Dialogue Summary

Identifying and Harnessing the Potential of Technology in Long-term Care Settings in Canada

1 & 2 February 2021

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McMaster Health Forum

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Conflict of interest

The authors declare that they have no professional or commercial interests relevant to the dialogue summary. The funders reviewed a draft dialogue summary, but the authors had final decision-making authority about what appeared in the dialogue summary.

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Dialogue

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Table of Contents

SUMMARY OF THE DIALOGUE

The deliberation initially focused on the most important challenges in identifying and harnessing the potential of technology in long-term care (LTC) settings in Canada. In addition to the features of the problem articulated in the evidence brief, participants highlighted four additional challenges: 1) there is a lack of a comprehensive innovation agenda for LTC; 2) residents, families and caregivers are rarely and inconsistently prioritized and meaningfully engaged in technology development and in efforts to strengthen LTC more generally; 3) technologies are often not attuned to the individual needs of residents and local realities; and 4) the LTC sector is not an innovative space and the value of technology is often questioned. In relation to the last point, an example shared was the skepticism about technology adding more time to care provision, reducing time spent with residents, and fear of it being used as surveillance or performance monitoring, rather than being viewed as a complement to existing supports that can enhance the quality of life of residents, families and caregivers, and support front-line staff, operators, the LTC sector and their integration with other sectors in the health system.

Much of the deliberation about the three elements of a potentially comprehensive approach to address the problem, focused on engaging long-term care home (LTCH) operators, staff, residents and their caregivers in developing and adopting technologies (element 2), and enabling rapid-learning and improvement cycles to support the development, evaluation and implementation of new technologies (element 3), with less discussion focused on ensuring that LTCHs operate in a context that can support the adoption of appropriate technologies (element 1). Participants emphasized that there is a need to re-imagine LTC using a co-design approach (and thus focus solutions based on what LTC is or should be). Most participants also expressed the need to address many large, structural and long-standing issues, including; implementing standards across the country using a quality lens and with supports that leverage existing structures (e.g., Canadian Standards Association and Accreditation Canada); supporting coordination within and between governments for technology innovation; addressing the many challenges that are present because of varied long-term care ownership models; and ensuring ongoing and meaningful engagement of LTC residents, families and caregivers in technology development and in efforts to strengthen LTC more generally.

In relation to implementation considerations, the deliberations initially focused on the scope of what an implementation plan for an innovation agenda could include. Specifically, participants deliberated about three possible approaches to advancing an innovation agenda, which were framed as: 1) incremental innovation that focuses on short- to medium-term goals for enhancing quality of care and care processes within the existing structure of LTC in Canada); 2) disruptive innovation where technology can be used to significantly change the LTC sector; and 3) radical innovation which would involve re-thinking LTC for the digital age. Most noted that the key barriers to any of these approaches will be limited to or facilitated by the political will to make them happen, and the cost of radically re-engineering long-term care (especially since technology typically increases costs overall, at least in the short term). However, participants identified several possible windows of opportunity, which include the sharp focus on LTC (and health and social systems more generally) from the public during the COVID-19 pandemic, which means that there is likely an opportunity to pursue more transformative changes. However, some participants cautioned that this window of opportunity may not last for long before the focus inevitably turns to other priorities.

For next steps, participants underscored the need to conceptualize technology as one part of innovation for LTC. This includes addressing the many large, structural and long-standing issues by re-imagining the sector using a co-design approach that focuses solutions on what the sector *should* look like. Moreover, this needs to be coupled with: 1) harnessing technologies that enable (and not detract from) person-centred care and support in LTC (e.g., given the significant potential for technology to support caregivers in a way that frees them up from other tasks so that they can spend more time on the in-person components of care and support); 2) implementing policy and organizational processes in the sector that support making small yet rapid changes that are centred on residents, caregivers and families; and 3) using funding models that enable ways of doing things differently. Participants indicated that initiating this work will require identifying and coordinating existing innovation projects to support scale and spread, as well as developing an innovation roadmap/agenda that meaningfully engages citizens (including LTC residents and/or caregivers and their families), system leaders and stakeholders.

