and mitigate the inherent errors of legacy technologies.

Improving connectivity

- Internet connectivity is the backbone of digital health care solutions such as virtual care. Improved connectivity, particularly for rural Canadians, is essential to the adoption of virtual care. The most important step that government can take immediately to connect rural Canadians and improve their access to virtual care is to improve radiofrequency spectrum policy. International results show that the most connected countries around the world focus on the prompt and efficient allocation of radiofrequency spectrum. Ensuring that Canadian spectrum policy aligns with this best practice will help ensure greater connectivity, especially for rural Canadians, because their Internet access is often provided through fixed wireless technology. Using fixed wireless technology removes the need to run a wireline connection to each premises in sparsely populated and topographically challenging areas. Of course, in order to provide fixed wireless Internet access, providers must have access to sufficient spectrum. As a result, smart spectrum policy is critical to improving broadband for Canadians in rural areas, and thus, improving virtual care access.

- However, at present, ISED has been too slow to auction critical 5G spectrum, and has pursued a policy of artificially inflated pricing[3] and weak deployment conditions[4] for set-aside spectrum. As a result, facilities-based providers do not have the capacity to meet the CRTC's universal connectivity objectives. This policy failure can be remedied through revised auction designs that auction spectrum more efficiently and cost effectively, and through stronger deployment conditions that force spectrum holders to make better use of the spectrum they control.
- Recent broadband funding programs have shown that smart collaboration between government and facilities-based ISPs can bring connectivity to underserved, predominantly rural areas. Examples include the recent $750M CRTC broadband fund, ISED programs such as Connect to Innovate[5] Connecting Canadians[6] and a new Universal Broadband Fund that is currently in development[7], as well as many provincial and municipal funds.

3. What measures have other jurisdictions taken to improve access to virtual care? How have barriers to innovation and choice been eliminated, while balancing legal and regulatory requirements in the delivery of digital health care solutions? Can similar measures be adopted in Canada? Why or why not?

Several jurisdictions have taken steps to improve access to virtual care, and their efforts are reflected in industry predictions that their market growth in coming years will outpace growth of the Canadian virtual care market. According to MarketsAndMarkets report "Telehealth Market - Forecast to 2025" (March 2020), which pre-dates the COVID-19 pandemic and the ensuing increased adoption of virtual care, the market for real-time virtual interaction between a patient and clinician is expected to grow at the following compound annual growth rates of from 2020-2025:

China	27.5%
Japan	24.9%
Australia	22.9%
US	17%
Canada	14.4%

[3] Canada has some of the most expensive spectrum in the world. Canadian wireless carriers spend on average US$470 per subscriber on spectrum, compared to US$130 per subscriber for carriers in the 28 nations of the EU. Canada's spectrum prices are also significantly higher than prices for the same spectrum in the United States. For example, in the AWS, 700 MHz, and 600 MHz spectrum auctions that occurred between 2008 and 2019, Canada's wireless carriers paid more than two times what was paid in the U.S. for the same open spectrum. See Second Report of Robert W. Crandall, p.14-15, Appendix 1 to TELUS' Further Comments filed in response to Telecom Notice of Consultation CRTC 2019-57, *Review of mobile wireless services*, 22 November 2019.

[4] ISED deployment conditions have regularly allowed spectrum, often licenced at a significant discount because of a set-aside, to go unused for years or decades to the detriment of Canadians who live in rural areas. At present, for example, some deployment conditions for Tier 2 (provincial) spectrum licence areas can be satisfied by deployment in just one or two of the metropolitan areas in the geographic area.

[5] Connect to Innovate, Government of Canada, online: https://www.ic.gc.ca/eic/site/119.nsf/eng/home.

[6] Connecting Canadians, Government of Canada, online: https://www.ic.gc.ca/eic/site/028.nsf/eng/home.

[7] Universal Broadband Fund, Government of Canada, online: https://www.ic.gc.ca/eic/site/139.nsf/eng/h_00006.html.

These jurisdictions have implemented the following measures to improve access to virtual care:

a) Government support, investment, and encouragement of industry-academic partnerships to boost innovation in virtual care (US)

Through various government bodies, the US has funded and implemented several initiatives to promote innovation in virtual care, including:

- 2019: The University of Virginia received USD $400,000 to implement Virginia Telemedicine Network, a telemedicine initiative to help 750,000 people in rural areas. The funding was provided by the US Department of Agriculture (USDA) Distance Learning and Telemedicine grant program.
- 2018: The USDA invested USD 42.5million in 133 distance learning and telemedicine projects.

In addition, the Health Resources and Services Administration (HRSA), an agency of the US Department of Health and Human services, runs several telehealth programs and offers funding to promote and improve telehealth services in rural areas, such as Substance Abuse Treatment Telehealth Network Grant Program (SAT TNGP-2017) and the Telehealth Network Grant Program (TNGP-2016).

Through collaboration of the private sector and public sector, it can be proven that virtual care and other enabling digital health solutions, such as a shared patient record, ePrescribing, and eReferrals, improve the quality of, and access to care within a network. However, these initiatives require funding. Without proper funding and collaboration, it is very difficult to resource such activities, which require dedicated focus and personnel. Funding to support digital solutions that promote integration within the health care system must be structured to incentivize new entrants, expansion, and competition. Creating open pilot programs, technology-sharing initiatives or through partnerships with bodies like Canada Health Infoway or Public Health Agencies for local efforts could promote the desired collaboration across sectors.

b) Implementation of a regular review of medical reimbursement fees to ensure access to a greater number of clinicians and patients (Japan)

Japan is recognized as a global leader in digital health and has well-established processes in place to streamline virtual care, including their 2018 implementation of biannual revisions to the schedule of medical fee reimbursement. Fee structures for physicians offering counseling over the internet, and the number of e-visits permissible have been redesigned to invite more participants to use these technologies. In addition, adoption of telemedicine is a foundational component of the Japanese government's 2035 health care plan.

