Issue Brief

Implementing a Policy Vision for Enhancing Equitable Access to Assistive Technologies in Canada

26 February 2020

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McMaster Health Forum

The McMaster Health Forum's goal is to generate action on the pressing health-system issues of our time, based on the best available research evidence and systematically elicited citizen values and stakeholder insights. We aim to strengthen health systems – locally, nationally, and internationally – and get the right programs, services and drugs to the people who need them.

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Conflict of interest

The authors declare that they have no professional or commercial interests relevant to the issue brief. The funder played no role in the identification, selection, assessment, synthesis, or presentation of the research evidence profiled in the issue brief.

Merit review

The issue brief was reviewed by a small number of policymakers, stakeholders and researchers in order to ensure its system relevance.

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KEY MESSAGES

What's the problem?

- The challenge of enhancing equitable access to assistive technologies and the need for a policy vision can be considered in relation to four themes:
    - system-level complexity can make access to and navigation of programs and services challenging, resulting in inequitable access and unmet needs;
    - the values and principles guiding current policies and programs for assistive technologies are not aligned with those of citizens;
    - policies, programs and practices are not keeping up with increasing need for assistive technologies and the rapid pace of technology advancement; and
    - the lack of a guiding policy vision to support actions across the country limits coordinated action to enhance equitable access to assistive technologies.

What do we know about elements of a policy vision for enhancing equitable access to assistive technologies?

- We developed and refined a set of short-term (i.e., to address within two to three years) and long-term (i.e., those requiring longer than a typical political cycle) policy priorities for enhancing equitable access to assistive technologies in Canada, and values that can be used to underpin future policy actions. These comprise the three elements of a policy vision for enhancing equitable access to assistive technologies.
- Element 1 – Short-term priorities for enhancing equitable access to assistive technologies in Canada
    - The eight short-term priorities focus on: 1) adopting a common language for assistive technologies across Canada, including agreement on one accepted definition; 2) building awareness and knowledge about the benefits of and need for assistive technologies, the range of technologies that is available to help, and the programs and services available to support access to them; 3) enhancing access to personalized assessments to ensure the right set of assistive technologies and services are provided based on what each person needs; 4) ensuring the needs of anyone who could benefit from assistive technologies are reflected in what government programs provide; 5) streamlining the consumer experience to make it easier to navigate the programs and services for assistive technologies; 6) minimizing coverage gaps and financial burden on consumers by better coordinating publicly funded programs and private insurance; 7) building national leadership for enhancing fair access to assistive technologies; and 8) fostering partnerships with industry to achieve common goals related to enhancing fair access to assistive technologies.
- Element 2 – Long-term priorities for enhancing equitable access to assistive technologies in Canada
    - The six long-term priorities focus on: 1) designing government programs to focus on providing access to needed assistive technologies for anyone who requires support with basic independence; 2) designing government programs to focus on providing access to needed assistive technologies for anyone who requires support with instrumental activities of daily living; 3) making access to assistive technologies more fair for people who often face the biggest challenges in access to needed care and supports; 4) ensuring timely decisions about what new technologies can enter the market and what technologies to provide funding for; 5) ensuring that environments such as public spaces, buildings and services are designed to be accessible by people of all abilities, and that these goals are consistently supported through public policy; and 6) improving the knowledge and skills of all professionals who are involved in the assessment for and provision of assistive technologies.
- Element 3 – Values to underpin policy actions to enhance equitable access to assistive technologies in Canada
    - The nine values to underpin policy action that we identified are: 1) using a human rights-based perspective which states that everyone is entitled to equality, dignity, respect and freedom from discrimination; 2) applying the view that people's experience of disability and exclusion from society are often the result of physical, social and other barriers in the environment; 3) using a person-centred and co-creation ("create together") approach to identify challenges and create solutions; 4) supporting autonomy and informed decision-making among anyone who needs assistive technologies and their caregivers; 5) ensuring that anyone in need of assistive technologies has access to them; 6) ensuring collaboration and coordination among all those involved in accessing assistive technologies; 7) using simple, flexible and adaptable ways for people to access assistive technologies that can meet their unique needs; 8) fostering new ideas for assistive

technologies and policy that can be used to enhance fair access; and 9) ensure that those who are involved in delivering assistive technologies are responsible and able to justify their actions and prices.

What implementation considerations need to be kept in mind?

- The key barriers to implementation are likely to include difficulty building consensus for redefining eligibility criteria, funding agreements and extent of coverage to ensure all those who need assistive technologies while also managing resource constraints (e.g. financial, human, information) of the public system, and facilitating buy-in across federal, provincial and territorial jurisdictions.
- The main windows of opportunity that could provide a policy environment that is conducive to supporting action towards the elements of a policy vision include the implementation of the *Accessible Canada Act*, and the alignment of the priorities with other key policy strategies and priorities (e.g., for a national pharmacare program, National Dementia Strategy and the National Seniors Strategy).

*Note that to ensure the text in Boxes 1-4 is accessible for those using screen readers, we have also included the content in Appendix 1.

REPORT

As the proportion of older adults in Canada continues to grow, assistive technologies will continue to play an important role in the promotion of active and healthy aging, independent living and aging-in-place.(1-4) While older adults today are healthier and participate more in society than previous generations at their age, evidence shows that as people age they are more likely to experience disability.(1; 5; 6) Assistive technology use is closely linked with both aging and disability, and 85% of those aged 65 to 74 and 90% of those aged 75 and older with disabilities reported using assistive technologies.(6)

However, people of all ages and abilities can benefit from assistive technologies. Assistive technologies can be used to maintain or improve function and participation in activities ranging from moving from one place to another, communicating, toileting, cooking meals, attending school, working, or taking part in community activities. The ability to take part in these activities promotes health and well-being and helps people contribute and be more fully included in society. Globally, health and social-development priorities have advanced the need for universal access to assistive technologies to promote greater inclusion and participation of older people and people with disabilities.(7)

Although assistive technologies are essential for supporting basic and instrumental activities of daily living, there are several challenges that limit equitable access to assistive technologies in Canada. First, there is variability within and between provinces and territories. Each province and territory in Canada has different legislation and policies for what assistive technologies are eligible for funding through government programs, and for who may be eligible for programs. The eligibility criteria for government-funded assistive technologies is highly variable and may not necessarily be the most suitable to meet the unique needs of individuals. A second challenge is that there is no single program that fully funds the purchase and provision of all assistive technology types and the full range of assistive technologies. A third challenge is the complexity and patchwork nature of the system of programs that cover assistive technologies, which makes navigation of programs a barrier to access. Lastly, despite an increased supply of assistive technologies into markets across the country,

Box 1: Background to the issue brief

This issue brief mobilizes both global and local research evidence about a problem (the challenge of implementing a policy vision to enhance equitable access to assistive technologies in Canada), three elements of a policy vision to address this challenge and key implementation considerations. The issue brief is designed as a follow-up from a stakeholder dialogue convened in 2017 that was focused on enhancing equitable access to assistive technologies in Canada. The main recommendation from that dialogue was to develop a policy vision that includes short- and long-term priorities and values to underpin policy action to enhance equitable access to assistive technologies in Canada. Therefore, this issue brief primarily draws on evidence included in an evidence brief, as well as from a qualitative study that was conducted following the stakeholder dialogue to generate and refine short- and long-term priorities for a policy vision and values that should underpin any policy actions that are taken, that the original evidence brief was designed to inform. As such, unlike a Forum evidence brief, a Forum issue brief does not involve as comprehensive an evidence review by Forum staff.

The issue brief does <u>not</u> contain recommendations, which would have required the authors of the brief to make judgments based on their personal values and preferences, and which could pre-empt important deliberations about whose values and preferences matter in making such judgments.

The preparation of the issue brief involved five steps:
1) convening a Steering Committee comprised of representatives from the partner organizations and the McMaster Health Forum;
2) developing and refining the terms of reference for an issue brief, particularly the framing of the problem, three elements of a policy vision and implementation considerations, in consultation with the Steering Committee and those interviewed as part of the qualitative study that we conducted;
3) identifying, selecting, appraising and synthesizing relevant research evidence about the problem, elements and implementation considerations;
4) drafting the issue brief in such a way as to present concisely and in accessible language the global and local research evidence; and
5) finalizing the issue brief based on the input of several merit reviewers.

The three elements of a policy vision (and the priorities within the elements) could be pursued singly, simultaneously with equal or different emphasis, or in a sequenced way.

The issue brief was prepared to inform a stakeholder dialogue for which research evidence is one of many considerations. Participants' views and experiences and the tacit knowledge they bring to the issues at hand are also important inputs to the dialogue. One goal of the stakeholder dialogue is 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. A second goal of the stakeholder dialogue is 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.

procurement policies have lagged in responding to innovation and growing user demand.(3; 8)

The above challenges have contributed to a system of programs across the country that provide funding and services for assistive technologies being unequal and unfair. As a result, people who need assistive technologies experience gaps in funding or service coverage. Given this, it is unsurprising that there is a significant unmet need for assistive technologies with approximately 24% of Canadians aged 15 years and over living with disabilities reporting having an unmet need.(9) Without efforts to strengthen the system in a way that enhances equity, the number of people experiencing unmet needs for assistive technologies will likely increase as Canada's population continues to age along with the increase in the prevalence of disability.

We undertook a multi-year research and knowledge mobilization initiative through the AGE-WELL NCE that sought to understand and advance policies for equitable access to assistive technologies in Canada.(10) The initiative involved several projects, including:

1) a jurisdictional scan of programs for funding and services provided by government and charity organizations across Canada;(11)
2) a qualitative interview study with policymakers, stakeholders and researchers on how assistive technologies are accessed and the potential challenges and solutions to addressing access challenges;(12)
3) three citizen panels to identify citizens' values and preferences for enhancing equitable access to assistive technologies;(13-15)
4) a national stakeholder dialogue with policymakers, stakeholders and researchers to identify actions to enhance equitable access to assistive technologies;(15-17)
5) a qualitative interview study to generate and refine priorities for a policy vision and values to underpin policy actions;(18) and
6) a national survey of citizens to generate ratings of the importance of the policy priorities and values identified (manuscript in preparation).

The need for this issue brief and the stakeholder dialogue it is designed to inform emerged from the citizen panels and the stakeholder dialogue that were convened in 2017. The citizen panels provided the opportunity for citizens to make informed judgments about enhancing equitable access to assistive technologies in Canada. We used a deliberative approach to uncover citizens' unique understandings of the issue, and spark insights about viable solutions that are aligned with their values and preferences.(19) A total of 37 ethnoculturally and socio-economically diverse citizens participated in three panels (n=15 Edmonton, n=12

Box 2: Equity considerations

A problem may disproportionately affect some groups in society. The benefits, harms and costs of implementing the types of priorities included in the elements of a potentially comprehensive policy vision for enhancing equitable access to assistive technologies may vary across groups. Implementation considerations may also vary across groups.