SUMMARIES OF THE FOUR DELIBERATIONS

DELIBERATION ABOUT THE PROBLEM

The deliberation focused on the most important challenges in identifying and harnessing the potential of technology in LTC settings in Canada. In addition to the features of the problem articulated in the evidence brief, participants highlighted four additional challenges:

- lack of a comprehensive innovation agenda for LTC;
- residents, families and caregivers are rarely and inconsistently prioritized and meaningfully engaged in technology development and in efforts to strengthen LTC more generally;
- technologies are often not attuned to the individual needs of residents and local realities; and
- the LTC sector is not an innovative space and the value of technology is often questioned.

Lack of a comprehensive innovation agenda for long-term care

Several dialogue participants emphasized the lack of a comprehensive innovation agenda for LTC in Canada. It was emphasized that an innovation agenda for LTC should consider three types of issues that were discussed in relation to LTC in Canada:

- structural issues (e.g., aging infrastructure, lack of coordination within government and across sectors, no policy 'ownership' of different areas of LTC policy levers that may need to be 'pulled' for harnessing innovation in long-term care and other parts of health and social systems);
- system-level issues (e.g., challenges of working across different ownership models, lack of incentives to use technology to achieve system-level goals such as helping people age at home and preventing readmission to hospitals, limited funding for LTC, and lack of coordination and integration of technology platforms to enable better coordination); and
- competing agendas among different stakeholders (e.g., long-term care home (LTCH) operators, professionals and policymakers, as well as technology manufacturers and vendors, have competing agendas about what the next steps should be to address these challenges).

Box 1: Background to the stakeholder dialogue

The virtual stakeholder dialogue was convened in order to support a full discussion of relevant considerations (including research evidence) about a high-priority issue in order to inform action. Key features of the dialogue were:

1) it addressed an issue currently being faced in Canada;
2) it focused on different features of the problem, including (where possible) how it affects particular groups;
3) it focused on three elements of a potentially comprehensive approach for addressing the policy issue;
4) it was informed by a pre-circulated evidence brief that mobilized both global and local research evidence about the problem, three elements of a potentially comprehensive approach, and key implementation considerations;
5) it was informed by a discussion about the full range of factors that can inform how to approach the problem and of a potentially comprehensive approach to addressing it;
6) it brought together many parties who would be involved in or affected by future decisions related to the issue;
7) it ensured fair representation among policymakers, stakeholders and researchers;
8) it engaged a facilitator to assist with the deliberations;
9) it allowed for frank, off-the-record deliberations by following the Chatham House rule: "Participants are free to use the information received during the meeting, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed;" and
10) it did not aim for consensus.

We did not aim for consensus because coming to agreement about commitments to a particular way forward can preclude identifying broad areas of agreement and understanding the reasons for and implications of specific points of disagreement, as well as because even senior health- and social-system leaders typically need to engage elected officials, boards of directors and others about detailed commitments.

Participants' views and experiences and the tacit knowledge they brought to the issues at hand were key inputs to the dialogue. The dialogue was designed to spark insights – insights that can only come about when all of those who will be involved in or affected by future decisions about the issue can work through it together. The dialogue was also designed to generate action by those who participate in the dialogue, and by those who review the dialogue summary and the video interviews with dialogue participants.

Residents, families and caregivers are rarely and inconsistently prioritized and meaningfully engaged in technology development and in efforts to strengthen long-term care more generally

Participants also indicated that residents, families and caregivers are rarely and inconsistently prioritized and meaningfully engaged in:
1) technology development; and
2) efforts to strengthen LTC and other system- or organizational-level policies and programs.

Several participants highlighted the importance of partnerships to help reduce the gap between consumers and the vendors who provide these products. Most participants echoed similar sentiments when discussing the need to "listen to what residents want and design technologies accordingly". Other participants emphasized that this is an issue that has lingered for a long time, but with little progress on addressing it. One participant further commented and stated that in their perspective, "no technology has yet to have been designed with seniors in mind, and while manufacturers have only started to listen, they still have a long way to go." Many participants stressed that these technologies must be tailored for the specific needs of the LTC sector and in a manner that enables use among staff in a way that supports the provision of person-centred care and support for residents, caregivers and their families. Within this context, there was significant discussion related to the need to consider during the design process the unique challenges that cognitive impairment poses for the use of technology in long-term care. Overall, participants generally agreed that a "one-size fits all" approach to implementation will hinder the ability to harness the potential of technology, and that citizen engagement and tailored products will be needed to ensure that technology use can be successfully implemented in the long-term care sector.

