



# Barriers & Facilitators to the Implementation of Social Robots for Older Adults & People with Dementia: A Scoping Review (PO1.20)

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## INTRODUCTION

- Research has suggested that it takes 17 years for research recommendations to reach clinical practice.
- One key reason is because challenges associated with real-world implementation, since it differs from research settings
- Social robots have been found to positively benefit the psychosocial health of older adults and people with dementia.
- However, despite positive findings, little is known the factors that affect their implementation in the real-world.

## OBJECTIVE

To understand the barriers and facilitators affecting the implementation of social robots for older adults & people with dementia in real-world practice

## METHOD

This study follows the Arksey & O'Malley's framework with methodological enhancement by Levac at al.

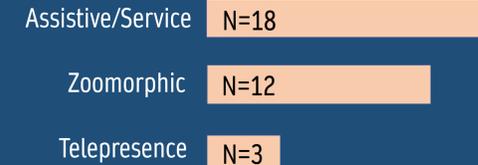
- 1 Research Question** "What are the barriers & facilitators that affect the implementation of social robots for older adults & people with dementia?"
- 2 Identify studies**
  - 7 electronic databases searched
  - Hand searching conducted
  - N = 685 unique records identified
- 3 Select studies**
  - Two-stage screening (independent reviewers)
  - Inclusion criteria: (i) use of social robots for older adults and/or people with dementia, (ii) contains implementation terms, (iii) published in English
- 4 Chart Data**
  - Standardised data extraction form
  - Independent reviewers
- 5 Collate & Present**
  - Data synthesised & organised using the Consolidated Framework of Implementation Research
  - Results presented narratively

## PRELIMINARY RESULTS

**40** Articles included for analysis  
19 different countries

- European countries 53.7 %
- Australia 17.1%
- United Kingdom 9.8%
- Others (19.4%): United States, Japan, New Zealand, Mexico

### Type of Social Robots Implemented



### Settings

Mainly in long term care facilities & participants' homes

- ❖ Implementation duration ranged from 2 days → 4 years
- ❖ N=18 implemented the social robot on a full-time basis
- ❖ Other intervention frequencies ranged from weekly to monthly

## BARRIERS

## FACILITATORS

	BARRIERS	FACILITATORS
<b>Intervention Characteristics</b>	<ul style="list-style-type: none"> <li>• Complex operations</li> <li>• Cost &amp; maintenance</li> <li>• Technical issues</li> <li>• Insufficient customisation</li> </ul>	<ul style="list-style-type: none"> <li>• Perceived advantage over using other technology</li> <li>• Personalisation</li> <li>• Robots' physical attributes</li> </ul>
<b>Outer Setting</b>	<ul style="list-style-type: none"> <li>• Perceived irrelevance</li> <li>• Do not meet users' needs</li> <li>• Negative perceptions</li> <li>• Negative affect</li> </ul>	<ul style="list-style-type: none"> <li>• Enjoyment &amp; positive affect</li> <li>• Support users' needs</li> <li>• Habitual use &amp; familiarisation</li> </ul>
<b>Inner Setting</b>	<ul style="list-style-type: none"> <li>• Impediment to organisational work process</li> <li>• Insufficient physical &amp; manpower resources</li> </ul>	<ul style="list-style-type: none"> <li>• Integration into work or daily processes</li> <li>• Support work processes</li> </ul>
<b>Individuals' Characteristics</b>	<ul style="list-style-type: none"> <li>• Negative user, carers &amp; family attitudes (privacy, experiences, stigma)</li> <li>• Low self efficacy to implement the robot</li> </ul>	<ul style="list-style-type: none"> <li>• Positive experiences by family and staff (and change in perceptions)</li> </ul>
<b>Implementation Process</b>	<ul style="list-style-type: none"> <li>• Overcoming negative staff attitudes</li> </ul>	<ul style="list-style-type: none"> <li>• Planned work processes</li> <li>• Planned intervention goal</li> <li>• Develop working relationship with staff</li> </ul>

## DISCUSSION

- Most barriers & facilitators relate to the domain **"Intervention Characteristics"**
- Important for to match the social robot to **users' needs, abilities & preference**
- Consider the social robot's **compatibility** with the existing **work process and resources**
- Most studies took into account **researchers' observations & perspectives of end users**
- Perspectives of **other important stakeholders**, such as care workers, are less studied
- Lack of research examining effects of **contextual factors** (e.g. implementing organisation or external policies) and the **implementation process**

## CONCLUSION

- This study has synthesized existing literature relating to barriers & facilitators to implementing social robots for older adults & people with dementia
- Moving forward, more implementation research is necessary, particularly with regards to understanding contextual factors, perceptions of multi-level stakeholders, as well as the implementation process



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