

National Research Council

Emerging Technologies - Platforms

WORKSHOP REPORT

AGING IN PLACE WORKSHOP

NOVEMBER 30, 2016, OTTAWA CONFERENCE AND EVENT CENTRE

PREPARED BY:



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Introduction

This report summarizes the discussions that took place at a national workshop on Aging in Place hosted by the National Research Council (NRC) in Ottawa on November 30, 2016. The objectives of the workshop were to identify the key challenges, or combinations of challenges, that provide the most promising opportunities to help seniors stay living in their homes for as long as possible. For NRC, this was a first step in being able to identify areas where it could then contribute to solutions, either directly or by connecting other players who can play a direct role. The workshop agenda is provided in Appendix A, and a list of participants in Appendix B.

The workshop was opened by Dave Fraser, who welcomed participants to the workshop and provided some context by describing the mandate of NRC and its role in research and development in Canada. He described NRC's role in stimulating innovation, and emphasized that part of NRC's mandate is to help Canada solve big challenges, while not duplicating what is done in the private sector. Within this mandate, he indicated that NRC has a role to play in the development of technological innovations designed to offer an enabling and supportive environment for Canada's aging population. He thanked stakeholder participants for attending, and noted that the role of NRC representatives at the workshop would be to listen, and to learn about challenges where technology might make a difference.

Review of Consultation Results

Brian Colton delivered a presentation summarizing the results of an online consultation on Aging in Place, which NRC conducted from August 12 to September 2, 2016. The survey had been sent to over 450 stakeholders, and consisted of 18 questions. Topics included the barriers and challenges to aging in place, how technology could help reduce challenges or barriers in rural areas, and building and commercializing technology solutions. 172 participants completed the entire survey.

A copy of the presentation is available under separate cover.

Discussion

Participants were then invited to discuss the presentation and the consultation results, focusing on two questions:

1. What is your reaction to the consultation results?
2. Is there anything missing or that you would like to add?

They worked in small groups first, then reported in plenary. The key points shared under each question are provided below.

1. What is your reaction to the consultation results?

- No surprises
 - Why haven't we solved this yet? Are we addressing it from the right angle?
- Doesn't necessarily reflect the seniors' perspective
 - The elements seem accurate, but if we were to ask seniors, the ranking order may be different.
 - Many participants stressed the importance of engaging seniors throughout this process
- Priorities might change depending on who you ask

- Based on stage of life or personal circumstances
- Based on role – families tend to focus on security, seniors tend to focus on freedom
- Need to segment based on different types of seniors
- Aging in Place should not be about living anywhere you want, no matter what. Maybe “Aging in community” would better reflect what we are trying to achieve. Home is “a place I love and that place can change over time. It does not have to be the place where I have lived most of my life.”
- Several respondents indicated there were solutions already on the market, but questioned why they have not been implemented more widely?
 - Factors might include cost, accessibility, liability, reimbursement, regulation, risk tolerance
- Solution developers take a market perspective, focusing on those who are able to pay; this leaves many behind.
- There is a mindset issue: reluctance of people to use technologies because they don’t want to look old/disabled; conversations about the challenges don’t take place in advance, no planning to prepare for these challenges before they happen. People need to talk about it more.
- Burnout of families and caregivers is a challenge, and we have more and more seniors caring for other seniors.
- Lack of information is an issue.
 - Lack of community coordination of information makes this a bigger challenge
- Health literacy is an issue.