One way to identify groups warranting particular attention is to use the PROGRESS Plus framework. The PROGRESS acronym is formed by the first letters of the following eight ways that can be used to describe groups†:

- place of residence (e.g., rural and remote populations);
- race/ethnicity/culture (e.g., First Nations and Inuit populations, immigrant populations, and linguistic minority populations);
- occupation or labour-market experiences more generally (e.g., those in "precarious work" arrangements);
- gender;
- religion;
- educational level (e.g., health literacy);
- socio-economic status (e.g., economically disadvantaged populations); and
- social capital.

Plus refers to: 1) personal characteristics associated with discrimination (e.g., age, disability); 2) features of relationships (e.g., smoking parents, excluded from school); and 3) time-dependent relationships (e.g., leaving the hospital, respite care, other instances where a person may be temporarily at a disadvantage).

This issue brief strives to address all Canadians, but (where possible) it also gives particular attention to older adults and/or people living with one or more disabilities, which are captured as part of the personal characteristics part of the above framework. Many other groups warrant serious consideration as well, and a similar approach could be adopted for any of them.

† References:

1) Oliver S, Kavanagh J, Caird J, Lorenc T, Oliver K, Harden A. Health promotion, inequalities and young people's health. A systematic review of research. 2008.
2) Oliver S, Dickson K, Newman M. Getting started with a review. In: Gough D, Oliver S, Thomas J, editors. An Introduction to Systematic Reviews. London: SAGE Publications; 2012
3) O'Neill J, Tabish H, Welch V, Petticrew M, Pottie K, Clarke M, Evans T, Pardo Pardo J, Waters E, White H, Tugwell P. Applying an equity lens to interventions: using PROGRESS ensures consideration of socially stratifying factors to illuminate inequities in health. Journal of Clinical Epidemiology. 2014, 67 (1), pg. 56-64.

Moncton, n=10 Hamilton). Participants had experiences with a variety of programs and services offering assistive technologies, including federal programs, publicly funded provincial programs, municipal programs, charitable organizations, private insurance and employment-based benefits programs.

The stakeholder dialogue convened 22 participants in June 2017, which included six policymakers, two managers of community-based organizations, one member of a healthcare professional organization, three representatives from citizen groups, seven individuals from stakeholder organizations, and three researchers. Several of the participants had multiple roles, including some who were healthcare providers (e.g., occupational therapists and physiotherapists). Twenty-one of the participants were from Canada and one of the researchers was from another country, but with expertise in the Canadian policy context. Of those from Canada, 13 brought a national perspective to the issue. This included two federal policymakers and 11 representatives of national stakeholder organizations (e.g., community-based organizations, professional associations, consumer groups and/or groups with a direct interest in the topic). The remaining eight participants were from British Columbia (n=2), Alberta (n=1), Ontario (n=4) and Nova Scotia (n=1), which included three policymakers, two from stakeholder organizations and three researchers (who while from universities based in a specific province, also brought a broader national and international perspective to bear on the issue). The evidence brief that was sent to dialogue participants included the findings from the citizen panels.

A central theme generated from the deliberations in the citizen panels and the stakeholder dialogue was the need to better support coordinated policy action in the country to enhance equitable access to assistive technologies. This was borne out in the stakeholder dialogue by participants identifying the need to move beyond what was seen as too much of a focus on incremental changes, and instead focus on balancing incremental and aspirational changes that are based on the values expressed by participants in the citizen panels. Given this, the main recommendation for next steps following the dialogue was to develop a policy vision that includes short- and long-term priorities and values to underpin policy action to enhance equitable access to assistive technologies in Canada.

To support action towards this recommendation, we conducted a national qualitative study with 27 interviews with policymakers and stakeholders (including citizens) with national, provincial/territorial and regional perspectives to further develop and refine the short- and long-term priorities and the values identified from the citizen panels and stakeholder dialogue. We then conducted a national survey of citizens who use assistive technologies, feel they could benefit from the use of assistive technologies, or provide unpaid care for someone who uses assistive technologies. In the survey, we asked participants to rate the importance of each of the short- and long-term priorities and values, as well as to identify the top three from each list that they viewed as most important.

This issue brief incorporates the findings from the qualitative interview study and the survey to inform a half-day stakeholder dialogue that is designed to identify actions that can be taken to address the priorities and incorporate the values. In addition, as noted in Box 2, while this brief strives to address all people, where possible it also gives particular attention to equity-related considerations for people living with one or more disabilities (including cognitive impairments, intellectual disabilities, mental health or substance-abuse problems, and vision and hearing impairments).

THE PROBLEM

Assistive technology use is becoming more important as the proportion of older adults in the population and the number of people living with disability increases.(20) While assistive technologies are progressively being recognized as a universal need that facilitates participation in all forms of daily activities and greater social inclusion, many Canadians experience difficulties in access and unmet needs. The challenge of enhancing equitable access to assistive technologies and the need for a policy vision to address this challenge can be considered in relation to four themes:

1) system-level complexity can make access to and navigation of programs and services challenging, resulting in inequitable and inconsistent access and unmet needs;
2) the values and principles guiding current policies and programs for assistive technologies are not aligned with those of citizens who use or can benefit from them;
3) policies, programs and practices are not keeping up with increasing need for assistive technologies and the rapid pace of technology advancement; and
4) the lack of a guiding policy vision to support actions across the country limits coordinated action to enhance equitable access to assistive technologies.

These themes were consolidated based on our original framings of the problems from the evidence brief,(17) results from the citizen panels,(14; 15) the stakeholder dialogue (15; 16) and from two qualitative studies where we conducted interviews with policymakers and stakeholders.(12; 18)

System-level complexity can make access to and navigation of programs and services challenging, resulting in inequitable and inconsistent access and unmet needs

Box 3: Mobilizing research evidence about the problem

The available research evidence about the problem was principally derived from the previous evidence brief that this issue brief is designed to build upon. In addition, the framing of the problem is derived from the thematic analysis we conducted of the three citizen panels and the stakeholder dialogue that we convened in 2017 about enhancing equitable access to assistive technologies in Canada.

The data in the original evidence brief was derived from a range of published and 'grey' research literature sources. Published literature that provided a comparative dimension to an understanding of the problem was sought using three health services research 'hedges' in MedLine, namely those for appropriateness, processes and outcomes of care (which increase the chances of us identifying administrative database studies and community surveys). Published literature that provided insights into alternative ways of framing the problem was sought using a fourth hedge in MedLine, namely the one for qualitative research. Grey literature was sought by reviewing the websites of a number of Canadian and international organizations, such as Health Quality Ontario, the Public Health Agency of Canada, the Canadian Institute of Health Information, the Centre for Technology and Aging, the World Health Organization, and Statistics Canada.

Priority was given to research evidence that was published more recently, that was locally applicable (in the sense of having been conducted in Canada), and that took equity considerations into account.

The complexity of governance, financial and delivery arrangements in health and social systems can make navigation of programs and services challenging, resulting in inequitable and inconsistent access to assistive technologies and unmet needs.(12; 15; 17)

Governance arrangements

In relation to governance arrangements, the evidence brief and the deliberations during the original stakeholder dialogue emphasized the lack of clear national-level stewardship as a key reason for the system-level complexity that is experienced across the country for the delivery of assistive technologies.(15) Furthermore, interviews with policymakers and stakeholders identified that the lack of national leadership results in there being no clear standards for programs to meet (e.g., with regards to what assistive technologies to fund or for whom).(12)

Financial arrangements

For financial arrangements, the system is comprised of a complex mix of publicly and privately financed programs, with contributions from multiple levels of governments, non-profit organizations and charities, private and public insurance organizations, and out-of-pocket payments.(17) Stakeholder dialogue participants identified the limited coordination between public and private programs with respect to their scopes of coverage. In addition, dialogue participants highlighted that, in their experience, many citizens need to pay out of pocket for assistive technologies that are designed to help meet basic needs. Indeed, citizen panel participants consistently stated that they experienced challenges in being able to pay for the assistive technologies they need.(15; 16) Interview participants also reported that many people with disability are living in poverty and may not be eligible for coverage despite living with a low income. As a result, many cannot afford to pay out of pocket for the full cost or co-payments if partial coverage is attained from one or more government or charitable programs.(12) These findings are consistent with recent data from the Canadian Survey on Disability which indicated that cost is the main reason for not having disability supports such as aids, devices and medication.(21) Specifically, a total of 17% of all persons with disabilities 15 years of age and older who were surveyed reported that the cost of an aid or device was the reason for their unmet disability support need.

Delivery arrangements

Key challenges that we have documented with respect to delivery arrangements include:
- the system of delivery is comprised of a patchwork of programs that are fragmented, overlapping and uncoordinated within provinces and territories;
- system navigation is challenging for citizens and their caregivers;
- there are difficulties with accessing services associated with assistive technologies (such as user training or follow-ups) because of lack of funding or inequity in availability of services in different jurisdictions;
- programs and services are not equitably distributed, which is especially a problem for citizens living in rural and remote communities; and
- the terms and definitions for assistive technologies used in legislation, policies and programs is inconsistent across the country and even between programs within one jurisdiction, which can make it difficult for citizens, caregivers, and care providers to know what assistive technologies are and what is covered.(11; 15; 22)

As a result, gaining access to needed assistive technologies is often challenging for people who need them and/or their caregivers. In particular, citizen panel participants expressed that access to assistive technologies is complicated, they often do not know where to go, and there is a lack of resources to support navigation.(14) Moreover, stakeholder dialogue participants and those who participated in interviews reported a lack of awareness regarding the assistive technologies that can be available through government and charitable programs, particularly what supports and technologies exist, what is funded, and where those in need can gain access.(12; 15; 16)

In addition, the availability of assistive technologies are inconsistent across the country which means that access depends on where you live in Canada.(17) A jurisdictional scan of publicly funded programs revealed that programs do not cover the spectrum of assistive technologies considered to be priorities under the WHO Global Cooperation on Assistive Technology's list of 50 Priority Assistive Technologies.(20) In addition, within provinces and territories, there are gaps in the technologies that are publicly funded, with some not funded at all (e.g., time-management products, portable travel aids) and others inconsistently funded by a small number of provinces and territories (e.g., deaf-blind communicators, global positioning (GPS) locators).(11; 22).

