2019-2020

Access to technological-based supports for low-income income older adults

Executive Summary

Low-income older adults are a vulnerable population that faces multiple and intersecting challenges to aging well in the community. These include insufficient income to cover day-to-day costs as well as a lack of resources to manage unexpected changes in health or living environment. Women and older adults living alone are disproportionately more likely to be low-income. Facilitating their access to information and communication technologies and assistive technologies has the potential to improve their health and wellbeing and contributes to current jurisdictional efforts to improve their health and quality of life. The purpose of this policy report is to identify the critical barriers and enablers of access to technology-based supports for low-income older adults, as well as examples of how these can be addressed by federal/provincial/territorial governments and community organizations.

The report highlights opportunities to improve low-income older adults' access to technology-based supports by reducing financial barriers and jurisdictional disparities and puts forth three policy recommendations:

1. **Reduce financial barriers in access to basic technological infrastructure;**

2. **Reduce jurisdictional inequities in access to assistive technologies; and**

3. **Develop digital literacy programs for low-income older adults and their family members.**

Policy Questions

This report was guided by two inter-related questions:

1. **What are effective technology-based supports to enable low-income older adults to age well in the community?**

2. **How can technological-based supports be delivered through community organizations or with assistance from provincial/territorial governments?**

In order to answer these two questions, the following definitions were used:

Low-income was broadly defined as experiencing economic insecurity, living in poverty, or living near or below Statistics Canada's official poverty cut-offs.

Older adult was defined as a person who is aged at least 65 years or older.

Technology-based supports is an umbrella term for items, equipment, software, product systems and related services that are used to support the health and quality of life of older adults or enable them to meaningfully participate in activities that are important to them. These include information and communication technologies (e.g. internet, computers, smartphones, software), assistive technologies (e.g. technologies used to maintain or improve the functioning), passive ambient and wearable sensors, and various associated programs and services (e.g. digital literacy training, telehealth).

Access was defined as having not only physical access to a specific item (e.g. owning a computer) but also having the knowledge, skills, and social supports needed for its meaningful use. [1]

Background
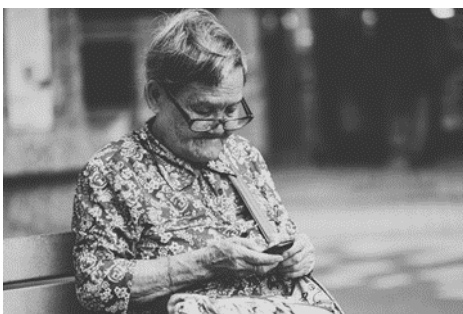
According to the most recent Statistics Canada report from 2017, 238,000 (3.9%) older adults live in poverty.[2] However, the number of low-income older adults is substantially higher if we consider all those whose incomes were near or just above the official poverty cut-off. While these older adults would not technically be considered poor, their incomes are low enough that they experience economic insecurity and are at risk of becoming poor due to unexpected costs associated with chronic illness or disability.

Low-income older adults are a vulnerable population that face multiple and intersecting challenges to aging well in the community. They lack sufficient income to cover day-to-day costs, and struggle with paying for housing, food, transportation, and health care services (e.g. medications, dental care, home care services). Moreover, most do not have income related assets such as workplace pensions, home equity, or RRSPs and thus have few resources to manage unexpected changes in health or living environment.

As a result of these challenges, low-income older adults are at risk for poor mental and physical health, social isolation, and loneliness.[3] Women and older adults living alone are disproportionately more likely to be low-income. This is even more likely if they are also from a marginalized community; immigrants, Indigenous people, racialized and linguistic minorities, lesbian, gay, bisexual, trans or queer persons, and those living with a disability are more likely to be low-income. [4,5] Marginalized low-income older adults experience poor health and social exclusion as a result of not only income related disadvantages, but also due to ongoing discrimination, historic trauma, and lack of access to culturally sensitive and linguistically appropriate services.[6] Addressing these structural barriers to health and social inclusion, alongside efforts to improve economic security, is crucial to supporting diverse older adults in aging well in the community.

