January 29, 2021

Ontario's Long-Term Care COVID-19 Commission
Medtech Canada Submission

Dear Members of the Ontario Long-Term Care COVID-19 Commission,

Medtech Canada is the national association representing the Canadian medical technology industry. Our members provide technologies that save patients' lives, improve the quality of patient outcomes, reduce costs to the health care system, and create thousands of high paying jobs. The timely adoption of medical innovation and technology is essential to enhancing patient care, improving patient access to healthcare and enabling healthcare sustainability, while at the same time driving jobs and economic growth in Canada.

Through extensive consultations with the medical technology industry, Medtech Canada has assembled a Long-Term Care Submission Working Group, consisting not only of medical technology industry members but also other important stakeholders and organizations that have expertise in the Long-Term Care Sector. The Working Group looks to highlight many of the challenges that arose in the long-term care (LTC) sector during the COVID-19 pandemic – from an innovation and technology perspective – and provide specific examples of how innovation and technology can address challenging situations. This submission will also offer some suggested solutions for the benefit of both residents and staff of the LTC sector.

Medtech Canada has reviewed the Terms of Reference put forward by Ontario's Long-Term Care COVID-19 Commission and the current recommendations where technology can help to address the challenges that were faced by the LTC sector amidst the pandemic.

Medical technologies have proven to support and aid the health care sector in various and significant ways. This includes a wide range of products, equipment, support services and process improvements that help to improve the care that is delivered to patients. However, there is a lack of systemic planning and adoption of technologies in the LTC sector to support the challenges facing that sector, and the needs of those living in LTC settings.

Medtech Canada recognizes the LTC sector provides longitudinal residential based care. Thus, the implementation of technology should also serve LTC homes over a duration of time, and not just during episodic moments. The medtech industry recognizes that the context of care in LTC homes include a need for ongoing data and monitoring to support the life cycle of care on a long-term basis.

As Canada's LTC sector was hit hard by the COVID-19 pandemic, Medtech Canada member companies – and other key stakeholders we work with – recognized opportunities where medical technologies could be implemented to provide a better experience to residents and their family members, efficiency for staff, and improve overall care. These observations are reflected in the following recommendations.

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Overview of Recommendations

1. **Using technology to improve patient care and outcomes. Addressing social isolation and loneliness and providing a better experience to residents and their caregivers**
   A. Ensuring technology requirements are incorporated into LTC infrastructure
   B. Ensure LTC residents have access to technologies that improve care and outcomes

2. **Using technology to improve employee efficiency (health human resources)**
   A. Up-skill staff on effective use of new technologies
   B. Deploying COVID-19 tests (rapid antigen tests/panel tests)

3. **Using technology to improve access to care**
   A. Digitizing data records between LTC and acute care/hospitals

4. **Develop an intake process for innovation related to LTC**
   A. Establish a centralized system where companies can approach the LTC sector to suggest helpful technologies

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THEME 1

Using technology to improve patient care and outcomes. Addressing social isolation and loneliness and providing a better experience to residents and their caregivers.

1A. Ensuring technology requirements are incorporated into LTC infrastructure

The COVID-19 pandemic brought upon unprecedented challenges to long-term care residents and their family members. With governments enforcing "no visitor" policies, residents faced isolation. It came to light that basic technological needs have now become essential. Long-term care homes need Wi-Fi accessibility and smart technologies that enable residents to connect with their family members with ease. It is important to note that each resident has unique needs and different mobility limitations, thus technological solutions should be considered on a spectrum, and not as 'one solution fits all'.

Medtech Canada encourages the LTC sector to include technology considerations as a key component of capital planning. Technological solutions should be a pillar of the LTC home's infrastructure. The addition of these solutions can monitor for changes in resident behaviours and can either identify early warning signs of declining status and/or alert LTC staff of an immediate need, such as a fall. The solutions may also include, but are not limited to, having enough outlets to plug in all smart devices and sensors in the room. The LTC sector should consider national standards for minimum technology that assist residents in keeping connected with their loved ones while in isolation, as well as national standards for LTC home design and operation to help ensure appropriate digital infrastructure is in place to support technological solutions. It might be of benefit to hire specific personnel or establish a tech office to oversee these projects. Consistent and comprehensive up-skilling of staff should be considered to help ensure residents receive the support they need.

1B. Ensure LTC residents have access to technologies that improve care and outcomes

In addition, it is important to note that medical technologies have proven to support and aid the home and community care sector in various ways. This includes a wide range of technologies that help to improve the care that is delivered to patients. However, there is a lack of systemic planning and adoption of technologies in the LTC sector. In light of the COVID-19 pandemic, Medtech Canada and member associations recognized opportunities where medical technologies can be implemented to provide efficiency for staff and better the experience of residents and their family members, during the pandemic and long after. However, they faced significant challenges trying to figure out how to work with the Ontario Government and with the LTC sector to deploy these solutions that could have improved the circumstances for LTC residence given challenges such as the need for better infection prevention, not enough staff resources to best care for patients, difficulty supporting COVID-19 positive patients that had not yet been transferred to hospital, etc.