2. Is there anything missing or that you would like to add?

- Cultural sensitivity – and in particular with regard to indigenous populations.
- Language – this is not just about immigrants, it is also about official language minorities.
- Socio-economic status is an important factor – there are the have’s and have-not’s.
 - Cost of technologies can be a barrier.
- There are provincial differences in terms of available support.
- Who is the client? Is it the senior or the caregiver? It is actually both – the focus is on outcomes for seniors, but if the family caregiver does not get respite, this will negatively impact the senior. Family caregivers are a critical piece for Aging in Place.
- Usability of the technology needs to be emphasized more; things should be developed with seniors from the beginning.
- Technology is typically reactive. We need to put more focus on preventative technologies.
- Need to consider the function of the home to accommodate aging – e.g. barrier-free housing. Currently, there is no emphasis on universal design.
- Patient-centric electronic health records – not just medical records, but rather expanded to include the social determinants of health
- Think about persons with disabilities as they age.
- Technology support for the family / caregivers. Respite is an outcome, rather than a service.
- Learning and awareness early in life

Criteria for Prioritization

Participants were asked to agree on criteria they would use to identify the priority challenges for action, with an understanding that the focus is on working on innovative solutions, not changing government policy. They agreed on the following criteria:

- Touching all Canadians, broad impact – something that is economically feasible and accessible to many
- Focus on what is important to people – relationships, meaningful activities, personal independence (not just medical)
- Take a person-centered approach – a simple technology platform that can be universally employed.
- Define “in the home” broadly – could include a collective dwelling; consider design aspects
- Focus on future trends (5-10 years) but don’t neglect feasible and sustainable solutions to short- and mid-term challenges
- Consider independence and control of care and services, by the senior
- Achieving the goals of the funder is also important – seek opportunities for affordable solutions.

Prioritizing the Challenges

The intent had been to prioritize the challenges within discrete categories, but a discussion of the categories quickly revealed that there is no easy way to capture the complexity of the challenges in a set of categories. As a result, participants worked in small groups to identify what they considered to be the top three priorities for action, and then the group looked across all the table reports to identify overall priorities. The priority challenges that were raised most frequently are presented below. A more comprehensive list of all ideas that were shared is presented in Appendix C.

1. Common, usable, person-focused health record usable across all provinces and user groups

- Ensure that seniors, caregivers and service providers access and share holistic information across the entire life of seniors’ service needs and in all care settings (bi-directional);
- Enable access to the same information (current in real time), at all points of care, at any time, and on any device;
- This challenge is well-known, and everyone seems to know what’s needed; why can’t we get any traction on implementing this?

2. Improved mobility / transportation options

- Ensure reliable, easy-to-use, affordable and timely transportation services;
- Outcomes: Enable any senior to go anywhere in the community, any time, without help; ensure every senior can leave their home at least once per week;

3. Broader adoption of age-friendly building standards

- Building codes that allow for accessibility or the possibility to integrate future home care requirements;
- Design homes and communities that prevent or reduce the number of falls / improve home safety;
- Voluntary standards becoming code?

4. In home monitoring

- Enhance autonomy and safety through non-intrusive monitoring in the home (and distinguish between multiple occupants);
- Enable early detection of changes in health or functional status, and signal these for follow-up;
- Create tools that can signal if cognition is declining;
- Technology to mitigate / identify falls, or detect that a person is at risk of falls;
- Ensure medication compliance;

5. Connection / socialization tools

- Better connect seniors / allow them to communicate to the outside world (for socialization, community information, etc.)
- Remote access to home care

Wrap-Up

Final Thoughts and Take-Aways

Participants were invited to share any key messages that they wanted to leave with the NRC at the end of the day. The following were shared:

- There are common issues; it is good to hear that we are not alone in dealing with these issues.
- “Senior” does not equal “patient”
- The importance of transportation
- NRC has a strong leadership role to play in identifying and resolving issues and implementing solutions
- Need to shorten innovation cycles; fast-track innovations for seniors, in order to meet the needs.
- The work is multidisciplinary and needs to involve a broad set of partners, including policy-makers, end users and private sector players, as well as seniors (individuals).
- The discussions underscore the importance of giving consumers access to their own information
- NRC might be a new partner in addressing some of these challenges
- NRC has a role to play in communicating what is new
- The workshop validated the survey results; these should be circulated more widely
- What would happen if we all tried to do one simple thing then evaluated the results?

