Examining Care Aides' Perspectives and Attitudes Toward the Adoption and Sustainment of Technology in Care Delivery: A Scoping Review

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Background

Health technologies encompass medical equipment/devices, assistive tools and various procedures designed to address health issues and enhance overall quality of life (1). The global need for assistive technologies is rapidly increasing, with over 3.5 billion people projected to benefit by 2050, driven by an aging population and chronic disease (2). However, successful implementation and sustained use depend on users' perspectives and attitudes, stakeholders' involvement in technology design, and adequate training (3,4).

Care aides are healthcare workers who assist patients with personal care across healthcare settings, and their close contact influences both the quality of care and patients' well-being (5-7). Despite this role, little research has explored their perspectives and attitudes toward health technology for care delivery.

Aim

To synthesize evidence on care aides' perspectives and attitudes toward health technology and identify factors that influence its adoption and sustainment in care delivery.

Research Question

- What is known about care aides' perspectives and attitudes towards health technology adoption?
- What factors influence the adoption and sustainment of health technology among care aides in healthcare settings?

Study Design

Joanna Briggs Institute [JBI] methodology guided the review (8).

Inclusion Criteria: Research studies of any method, government reports, policy documents, and review articles published that included care aides.

Exclusion Criteria: Literature that did not include care aides' perspectives and attitudes toward technology was excluded. Papers that included care aides, patients, family caregivers, and other health workers were excluded if data specific to care aides were not reported.

Search Strategy: A librarian scientist guided the search for evidence to be included in the scoping review.

A preliminary search of CINAHL Plus (EBSCOhost) on the 11th of June 2023 using the keywords care aides* and care* and technology* between 2008 and 2023, yielded 388 records.

A full search involved searching CINAHL, Cochrane Library, EMBASE, MEDLINE, SCOPUS, PROSPERO, Web of Science, ProQuest Dissertation & Theses, and JBI Evidence Based Practice databases using additional keywords including attitude, caregiver, carer, innovation, nursing assistant, perspective, and support worker for articles between January 2004 to February 2026. Grey literature, review articles, reference lists, and relevant websites were also searched for evidence written in any language.

The search results were exported into a literature management tool for screening and analysis. Two authors undertook article screening prior to data extraction. A framework and theory guided the data analysis.

Framework and Theory

Consolidated Framework for Implementation Research (CFIR) (9)

