

Application Fields and Innovative Technologies

Co-Designing an AgeTech Implementation Framework for a Rural Health System E. Lotfalinezhad*, S. Freeman[†], J. Bickford, C. Genge. *Gerontechnology* 25(s)

Purpose Gaps in human resources, combined with increasing demands to support aging populations in rural and northern regions, require health system–level approaches to the sustainable integration of AgeTech (1). Current implementation frameworks predominantly draw on urban settings and lack focused consideration of, or response to, geographical, infrastructural, and equity challenges characteristic in rural contexts. The purpose of this study is to co-design a health system–focused AgeTech Implementation Framework in collaboration with the Northern Health Authority (NHA) and the Centre for Technology Adoption for Aging in the North (CTAAN). **Method** This study employs a participatory co-design methodology (2), conducted over a twelve-month period and focused exclusively on the health system level. Participants include up to ten purposely recruited healthcare system leaders, AgeTech experts, and professionals involved in system planning and service delivery within the Northern Health Authority, alongside leadership and staff from CTAAN. To support inclusive and balanced engagement during the co-design process, participants are mapped according to their relative levels of power and interest within the health system using Johnson’s and Scholes’s stakeholder matrix, informing participant grouping and facilitation strategies (3). Qualitative data are collected through digitally recorded virtual workshops, facilitated group discussions, structured co-design activities, and researcher field notes across two workshops. Workshop 1 focuses on identifying and prioritizing system-level facilitators, barriers, and gaps related to AgeTech implementation, followed by a dot voting activity to prioritize key issues based on perceived importance. Outputs from Workshop 1 are used to develop an initial draft framework. Workshop 2 involves collaborative review and refinement of the draft framework using a SWOT analysis to examine feasibility, contextual relevance, and system readiness. Qualitative materials are analyzed using an inductive qualitative analysis approach. **Results and Discussion** This ongoing study aims to inform the development of a health system–level AgeTech implementation framework that articulates key system-level considerations relevant to rural and northern health authorities. The framework is intended to outline governance and leadership roles, organizational and infrastructure readiness, policy alignment, and implementation priorities that shape AgeTech adoption within complex health systems. By emphasizing leadership structures, organizational readiness, and policy alignment, the framework is intended to support strategic planning for sustainable AgeTech integration within Northern Health and other comparable regional health authorities

References

1. Juzwishin D, MacNeil M, Meisen A, Stolee P. AgeTech Innovations in Healthcare for Older Adults [Internet]. Springer Cham; 2025. XXI, 230. (Synthesis Lectures on Technology and Health). Available from: <https://doi.org/10.1007/978-3-031-86885-6>
2. Fusco F, Marsilio M, Guglielmetti C. Co-creation in healthcare: framing the outcomes and their determinants. *J Serv Manag.* 2023;34(6):1–26.
3. Ginige K, Amaratunga D, Haigh R. Mapping stakeholders associated with societal challenges: A Methodological Framework. *Procedia Eng.* 2018; 212:1195–202.

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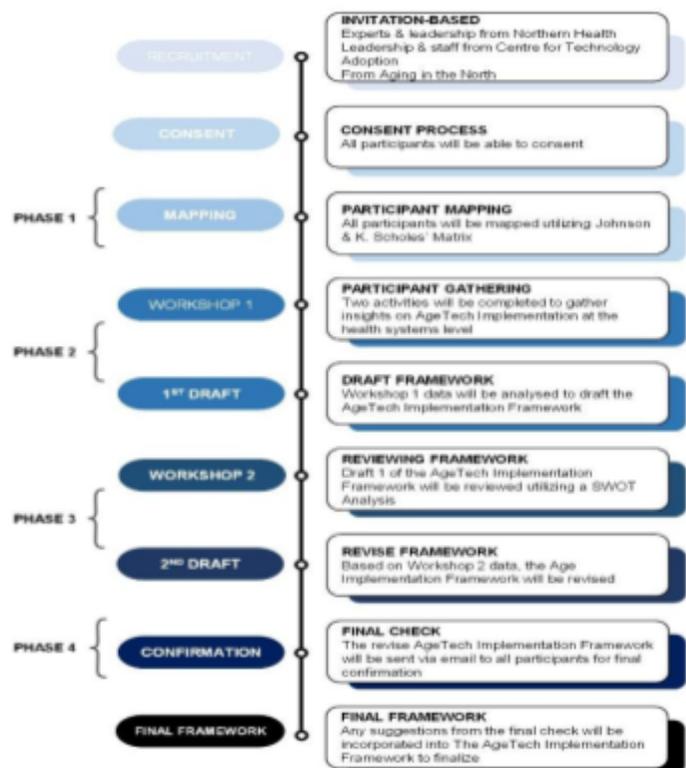


Fig 1: Study protocol for the design of a health system–focused AgeTech framework