Next Steps and Closing Remarks

Dave Fraser reviewed some of the themes from the day, for example information and tools, maintaining social connections, reducing the number of falls, and transportation. He also acknowledged that there are some specific, pointed issues and challenges that need to be addressed, and noted that there is more than enough for the NRC to contribute. In terms of next steps, the NRC will narrow down and select areas where they would like to get engaged, then will likely organize a follow-up workshop to focus on solutions to the challenges identified.

François Cordeau, NRC Vice-President of Emerging Technologies, closed the meeting, expressing his regret at not being able to attend the full day, and thanking participants for their engagement and input. He reminded

the group that this topic is one of the priorities of the science ministers, and that this provides support for further work. The focus of the NRC is not to push technology, but rather to build a network of partners, to develop a national agenda, and possibly eventually to set up a real living lab where the NRC could work with public and private partners to come up with solutions that include technology, but also deal with the social aspects. He confirmed that a brief report of the results of the workshop will be shared with everyone, and that follow-up workshops will be held to brainstorm solutions and identify programs that could be set up with partners.

Participants were invited to evaluate the workshop before leaving. 21 participants completed the evaluation form, and results showed a high degree of satisfaction with the day. Responses to questions on key takeaways and next steps to maintain momentum are provided in Appendix D.

Appendix A – Meeting Agenda

Enabling Aging in Place

A workshop hosted by The National Research Council

Wednesday November 30, 8:30a.m – 3:15pm

Location: Ottawa Conference and Event Centre, 200 Coventry Rd.

Senior citizens value their independence and mobility, are socially active in a number of personal and charitable causes, and increasingly want supports that will keep them at home, or in a home-like setting, for as long as possible. This shift provides a strong motivation to explore strategies that can help to encourage and facilitate the use of a broad range of technologies to support in-home care, while also making them more accessible for all Canadians. Innovations in senior care, enabled by technology, are already changing the landscape of home care, but what's the next technology horizon? Without integrated systems in place, there is limited ability to scale-up to support the future of age-friendly communities, which offer an enabling and supportive environment to preserve our seniors' health and functions, and ensure a positive quality of life.

Building on the national online consultation that took place in August, the National Research Council is interested in bringing together a group of interested parties for a full-day workshop around Aging in Place for seniors. The workshop is aimed at prioritizing the challenges and issues that were raised as part of the online consultation, and determining the top opportunities where technological innovation over the next 5 to 10 years could make an impact in addressing these challenges.

| | |
|---------------|---|
| 8:00 – 8:30 | Registration / Continental breakfast |
| 8:30 – 9:00 | Welcome & Opening remarks |
| 9:00 – 10:15 | Review of (and Reaction to) Consultation Results |
| 10:15 – 10:30 | <i>Break</i> |
| 10:30 – 11:30 | Determining Criteria for Prioritization |
| 11:30 – 12:15 | <i>Lunch</i> |
| 12:15 – 15:00 | Prioritizing the challenges and opportunities for impact |
| 15:00 – 15:15 | Wrap-Up |