This has led to inequitable access to assistive technologies across the country, which was consistently emphasized by citizen panel participants, participants in the stakeholder dialogue, and policymaker and stakeholder interview participants.(12; 14; 15) Some key examples included: inequitable distribution of resources based on geographical location; lists of publicly funded technologies being variable across the country; basic/necessary technologies either not being funded or only partially funded which results in inequitable access for those with low incomes; and eligibility criteria focusing on seniors or those with physical disabilities which leaves other groups in need (e.g., those with invisible disabilities) without coverage. Further, citizen panel participants highlighted challenges for caregivers to gain access to needed supports.

Finally, citizen panel participants expressed other concerns related to delivery.(14) They felt that it was difficult to work with the private sector to identify and buy the assistive technologies that they needed. For example, in a given jurisdiction, there may be a lack of choice of vendors or approved vendors may not have what they need.

Additionally, panel participants indicated having experienced difficulties in finding a family physician, or accessing physicians in a timely way, or gaining access to specialists who are often needed to obtain access to publicly funded programs. They also reported that lack of coordination between providers often results in information not being shared which makes system navigation difficult and/or increases the time to access needed supports.

The values and principles guiding current policies and programs for assistive technologies are not aligned with those of citizens who use or can benefit from them

Participants in the stakeholder dialogue identified several root causes that they viewed as contributing to the many challenges that are experienced by citizens trying to access assistive technologies.(15; 16) One of these root causes is that policies entrenched in the health and social systems were not created with the needs of citizens at the forefront. Specifically, the absence of a client-centred approach in delivery of programs and services and lack of inclusion of citizens to drive policy and program development was raised as a significant issue in the citizen panels and our policymaker and stakeholder interviews.(12; 14) Moreover, participants in the citizen panels, the stakeholder dialogue and in the interviews consistently expressed that policies and programs do not address the individual needs of citizens, and eligibility criteria for programs are rigid and do not accommodate the unique needs of individuals, particularly when they have complex or multiple needs.(12; 14-16)

A second root cause identified by stakeholder dialogue participants is that the development of long-term policy goals have not been theory-driven. Participants in the stakeholder dialogue and in policymaker and stakeholder interviews expressed that continued application of the medical model to underpin policies perpetuates a narrow view of aging and disability care, and the much broader role of assistive technologies in enabling basic and instrumental activities of daily living (i.e., beyond just medical needs), and that alternatives such as a rights-based approach or a social model of disability would be more appropriate. Of note, a recent review of Canada's progress in implementation of the rights of persons with disabilities, in which Canada has a legal responsibility to ensure consistency between its laws and the United Nations Convention on the Rights of Persons with Disabilities,(23-25) has stressed the need for Canada to apply a rights-based approach in a guiding framework for disability-related policies.(26)

There is also a lack of integration of assistive technologies into broader health and social supports. As citizen panel and policymaker and stakeholder interview participants identified, an integrated approach whereby assistive technologies and their associated services are included within the broader system of health and social care (e.g., in packages of care) is lacking.(12; 14-16) Citizens in the panel noted that integration of assistive technology solutions with other infrastructure solutions, such as environmental accessibility, needed to be improved. For example, with the variability in accessibility standards across jurisdictions and lack of accessible public spaces, even with access to assistive technologies, citizens remain restricted in their community participation. Interview participants stated that greater community accessibility through shared resources and universal design needs to be better used as solutions, particularly in rural and remote communities.(12)

Policies, programs and practices are not keeping up with increasing need for assistive technologies and the rapid pace of technology advancement

Beyond the documented unmet needs for assistive technologies in Canada,(21) given current population trends, the need for assistive technologies is likely to increase in the future. This growing demand may be explained by several interrelated reasons, including a population that is aging, increasing prevalence of disability, increasing impact of chronic diseases, and growing demands placed on caregivers.(17) Those who need assistive technologies the most are people living with disabilities, older adults, people living with non-communicable diseases, and people experiencing gradual decline in function.(20) With the focus on health and social care delivery in home and community-based settings, it will be even more critical to enable equitable access to assistive technologies as a means for supporting self-management, independent living, social inclusion and aging in place.

New assistive technologies are being developed and becoming available on the market at a rapid pace. The market for assistive technologies in the medical-technologies sector globally is anticipated to grow, with a market size valued at over $23 million in 2018 to almost $36 million by 2026.(27) Further, consumer technologies with accessibility features, such as smart phones, mobile applications or home automation hubs, are increasingly being used as assistive technologies that may be less costly as they are produced for the mass market and may serve multiple assistive functions that are beneficial for everyday activities.(12; 28) However, adoption of assistive technologies in Canada is complicated by high policy variations between provinces and territories, and lack of national standards and strategic planning with regard to new technologies entering the market and scaling up adoption.(29) Further, restricted budgets in the health sector limit investments into new technologies that may entail higher upfront costs, and favour those that are established and lower cost in the short term.

Innovation in policies, programs and practices remains difficult and policies are lagging behind for addressing the above trends.(12; 15; 16) Challenges in achieving innovation and seeing that high-quality products are available on the market was identified by participants in the stakeholder dialogue. In defining these challenges, participants reported contributing factors such as vendor push, innovations not coupled with universal design and accessibility solutions, the need to recognize that simple can be better (e.g., low-cost, but high-impact solutions), and the lack of training and education to optimize benefits of innovations.(15; 16) Further, inclusion of new assistive technologies into publicly funded programs have so far been inconsistent and, if included, are often restricted to certain subsets of the population.(11; 12) For example, Ontario's Assistive Devices Program that funds the majority of assistive devices for its residents only funds medical devices approved by Health Canada for sale in Canada, while federal programs for students with disabilities or certain employment programs may include consumer-market computers that are used with accessibility software.(30; 31) Concerns for inflating public-funding budgets, putting government backing behind some technologies and not others, and a lack of evidence and tools to properly assess new technologies were cited by participants in policymaker and stakeholder interviews as an important reason for not considering newer assistive technologies.(12; 15)

The lack of an evidence base regarding the impact of assistive technologies, the difficulties for policymakers to know what to invest in, and challenges with keeping up with the proliferation of new technologies have been identified as contributors to this aspect of the problem.(12; 15) Relatedly, participants in the stakeholder dialogue identified the lack of or inconsistent data collection from government programs of the number and costs of assistive technologies, which restricts program evaluations and informed policy decisions.

Lastly, during interviews with policymaker and stakeholders a consistent theme presented was that the use of government procurement strategies for larger buying power is not widespread.(12; 18) This was identified as limiting the purchasing power for assistive technologies in Canada, which prevents scale and spread as well as a reduction in costs.(18) Many pointed to the need to look to approaches taken for prescription drugs to enhance coordinated purchasing power given that it is a similar policy domain where government programs vary by province and territory.(12; 18) Adoption of procurement strategies can decrease the financial and infrastructure costs for commonly used assistive technologies on the market. However, there may be concern that under existing risk-averse procurement policies in the health technology innovation domain in Canada, that new assistive technologies may not be included as purchases focus on short-term cost savings, rather than on investing in innovations that can pay off in the long term.(29)

The lack of a guiding policy vision to support actions across the country limits coordinated action to enhance equitable access to assistive technologies

The need for coordinated policy action to enhance equitable access to assistive technologies across Canada was raised during the citizen panels and during the stakeholder dialogue.(14-16) Participants, particularly in the stakeholder dialogue, identified that while there is a benefit to looking at short-term incremental changes that can help citizens currently in need, there is also a need to define aspirational goals that can only be achieved through fundamental changes to the system over the long term, and that are underpinned by values expressed by citizens.(14; 16)

A policy vision and an action plan to enhance equitable access to assistive technologies at the national level has not previously been created in Canada. However, proposals for a national disability policy, which would include disability supports such as assistive technologies, have been created over the past 10 years and more, though none has been formally enacted.(32) For example, the Council of Canadians with Disabilities produced the policy document “From Vision to Action: Building an Inclusive and Accessible Canada: A National Action Plan” in 2007, which was endorsed by over 100 organizations and associations across Canada.(33) In addition, after over 30 years of consideration for federal disability legislation, the *Accessible Canada Act* came into force in July 2019.(34) The aim of the Act is to proactively support participation and equality of citizens, and specifically of those living with disabilities, through the removal of barriers in federally governed sectors, namely banking, telecommunications, transportation, and federal government services. While much work still needs to be done in developing the regulations and standards, there has been limited discussion of the role of and access to assistive technologies within the Act.

Reports from the World Health Organization’s Global Cooperative on Assistive Technology (GATE) initiative have stated the need for national policy development with regards to assistive technologies, such that a vision may be explicated and priorities for resources may be detailed.(35) Because technology can assist in a diverse range of activities, promote participation and social inclusion, and can be beneficial to people across the lifespan, policy development and implementation for assistive technologies needs to be viewed as an essential part of a comprehensive multi-sectoral system.(35)

Additional equity-related observations about the problem

As indicated in Box 2 earlier, for the purpose of this issue brief, focus has been placed on two groups – older adults and people living with one or more disabilities – for additional equity-related considerations related to a policy vision for enhancing equitable access to assistive technologies. Ensuring that older adults in Canada have equitable access to assistive technologies is important to promoting healthy aging as well as to aging-in-place, as assistive technologies can improve health outcomes and reduce total costs to the healthcare system by helping older adults remain at home.(36) Access to care, however, is influenced by a number of factors both within and external to health and social systems. In addition, as noted earlier, people living with one or more disabilities (including cognitive impairments, intellectual disabilities, mental health or substance-use issues, and vision and hearing impairments) have an increased need for assistive technologies. The majority (81%) of those living with a disability use assistive technologies.(37) While people with disabilities require assistive technologies to maintain functioning, many (31%) experience unmet need.(38) As a result, the challenge of ensuring equitable access to assistive technologies is particularly relevant to these two groups given the higher need for assistive technologies to support basic and instrumental activities of daily living, and also because both also often face significant barriers to access such as low income to pay for what they need.

THREE ELEMENTS OF A POLICY VISION FOR ENHANCING EQUITABLE ACCESS TO ASSISTIVE TECHNOLOGIES IN CANADA

This issue brief was developed to follow up on a series of three citizen panels convened in April and May 2017, and the specific recommendation from the stakeholder dialogue convened in June 2017 to develop a national policy vision for enhancing equitable access to assistive technologies in Canada. To do this, we conducted a national qualitative interview study with policymakers and stakeholders to develop and refine through their feedback a set of short- and long-term policy priorities for enhancing equitable access to assistive technologies in Canada, and values that can be used to underpin any future policy actions taken. Specifically, we interviewed 27 participants, including policymakers and stakeholders from national, provincial/territorial and regional perspectives.