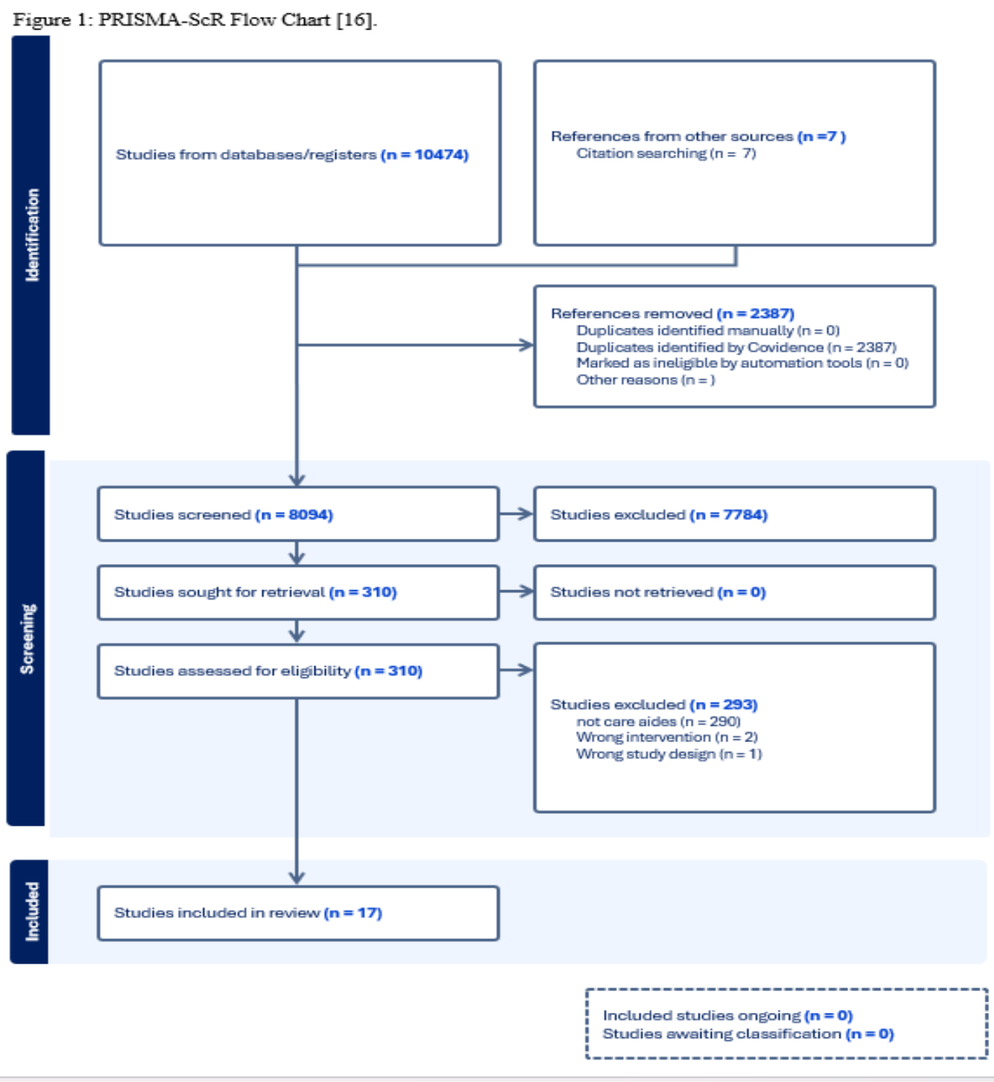
Rogers' Diffusion of Innovation Theory (10)

CFIR Domains	Rogers' Characteristics	Rogers' Elements
Innovation	Compatibility	Innovation
Individuals	Complexity	Social system
Inner Setting	Observability	Communication channels
Outer Setting	Trialability	Time
Implementation process	Relative advantage	

Findings

Category	Details
Search Results	10,474 records; 7 from citation searching
Included Studies (n=17)	3 dissertations; 1 presentation; 1 participatory action + qualitative; 1 quasi-experimental; 8 qualitative; 2 mixed methods; 1 triangulated dataset
Countries	Canada (7), USA (7), England (1), France (1), Sweden (1)
Technologies	Sleep tracker, voice assistant, mobile apps, digital device, bladder scanner, pain detection system, augmented/virtual reality training, mechanical lift, electronic medication administration record, information communication technology, tablet, virtual reality technology
Participants	Only 2 studies focused solely on care aides; others mixed samples
Perceived Benefits	Improved accountability, communication, workflow, quality of life, teamwork, education access; reduced travel (11-13)
Perceived Barriers	Budget limits, inadequate training, and privacy concerns (14-16)
Attitudes	Initially negative → more positive after training (17)
Factors Influencing Technology Adoption and Sustainment	Hands-on training; education; peer support; resources; clear benefits, staff involvement, guidelines, technical support, and non-interference with client-care provider relationship (11, 13, 14, 18-21)

Figure 1: PRISMA-ScR Flow Chart [16].



Discussion

Findings highlight care aides' perspectives and attitudes toward technology, as well as factors influencing technology adoption and sustainment.

Understanding care aides' attitudes and perspectives toward technology, addressing the technology's relevance to their work in the specific setting, and providing educational support before and during implementation are all important for quality improvement and enhanced care delivery.

Trust, along with factors such as job experience, education, health technology knowledge, and computer training, influences positive attitudes toward health technology, highlighting the importance of end-user training (22, 23). Involving care staff in design helps assess technology fit with the care environment, identify user challenges and understand workflows, though it can be time-consuming and resource-intensive (24).

Conclusion

Although care aides use health technologies, research on their perspectives and attitudes toward uptake is limited, despite their central role in daily use and care delivery. Evidence suggests their views significantly influence implementation success, as they shape technology use, its integration and sustainment in routine practice.

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