



October 20, 2017

Standing Committee on Human Resources, Skills and Social Development and the Status of Persons with Disabilities (HUMA)
Sixth Floor, 131 Queen Street
House of Commons
Ottawa ON K1A 0A6
Canada

RE: Advancing Inclusion and Quality of Life for Canadian Seniors

Dear HUMA Members:

On behalf of AGE-WELL, Canada's federally-funded Technology and Aging Network, I would like to commend you on embarking on this important study on advancing the inclusion and quality of life for Canadian seniors. As we move forward in developing a National Seniors Strategy, this submission outlines the role technology and the AGE-WELL network can play in ensuring older adults maintain their independence, health and quality of life.

Empowering Older Canadians to Age in Place

AGE-WELL is developing an array of technologies that can be implemented in individual homes, retirement homes, and long-term care environments. The concept of the Smart Home is increasingly becoming more feasible and cost-effective. As an older adult walks into their environment, there may be floor tiles that collect vital signs such as heart rate and blood pressure. They may have an intelligent mirror that helps them with tasks such as washing their hands and brushing their teeth. Motion sensors can detect falls and connect the older adult to a family member or emergency services. Automated sensors can even collect long-term data and provide useful insights on patterns of daily living and early symptoms of disease.

- One AGE-WELL project is developing a wearable sensor system that can transmit sophisticated information about mobility patterns and falls. One-third of older adults will experience a fall each year, often with dire consequences. This system delivers early warning signs for falls, and provides real-time feedback to assist in exercise and rehabilitation. The end product may rely on sensors based in a smartphone or wristwatch.
- The project team, led by Dr. Fabio Feldman and Dr. Stephen Robinovitch, is also field-testing two promising innovations to reduce the likelihood of an injury when a fall happens. The first is a technology called compliant flooring, typically used for workers who need to be on their feet for long hours. This flooring feels like a regular floor but has bank of columns underneath that compress when an object strikes them and pop back up afterwards.
- The second technology is a wearable hip protector that is designed to stick directly to a person's skin, using skin-friendly double-sided tape. These pads can be worn for up to 21 days and do not need to be removed for visits to the bathroom like current hip

protectors. The stick-on hip protectors and compliant flooring are both being evaluated in long-term care environments in Burnaby, BC.

- Dr. Eleni Stroulia and the team she co-leads at AGE-WELL are making remarkable advances with the testing of a [computer-guided virtual gym](#). A prototype that delivers personalized exercise instruction and feedback to promote physical and cognitive health among older adults is being evaluated in retirement homes in Edmonton and Fredericton. The virtual gym is also intended for home use. The technology is designed for older adults who have chronic conditions, early-to-moderate dementia, mobility, accessibility or transportation challenges—and will benefit from an exercise program where they live.

Promoting Social Inclusion

Research indicates that as many as 43% of older adults living in the community feel socially isolated. The negative effects are well documented: depression, stress, functional decline, and death. AGE-WELL is creating tools and technologies to reduce older adults' feelings of isolation. For example, Dr. David Kaufman's research focuses on [digital games designed to enhance social connectedness](#), reduce loneliness and encourage life-long learning among older adults. Seniors in our studies tell us that playing digital games, particularly in group settings or with family members including grandchildren, gives them cognitive exercise, new knowledge, enjoyable social interaction and new confidence in their technology skills.

Solitaire Quiz, the first in a series of AGE-WELL-supported digital games for older adults, was developed by Dr. Louise Sauvé's team in collaboration with Dr. Kaufman. It is now available online in English and French at Android and Apple stores and through Facebook. Tic Tac Quiz is being field tested and will be available soon. An online escape room game will be evaluated and then launched early in 2018. Familiar games to an older audience, Solitaire Quiz and Tic Tac Quiz also feature customizable quizzes on a variety of topics, such as nutrition and healthy living. The escape room is a collaborative game that requires two players to talk and work together to solve the puzzle and escape.

Creating Intergenerational Connections

Another example of promoting social participation among older adults is the introduction of [intergenerational digital storytelling in a First Nations community](#) in British Columbia (BC). This project is led by Dr. Shannon Freeman at the University of Northern British Columbia in partnership with Jenny Martin, director of the Nak'azdli Health Centre. Results from a survey of Nak'azdli elders conducted in Spring 2016 showed that sharing cultural knowledge and traditions was a priority.

Using existing video and audio tools, the project team offered digital storytelling workshops at libraries, community centres, and long-term care facilities, including the Nak'azdli First Nation community. The team collected approximately 100 digital stories viewed in community events by over 300 invited family members and friends. Research is showing that these workshops build social and emotional connection, self-efficacy, confidence in technology use, and intergenerational communication. Very positive feedback has been received from students, elders, and the community. An online workshop version is being developed to extend these benefits to new audiences.

