

Which are the evidence-based technologies for home support in community-dwelling older adults and their family caregivers? Preliminary results of a systematic review of the literature

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INTRODUCTION

Older adults prefer to age at home rather than in long-term care facilities. Additionally, the COVID-19 pandemic has highlighted the need for solutions to assist older adults who wish to age at home. Technology-based solutions are an excellent option for family caregivers and the community to support older adults living independently. Throughout the world, considerable progress has been made regarding gerontechnology. However, with the different options available and limited resources, it is crucial to increase our knowledge of evidence-based technologies for in-home support in community-dwelling older adults (CDOA) and their family caregivers (FC).

OBJECTIVE

To provide a comprehensive description of evidence-based technologies used for home support targeting CDOA without neurocognitive impairment and their FC in the past five years.

METHODS

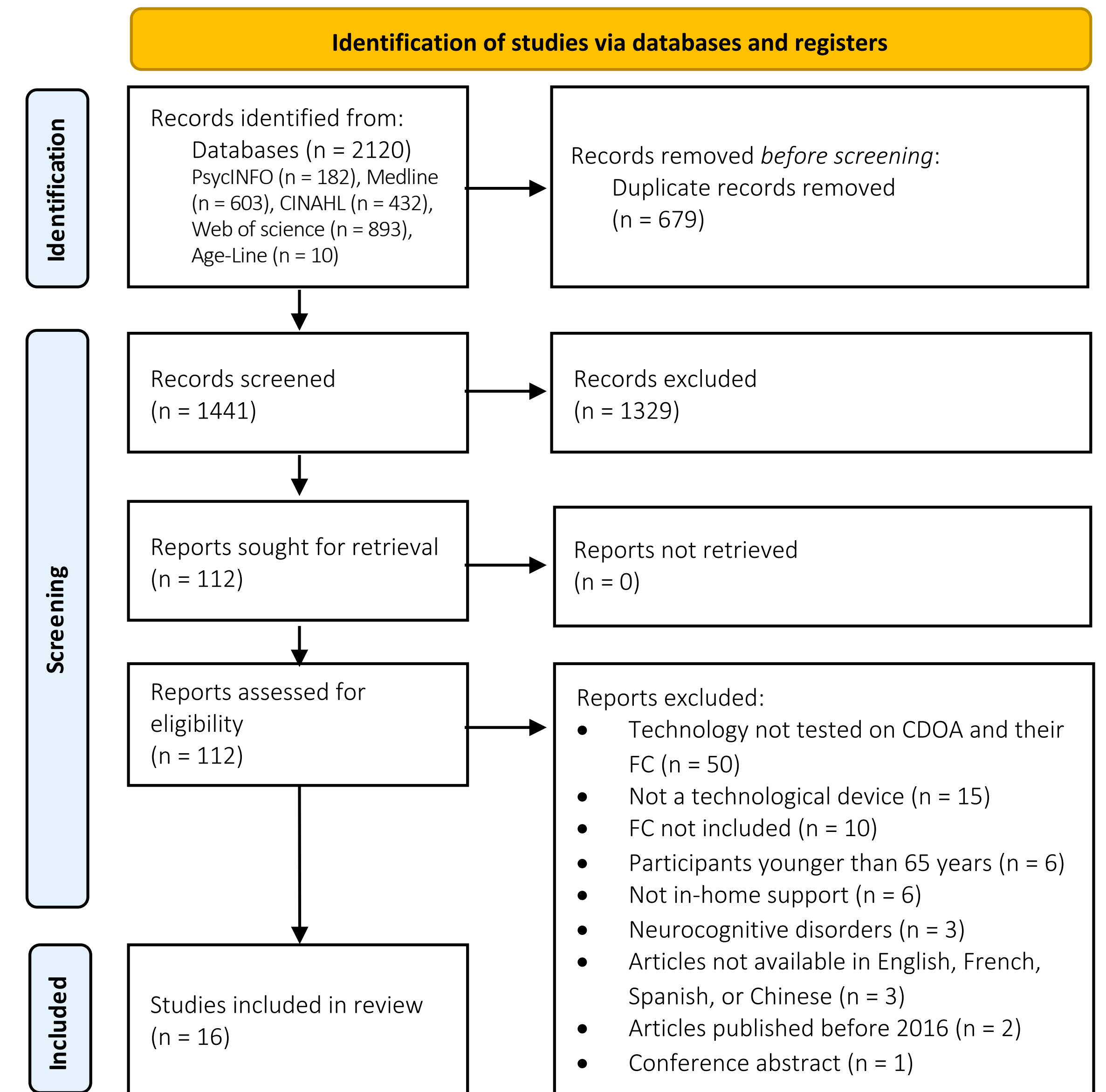
Procedure

- PROSPERO registration number CRD42022310803.
- Two librarians specialized in geriatrics and psychology identified 2120 studies in six databases using PRISMA guidelines.
- **Keywords:** *Home support* (e.g., independent living), *Technology* (e.g., gerontechnology), *Older Adults* (e.g., senior, community-dwelling), *Family Caregiver* (e.g., support person).
- The duplicates were removed using COVIDENCE software.
- Three reviewers with expertise in psychology and engineering screened 1441 records. A fourth reviewer resolved conflicts.
- **Inclusion Criteria:** a) Literature addressing the use of technology-assisted home support in both CDOA and their FC; b) qualitative, quantitative, or mixed research design articles; c) research articles (e.g., case reports or group studies); d) articles available in English, French, Spanish, or Chinese; e) articles published between 2016 and 2021.
- Two independent reviewers screened 112 full-text articles.
- Data extraction was conducted by two independent reviewers (e.g., Type of research design, gerontechnology goal, country).

