Innovation and adoption to support healthy aging – Stakeholder perspectives

SUBJECT:

- Stakeholder perspectives on facilitators and barriers to health technology innovation and adoption in Canada.

ISSUE:

- Technologies can support older adults to live independently and to age in place, but policy and regulatory facilitators and barriers faced by innovators bringing health technologies to market have been identified.
- Limited research exists on how these facilitators and barriers affect technologies designed to support health and quality of life of older persons.

BACKGROUND:

- Technologies for older adults can: help to promote physical fitness, facilitate early diagnosis, enable monitoring of health status, increase social interaction, or ensure adequate treatment[ii].

- Types of technologies helping older people and their caregiver to achieve these aims include: telemedicine and tele-homecare, wearable sensor technologies, ambient smart-home systems, assistive robots, intelligent wheelchairs, digital games, and social networking applications[iii][iv]. This range of technologies is reflective of those being developed within the AGE-WELL research network[v], with which this work is affliated.

- Our group conducted semi-structured interviews with 44 stakeholders, including federal and provincial policymakers, industry representatives, innovators, and researcher to explore this issue.

CONSIDERATIONS:

- Provincial jurisdiction in health care, and the corresponding different policies of each health system, exacerbate Canada's already small market share in the medical device arena.

- Our findings suggest that technology developed without health system expertise is a barrier to adoption and use[vi]. These findings suggest innovators developing new technology should seek out health system partners and information to confirm that their technology aligns with health system priorities.

- Some participants suggested that innovators can have more flexibility in defining the value of their product by not having a technology regulated as a medical device at the outset.

- Our findings emphasized managing a technology throughout its life cycle, and disinvestment as a way to offset spending on new technologies. Although interviewees acknowledged the usefulness, in principle, of disinvestment to promote sustainability of technologies across their lifespan, they noted challenges for implementing a health technology management approach or "how to stop paying for a particular technology". Health care systems may require support to know where and how to begin disinvesting.

- As others have found[vii], where the technologies with the least amount of support infrastructure were the most likely to be adopted, our interviewees noted that change management, support technology, software upgrades, new computers and IT support staff during implementation, all represent costs beyond the list price of a technology which can impede adoption into Canadian health care systems.

- Across stakeholder types, our interviewees stressed the importance of collaboration between innovators, regulators, health technology assessment bodies, clinicians, patients, reimbursers, procurement staff and health care decision makers. The timing of when these partnerships should be formed is undoubtedly early in a technology's development. Stakeholder stressed how much waste could be avoided if partnerships leveraged partners' relevant expertise across the development, assessment, implementation and sustainability phases of a technology.

- Our findings suggest innovators are receptive and appreciative of venues where they can form partnerships (such as government organized entities, or technology incubators), which will help shape the developed of their technology.

- Our findings show resource constraints specific to innovation and adoption in the home and community care sector, which are relevant for older adults as they represent 70% of Canadian home care clients. An innovator noted that day-to-day care delivery activities of home and community care services crowd out the possibility of considering or adopting a new technology. Our interviewees noted the complexity of the many home and community care agencies working separately to deliver care attributed the lack of funding for evaluation and implementation of technologies as related to underfunding the home care sector.

CONCLUSIONS:

- Stakeholders perspectives help to explain the somewhat fragmented nature of the Canadian health care system, and associated challenges with having innovations adopted and used in such a system. In many ways, stakeholder comments about facilitators to health technology innovation and adoption appear in these interviews as advice to innovators about how to navigate a disintegrated system.

- This work offers a discussion, which can inform how to move forward in partnership with older adults, caregivers, innovators, researchers, policymakers and industry

representatives to co-create a more integrated health care system enable by health technologies.

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