Enhancing low-income older adults' access to technology-based supports has the potential to contribute to current jurisdictional efforts to improve the health, wellbeing and quality of life of this population in a number of ways. For example, health promotional materials and interventions, information about financial and other types of benefits and services for older adults are increasingly being offered exclusively online.[7,8] Enhancing low-income older adults' use of information and communication technologies can thus provide them with access to relevant health information and services available to them. Enabling their use of such technologies may also facilitate older adults' lifelong learning, maintaining

connections to their families and communities, and participating in meaningful activities, all of which promote social inclusion and prevent loneliness.[9]

The use of telehealth and remote monitoring technologies may enhance older adults' ability to self-manage chronic illness, sustain communication and coordination with all those involved in their care, and provide them with the possibility of arranging services online.[7,10] Finally, their use of various assistive devices and systems may also help to compensate, at least in part, for mobility, sensory, or cognitive limitations that may be experienced due to chronic illness, disability or injury. It is, however, important to note that use of technological-based supports bring no guaranteed benefit outside of their particular function, and are thus most effective when personalized and combined with sufficient personal and social resources (e.g. informal and formal).[11-13]

Research Approach

The approach taken in this report was a targeted policy analysis that included a literature review, synthesis and stakeholder consultations. The literature review included academic sources, grey literature and policy documents from provincial, national, and international sources to understand what technology-based supports are available for low-income older adults, challenges and facilitators of access/use of technology-based supports for this population group, and examples of promising services and programs. Stakeholders from two groups were consulted: older adults and caregivers from AGE-WELL NCE's Older Adults Research Partner Group and the Older Adult and Caregiver Advisory Committee and government representatives (e.g. federal, provincial, territorial). The consultations were used as an opportunity to elicit stakeholders' priorities regarding the focus of the report, feedback on literature review, and identify examples of promising and/or needed policy initiatives and relevant information sources.

Key Findings

While the policy question that guided this report included identification of "effective" technological-based supports, there was insufficient evidence found to determine which types of supports or delivery mechanisms are most effective, under what conditions, and for which individuals. The lack of evidence included both insufficient empirical research to determine the impact and costs associated with implementation of available technological-based supports, as well as the lack of formal evaluations of current services and programs in this area.

As an example, while remote monitoring technologies (e.g. telecare, ambient sensors) are often promoted in policy documents as being both cost-effective and supportive of the health of older adults, there is inconsistent and insufficient empirical research evidence to support these claims.[14-16] Moreover, research suggests that such supports may be most beneficial when the "usual care" is suboptimal (or non-existent) and when older adults have both sufficient personal and social resources. The oldest and sickest older adults may thus be least likely to benefit from health monitoring supports, and may even be harmed by them.[12, 13] More research is needed to determine the effectiveness of these types of technological-based supports for this population group.

In light of the identified gaps in knowledge regarding efficacy, the findings below focus on two types of critical barriers to access and delivery of all types of technological-based supports for low-income older adults, with examples of some promising programs and services that have been developed to address these barriers.

Financial barriers

Affordability of basic technological infrastructure. There is a clear link between personal income and access to technology-based supports. For example, socio-economic status and income predicts internet use and ownership

of smartphones among older-adults.[17, 18] A significant financial barrier to access of technological-based supports is thus the affordability of basic infrastructure: high cost of fixed and mobile wireless broadband internet and smartphone/ personal computer.[19-21] Affordability of such infrastructure may be a barrier to access particularly for low-income older adults as they are also more likely to live on fixed incomes or live in physical environments that have low connectivity and poor internet speeds (e.g. subsidized social housing, rural and remote communities).

There are some basic income related supports (e.g. tax credits, subsidies) provided to all Canadian older adults, as well as some jurisdictional ones. However these are general income supplements, and currently there is no tax credit, benefit, or subsidy in Canada that aims to improve the affordability of internet and/or enable low-income older adults to purchase basic technological infrastructure (e.g. home computer/smartphone/tablet, broadband internet connection). Given that low-income older adults have insufficient economic resources to meet their basic material needs (e.g. housing, medications, food) it is unlikely that these types of income supports facilitate access to basic technological infrastructure.

While, there has been some national efforts in Canada to address affordability of the internet (e.g. Connecting Families program), these have been limited in scope, and thus far have been targeted at households with children. While there is a federal platform commitment to support universal availability of broadband technology by 2031 across Canada, this does not include an explicit commitment or plan for ensuring that available broadband will be universally affordable, or that other barriers in access for low-income individuals are addressed.

Funding of assistive technologies. The affordability of assistive technologies is another key barrier to access for low-income older adults. For older low-income adults who are living with a disability, the cost of some technologies may be partially, or fully covered, by assistive technology programs.[22, 23] Canada, however, does not have federal legislation that enables

universal access to assistive technologies, and there are marked jurisdictional disparities in access due to the variability in the definition of assistive technologies, sources of funding (e.g. government program, charitable organization, private insurance), type of technology needed, and eligibility criteria (e.g., type of disability, income level).