METHODS

Figure 1

Flow Diagram - PRISMA



RESULTS

Figure 2

Type of Research Design

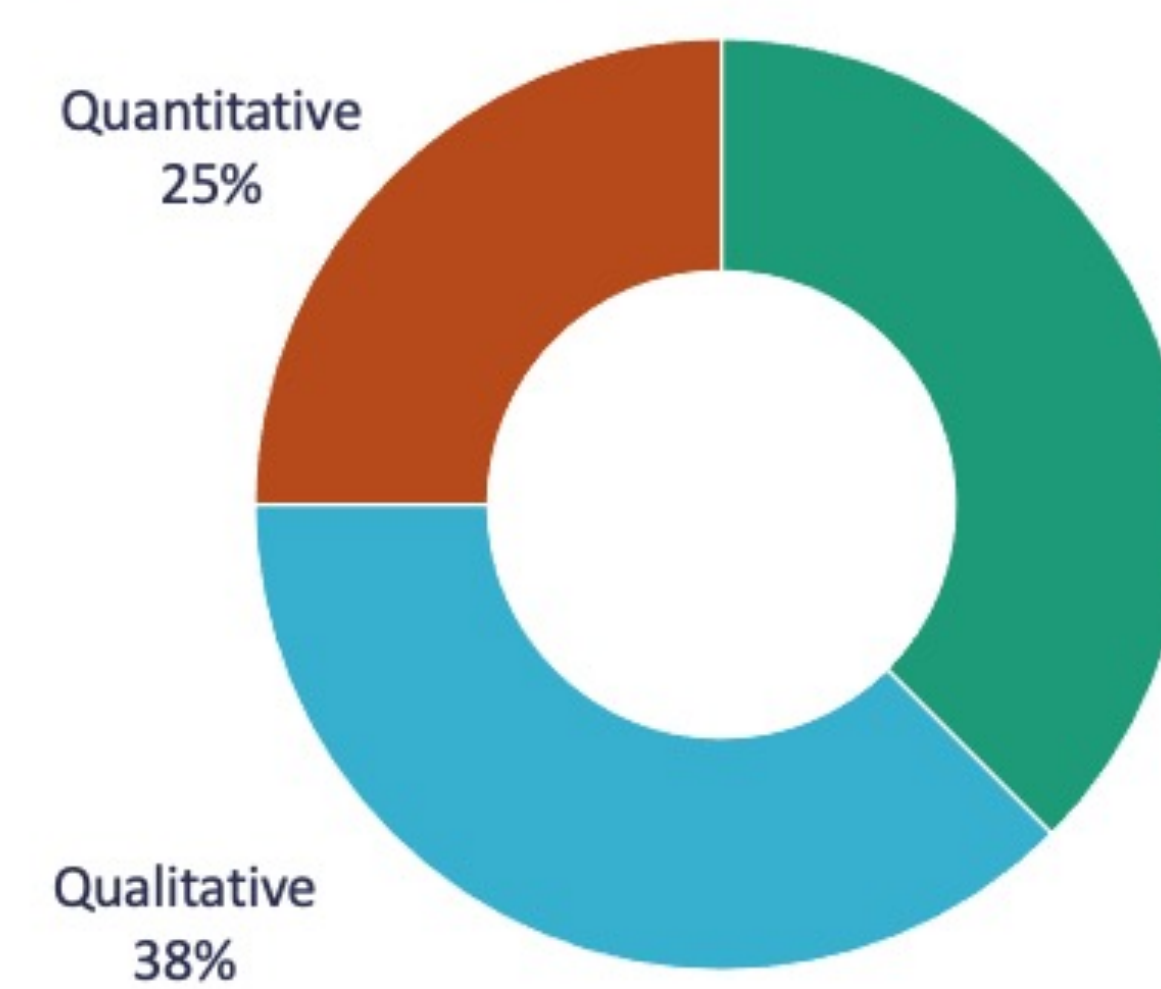


Figure 3

Gerontechnology Goal

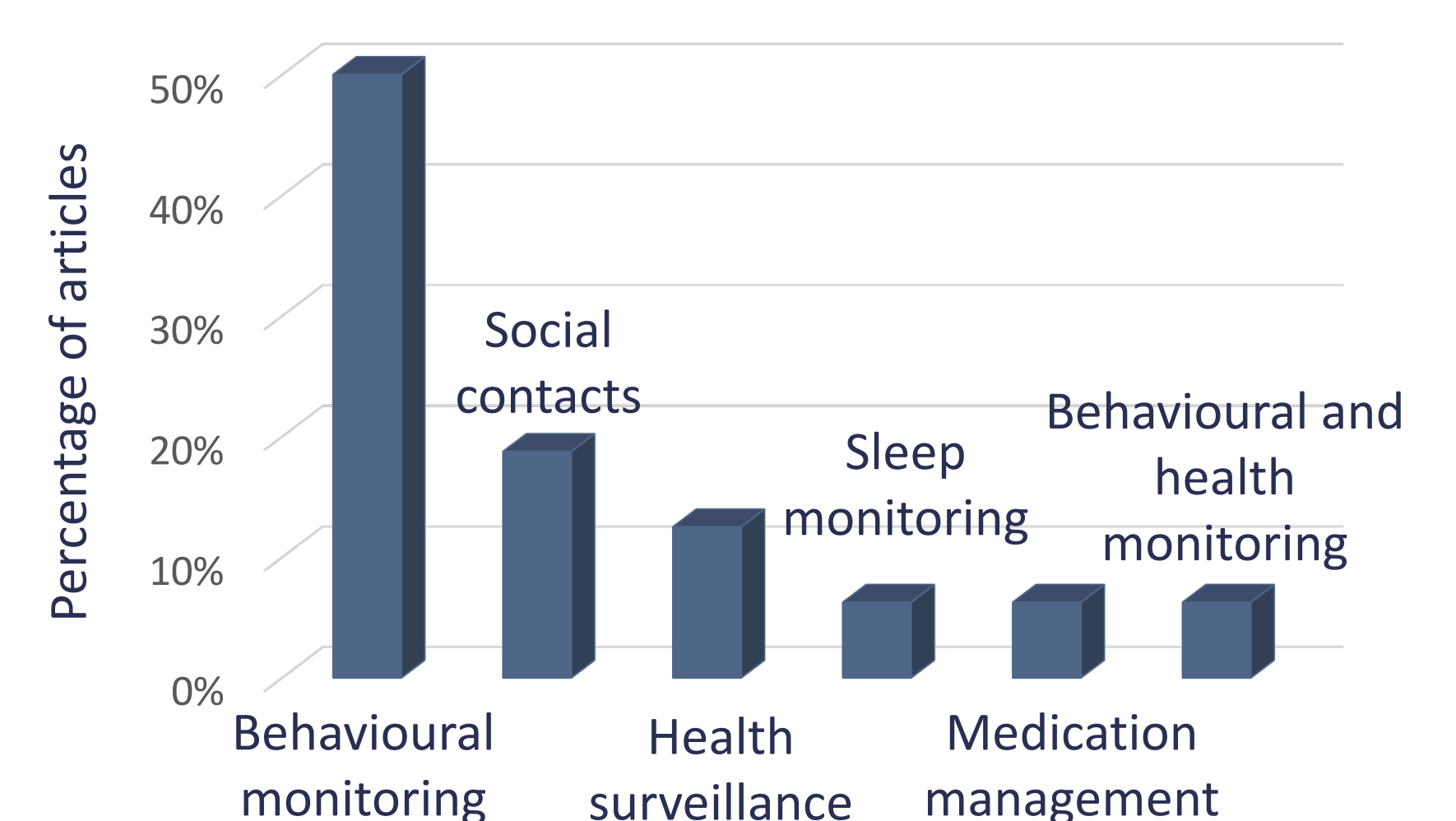
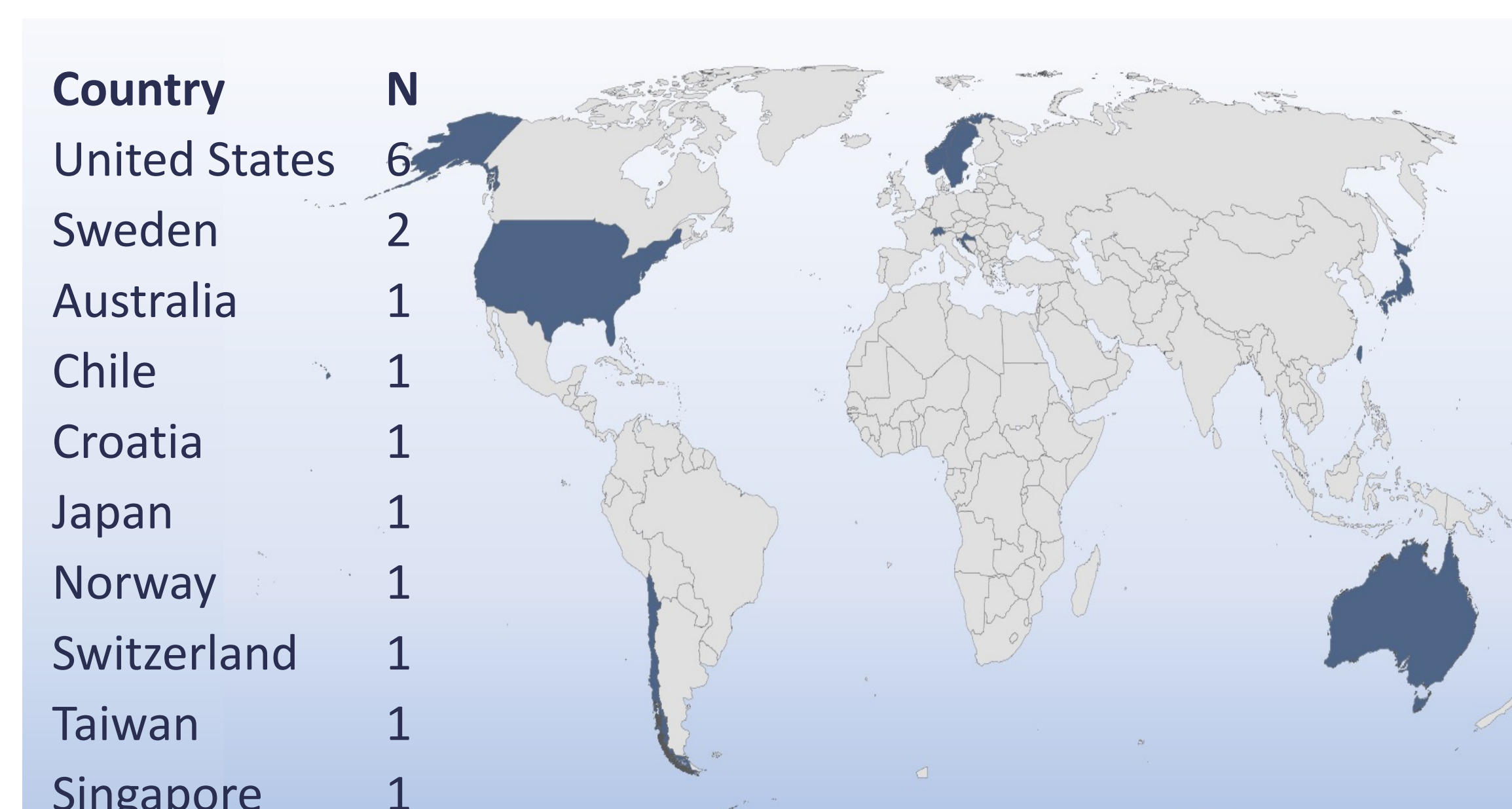


Figure 4

Gerontechnology by Country



CONCLUSION

- The results of this systematic review point out that the evidence on technologies used simultaneously by community-dwelling older adults and their family caregivers between 2016 and 2021 is limited to 16 gerontechnologies from 10 different countries.
- Most of the gerontechnologies are intended for behavioural monitoring. Other studies are focused on devices that support social contacts, health monitoring, sleep tracking, and medication management.
- Preliminary results show that each gerontechnology targets one specific need. Therefore, it is essential to develop technologies that address simultaneously several of these needs.