Examples of these technologies include:

- Airway Clearance Therapy for COVID-19 Positive Residences
  o Medical technologies exist that can provide airway clearance therapy which help to promote bronchial drainage by inducing vibration in the chest walls. The devices are intended to be a component of chest physiotherapy by providing a convenient method of external thorax manipulation. Airway clearance therapy, helps patients who have respiratory ailments that involve defective mucociliary clearance, as typically seen in patients with cystic fibrosis, chronic bronchitis, asthma, and more.

- No Rinse Body Cleansing Wipes
  o No rinse cleansing wipes make it easy to give a full-body bath or spot clean without the tub, shower, or running water. The pre-moistened cloths have all the cleanser and moisturizer one may need to clean skin without rinsing. The packages also can be warmed in the microwave to create a more comfortable, soothing bathing experience. Overall, improving patient bedside bath experience, while providing efficiency to the LTC staff.

- External Female Catheter
  o External female catheters provide a non-invasive urine output management solution by drawing urine away from the body by suction into a canister. By wicking moisture away from the body, external female catheters enable resident's skin to remain dry, reducing risks associated with current methods such as diapers and indwelling catheters such as dermatitis and urinary tract infections. Use of the external female catheter reduces the need to get out of bed, and thus may also help to reduce the risk of nighttime falls and improve sleep.

- Patient Wound Care - Specialty Technologies for Pressure Ulcers
  o The Canadian Armed Forces Report on long-term care homes shed a light on how COVID-19 resulted in a horrific situation with pressure injuries reaching stage 4 (most severe) as many LTC residents were isolated and bed ridden. Hospital News has also released an article discussing the impact of COVID-19 on wound care. Advanced wound care dressings and negative pressure wound therapy provide LTC nursing staff with better options to control any threats to patient well-being should there be evidence of a pressure ulcer and the ability to reduce treatment times related to infection.

2A. Up-skill staff on effective use of new technologies

Staffing shortages and other staff related-challenges during COVID-19 have clearly been a significant challenge. There are many technology solutions and innovations that could have been helpful during the pandemic.

For example, home care and staffing providers faced challenges when deploying their employees to LTC homes during the COVID-19 pandemic. They noticed that the lack of a centralized database within LTC homes prevented them from tracking who was working at specific sites, what homes faced staffing shortages, and could not track which LTC sites each employee was visiting. It was also noted that it was difficult to coordinate care between several providers, as well as monitoring the various individuals who went in and out of the LTC homes. The LTC sector should consider a central database that houses employee work logs to reduce the overlap of employees working in multiple sites, and to be able to trace the employee's work history in case of future COVID-19 breakouts.

There are software platforms available that help organizations fulfill their employer health and safety responsibility, ensure a safe return to on-site operations and comply with COVID-19 infection control regulations with an easy and effective plug-play solution for enterprise workers and visitors. These systems also provide a full-cycle automation for employee/visitor sign-in and attendance management, which will allow facilities to save on operational costs even in the post-pandemic world.

2B. Deploying COVID-19 tests (rapid antigen tests/panel tests)

Beyond staffing, another key challenge during the pandemic has been the effective deployment of COVID-19 testing. Modeling studies show outbreak control depends largely on the frequency of testing and the speed of reporting and is only marginally improved by high test sensitivity.[1,2] Diagnostic testing turn-around time (from sample collection to result reporting to patient) is also related to testing capacity. Screening more widely and frequently could enable COVID-19 infected individuals to be more rapidly identified and quarantined, helping to better manage and control the pandemic.

There are three objectives for COVID-19 testing: screening (i.e., identify the potential cases), diagnosing (i.e., confirm diagnosis) and monitoring/epidemiology (i.e., past infections and/or immunity). The testing options listed below (Table 1) have also recently been reviewed by the Canadian Agency for Drugs and Technologies in Health.[3] Despite having options, there are still limits on testing capacity. For example, Lab-based PCR testing is often restricted to only individuals who are symptomatic or exposed to a diagnosed individual and there are surge capacity ceilings. Medtech Canada supports the Testing and Screening Expert Advisory Panel's report on optimizing testing and screening. All testing strategies should be leveraged to fill in testing gaps in key populations and settings, such as LTC homes.

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[1] Interim Guidance for Antigen Testing for SARS-CoV-2

[2] Test sensitivity is secondary to frequency and turnaround time for COVID-19 surveillance

[3] COVID-19 Testing: A summary of Testing Methods. Ottawa. CADTH, 2020 Dec. (CADTH horizon scan): COVID-19 Testing: A Summary of Testing Methods - CADTH Covid-19 Evidence Portal

Table 1. Summary of Types of Testing					
Test Type Category	What is Tested	Primary Purpose	Sampling Methods	Setting	Scalability*
Antigen	Viral proteins	● Screening ● Presumptive diagnosis	● Nasal/nasopharyngeal swabs	Point-of-care	+++
				Central or hospital laboratory	+++
PCR or nucleic acid	Viral genetic materials	● Diagnosis ● Screening	● Nasal/nasopharyngeal swabs ● Saliva sample	Point-of-care	+
				Central or hospital laboratory	+++
Serological (antibody)	Antibodies to SARS-CoV-2 (COVID-19 Virus)	● Epidemiology	● Blood sample	Point-of-care	-/+
				Central or hospital laboratory	+++

Note: Point-of-care means the technology can be used in decentralized settings (i.e., doctors' offices, pharmacies, clinics, schools, workplace)

*Scalability refers to the capacity to adapt to changes in demand.