The most consistently funded assistive technologies are mobility-related, with less coverage available for computers, tablets, and newer, internet-enabled or smart technologies. Many programs do not cover the full cost (or require copayments), do not cover replacement or repair, and require the older adult to first purchase the technology before providing reimbursement. This can make the cost of assistive technologies unaffordable for low-income older adults. Lengthy approval processes, system navigation and coordination to identify the appropriate program and obtain the necessary permissions act as additional barriers to access.[23, 24] For example, the *Manitoba Health, Seniors and Active Living - Telecommunications Program* will reimburse 80% of the cost of purchasing one telecommunications device every five years (to a maximum of $428) for adults who are profoundly deaf or have a speech impairment that allows them to have telephone conversations by keyboard and display terminal instead of voice. However, to qualify for reimbursement they have to have proof of a medical diagnosis, a $75 copayment, and it does not cover repairs.

Digital literacy and social supports

Low digital literacy. A key barrier to access of technological-based supports for low-income older adults is low digital literacy, that is the ability to use information communication technologies and the internet to find and evaluate information, as well as create content. Although older adults vary in their familiarity and comfort with different types of technologies, generally, those who are oldest and poorest have the lowest digital literacy and the least positive views toward the benefits of online platforms and technologies.[17, 19, 21, 24] As the

development of digital literacy is cumulative, and can happen across multiple areas of life (e.g. work, school, leisure), low-income older adults who have experienced lifelong economic insecurity and have had few educational opportunities are most vulnerable to low digital literacy.[25]

As a result of low digital literacy, low-income older adults may be more reluctant to purchase technologies that they are unfamiliar with, be less confident regarding using technological-based supports, and may be less likely to know about different types of available technologies or how these could benefit them.[7, 11, 21] They may also lack the skills and resources to use technology-based supports for social, professional or economic gain, including having the ability to conduct advanced searches for health and financial information or perform complex transactions such as banking and ecommerce.[21, 24, 26, 27] The use of some technological-based supports such as smart wheelchairs, patient portals, and web-based self-management interventions may also require specialized types of digital skills. Finally, low levels of digital literacy may also make them more vulnerable to negative consequences of using technological-based supports, including online bullying, financial exploitation, misinformation, and phishing.[26-28]

Formal social supports. A key barrier to acquisition of digital literacy by low-income older adults is their access to appropriate and inclusive face-to-face digital literacy education and training opportunities in their own communities. Access to these types of programs and services would build not only their technical digital skills, but also develop their much-needed confidence and comfort with using technological-based supports, while providing an opportunity for social interaction, which can reduce social isolation.[29-31] Programs are more effective when they are targeted to the learning needs of older adults and build

not only technical skills but also comfort with using technologies. Educators can support older adults' learning by building rapport and creating an affirming learning environment[7,35]. Low-income older adults with low education and low levels of health literacy may further require specialized digital literacy programs. This is particularly

important for supporting their ability to use technological-based supports for self-management of chronic conditions and for maintaining or improving functioning. Embedding digital literacy programs and services in culturally sensitive and linguistically appropriate contexts is also important, particularly for marginalized low-income older adults.[32] As an example of one such program, the *Immigrant Seniors Go Digital Program* delivered by S.U.C.C.E.S.S., a charitable organization in Vancouver, offers a digital skills course to older adults who are recent immigrants to Canada; the program is delivered in English with additional learning materials available in Chinese, Korean and Farsi.

Access to digital literacy programs and services varies across Canada, and there are urban/rural inequities. For the most part, these types of programs are provided by non-profit and voluntary community organizations that operate without core funding and primarily depend on volunteers to run programming; applying and securing funds to develop and maintain digital literacy programs under these conditions thus remains a key challenge.[11, 33] The development of digital literacy programs has been supported by specific short-term jurisdictional funding mechanisms. As an example, the *Digital Literacy Exchange Program* funded 36 not-for-profit organizations to deliver digital literacy training programs across Canada between 2019-2022. However, this funding was not specifically intended to support the development of programs for low-income older adults, and only two of the initiatives created were programs specifically targeted at older adults (both in British Columbia). Moreover, funded initiatives prioritize acquisition of basic or introductory types of computer skills, rather than advanced and critical digital literacy[34] and may not be sufficient to support low income older adults' use of complex technological-based supports.

