

Locating technologies and dementia: tips for selecting a device

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Learning objectives

During this webinar presentation you will:

- 1) Learn about existing technologies you can use to mitigate the risks associated with someone with dementia getting lost
- 2) Identify different components of locating technologies that will help you make an informed decision when choosing a device
- 3) Learn about the past, present, and future direction of research in this field

Our Team



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UPDATED: Missing vulnerable Richmond Hill senior found safe

Honorito Sanson, 78, may have been confused, police say

NEWS Apr 17, 2020 by [Lisa Queen](#) Richmond Hill Liberal

KITCHENER | News

Missing man with dementia found thanks to Project Lifesaver: police

Two years after Shin Noh disappeared, Coquitlalm family seeks answers

JEREMY DEUTSCH, TRI-CITIES NOW 09.10.2015 |



Missing Burlington senior located in Fort Erie

Police in London, Ont., seek public's assistance in locating missing 84-year-old man

BY ANDREW GRAHAM · 980 CFPL
Posted April 27, 2020 4:27 pm

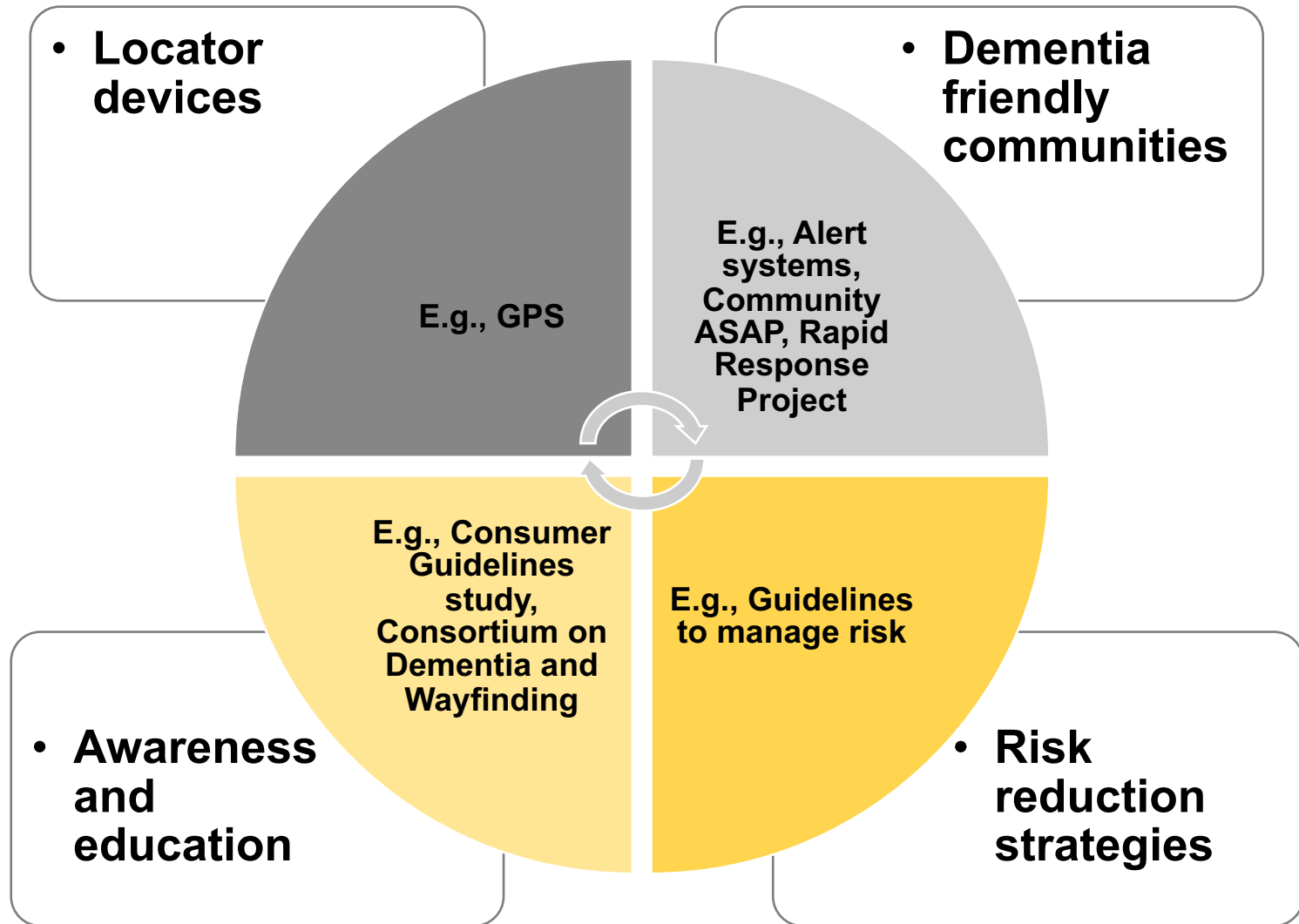
Human remains found in Mulmur Township confirmed to be missing Caledon senior