In addition, there are many other point-of-care tests that can be deployed to diagnose and monitor other diseases as well. These may include point of care panel tests to address flu-like symptoms and other chronic diseases. The use of point of care testing allows staff to bring care closer to residents, manages their illnesses in a timelier manner, and also prevents the transmission of infectious diseases to other residents. Overall, point-of-care testing would also work as a method to quickly identify illness and prevent hospital admissions. It further reduces the need for moving residents from the LTC facility to acute care for medical check-ups.

THEME 3

Using technology to improve access to care

3A. Digitizing data records between LTC and acute care/hospitals

In light of COVID-19, the movement of residents between LTC homes and hospitals/acute care showed the lack of systemic coordination of care between the two sectors. LTC homes and hospitals do not currently have strong methods in which to share patient data quickly and easily.

COVID-19 has exposed the importance of strong coordination and communication between Ontario's long-term care homes and hospitals. While there have been many efforts to coordinate on PPE and infection control practices, sharing patient data can be equally as critical to safe and effective care.

Even before the pandemic, major challenges existed in how hospitals and long-term care homes communicate and share data. If a patient is discharged from a hospital to a long-term care home in Ontario, their medical

information is shared via paper or fax, and then manually re-entered by staff at a LTC home. Not only is this inefficient, but it also increases the likelihood of errors, some of which (such as medication errors) can result in a transfer back to hospital. For example, research has demonstrated that:

- 1 in 6 LTC patients are readmitted to hospital within 30 days. Of these, a third occur within 3 days of initial transfer, and 50% are the result of medication errors
- The cost of a single readmission to hospital can be upwards of $10,000-$25,000
- At least half of these readmissions are considered avoidable[4]

Digitizing data sharing between the LTC and acute care sectors has a number of benefits.
- *Reduced unnecessary transfers* – By increasing the accuracy and timeliness of information, digitized data can help ensure avoidable emergency department transfers do not occur.
- *Better care* – digitized data will ensure that a care team has the right information in the right place at the right time to provide the best care possible to LTC residents
- *Reduced Administrative Burden / Increase Efficiency*
  - Reduce the time required for hospital case managers and discharge planners to prepare information for discharge / transfer to a long-term care facility
  - Reduce the time required for LTC staff to prepare information for discharge / transfer back to hospital
  - Eliminate the need for LTC and hospital staff to locate, scan and upload documentation into electronic health records
  - Eliminate the need for LTC and hospital staff to re-enter medications and applicable diagnoses codes from acute stay for reconciliation in EHR
- *Better access to information to improve care*
  - Improvements in information accuracy, timeliness, accessibility

In order to support the needs of residents and address issues, such as delayed medication administration, the transfer of data should be digitized. It empowers the care team to have access to resident's information instantly so that care can be provided quickly and efficiently, to reduce the chances of hospital readmission, and improves the overall issues of care coordination. This also raises new considerations for privacy and security as data is transferred from various sites and sources (e.g., access to staff).

Medtech Canada also recognizes the potential to implement technologies that can address health issues in a timelier way. These include smart bed sheets, pulse oximeters, and other wearable technologies that can detect early warning signs, thus improving the response time in care. Medtech Canada supports the establishment of national standards to enable technology development and implementation for the LTC sector.

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[4] Britton et al (2017).Care Transitions Between Hospitals and Skilled Nursing Facilities: Perspectives of Sending and Receiving Providers. Coordination of Care, 43 (11), P565-572,

Develop an intake process for innovation related to LTC

4A. Establish a centralized system where companies can approach the LTC sector to suggest helpful technologies

During the pandemic, the medtech industry noted that it was rather difficult to approach both the Ontario Government and the LTC sector with technological solutions to address the issues that the LTC homes were facing. There is a lack of a centralized system that can address such inquiries. The medtech industry recommends that the government works to create a process so that LTC homes have the opportunity to have information and knowledge about innovative technologies that support better care for residents.

Conclusion

Medtech Canada is committed to supporting the Long-Term Care sector as it moves to explore new standards of operations to avoid future health crises. The integration of technologies will aim to improve residential life, as well as assist in providing better overall care. Together, these two sectors can work to improve the quality of care of residents and assist caregivers in making quicker and smarter care decisions.

Thank you for your consideration of our recommendations. If you have any questions or would like to discuss further, please contact Nicole DeKort at ndekort@medtechcanada.org.

Sincerely,

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