Technologies are often not attuned to the individual needs of residents and local realities

Several participants indicated that technologies (and LTC models generally) are not always attuned to the needs of residents and local realities. Some highlighted various models such as the Butterfly and GreenHouse models to better support older adults living with dementia. Others pointed out home-based LTC models to "bring long-term care to older adults".

For example, one participant shared the following: "What is long-term care? What is an 'efficient' model? That doesn't mean that it will be where people want to go. When we talk about technology in long-term care, some people will want the anonymity of a larger setting, while others will prefer the intimacy of a smaller setting. [What is the] spectrum of expectations? It will work for some, but not for all. We need to know what people embrace."

The LTC sector is not an innovative space and the value of technology is often questioned

Many participants expressed that the LTC sector is not an innovative space and the value of technology is often questioned. An example shared was the view that technology may add more time to care provision, reduce time spent with residents, and create fear of it being used as surveillance or performance monitoring. Participants emphasized that this view needs to change to technology being viewed as a complement to existing supports that can enhance the quality of life of residents, families and caregivers, and support front-line staff, operators, the LTC sector and their integration with other sectors in the health system. However, several noted that lack of other forms of innovation, such as using flexible funding models that enable adoption and spread of technology and other forms of innovation, limit the ability to move in this direction.

Several participants specifically highlighted that front-line staff often question the value of technology for a variety of reasons, including:
- viewing technologies supporting data collecting as being a specialist activity rather than something that can directly help with the provision of care and support;
- concerns about privacy, liability and data ownership (and the associated concerns that the data is being used as part of oversight and surveillance rather than for achieving resident- and family-centred goals); and

- concerns that some technology could detract from delivery of needed care and support in the context of already scarce hours of care provision for residents.

With respect to surveillance, one participant noted that there may be issues with front-line staff feeling as though they are being monitored, which will only raise further issues as there is little clarity as to where and how this the data will be stored, handled and owned. Several participants agreed with the notion that technology use can be viewed as a specialist activity and that they "do not need to access data to provide the highest quality of care to residents". One participant further elaborated on this by stating that "if personal support workers can provide resident care without ever looking at charts, then it sets a double standard for why this needs to be implemented at all." Many participants further commented on this resistance by stating that it may limit the amount of direct hands-on care time per resident. One participant stated that it would cause moral distress and cited the example of a staff member who needs to decide between working on a computer or being with a resident who they know is lonely. This participant stated that there is "an immediate pull to gravitate towards the resident that is in front of you, rather than to work on the computer." Generally, participants emphasized that the lack of consensus surrounding the use of technology for data collection is problematic and will need to be addressed to achieve successful implementation in this sector.

DELIBERATION ABOUT ELEMENTS OF A POTENTIALLY COMPREHENSIVE APPROACH

Much of the deliberation about the three elements of a potentially comprehensive approach to address the problem that were included in the evidence brief, focused on engaging LTC home operators, staff, residents and their caregivers in developing and adopting technologies (element 2), and enabling rapid-learning and improvement cycles to support the development, evaluation and implementation of new technologies (element 3), with less discussion focused on ensuring that long-term care homes operate in a context that can support the adoption of appropriate technologies (element 1).

Overall, participants emphasized that:

- there is a need to re-imagine long-term care using a co-design approach (and thus focus solutions based on what long-term care *should* be); and
- there is a need to address many large, structural and long-standing issues, including;
  - implementing standards across the country using a quality lens and support through existing structures (e.g., Canadian Standards Association and Accreditation Canada),
  - supporting coordination within and between governments for technology innovation,
  - addressing the many challenges that are present because of varied ownership models, and
  - ensuring ongoing and meaningful engagement of LTC residents, families and caregivers not only in technology development, but in supporting efforts to strengthen LTC more generally.

We provide a brief summary for each element below.