Northumberland OPP continue search for missing elderly woman in Roseneath

UPDATE: Senior missing in freezing, snowy weather in Toronto found

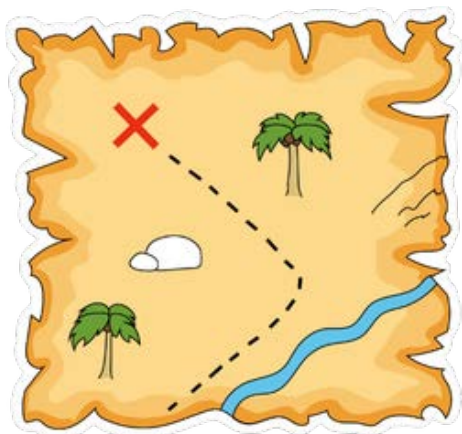
Man, 82, found alive near airport during heavy snowfall

Approaches to addressing the issue



Main types of locating devices

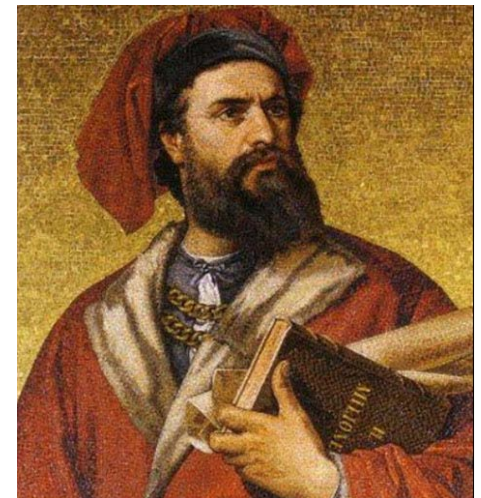
Global positioning system (GPS)



Bluetooth



Radio frequency identification (RFID)



Global positioning system (GPS)