Following the qualitative interview study, we conducted a national survey of citizens who use assistive technologies, feel they could benefit from the use of assistive technologies, or provide unpaid care for someone who uses assistive technologies. In the survey, we asked participants to rate the importance of each of the short- and long-term priorities and values, as well as to identify the top three from each list that they viewed as most important. As of 22 January 2020, 952 people had completed or partially completed the survey. In answering the questions related to the short- and long-term policy priorities and the values to underpin policy action, most (79%) identified as someone who uses one or more assistive technologies or who may benefit from the use of assistive technology (40%), with a small number (12%) indicating that they are a caregiver to a family member or friend who uses one or more assistive technologies (participants could select more than one category). Given that data are still being collected for the survey at the time of writing this issue brief, the results from it are interim results, and we only report on the ratings of the policy priorities and values and not on other questions from the survey.

Box 4: Mobilizing research evidence about elements of a policy vision for enhancing equitable access to assistive technologies in Canada

This issue brief was developed to follow up on the specific recommendation from a series of three citizen panels convened in April and May 2017, and a stakeholder dialogue convened in June 2017 to develop a national policy vision for enhancing equitable access to assistive technology in Canada. To do this, we supplemented the evidence brief that was used to inform the original stakeholder dialogue with a national qualitative interview study to develop and refine a set of short- and long-term policy priorities for enhancing equitable access to assistive technologies in Canada, and values that can be used to underpin any future policy actions taken. Specifically, we interviewed 27 participants, including policymakers and stakeholders from national, provincial/territorial and regional perspectives. We sought feedback about short- and long-term priorities and values that were identified through the citizen panels and the stakeholder dialogue. Transcripts were coded and analyzed to iteratively refine the priorities and values.

Given that the focus of the stakeholder dialogue that this issue brief was designed to inform is on refining the short- and long-term priorities and values and to identify actions that can be taken to address them, no additional research evidence was sought beyond what was included in the original evidence brief and the qualitative interview study we conducted to supplement it.

We integrated the findings from each of these initiatives (citizen panels, stakeholder dialogue, national qualitative study and the national survey) in this section by presenting the short- and long-term priorities and values as three elements of a policy vision for enhancing equitable access to assistive technologies in Canada. For each section, we provide a high-level summary of our findings. While they collectively comprise the core elements of the policy vision we are developing, the short- and long-term priorities and the values are presented separately to foster deliberations about their respective components, the relative importance or priority of each, their interconnectedness and potential of or need for sequencing, and their implementation feasibility. Our goal is to generate actions that can be taken to implement a policy vision comprised of these respective elements.

Element 1 – Short-term priorities for enhancing equitable access to assistive technologies in Canada

We developed and refined a set of eight short-term priorities for enhancing equitable access to assistive technologies in Canada through the three citizen panels, stakeholder dialogue and national qualitative interview study. We present the short-term priorities in Table 1 along with key findings from the qualitative interview study and ratings of importance from the national survey we conducted in January 2020.

Participants in the qualitative interview study consistently agreed that each of the short-term priorities presented were important, but some were considered more important than others, specifically:

- adopting a common language, including a standard definition for assistive technologies, was seen as essential to developing government policy around coverage and the regulatory requirements for these technologies;
- the need to build awareness about the benefits of assistive technologies, the types that are available to help and the programs and services available to support access to them was similarly identified as essential for the larger long-term changes that are included in element 2; and
- streamlining the consumer experience to make it easier to navigate the system was identified as important to be addressed in the short-term to bridge inequities for those unable to access assistive technologies on their own.

The survey results point to citizens viewing all of the short-term priorities as being important. However, a notable finding is that only one of the top-three ranked priorities from citizens (building awareness about the benefits of assistive technologies, the types that are available to help, and the programs and services available to support access to them) was aligned with those expressed as most important by policymakers and stakeholders. The other two top-rated short-term priorities from citizens (minimizing coverage gaps and ensuring the needs of anyone who could benefit from assistive technologies are reflected in what government programs provide) were focused on priorities that would mostly directly affect them.

Table 1: Overview of key findings related to short-term priorities identified for enhancing equitable access to assistive technologies in Canada (listed in order of number of participants that selected each as a top-three priority)

Short-term priorities	**Number selected as top-three priority (total n=753*)**	**Rating of importance from citizens**** mean (standard deviation)	**Insights from interviews**
Build awareness and knowledge about: • the benefits of and need for assistive technologies; • the range of technology that is available to help; and • the programs and services available to support access to them	• 497 (66%)	• 6.4 (0.9)	• People in the community are unaware of the range of technologies available for their needs and require support to make informed decisions. • People who need assistive technologies do not always know about the funding programs available and how to access them. • People may be unable or unwilling to pay out of pocket and use services if they do not understand how they can be helped by the technology.
Minimize coverage gaps and financial burden on consumers by better coordinating publicly funded programs and private insurance	• 413 (55%)	• 6.4 (0.8)	• Concern raised among some participants that addressing this priority may only support people who need assistive technologies who also have access to private insurance. • Some noted that this priority will be challenging to implement.

Short-term priorities	**Number selected as top-three priority (total n=753*)**	**Rating of importance from citizens**** mean (standard deviation)	**Insights from interviews**
Ensure the needs of anyone who could benefit from assistive technologies are reflected in what government programs provide	• 406 (54%)	• 6.4 (0.8)	• Required to operationalize the strongly held value of ensuring that anyone in need of assistive technologies has access to them (see element 3) • Government programs need to continually adapt to a rapidly evolving set of available assistive technologies
Enhance access to personalized assessments to ensure the right set of assistive technologies and services are provided based on what each person needs	• 352 (47%	• 6.3 (0.9)	• Enhancing access to individual assessments was viewed by some as needing to be standard practice to ensure the right assistive technologies are identified and customized for the needs of each individual. • Individualized assessments have the potential to reduce downstream costs by ensuring people receive what they need.
Streamline the consumer experience to make it easier to navigate the programs and services for assistive technologies	• 287 (38%)	• 6.3 (1.0)	• Needed to address the inequities in access for people who are unable to advocate for themselves or find the right information • Navigation may be most effective when individuals are directly connected to programs and services after an individualized assessment has been conducted, rather than only providing information about available programs and services.
Adopt a common language for assistive technologies across Canada, including agreement on one accepted definition	• 132 (18%)	• 5.6 (1.4)	• Necessary for creating regulations and standards for assistive technologies, as well as for facilitating further dialogue and understanding about the issue • Allows for clarity around the broader purpose of technologies and creating boundaries around the term ‘assistive technology’
Foster partnerships with industry to achieve common goals related to	• 168 (22%)	• 6.1 (1.0)	• Most emphasized the need to engage industry and government together in making assistive

Short-term priorities	**Number selected as top-three priority (total n=753*)**	**Rating of importance from citizens**** mean (standard deviation)	**Insights from interviews**
enhancing fair access to assistive technologies			technologies as a priority innovation area. • Most also emphasized that common goals included ensuring that assistive technologies are made affordable, and having health and social systems that ensure that assistive technologies get to those who need them.
Build national leadership for enhancing fair access to assistive technologies	• 115 (15%)	• 6.0 (1.2)	• Building such leadership was viewed as being needed to spark action towards the rest of the short- and long-term priorities. • Most interview participants agreed that national stewardship is required for addressing this issue, but it will need to be done in collaboration across federal, provincial and territorial partners along with partnerships from key stakeholders.

* The total number of survey participants at the time of writing this brief was 952, and 753 (79%) provided responses in this section of the survey
**Ratings were on a seven-point Likert scale ranging from: 1 - Not at all important; 2 - Not very important; 3 – Somewhat unimportant; 4 – Neither important nor unimportant; 5 – Somewhat important; 6 – Very important; 7 – Extremely important.

Element 2 – Long-term priorities for enhancing equitable access to assistive technologies in Canada

We developed and refined a set of six long-term priorities for enhancing equitable access to assistive technologies in Canada through the three citizen panels, stakeholder dialogue and national qualitative interview study. We present the long-term priorities in Table 2 along with key findings from the qualitative interview study and ratings of importance from the national survey we conducted in January 2020.

Participants in the qualitative interview study expressed overall agreement with the long-term priorities outlined in Table 2. In expressing their agreement, most participants focused less on commenting about the individual priorities and more on highlighting the interconnectedness of each of the priorities. For example, our initial set of long-term priorities include the need to: 1) leverage the efforts of existing stakeholders to develop an evidence base which could support decision-making on what assistive technologies to fund; 2) build partnerships across health and social systems to determine data collection and evaluation of new assistive technologies that enter the market; and 3) explore innovation projects to enhance equitable access to assistive technologies that could be piloted, evaluated, and scaled. As interviews progressed, it became clear that these three priorities were interrelated and best encompassed by the concept of rapid-learning health and social systems, which is grounded in the idea of coupling incremental policy changes that focus on improving cost-effectiveness with small-scale and tightly focused evaluations that identify which policy changes improved cost-effectiveness and warrant keeping.(39; 40) Given this, we refined the three priorities into one that is focused on ensuring timely decisions about what new technologies can enter the market and what technologies to provide funding for (for example, in government or private-insurance programs). However, as a possible approach to addressing this priority, the scope of rapid-learning health and social systems extends beyond ensuring timely decisions and is an approach that can underpin actions to address the short- and long-term priorities in a way that aligns with the values presented in element 3. We return to this idea in the implementation section.

Participants also supported building capacity for professionals involved in the provision of assistive technologies so they can direct individuals to the appropriate programs and services. Furthermore, certain groups such as Indigenous peoples, individuals residing in rural and remote areas, and those with low income were specifically recognized by participants to have persistent and inequitable access to assistive technologies, which was emphasized as being a priority to address.

As can be seen from Table 2, we found that similar to the short-term priorities, citizens rated each of the long-term priorities highly. In addition, the 733 survey participants that identified what they viewed as the top three long-term priorities also emphasized those that would most directly affect them. This included making access more fair for those who face the biggest challenges, ensuring public spaces, buildings and services are made more accessible and consistently supported through public policy, and ensuring access to assistive technologies for anyone who requires them to meet basic and instrumental activities of daily living.