We propose that policies are put in place across Canadian jurisdictions to ensure that medical reimbursement is regularly reviewed, such that it evolves with the way Canadians access care. In addition, advocating for shared standards across provincial or territorial licensing bodies for clinicians simplifies the efforts required to assess any necessary changes to reimbursement.

c) Investment in developing and optimizing networks to improve access for rural communities (China)

Per an article published by Business Insider in 2020, ZTE (a Chinese networking equipment manufacturer) and China Telecom collaborated to supply and optimize 5G networks and communication equipment for the West China Hospital of Sichuan University. This was used to support video consultations that enabled the first remote diagnosis of COVID-19 cases.

This prompt use of technology for detection and treatment of the outbreak sets an example for how virtual care infrastructure can be leveraged in future population health crises. Moreover, it creates a platform for extending medical help to affected areas without physically confronting potential threats of the disease.

d) Implementation of a national digital health record system in an opt-out model (Australia)

Australia has implemented a digital record system called My Health Record, which allows approved health care providers involved in a patient's care to view their health information, while also allowing patients to view their own health information online. The Australian Digital Health Agency has developed a multi-channel approach that allows for patients to access their record through any of four mobile apps available to all citizens, while providers can gain access through their clinical information system or a shared National Provider Portal. A key strategy to boost uptake of the system was the shift from an "opt-in" model to an "opt-out" model - a move that is supported by behavioral economics experts globally. Another important strategy was the development of a legislative framework that states key accountabilities along with a control framework that includes penalties and prohibitions for inappropriate use.

We propose borrowing from Australia's use of the opt-out model to facilitate more timely expansion of ePrescribing, eReferral, and Patient Health Record initiatives that are ongoing across the country. With regards to ePrescribing and eReferrals, the expectation should be set that all Primary Care Clinicians, Pharmacists, and Specialists engage with the platforms by default with an option to opt out if a valid reason is offered (for example, the practice does not currently use a system that is compatible but has a plan to migrate in the near future). Patients could be automatically enrolled in a shared Patient Health Record that continues to collect notes from their interactions across the health system with an option to opt-out or restrict clinician access if desired.

e) Regular sessions with clinicians and patients for assessment and adjustment to any perceived drawbacks of virtual care (Australia)

Australia regularly organizes events to bring together clinicians and patients to analyze and rectify drawbacks of virtual care, in order to further develop the telehealth sector. Of note, the Australian Telehealth Society has announced plans for the 20th International Conference on Successes and Failures in Telehealth (SFT-20) in October 2020.

While we have recommended several policy changes and strategies to mitigate current barriers to Canadians' virtual care access, we believe that regular and open dialogue that includes clinicians, patients, industry experts, funders, and the health care IT industry, is paramount to ensuring we can continue to optimize and sustain any changes that are implemented.

4. What impact has the COVID- 19 pandemic had on innovation and choice in Canada's health care sector, and on Canadians' ability to access health care virtually? Have any barriers hindered the adoption of digital solutions in response to the COVID- 19 pandemic? Please explain.

The COVID-19 pandemic has necessitated innovation on the part of governments to increase access to virtual care in a crisis mode, which in turn has spurred innovation by industry. As a result, primary care adoption of video visits has soared from 4% in 2018 to 60% as of May 2020[8]. COVID-19 has also demonstrated that virtual care can work efficiently, provided health care professionals have access to the required technology and are properly compensated. In response to the COVID-19 pandemic, steps have been taken to temporally lower some of the barriers for the adoption of digital solutions. Although required to address the situation, the temporary measures put in place to support the adoption of virtual care may have hindered the full sustainable, long term adoption of virtual care and other digital health solutions:

- Fee codes introduced for virtual care have been labeled as emergency codes, and so clinicians have been challenged to plan for how to incorporate virtual care into their practice in the long-term. Virtual care is still seen by some as a temporary solution to continue seeing patients without risking exposure to COVID-19, rather than a new option to offer patients who will continue to be challenged to attend clinics in person for reasons unrelated to COVID-19.
- While many virtual care providers have expanded marketing and communication about their services during the COVID-19 pandemic, there is still a significant lack of awareness of virtual care options and how different modalities can support patients. This has put many patients who require regular medical follow up for chronic conditions at risk who, after being informed that their regular clinician is not seeing patients in person during the pandemic, are not being offered an alternative.
- Many aspects of the health system have been digitized, but the lack of integration has limited our ability to reap the benefits of the technologies that have been implemented. For example, Ontarians have been able to go to any assessment centre to be tested for COVID-19 and receive their results virtually, but the process lacks the follow-up steps required. If properly integrated, results could be presented with a link to launch a virtual consult with the patient's primary care provider, either to discuss self-management or other potential causes and treatments for symptoms.

[8] COVID-19 Tracking Survey Results" Canada Health Infoway. Published May 28, 2020

Conclusion

The true transformative power of digital solutions does not lie in simply replacing or substituting the traditional delivery of care, but lies in the promise of digital solutions to create efficiencies, automate processes, enhance decision-making and to augment the patient experience.

Implementing the proposed policies to promote access to virtual care would allow us to capitalize on the unprecedented momentum in virtual care adoption that has resulted from the COVID-19 pandemic; the recommended changes would also support the breakdown of silos that have long existed across the traditional healthcare system. We look forward to a future for the Canadian health care system that maximizes the potential benefits of all digital health solutions available today, and creates room for innovative new health care technologies to be adopted.