Element 1 - Ensure that long-term care homes operate in a context that can support the adoption of appropriate technologies

The deliberation about the first element focused on ensuring that LTCHs operate in a context that can support the adoption of appropriate technologies. As described in the pre-circulated evidence brief, this element could include efforts to upgrade existing buildings, ensure future buildings are designed and built in a way that is appropriate for enabling the adoption of technologies, and ensure community supports for technology use are available (e.g., availability of affordable broadband internet connections).

This element generated less discussion, but it was highlighted as needing to be considered as part of a broader innovation agenda, as opposed to 'band-aid' approaches. However, participants generally agreed with the findings from the citizen panels that emphasized the need for meaningful and consistent engagement of the type emphasized in element 2.

Element 2 - Engage long-term care home operators, staff, residents and their caregivers in developing and adopting technologies

The deliberation about the second element focused on engaging all stakeholders in co-design processes to develop technologies that meet the needs of residents and caregivers, support the operation of LTCHs, and strengthen integration with the broader health system.

The idea of co-design resonated with participants, with many underscoring the idea that observations from the front-line (from staff, residents, and their caregivers and families) to design technology empowers them to use it more effectively. However, there was consensus that co-design should not only be viewed as useful for developing technologies. Many focused on the need to re-imagine LTC using a co-design approach that ensures ongoing deliberation with LTC owners, operators and staff, the tech industry, as well as residents, families and caregivers. They emphasized the need for an 'upstream' focus and highlighted the importance of considering solutions that help achieve a vision of what LTC *should* be. As one participant said: "If technology is the answer, what is the question?" A second participant added: "We need to reframe [the conversation]. Instead of talking of what we have today, let's talk about care for the aged. Long-term care and care homes are so stigmatized. We won't have the workforce to sustain this model [with the aging population]. Let's re-imagine it. We need to talk about it differently."

Element 3 - Enable rapid-learning and improvement cycles to support the development, evaluation and implementation of new technologies

The deliberation about the third element focused on adopting a rapid-learning approach to support the development, evaluation and implementation of new technologies in LTCHs in Canada. Much of the deliberation focused on whether and how to address many large, structural and long-standing issues outlined earlier in this section.

The discussion about enhancing standards in existing LTCHs raised issues related to public/private ownership models of LTCHs in Canada. Some participants indicated that this is an issue that needs to be examined with one participant stating: "We need to come to grips to what is happening in our contracting-care system. [...] The business interests may come in conflict with resident's interests." But others cautioned that the public/private debates may create unnecessary divisions. For example, one participant said: "Let's not get stuck in ideological debates because we may lose that window of opportunity." A second participant went further by indicating that there is need for some consensus, and without that, the signal will be lost in noise which will be amplified by a debate about ownership. The same participant emphasized the need to consider the levers for change that are available right now and to use them to make a difference.

Considering the full array of elements

This 'big picture' reframing through co-design and deliberative processes will also be an important part of a rapid-learning approach that draws on the values, needs and preferences of older adults, as well as the best available evidence on existing models, with the proper incentives implemented and modified over time to support the enhanced use of technology and a strengthened LTC sector. It was highlighted that many of the these 'big picture' considerations are important and intertwined with an innovation agenda for LTC, but more attention will need to be paid to the specific aspects of such an agenda that can be operationalized in the short, medium and long term (which are discussed in the next section).

DELIBERATION ABOUT IMPLEMENTATION CONSIDERATIONS

The discussion about implementation considerations initially focused on the absence of a commonly agreed approach to advancing an innovation agenda. Some participants emphasized that efforts to pursue an innovation agenda will need to consider the type of approach that should be adopted and the opportunities

available for advancing that approach. These participants identified three possible approaches to advancing an innovation agenda:
1) incremental innovation;
2) disruptive innovation; and
3) radical innovation.

When referring to incremental innovation, the focus is on what can be considered for implementation in the short to medium term to enhance the quality of care and care processes within the existing framework of LTC in Canada. This may include better communication and data sharing between the acute-care sector and the LTC sector, using technology for routine care processes, or using technology for leisure and combatting isolation among residents. Such an approach will need to address challenges to adopting technology, such as procurement problems, the limited innovation capacity among LTC providers, attitudes of staff, and the lack of financial incentives for the uptake of technology, as well as unaddressed issues around confidentiality, privacy and data ownership. But some participants indicated that more fundamental changes were needed. As one participant said: "[We need to] move away from incrementalism and re-imaging the system."