Table 2: Overview of key findings related to long-term priorities identified for enhancing equitable access to assistive technologies in Canada (listed in order of number of participants that selected each as a top-three priority)

Long-term priorities	**Number selected as top-three priority (total n=733*)**	**Citizen rating of importance** mean (standard deviation)**	**Insights from interviews**
Make access to assistive technologies more fair for people who often face the biggest challenges in access to needed care and supports (for example, people with disabilities, mental health challenges, homeless or marginally housed, low-income, Indigenous peoples, or people living in rural or remote communities)	• 508 (69%)	• 6.4 (0.9)	• Important to start by "enhancing access for those who are the most marginalized because if we can make it easy for the most marginalized then it becomes easier for those with more access."(quote from interviewee #15) (18) • Noted by most that these populations face disproportionate challenges in access to assistive technologies, and that cost barriers may underpin the inequity that exists • Emphasized by many that health and social factors will need to be considered in developing policy actions to address this priority • Important to recognize sub-group differences and needs in terms of geography and culture
Ensure that environments such as public spaces, buildings and services are designed to be accessible by people of all abilities, and that these goals are consistently supported	• 436 (59%)	• 6.5 (0.8)	• In discussing this priority, several participants emphasized that accessibility needs to be built into the structure of laws, standards and regulations across all policy domains in order to fully realize the benefits of assistive technologies.

through public policy (for example, in municipal building codes)			- Others noted that addressing this priority can extend benefits to a range of populations and allow individuals with functional limitations to stay in the community.
Design government programs to focus on providing access to needed assistive technologies for anyone who requires support with <u>instrumental activities</u> of daily living (for example, grocery shopping, participating in education, paid or volunteer work)	- 408 (56%)	- 6.1 (1.0)	- Both priorities were viewed as essential to keep people functioning in the community and reduce the burden on the health system, specifically emergency care. - Some suggested that addressing this priority may be best facilitated through federal accessibility legislation and the application of a disability lens to public policy. - A challenge noted was being able to keep an updated list due to the fast pace of technology development.
Design government programs to focus on providing access to needed assistive technologies for anyone who requires support with <u>basic independence</u> (for example, getting in and out of bed, using the toilet)	- 368 (50%)	- 6.1 (1.2)	
Ensure timely decisions about what new technologies can enter the market and what technologies to provide funding for (for example, in government or private-insurance programs)	- 251 (34%)	- 6.1 (1.0)	- Participants emphasized the need to focus on supporting the scale-up and spread of promising innovation projects, but doing so in a way that is informed by evidence, values and preferences of citizens, and deliberations among system leaders. Many noted such a process would require partnership building across jurisdictions and sectors in Canada.
Improve the knowledge and skills of all professionals who are involved in the assessment for and provision of assistive technologies	- 239 (33%)	- 6.3 (0.8)	- Many noted that allied health professionals are likely best equipped to lead with connecting people to appropriate services. - Other highlighted that primary-care providers do not typically have the capacity, expertise and/or knowledge to provide their patients with information they need about assistive technologies they may need and where to access them.

* The total number of survey participants at the time of writing this brief was 952, and 733 (77%) provided responses in this section of the survey

**Ratings were on a seven-point Likert scale ranging from: 1 - Not at all important; 2 - Not very important; 3 – Somewhat unimportant; 4 – Neither important nor unimportant; 5 – Somewhat important; 6 – Very important; 7 – Extremely important.

Element 3 – Values to underpin policy actions to enhance equitable access to assistive technologies in Canada

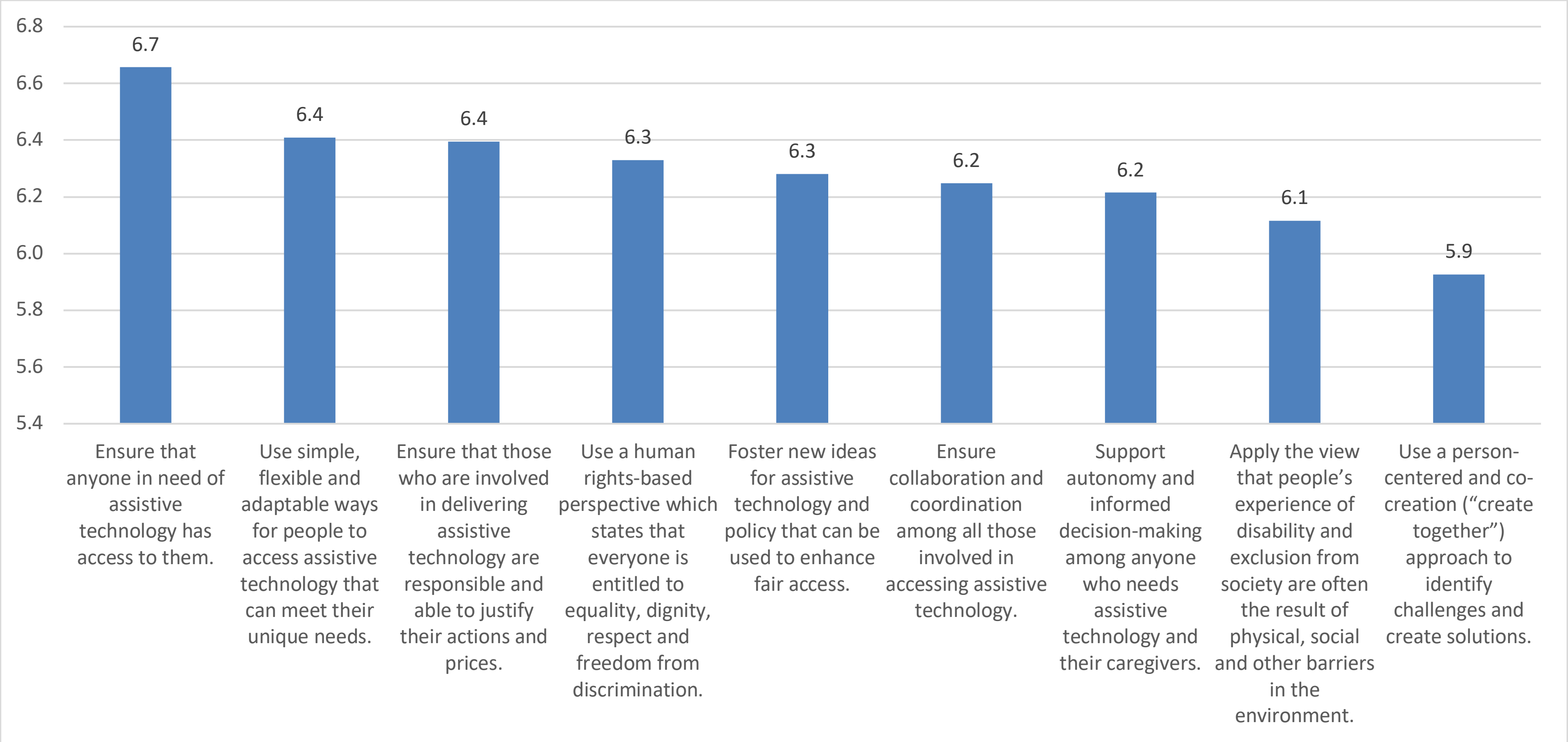
We identified nine values to underpin policy actions to enhance equitable access to assistive technologies in Canada. These values were originally derived from the deliberations in the three citizen panels convened in 2017, refined and expanded based on feedback during the dialogue, and further refined based on the qualitative interview study we conducted. The values include the need to:

- use a human rights-based perspective which states that everyone is entitled to equality, dignity, respect and freedom from discrimination;
- apply the view that people's experience of disability and exclusion from society are often the result of physical, social and other barriers in the environment;
- use a person-centred and co-creation ("create together") approach to identify challenges and create solutions;
- support autonomy and informed decision-making among anyone who needs assistive technologies and their caregivers;
- ensure that anyone in need of assistive technologies has access to them;
- ensure collaboration and coordination among all those involved in accessing assistive technologies;
- use simple, flexible and adaptable ways for people to access assistive technologies that can meet their unique needs;
- foster new ideas for assistive technologies and policy that can be used to enhance fair access; and
- ensure that those who are involved in delivering assistive technologies are responsible and able to justify their actions and prices.

The ratings of the importance of these values from the national survey of citizens are presented in Figure 1 below, which again point to strong support for all of the values included.

There was a consensus among the participants in the qualitative interview study about the importance of all the values in underpinning policy action. As such, insights about each of the values in the list above were typically not provided given that most spoke to the list as a whole being important. However, some values were emphasized more strongly than others during discussions. First, participants strongly emphasized the importance of a person-centred and co-creation ("create together") approach to identify challenges and create solutions to ensure equity and build trust with those affected by the issue. For example, one participant stated that "we have to do more than just engage ... we have to co-design and collaborate." Moreover, participants emphasized that the primary focus should be on a co-creation approach with those who already need assistive technologies (e.g., persons with disabilities), with a secondary focus on those for whom assistive technologies could be used for prevention (e.g., seniors at risk of falls), as well as caregivers. In addition, the value of ensuring that anyone in need of assistive technologies has access to them was emphasized as important for providing equitable access, with many highlighting it as a core value given that the ability to pay for assistive technologies was considered one of the most significant barriers to equitable access. Next, ensuring collaboration and fostering innovation were also touched on by several participants as being important in acting on the short- and long-term priorities. Lastly, using a human-rights approach was strongly emphasized by those who worked in the disability sector.

Figure 1: Citizen ratings of the importance of values to underpin policy action to enhance equitable access to assistive technologies in Canada



Values rating range 6.7 to 5.9 out of 7 1

Additional equity-related observations about the three elements

Several additional broad equity-related observations can be made in relation to older adults and people living with one or more disabilities. First, of 952 participants who completed the national survey that we are currently conducting, 60% were 65 years of age or older, 33% reported living with three or more chronic conditions, and half (495) report needing to use three or more assistive technologies. Given this, the ratings of the priorities and values in the elements are coming from older adults and/or people living with chronic conditions and/or disability. Therefore, the priorities emphasized by them provide clear guidance about the policy vision. This includes the top three for:

- what should be done now (i.e., in the short term) to enhance equitable access, including:
    - building awareness about the benefits of assistive technologies, the types that are available to help and the programs and services available to support access to them, was aligned with those expressed as most important by policymakers and stakeholders,
    - minimizing coverage gaps, and
    - ensuring the needs of anyone who could benefit from assistive technologies are reflected in what government programs provide;
- longer-term aspirational changes that should be simultaneously prioritized, including:
    - making access fairer for those who face the biggest challenges,
    - ensuring public spaces, buildings and services are made more accessible and consistently supported through public policy, and
    - ensuring access to assistive technologies for anyone who requires them to meet basic and instrumental activities of daily living; and
- key values that should underpin policy action, including:
    - ensure that anyone in need of assistive technologies has access to them,
    - use simple, flexible and adaptable ways for people to access assistive technologies that can meet their unique needs, and
    - ensure that those who are involved in delivering assistive technologies are responsible and able to justify their actions and prices.