Informal social supports. Living in the same household with other individuals who use technology-based supports is a key facilitator of digital literacy and access to these types of supports for older adults. Family members often prompt older adults to begin to learn how use various technologies and provide them with ongoing encouragement and troubleshooting advice.[35,37] However, family members can also be a barrier to older adults' development of

digital literacy if they perceive that older adults are uninterested or incapable of using technologies, or may coerce them into adopting technology-based supports they do not want or fully understand.[37, 38] Family members of older adults may thus themselves need education and training to assist them in effectively promoting and supporting older adults' use of technologies.[38] This may be particularly important to support family members of older adults who use assistive technologies.

Policy Recommendations

There is an opportunity to improve access to technology-based supports for low-income older adults by reducing financial barriers and increasing their digital literacy. The policy recommendations below include examples of how access can be improved via existing policies, programs and services as well as the development of new ones.

1. **Reduce financial barriers in access to basic technological infrastructure**

   Low-income older adults often cannot afford the cost of purchasing broadband internet, a smartphone, or personal computer. While there are some basic general income related supports for older adults, there is no tax credit, benefit, or subsidy in Canada that aims to improve the affordability of internet and/or enable low-income older adults to purchase basic technological infrastructure.

   a. Reinvest in and expand *The Connecting Families* program to allocate funding for affordable broadband and free computers for low-income older adults. As an example, eligibility criteria for this program can be adapted to include all older adults who currently receive the federal Guaranteed Income Supplement.[39]

   a. Alternately, develop similar programs or services at the provincial or territorial level. As an example, currently *The Rogers Connected for*

Success program is a partnership between New Brunswick Housing and Rogers that provides families who live in social housing with affordable internet. Expanding this program to other provinces and territories could enhance access to low-income seniors living in social housing.

2. Reduce jurisdictional inequities in access to assistive technologies

Low-income older adults who need assistive technologies experience barriers to access due to the affordability of assistive technologies and jurisdictional variability in funding and delivery mechanisms. There is particularly limited access to technologies that are not mobility-related, and newer, internet-enabled or smart technologies. Moreover, there are barriers due to challenges with system navigation and coordination.

   a. Develop a national system for the provision of assistive technology that enables universal access to assistive technologies based on the needs of the individual.

   b. Alternatively, amend the language of existing federal and provincial accessibility legislation to include a principle for universal access to assistive technologies that support full and equal participation in society for persons living with disabilities (e.g. *The Accessible Canada Act, Accessibility for Ontarians with Disabilities Act, Accessibility for Manitobans Act, Nova Scotia Accessibility Act).*

   c. Alternatively, reduce barriers to access at the provincial/territorial level by harmonizing service delivery mechanisms, removing eligibility and financial barriers (e.g. copayment, income criteria, and diagnosis requirement) and developing specialized supports to assist with system navigation and completion of forms.

i.   As one example, the *New Brunswick Seniors Navigator* program offers older adults (aged 70 years and over) and their caregivers a consultation to help them to identify what wellness, health and social supports they have and provide them with information about how to access community services and resources. This program could be expanded to include a specific focus on system navigation and completion of forms for assistive technologies.

3. Develop digital literacy programs for low-income older adults and their family members.

Low-income older adults have low levels of digital literacy given their vulnerability to multiple intersecting socioeconomic barriers, and lack the skills and resources needed to use technology-based supports for social, professional or economic gain. They and their family members may also need education and training to assist with customizing and using complex types of assistive technologies.

a.   Reinvest and expand *The Digital Literacy Exch*ange program to provide long-term funding for digital literacy programs for older adults, with a specific focus on the development of critical digital literacy and complex skills.

b.   The MOvIT+™ program[40] (a pilot research program funded by AGE-WELL NCE) offers older adults and their family members in Montreal with customized remote support for older adults who have purchased a new assistive technology. This program is currently being evaluated, but if proven effective could enhance low-income older adults' meaningful use of complex technological-based supports.

Additional Resources

Almost all available research on technology-based supports and older adults has focused on their use of, and comfort with, the internet or information and communications technologies. Thus, there remain gaps in knowledge about other types of technologies, and in particular those that are aimed at enhancing health and functioning.

There has been limited evaluation of technology-related programs and services, including whether existing digital literacy programs meet the needs of low-income older adults. The lack of evidence in this area is a barrier to systematic implementation and scalability of effective programs across Canada.
Recent research outside of Canada suggests that the current health and social care workforce may lack the digital literacy needed to effectively guide older adults and families in using technology-based supports.[41] There is however insufficient research in this area in Canada that could be used to inform the development of professional education and training.

Addressing the above gaps in knowledge will be key to improving access to effective technological-based supports for low-income older adults in Canada.

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