Appendix B – List of Participants

| First Name | Last Name | Organization |
|---------------|------------------|---|
| François | Cordeau | NRC (Vice-President, Emerging Technologies - Platforms) |
| Adèle | Acheson | NRC (Emerging Technologies - Platforms) |
| Dave | Fraser | NRC (Information and Communications Technologies) |
| Brian | Colton | NRC (Knowledge Management) |
| Jon | Makar | NRC (Construction) |
| Robert | Diraddo | NRC (Medical Devices) |
| Francis | Thibault | NRC (Medical Devices) |
| Marie-Chantal | Ross | NRC (Automotive and Surface Transportation) |
| Tyson | McWha | NRC (Automotive and Surface Transportation) |
| Lise | Hebabi | Intersol (Facilitator) |
| Laurent | Moreno | AGE-WELL Network of Centres of Excellence (NCE) |
| Irene | Martin-Lindsay | Alberta Seniors and Community Housing Association (ASCHA) |
| Frank | Knoefel | Bruyère Continuing Care |
| Fraser | Ratchford | Canada Health Infoway |
| Perry | Kim | Canadian Frailty Network (Queen's University) |
| Carol | Barrie | Canadian Frailty Network (Queen's University) |
| Jessica | Nadigel | Canadian Institutes for Health Research |
| Marc | Cohen | Canadian Institutes for Health Research |
| Owen | Adams | Canadian Medical Association |
| Pascal | Charron | Canadian Medical Association |
| Lisa | Ashley | Canadian Nurses Association |
| Ashley | Chisholm | Canadian Nurses Association |
| Cameron | MacLeod | Carlington Community Health Centre |
| Mathieu | Newport | Carlington Community Health Centre |
| Suzanne | Dupuis-Blanchard | Centre d'études du vieillissement (CEV), U de Moncton |
| Paul | Boissonneault | Champlain CCAC |
| Carole | Stonebridge | Conference Board of Canada |
| Jennifer | Kitts | HealthCareCAN |
| Louise | Plouffe | International Longevity Centre |
| Subhash | Rai | Ontario Society of Senior Citizens' Organizations (OSSCO) |
| Kathie | Paddock | Public Health Agency of Canada |
| Jackie | Harrower | Regina Senior Citizens Centre |
| Helen | Byrne | Saint Elizabeth |

Appendix C – Priorities for Action

Participants were invited to formulate their priority statements as questions starting with “How might we”. They worked in small groups to identify what they considered to be the top three priorities for action. The complete lists of priorities for each group are presented below.

| Top Priorities | Other Priorities |
|--|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> Create a simple technology platform that can be universally employed (inc. person-centered) <input type="checkbox"/> Provide increased socialization with mobility / dementia / living alone without assistance <input type="checkbox"/> Increase caring capacity of informal caregivers with training / self-training | <ul style="list-style-type: none"> <input type="checkbox"/> Improve mobility options <input type="checkbox"/> Ensure increased medication compliance <input type="checkbox"/> Implement what we already know to improve home safety <input type="checkbox"/> Enhance autonomy and safety through non-intrusive monitoring in a home, and distinguish multiple occupants |
| <ul style="list-style-type: none"> <input type="checkbox"/> Ensure seniors, caregivers, and service providers access and share holistic information across the entire life of seniors’ service needs and all care settings, bi-directional <input type="checkbox"/> Ensure reliable, cost-effective, and timely transportation services that do not involve (or minimize) the need to drive <input type="checkbox"/> Ensure “design for aging population” building standards are widely adopted (voluntary standards becoming code?) | <p>Big overarching questions:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Help seniors retain autonomy, independence and safety <input type="checkbox"/> Maximize social integration across all age groups <input type="checkbox"/> Get consistent access and also education to funders <p>How:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Truly get proper patient engagement at onset and throughout <ul style="list-style-type: none"> • Remove the “I think this is what they want/need” • Restructure research and solutions so they have maximum effect |
| <ul style="list-style-type: none"> <input type="checkbox"/> Electronic Health Records: ensure that required information is accurate at all points of care (and information is current, real-time); ensure a balance between patient privacy and information availability; improve communication tools to increase ease of use, accessibility, maintainability, and affordability <input type="checkbox"/> Maintain community involvement throughout the entire research / design / implementation; convince developers to use building codes that allow for accessibility / integrate future home care technology requirements <input type="checkbox"/> Ensure access to affordable transportation <input type="checkbox"/> Provide access to home care services: remote access, affordability, active monitoring, leverage IT infrastructure; use technology to increase volunteer / patient navigators | |