In relation to the values prioritized by citizens, it is noteworthy that using a person-centred and co-creation ("create together") approach to identify challenges and create solutions was rated lowest. However, this value has important equity-related implications as operationalizing it will require meaningful engagement of those who need assistive technologies, particularly older adults and/or those living with disability. Such engagement will need to ensure that processes are accessible and conducted throughout the stages of conducting initial research and innovation, developing and refining technology, testing, scaling and spreading the use of assistive technologies, and developing and implementing policies that are designed to get assistive technologies to those who need them.

IMPLEMENTATION CONSIDERATIONS

A number of barriers might hinder implementation of the three elements of a policy vision for enhancing equitable access to assistive technologies in Canada. Our qualitative interview study with 27 policymakers, stakeholders and researcher across Canada revealed several barriers. The barriers that were most consistently identified were:

- a lack of timely and relevant data and evidence to inform decisions about a rapidly advancing area;
- difficulty keeping funding programs up-to-date with the latest assistive technologies as needs change;
- difficulty building consensus for redefining eligibility criteria, funding agreements and extent of coverage to ensure all those who need assistive technologies while also managing resource constraints (e.g., financial, human, information) of the public system;
- increased demand on healthcare providers (e.g., for providing individualized assessments);
- facilitating buy-in across federal, provincial and territorial jurisdictions; and

- overcoming ongoing stigma that may exist in relation to disability and the use of assistive technologies to secure investment from government and the private sector.

We also identified a number of windows of opportunity or factors that could act as facilitators towards generating action to address policy priorities for enhancing equitable access to assistive technologies in Canada. First, many identified opportunities with the recent (July 2019) enactment of the federal *Accessible Canada Act*. The Act was viewed as a potential spark to action towards enhancing equitable access to assistive technologies as a means of supporting the Act's aims for a barrier-free and inclusive Canada. Following a recent federal election, this legislation provides a window of opportunity to engage policymakers in discussions about whether and how addressing policy priorities for enhancing equitable access can also enable implementation of priorities in the *Accessible Canada Act*. The *Accessible Canada Act* applies to areas overseen by the federal government, such as government services, banking, telecommunications and transportation. Only Ontario, Manitoba and Nova Scotia have passed accessibility legislation, and legislation has been tabled for British Columbia. It is understood that other provinces and territories are considering accessibility legislation, following the lead of the federal government, which will present additional opportunities for discussion.

Several participants noted that the alignment of key national strategies could be leveraged as additional support for taking action towards the policy priorities. First, many raised the ongoing and highly visible debate about the need for a national pharmacare program as an opportunity to address the many similar challenges that are faced in relation to access to assistive technologies in Canada. Specifically, many identified that there could be an opportunity to include assistive technologies in the remit of a future national pharmacare program. Second, enhancing equitable access to assistive technologies was seen as important for each of the four pillars of the national seniors strategy, which are supporting independent, productive and engaged citizens, helping people lead healthy and active lives, providing care closer to home, and providing support for caregivers. Lastly, the priorities are also highly relevant to the National Dementia Strategy which states that "in implementing the strategy, governments, non-governmental organizations, community organizations and others working on dementia should:

- prioritize quality of life for people living with dementia and caregivers;
- respect and value diversity to ensure an inclusive approach, with a focus on those most at risk or with distinct needs;
- respect the human rights of people living with dementia to support their autonomy and dignity;
- engage in evidence-informed decision making, taking a broad approach to gathering and sharing best available knowledge and data; and
- maintain a results-focused approach to tracking progress, including evaluating and adjusting actions as needed."(41)

Lastly, as identified in element 2, adopting an approach to enable rapid-learning health and social systems could be central to supporting the implementation of the short- and long-term policy priorities, and doing so in a way that is underpinned by the values identified in element 3. Specifically, a rapid-learning health and social system refers to the combination of a care-delivery system and a research system that at all levels – self-management, clinical or service encounter, program, organization, regional authority and government – is: 1) anchored on patient and client needs, perspectives and aspirations (and focused on improving their care and service experiences and health at manageable per capita costs and with positive provider experiences); 2) driven by timely data and evidence; 3) supported by appropriate decision supports and aligned governance, financial and delivery arrangements; and 4) enabled with a culture of and competencies for rapid learning and improvement.(39; 40; 42) We provide an overview of characteristics of rapid-learning health and social systems in Appendix 2.

Such an approach has direct relevance to several of the priorities and values identified in elements 1-3. Perhaps most importantly is the emphasis placed on anchoring a rapid-learning approach on the needs, perspectives and aspirations of patients and clients given the importance placed on the value of using a person-centred and co-creation ("create together") approach to identify challenges and create solutions, given that it was consistently emphasized by citizens in the citizen panels we convened, and prioritized as a central value during the stakeholder dialogue and interviews with policymakers and stakeholders. Moreover, it will be essential to implementing the long-term priority of ensuring timely decisions about what new technologies can enter the market and what technologies to provide funding for (for example, in government or private-insurance programs). In addition, taking an approach that assumes that policy actions will never be perfect and that iterative improvement through cycles of rapid improvement is needed, will be essential.

REFERENCES

1. CIHI. Health Care in Canada, 2011. A focus on seniors and aging. Ottawa: Canadian Institutes for Health Research; 2011. https://secure.cihi.ca/free_products/HCIC_2011_seniors_report_en.pdf (accessed 25 September 2017).
2. Ndegwa S. Initiatives for healthy aging in Canada: Environmental scan issue 1. Ottawa: Canadian Agency for Drugs and Technologies in Health; 2011. https://www.cadth.ca/media/pdf/Initiatives_on_Healthy_Aging_in_Canada_es-17_e.pdf (accessed 25 September 2017).
3. Senate of Canada. Canada's aging population: Seizing the opportunity. Special Senate committee on aging final report. Ottawa: Senate of Canada; 2009.
4. Statistics Canada. Age and sex highlight tables, 2016 Census. Population by broad age groups and sex, 2016 counts for both sexes, Canada, provinces and territories, 2016 Census – 100% data. Ottawa: Statistics Canada; 2017. http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/hlt-fst/as/Table.cfm?Lang=E&T=11 (accessed 25 September 2017).
5. Statistics Canada. Table 115-0001 - Prevalence of disability for adults, by sex and age group, Canada, provinces and territories, occasional (number unless otherwise noted), CANSIM (database). Ottawa: Statistics Canada; 2014. http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=1150001&pattern=disability&tabMode=dataTable&srchLan=-1&p1=1&p2=-1 (accessed 25 September 2017).
6. Statistics Canada. A profile of persons with disabilities among Canadians aged 15 years or older, 2012. Ottawa: Statistics Canada; 2015. http://www.statcan.gc.ca/pub/89-654-x/89-654-x2015001-eng.htm (accessed 25 September 2017).
7. World Health Assembly. Improving access to assistive technology: Report by the Director-General. Seventy-First World Health Assembly. Geneva, Switzerland: World Health Organization; 2018.
8. Center for Technology and Aging. The new era of connected aging: A framework for understanding technologies that support older adults aging-in-place. Berkeley: University of California; 2014. http://www.techandaging.org/ConnectedAgingFramework.pdf (accessed 25 September 2017).
9. Morris S, Fawcett G, Brisebois L, Hughes J. Canadian Survey on Disability Reports: A demographic, employment and income profile of Canadians with disabilities aged 15 years and over, 2017. Ottawa: Statistics Canada; 2018. https://www150.statcan.gc.ca/n1/pub/89-654-x/89-654-x2018002-eng.htm (accessed May 13 2019).
10. Wang RH, Wilson MG, Batliwalla Z, Pollack CA, Simeonov D, Bickenbach J, editors. Understanding and advancing Canadian policies for equitable access to assistive technology. Global perspectives on assistive technology: proceedings of the GReAT Consultation 2019; 2019 22–23 August 2019; Geneva, Switzerland: World Health Organization, Geneva: World Health Organization.
11. Schreiber D, Wang RH, Durocher E, Wilson MG. Access to Assistive Technology in Canada: A Jurisdictional Scan of Programs. Toronto, Canada: AGE-WELL NCE, University of Toronto, McMaster Health Forum, March of Dimes Canada; 2017.
12. Wang RH, Zdaniuk N, Durocher E, Wilson MG. Policymaker and stakeholder perspectives on access to assistive technologies in Canada: Challenges and proposed solutions for enhancing equitable access. *Under review* 2020.
13. Mattison CA, Waddell K, Wang RH, Wilson MG. Citizen brief: Enhancing equitable access to assistive technologies in Canada. Hamilton,Canada: McMaster Health Forum; 2017.
14. Mattison CA, Waddell K, Wilson MG. Panel summary: Enhancing equitable access to assistive technologies in Canada. Hamilton, Canada: McMaster Health Forum; 2017.