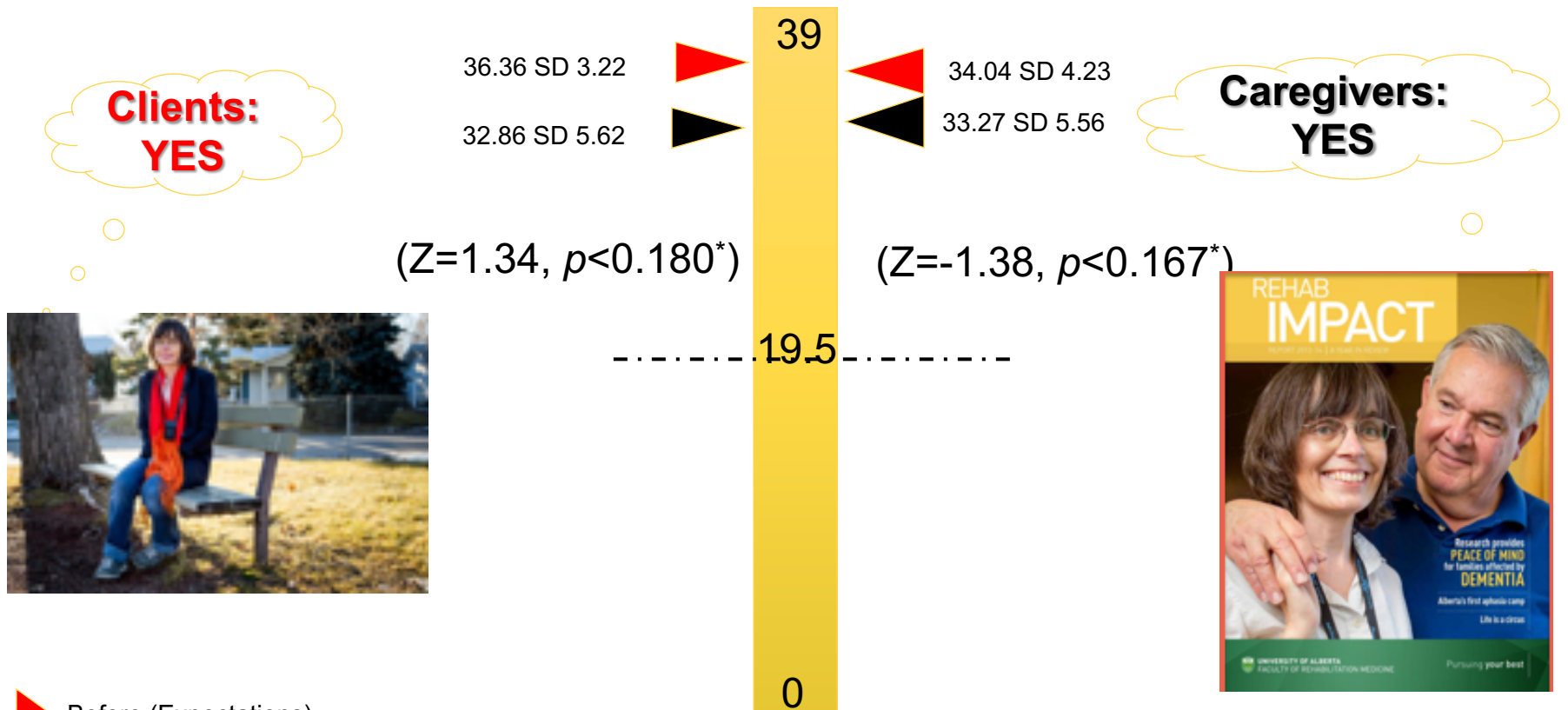
Commercial



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Locator device study

Dyads' expectations about GPS device met?



- ▶ Before (Expectations)
- ▶ After (Actual use)

Usability summative score scale (Min=0, Max: 39)

* Wilcoxon signed-rank pairs test statistics

Participant feedback

Peace of mind that if he got mixed up or lost that we would have a way of locating him

Provided a sense of security



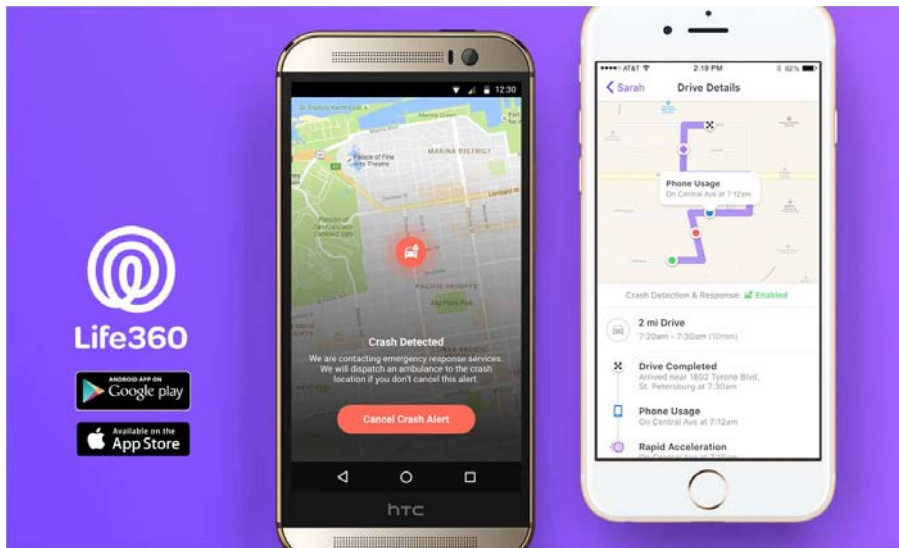
Gave me comfort to know where he was at all the time

It gave freedom and peace of mind



Global positioning system (GPS)

Phone



Blue tooth

Indoor location



RFID

Radio frequency identification



Elements of locating devices

What to look out for

- Cost: device cost, monthly fee
- Contracts and warranties
- Product size and weight
- How the device is worn
- Durability
- Communications, range and accuracy

Elements of locating devices

What to look out for

- Battery and charging
- Alarms: geofencing, device removal, water, etc.
- Where does it work?
- Ease of use
- Customer care
- Required equipment: computer, phone, internet connection, training, etc.

Technology Products Repository

tech.findingyourwayontario.ca



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**GPS Guardian Connect
Integrated with MedicAlert**
MedicAlert Foundation Canada

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Helpline: At Home System
Nortek/Linear

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What does the research tell us?

Article

Canadian Journal of Occupational Therapy
2018, Vol. 85(3) 196-208
DOI: 10.1177/0008417418777530

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What do we know about technologies for dementia-related wandering? A scoping review

**Examen de la portée : Que savons-nous à propos des technologies
de gestion de l'errance liée à la démence?**

**Noelannah A. Neubauer, Nolwenn Lapierre, Adriana Ríos-Rincón, Antonio Miguel-Cruz,
Jacqueline Rousseau, and Lili Liu**

Key words: Alzheimer's; Assistive technology; Behaviour; Caregivers; Wander management.

Mots clés : Comportements liés à la santé; Gestion de l'errance; Maladie d'Alzheimer; Soignants; Technologie d'assistance.