| Top Priorities | Other Priorities |
|--|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> Integration role: achievable goals in 5-10 years (resolve problems, get the solutions, implement in the window); fast-track innovation for seniors to meet their needs; use, share and package research with the implementers and funders; involve larger mass: patients, end users, private sector players <input type="checkbox"/> Transportation and mobility: balance public safety and desire of seniors to maintain their independence and keep their license; create tools that can identify that cognition is decreasing; technology to mitigate or identify falls; tracking <input type="checkbox"/> Home of the future: ensure that public infrastructure is “age friendly”, safe and usable for aging population; create the home of the future for aging in place, life of the future, home community | <ul style="list-style-type: none"> <input type="checkbox"/> Improve access to health information and upgrade health literacy <input type="checkbox"/> Common, usable person focused health record, usable across all provinces and users |
| <ul style="list-style-type: none"> <input type="checkbox"/> Create incentives for builders to create more accessible housing <input type="checkbox"/> Get technology to detect / diagnose medical or functional change and signal for follow-up (diagnose away from the emergency room, detect early changes in functional status before something bad happens) <input type="checkbox"/> Allow for better communication between seniors, families, and service providers (get traction on the implementation of e-health records) <input type="checkbox"/> Have a greater availability of easy to use transportation for seniors (ensure seniors leave the home at least once a week) | |
| <ul style="list-style-type: none"> <input type="checkbox"/> Information and tools: find out about all available innovations; support families and caregivers; access navigation and support services; enable each caregiver to access the same information, any place, any time, on any device (includes training, respite, package information for implementers) <input type="checkbox"/> Falls, personal mobility, safety monitoring: enable early detection of change in functional status; design homes and communities that prevent falls; cut falls in half <input type="checkbox"/> Mobility in community / social connection: ensure every senior can go out at least weekly; enable any senior to go anywhere in the community, any time, without help; provide integrated wrap-around supports; create hearing aids that minimize external disruption; connect with two people daily | <ul style="list-style-type: none"> <input type="checkbox"/> Point solutions: develop apps to manage medications; develop apps to maintain cognitive function; create technology to link indigenous communities with services far away; dementia and GPS tracking <input type="checkbox"/> Shorten the innovation cycle |

Appendix D – Partial Session Evaluation Results

What key messages will you take back with you?

- NRC & government at federal and provincial level are highly engaged in senior's agenda
- NRC is looking for partners
- Transportation is an issue
- Importance of socialization
- The need for an all-inclusive solution
- Priorities identified
- This is a priority for NRC
- Consultation process reflected what I think are the key issues
- Need of multi-disciplinary actions
- Common themes
- Older adult adoption of technology
- National problem / concerns – commonalities
- Need for NRC to look beyond the short term
- Technology is important to facilitate aging in place
- Need to make sure solutions will be used
- We all care and have the same problem
- Require more collaboration amongst all stakeholders
- NRC will be great partner to champion goals
- Barriers to seniors care national
- The importance of addressing our aging population at the technical & policy level
- Importance of issue nationally
- Desire to do something to help
- Consensus on priority
- Multidisciplinary approach
- NRC sees aging in place as a priority issue
- Project is much bigger than expected
- Need to get on with an implementation agenda
- Need to engage broadly with the stakeholder community
- Areas where there are barriers / challenges with aging especially technology in the home
- Patient-centered care in the home is a priority
- Report pending
- Future collaboration opportunities

What do we need to do from here to maintain momentum?

- Choose top priorities and create solutions & begin implementing change with partners
- Not wait a year to regroup or report on progress
- Include seniors
- Continue to engage stakeholders
- Continued discussion
- Consult with others – academic initiatives, industry, international examples
- Share information
- Keep us up to date
- Follow-up meeting with researchers and tech companies
- Continued communication
- Future seminar with regard to potential tech support
- Publish discussion today (results of the day)
- Keep us informed
- Improve life for our seniors
- Continue dialogue & share outcomes in a timely fashion
- Disseminate findings and open a portal within NRC to discuss online -> provide suggestions to vote on direction (based on today)
- Action plan
- Share summary
- Develop plan & involve partners
- Think about NRC levers for change
- Maintain connections with participants & stakeholders organizations & take the discussion to the next phase – solutions
- Get today's findings & see how we can apply to our organization to possibly assist NRC in future
- Circulate a report widely at the FPT level
- Need to connect across government – e.g. Health Canada cd 3 billion, CIHI for measurement
- Need to connect with agencies such as Accreditation Canada
- Increase research on technology & aging – what is the uptake
- Report and involve CNA in future NRC Aging work