15. Mattison CA, Wilson MG, Wang RH, Waddell K. Enhancing Equitable Access to Assistive Technologies in Canada: Insights from Citizens and Stakeholders. *Canadian Journal on Aging / La Revue canadienne du vieillissement* 2019: 1-20.
16. Waddell K, Wilson MG, Mattison CA. Dialogue summary: Enhancing equitable access to assistive technologies in Canada. Hamilton, Canada: McMaster Health Forum; 2017.
17. Mattison C, Wilson M, Wang R, Waddell K. Evidence brief: Enhancing equitable access to assistive technologies for older adults in Canada. Hamilton, Canada: McMaster Health Forum; 2017.
18. Wilson MG, Shahid A, Wang RH. Development of policy priorities and values for enhancing equitable access to assistive technology in Canada. *manuscript in preparation* 2020.
19. McMaster Health Forum. Overview of the McMaster Health Forum's approach to convening citizen panels. Hamilton, Canada: McMaster Health Forum; 2016. https://www.mcmasterhealthforum.org/docs/default-source/program-handouts/citizen-panels-handout.pdf?sfvrsn=4 (accessed 23 February 2017).
20. World Health Organization. Priority assistive products list. Geneva: World Health Organization; 2016.
21. Morris S, Fawcett G, Brisebois L, Hughes J. Canadian Survey on Disability Reports: A demographic, employment and income profile of Canadians with disabilities aged 15 years and over, 2017. Ottawa: Statistics Canada; 2018. https://www150.statcan.gc.ca/n1/pub/89-654-x/89-654-x2018002-eng.htm (accessed May 13 2019).
22. Mattison CA, Wilson MG, Wang RH, Waddell K. Evidence brief: Enhancing equitable access to assistive technologies in Canada. Hamilton, Ontario, Canada: McMaster Health Forum; 2017.
23. Government of Canada. Making an accessible Canada for persons with disabilities. Ottawa, Canada: 2019. https://www.canada.ca/en/employment-social-development/programs/accessible-people-disabilities.html (accessed July 24 2019).
24. Government of Canada. Convention on the Rights of Persons with Disabilities: First report of Canada. 2014. http://www.ccdonline.ca/media/international/Convention%20on%20the%20Rights%20of%20Persons%20with%20Disabilities%20-%20First%20Report%20of%20Canada.pdf (accessed 14 February 2020)
25. United Nations. Convention on the Rights of Persons with Disabilities. Geneva, Switzerland: United Nations Division for Social Policy and Development Disability; 2006.
26. Devandas-Aguilar C. End of mission statement by the United Nations Special Rapporteur on the rights of persons with disabilities, Ms. Catalina Devandas-Aguilar, on her visit to Canada. United Nations Human Rights Office of the High Commissioner; 2019 July 24 2019).
27. Allied Analytics LLP. Elderly and Disabled Assistive Devices Market by Type: Global Opportunity Analysis and Industry Forecast, 2019-2026. https://www.researchandmarkets.com/reports/4844570/elderly-and-disabled-assistive-devices-market-by?utm_source=BW&utm_medium=PressRelease&utm_code=v2m5rt&utm_campaign=1303492+-+Global+Elderly+%26+Disabled+Assistive+Devices+Market+2019-2026&utm_exec=joca220prd; 2019.
28. Greenemeir L. 5 Mobile Technologies Help Level the Playing Field for People with Disabilities. 2015. https://www.scientificamerican.com/article/5-mobile-technologies-help-level-the-playing-field-for-people-with-disabilities-video/ (accessed 22 January 2020).
29. MacNeil M, Koch M, Kuspinar A, Juzwishin D, Lehoux P, Stolee P. Enabling health technology innovation in Canada: Barriers and facilitators in policy and regulatory processes. *Health Policy* 2019; 123(2): 203-214.
30. Ontario Ministry of Health and Long-Term Care. Policies and Procedures Manual for the Assistive Devices Program. In: Program AD, editor. Toronto, Ontario: Ministry of Health and Long-Term Care; 2016.
31. Ontario Ministry of Colleges and Universities. Ontario Bursary for Students with Disabilities, Canada Student Grant for Services and Equipment for Persons with Permanent Disabilities. Toronto, Ontario: Government of Ontario; 2019.

32. McColl MA, Jaiswal A, Jones S, Roberts L, Murphy C. A Review of Disability Policy in Canada. Kingston, Ontario: Canadian Disability Policy Alliance; 2017.
33. Council of Canadians with Disabilities. From Vision to Action: Building An Inclusive and Accessible Canada: A National Action Plan. 2007. http://www.ccdonline.ca/en/socialpolicy/actionplan/inclusive-accessible-canada (accessed 12 January 2019).
34. Minister of Justice. Accessible Canada Act. Ottawa, Canada: Goverment of Canada; 2019. https://laws-lois.justice.gc.ca/PDF/A-0.6.pdf (accessed 28 January 2020.
35. MacLachlan M, Banes D, Bell D, et al. Assistive technology policy: a position paper from the first global research, innovation, and education on assistive technology (GREAT) summit. *Disability and Rehabilitation: Assistive Technology* 2018; 13(5): 454-466.
36. Starfield B. Primary care: Balancing health needs, services and technology. Revised edition ed. New York, United States of America: Oxford University Press; 1998. 448 p.
37. Statistics Canada. Disability in Canada: Initial findings from the Canadian Survey on Disability. Ottawa: Statistics Canada; 2015. http://www.statcan.gc.ca/pub/89-654-x/89-654-x2013002-eng.htm (accessed 23 November 2016).
38. Statistics Canada. A profile of persons with disabilities among Canadians aged 15 years or older, 2012. Ottawa: Statistics Canada; 2015. http://www.statcan.gc.ca/pub/89-654-x/89-654-x2015001-eng.htm (accessed 15 November 2016).
39. Lavis J, Gauvin F, Mattison C, et al. Rapid synthesis: Creating rapid-learning health systems in Canada. Hamilton, Canada: McMaster Health Forunm; 2018.
40. Lavis J, Gauvin F, Reid R, Bullock H, Wodchis W, Hayes A. Rapid synthesis: Creating a rapid-learning health system in Ontario. Hamilton, Canada: McMaster Health Forum; 2018.
41. Public Health Agency of Canada. A Dementia Strategy for Canada: Together we Aspire. Ottawa, Canada: Public Health Agency of Canada; 2019.
42. Wilson MG, Lavis JN, Voorheis P. Rapid synthesis: Identifying technology-based solutions for aging-focused rapid-learning health and social systems. Hamilton, Canada: McMaster Health Forum; 2020.

APPENDICES

The following appendices provide the content included in Boxes 1-4 (Appendix 1), an overview of how the larger project that this issue brief and the stakeholder dialogue it was designed to inform were developed (Appendix 2), and an overview of the characteristics of rapid-learning health and social systems that were identified in the section about implementation considerations (Appendix 3).

Appendix 1: Content from boxes 1-4 included in the evidence brief

Box 1: Background to the issue brief

This issue brief mobilizes both global and local research evidence about a problem (the challenge of implementing a policy vision to enhance equitable access to assistive technologies in Canada), three elements of a policy vision to address this challenge, and key implementation considerations. The issue brief is designed as a follow-up from a stakeholder dialogue convened in 2017 that was focused on enhancing equitable access to assistive technologies in Canada. The main recommendation from that dialogue was to develop a policy vision that includes short- and long-term priorities and values to underpin policy action to enhance equitable access to assistive technologies in Canada. Therefore, this issue brief primarily draws on evidence included in an evidence brief, as well as from a qualitative study that was conducted following the stakeholder dialogue to generate and refine short- and long-term priorities for a policy vision and values that should underpin any policy actions that are taken, that the original evidence brief was designed to inform. As such, unlike a Forum evidence brief, a Forum issue brief does not involve as comprehensive an evidence review by Forum staff.

The issue brief does <u>not</u> contain recommendations, which would have required the authors of the brief to make judgments based on their personal values and preferences, and which could pre-empt important deliberations about whose values and preferences matter in making such judgments.

The preparation of the issue brief involved five steps:
1) convening a Steering Committee comprised of representatives from the partner organizations and the McMaster Health Forum;
2) developing and refining the terms of reference for an issue brief, particularly the framing of the problem, three elements of a policy vision and implementation considerations, in consultation with the Steering Committee and those interviewed as part of the qualitative study that we conducted;
3) identifying, selecting, appraising and synthesizing relevant research evidence about the problem, elements and implementation considerations;
4) drafting the issue brief in such a way as to present concisely and in accessible language the global and local research evidence; and
5) finalizing the issue brief based on the input of several merit reviewers.

The three elements of a policy vision (and the priorities within the elements) could be pursued singly, simultaneously with equal or different emphasis, or in a sequenced way.

The issue brief was prepared to inform a stakeholder dialogue for which research evidence is one of many considerations. Participants' views and experiences and the tacit knowledge they bring to the issues at hand are also important inputs to the dialogue. One goal of the stakeholder dialogue is 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. A second goal of the stakeholder dialogue is 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.

Box 2: Equity considerations

A problem may disproportionately affect some groups in society. The benefits, harms and costs of implementing the types of priorities included in the elements of a potentially comprehensive policy vision for enhancing equitable access to assistive technologies may vary across groups. Implementation considerations may also vary across groups.

One way to identify groups warranting particular attention is to use the PROGRESS Plus framework. The PROGRESS acronym is formed by the first letters of the following eight ways that can be used to describe groups†:

- place of residence (e.g., rural and remote populations);
- race/ethnicity/culture (e.g., First Nations and Inuit populations, immigrant populations, and linguistic minority populations);
- occupation or labour-market experiences more generally (e.g., those in "precarious work" arrangements);
- gender;
- religion;
- educational level (e.g., health literacy);
- socio-economic status (e.g., economically disadvantaged populations); and
- social capital.

Plus refers to: 1) personal characteristics associated with discrimination (e.g., age, disability); 2) features of relationships (e.g., smoking parents, excluded from school); and 3) time-dependent relationships (e.g., leaving the hospital, respite care, other instances where a person may be temporarily at a disadvantage).
This issue brief strives to address all Canadians, but (where possible) it also gives particular attention to older adults and/or people living with one or more disabilities, which are captured as part of the personal characteristics part of the above framework. Many other groups warrant serious consideration as well, and a similar approach could be adopted for any of them.

† References:

1) Oliver S, Kavanagh J, Caird J, Lorenc T, Oliver K, Harden A. Health promotion, inequalities and young people's health. A systematic review of research. 2008.
2) Oliver S, Dickson K, Newman M. Getting started with a review. In: Gough D, Oliver S, Thomas J, editors. An Introduction to Systematic Reviews. London: SAGE Publications; 2012
3) O'Neill J, Tabish H, Welch V, Petticrew M, Pottie K, Clarke M, Evans T, Pardo Pardo J, Waters E, White H, Tugwell P. Applying an equity lens to interventions: using PROGRESS ensures consideration of socially stratifying factors to illuminate inequities in health. Journal of Clinical Epidemiology. 2014, 67 (1), pg. 56-64.

Box 3: Mobilizing research evidence about the problem

The available research evidence about the problem was principally derived from the previous evidence brief that this issue brief is designed to build upon. In addition, the framing of the problem is derived from the thematic analysis we conducted of the three citizen panels and the stakeholder dialogue that we convened in 2017 about enhancing equitable access to assistive technologies in Canada.

The data in the original evidence brief was derived from a range of published and 'grey' research literature sources. Published literature that provided a comparative dimension to an understanding of the problem was sought using three health services research 'hedges' in MedLine, namely those for appropriateness, processes and outcomes of care (which increase the chances of us identifying administrative database studies and community surveys). Published literature that provided insights into alternative ways of framing the problem was sought using a fourth hedge in MedLine, namely the one for qualitative research. Grey literature was sought by reviewing the websites of a number of Canadian and international organizations, such as Health Quality Ontario, the Public Health Agency of Canada, the Canadian Institute of Health Information, the Centre for Technology and Aging, the World Health Organization, and Statistics Canada.