Turning to disruptive innovation, participants indicated that it would require thinking about how technology can be used to significantly change care processes (e.g., creating more person-centred approaches to care and support). Several participants emphasized that existing models of LTC remain highly institutionalized, but could be made more "home-like" and more person-focused. Some indicated that insights and experiences from other jurisdictions that have adopted such models could be used to inform change in Canada. These models could be examined using a rapid-learning and improvement cycle to scale up and spread new or revised approaches across Canada to develop a more strategic model of technology-enhanced LTC.

However, some participants suggested that it may be an opportune time to pursue a radical innovation approach, that would focus on re-imagining LTC in the digital age. Given emerging digital solutions, residents, families and caregivers are increasingly tech-savvy, and it was viewed by many participants that there is an appetite to re-engineer the sector given the window of opportunity for 'big picture' changes opened by the spotlight placed on LTC during the COVID-19 pandemic. Some participants also indicated that a radical innovation approach may be required to ensure that the LTC sector is positioned to support the increasing number of aging baby boomers in Canada, given that baby boomers will be reaching the age of 75+ from 2020 to 2045 and many are living alone. Many participants asserted that there is little interest and support from this demographic to continue with or expand the existing model of LTC. As a result, one participant emphasized that radical innovation may be necessary, stating: "Many people do not want to live in long-term care homes as it is. Is there something fundamentally wrong with it? Can we change the way we do long-term care?"

All agreed that the key barrier to any of these models will be the political will to make it happen. Moreover, many highlighted that the "elephant in the room" is the cost of radically re-engineering LTC given how expensive it will be if done properly. As one participant indicated, technology should not be viewed as a way of reducing costs (and may indeed increase costs at least in the short run), but rather as a way to enhance quality of care (e.g., with person-centred approaches) and ultimately quality of life for residents and their caregivers and families.

Participants also identified several features of the current landscape that could collectively create a window of opportunity. As noted above, the sharp public focus on long-term care (and health and social systems more generally) during the COVID-19 pandemic means that there is likely a unique opportunity to pursue more transformative changes to LTC in Canada. For example, one participant said: "The Canadian public is shocked by the care that seniors are getting and the disparities in care provider, and COVID will drive expectations. We need to capitalize on this opportunity." However, some participants cautioned that this window of opportunity may not last for long before the focus inevitably turns to other priorities, which some indicated are likely to focus on cost-reduction measures.

DELIBERATION ABOUT NEXT STEPS FOR DIFFERENT CONSTITUENCIES

For next steps, participants underscored the need to conceptualize technology as one part of innovation for LTC. This includes addressing the many large, structural and long-standing issues by re-imagining the sector using a co-design approach that focuses solutions on what the sector *should* look like. Moreover, it was emphasized that this needs to be coupled with:

1) harnessing technologies that enable (and not detract from) person-centred care and support in LTC (e.g., given the significant potential for technology to support caregivers in a way that frees them up from other tasks so that they can spend more time on the in-person components of care and support);
2) implementing policy and organizational processes in the sector that support making small yet rapid changes that are centred on residents, caregivers and families; and
3) using funding models that enable ways of doing things differently.

Participants indicated that initiating this work will require:

1) developing a long-term care policy navigation portal (i.e., a web portal that would help to navigate the long-term care landscape and map who is in charge, what the priorities/issues are, evidence about them, and what is happening around the country and throughout the world);
2) identifying and coordinating existing innovation projects, and examining strategies to enable efforts for scaling up and spreading them; and
3) developing an innovation roadmap/agenda that is driven by a pan-Canadian working group that meaningfully engages citizens (including long-term care residents and/or caregivers and their families), and includes policymakers, leaders in long-term care, technology innovators and other relevant health- and social-system leaders.

There was a general agreement that the next steps should aim to quickly address some of the pressing and concrete issues currently affecting the sector, while at the same time developing a longer-term vision. As one participant said, "the directions are not clear and it's a very blurry space." A second participant added: "I like the idea of pulling this group together with a common vision [and determining] where we are trying to go. We also have to be reasonable on what we want to do. The system didn't happen overnight. We need concrete actions to move things along quickly, while we move towards the long-term things at the same time."

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