Caring for Caregivers

There are more than 8 million Canadians who care for family and friends when their health fails. More than 13 million Canadians will become caregivers at some point in their lives. Indeed the vast majority of care Canadians receive comes from family and friends. And thanks to population aging, rising rates of disability, profound changes in Canadian families and escalating pressures on the health and continuing care sector, the odds of becoming a caregiver are high and will likely grow in the years ahead. Novel technologies are thought to hold some of the solutions to challenges faced by both care sectors, in turn enhancing quality of life for both carers and those for whom they care.

Dr. Janet Fast, an AGE-WELL Network Investigator, is conducting research that seeks (i) to better support family caregivers through innovative assistive technology (AT) solutions and (ii) to understand the processes through which successful innovation can be achieved. Her team is creating profiles of caregivers to inform technology product developers and evidence-based policy decision-making. These profiles identify family/friend caregivers who are at greatest risk of experiencing health, social, financial and employment consequences—problems for which there may be technological solutions—and assess their capacity (in the form of digital literacy) to utilize such existing or imagined technological solutions.

Another outcome of the work being done by Dr. Fast and her team is a tablet app (Innova) that facilitates collection of descriptive and evaluative data about existing AT products, and an associated database that will be made available to individuals in search of solutions to care challenges (family caregivers) and product examples (product designers, producers and marketers). A working prototype of the app is now being pilot tested.

Enhancing Equitable Access to Assistive Technologies (ATs)

As the proportion of older adults in the population continues to grow in Canada, ATs will play an increasingly important role in promoting active and healthy aging, independent living and aging in place, particularly in the home and community care sector. Research by AGE-WELL investigators Dr. Michael Wilson and Dr. Rosalie Wang engages citizens, experts and other stakeholders to discuss this important topic. Their work has resulted in key documents including [a citizen brief, citizen panel summary, evidence brief, stakeholder dialogue summary, and videos](#).

The team also conducted a [jurisdictional scan of AT programs across Canada](#). Preliminary findings show that federal, provincial and territorial governments offer numerous programs to provide assistive technology devices and services to Canadian adults. The most commonly funded and serviced devices address mobility issues and range from wheeled walkers to powered mobility devices. However, disparities are evident in multiple areas and these require further exploration. Device funding from the government for communication, vision and hearing issues is inconsistent across provincial and territorial programs, ranging from full funding to none at all. Service programs, however, are available to support acquisition of required devices. Finally, little to no funding is offered in government programs for assistive technology devices to address cognitive or mental health concerns.

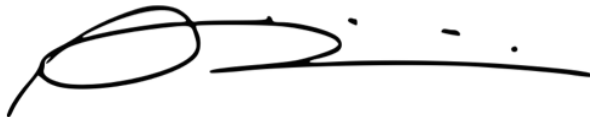
The findings from this jurisdictional scan will have implications for Canadians living with disability, older adults, caregivers, government policymakers, charity organizations, researchers, industry and others who have a stake in enhancing equitable access to ATs for Canadians. The

outcomes of this jurisdictional scan can inform efforts to better align programs and services with the societal values of Canadians to improve AT access through policy implementation.

Conclusion

AGE-WELL recommends that a National Seniors Strategy includes technology, assistive devices, and innovation to ensure that Canada is a global leader and a country where seniors enjoy the best quality of life possible. Above are just some of the initiatives that have the potential to be adapted and spread across Canada as we move towards implementing the strategy in the future. AGE-WELL can facilitate connections with experts, project leads, and partners who have interest in these areas to foster the scaling up of promising innovations. We would be delighted to continue this conversation with you as we work together to improve the lives of Canadian seniors.

Sincerely,



Alex Mihailidis, Ph.D., P.Eng.
AGE-WELL Scientific Director & CEO

About AGE-WELL Network of Centres of Excellence (NCE)

AGE-WELL is Canada's Technology and Aging Network. The pan-Canadian network brings together researchers, non-profits, industry, government, care providers, older adults and caregivers to develop solutions to support healthy aging. AGE-WELL includes more than 150 funded and affiliated researchers from 37 universities and research centres across Canada. Over 220 industry, government and non-profit partners have joined the network. We work closely with older adults and caregivers to help current and future generations of Canadians enjoy the best quality of life possible. We do this by developing technologies and services that increase their safety and security, support their independent living, and enhance their social participation. AGE-WELL is funded through the federal Networks of Centres of Excellence program.