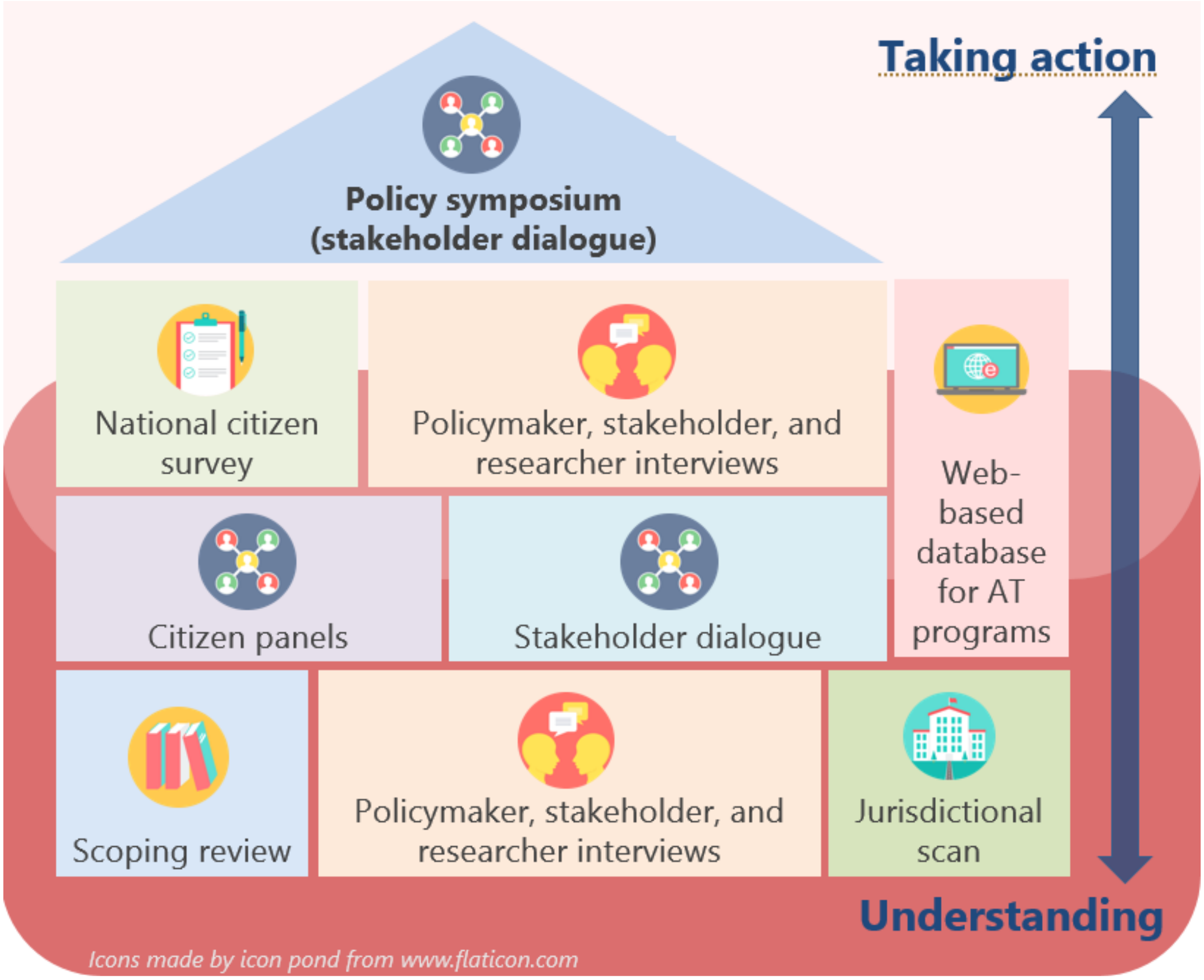
Priority was given to research evidence that was published more recently, that was locally applicable (in the sense of having been conducted in Canada), and that took equity considerations into account.

Box 4: Mobilizing research evidence about elements of a policy vision for enhancing equitable access to assistive technologies in Canada

This issue brief was developed to follow up on the specific recommendation from a series of three citizen panels convened in April and May 2017, and a stakeholder dialogue convened in June 2017 to develop a national policy vision for enhancing equitable access to assistive technology in Canada. To do this, we supplemented the evidence brief that was used to inform the original stakeholder dialogue with a national qualitative interview study to develop and refine a set of short- and long-term policy priorities for enhancing equitable access to assistive technologies in Canada, and values that can be used to underpin any future policy actions taken. Specifically, we interviewed 27 participants, including policymakers and stakeholders from national, provincial/territorial and regional perspectives. We sought feedback about short- and long-term priorities and values that were identified through the citizen panels and the stakeholder dialogue. Transcripts were coded and analyzed to iteratively refine the priorities and values.

Given that the focus of the stakeholder dialogue that this issue brief was designed to inform is on refining the short- and long-term priorities and values and to identify actions that can be taken to address them, no additional research evidence was sought beyond what was included in the original evidence brief and the qualitative interview study we conducted to supplement it.

Appendix 2: Overview of set of projects designed to support actions to enhance equitable access to assistive technologies in Canada



Appendix 3: Characteristics of rapid-learning health and social systems (table reproduced with permission from Lavis et al. and Wilson et al.) (39; 40; 42)

Category	Characteristic	Examples
Patient and client centred	**Engaged patients and clients:** Systems are anchored on patient and client needs, perspectives and aspirations (at all levels) and focused on improving their care experiences and health at manageable per capita costs and with positive provider experiences	1) Set and regularly adjust patient- and client-relevant targets for rapid learning and improvement (e.g., improvements to a particular type of patient or client experience or in a particular outcome) 2) Engage patients, families and citizens in: a) their own health (e.g., goal setting; self-management and living well with conditions; access to personal health information, including test results) b) their own care and services (e.g., shared decision-making; use of decision aids) c) the organizations that deliver care and services (e.g., patient/client-experience surveys; co-design of programs and services; membership of quality-improvement committees and advisory councils) d) the organizations that oversee the professionals and other organizations in the system (e.g., professional regulatory bodies; quality-improvement bodies; ombudsman; and complaint processes) e) policymaking (e.g., committees making decisions about which programs, services and drugs are covered; government advisory councils that set direction for (parts of) the system; patient or client storytelling to kick off key meetings; citizen panels to elicit citizen values) f) research (e.g., engaging patients and clients as research partners; eliciting input from patients and clients on research priorities) 3) Build patient/client/citizen capacity to engage in all of the above
Data and evidence driven	**Digital capture, linkage and timely sharing of relevant data**: Systems capture, link and share (with individuals at all levels) data (from real-life, not ideal conditions) about patient and client experiences (with services, transitions and longitudinally) and provider engagement alongside data about other process indicators (e.g., clinical and service encounters and costs) and	1) Data infrastructure (e.g., interoperable electronic health records that link with social-service providers; immunization or condition-specific registries; privacy policies that enable data sharing) 2) Capacity to capture patient/client-reported experiences (for both services and transitions), clinical/service encounters, outcomes and costs 3) Capacity to capture longitudinal data across time and settings 4) Capacity to link data about health, healthcare, social care and the social determinants of health 5) Capacity to analyze data (e.g., staff and resources) 6) Capacity to share 'local' data (alone and against relevant comparators) – in both patient/client- and provider-friendly formats and in a timely way – at the point of care or service provision, for providers and practices (e.g., audit and feedback), and through a centralized platform (to support patient/client decision-making and provider, organization and system-wide rapid learning and improvement)

Category	Characteristic	Examples
	outcome indicators (e.g., health status)	
	Timely production of research evidence: Systems produce, synthesize, curate and share (with individuals at all levels) research about problems, improvement options and implementation considerations	1) Distributed capacity to produce and share research (including evaluations) in a timely way 2) Distributed research ethics infrastructure that can support rapid-cycle evaluations 3) Capacity to synthesize research evidence in a timely way 4) One-stop shops for local evaluations and pre-appraised syntheses 5) Capacity to access, adapt and apply research evidence 6) Incentives and requirements for research groups to collaborate with one another, with patients, and with decision-makers **Note that for Indigenous peoples, this row would ideally be re-conceptualized to include traditional knowledge**
System supported	**Appropriate decision supports**: Systems support informed decision-making at all levels with appropriate data, evidence, and decision-making frameworks	1) Decision supports at all levels – self-management, clinical/service encounter, program, organization, regional health authority and government – such as a) patient/client-targeted evidence-based resources b) decision aids c) patient/client goal-setting supports d) practice guidelines e) decision-support systems (including those embedded in electronic health records) f) quality standards g) care/service pathways h) health technology assessments i) descriptions of how health and social systems work
	Aligned governance, financial and delivery arrangements: Systems adjust who can make what decisions (e.g., about joint learning priorities), how money flows and how the systems are organized and aligned to support rapid learning and improvement at all levels	1) Centralized coordination of efforts to adapt a rapid-learning and improvement approach, incrementally join up assets and fill gaps, and periodically update the status of assets and gaps 2) Mandates for preparing, sharing and reporting on quality-improvement plans 3) Mandates for accreditation 4) Funding and remuneration models that have the potential to incentivize rapid learning and improvement (e.g., focused on patient/client-reported outcome measures, some bundled-care funding models) 5) Value-based innovation-procurement model 6) Funding and active support to spread effective practices across sites 7) Standards for provincial expert groups to involve patients and clients, a methodologist, use existing data and evidence to inform and justify their recommendations 8) Mechanisms to jointly set rapid-learning and improvement priorities 9) Mechanisms to identify and share the 'reproducible building blocks' of a rapid-learning health and social system
Culture and com-petencies enabled	**Culture of rapid learning and improvement**: Systems are	1) Explicit mechanisms to develop a culture of teamwork, collaboration and adaptability in all operations, to develop and maintain trusted relationships with the full range of partners

Category	Characteristic	Examples
	stewarded at all levels by leaders committed to a culture of teamwork, collaboration and adaptability	needed to support rapid learning and improvement, and to acknowledge, learn from and move on from 'failure'
	Competencies for rapid learning and improvement: Systems are rapidly improved by teams at all levels who have the competencies needed to identify and characterize problems, design data- and evidence-informed approaches (and learn from other comparable programs, organizations, regions, and sub-regional communities about proven approaches), implement these approaches, monitor their implementation, evaluate their impact, make further adjustments as needed, sustain proven approaches locally, and support their spread widely	1) Public reporting on rapid learning and improvement 2) Distributed competencies for rapid learning and improvement (e.g., data and research literacy, co-design, scaling up, leadership) 3) In-house capacity for supporting rapid learning and improvement 4) Centralized specialized expertise in supporting rapid learning and improvement 5) Rapid-learning infrastructure (e.g., learning collaboratives)

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