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Review results

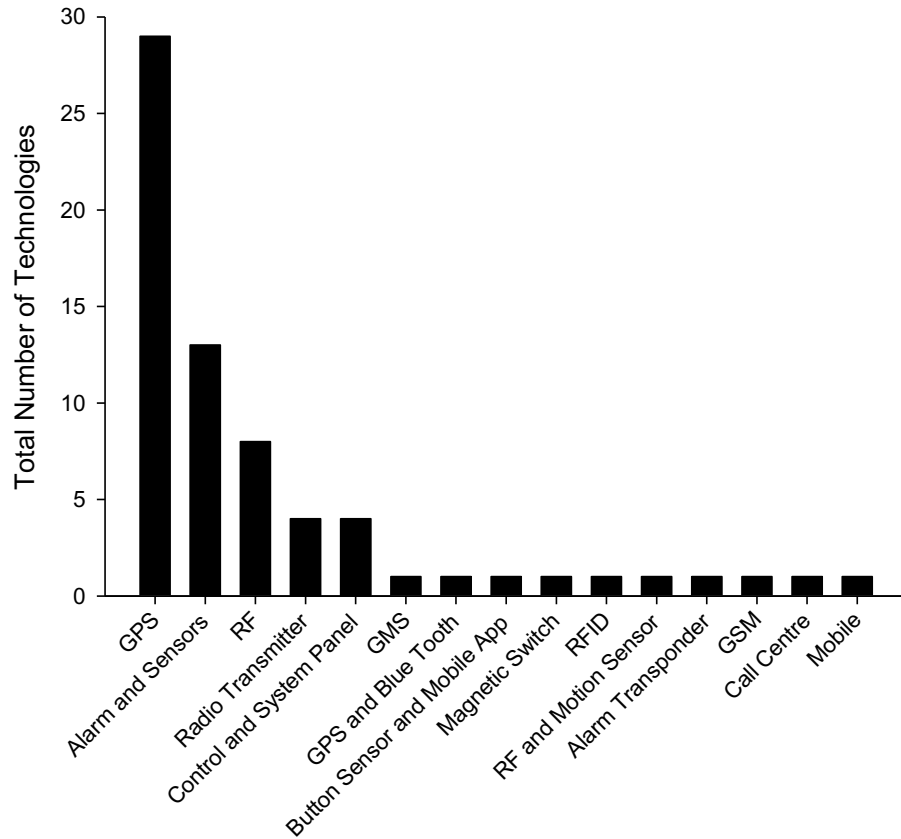


Figure 2a. Number of technologies per technology type included from grey literature (n = 64)

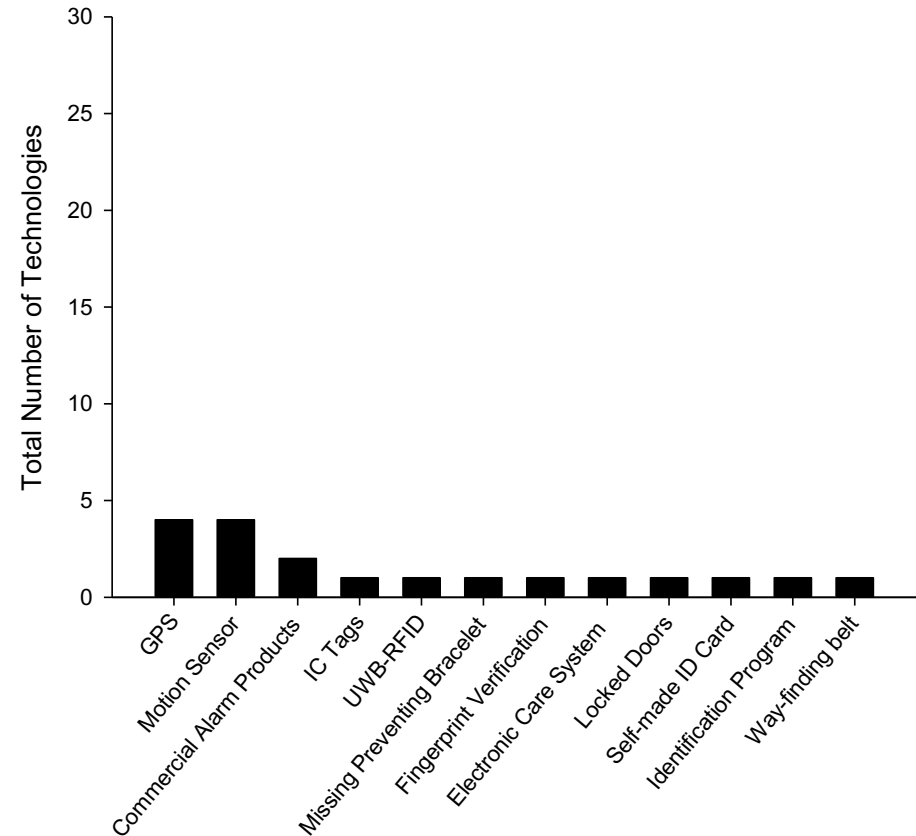


Figure 2b. Number of technologies per technology type included from scholarly literature (n = 19)

Review results

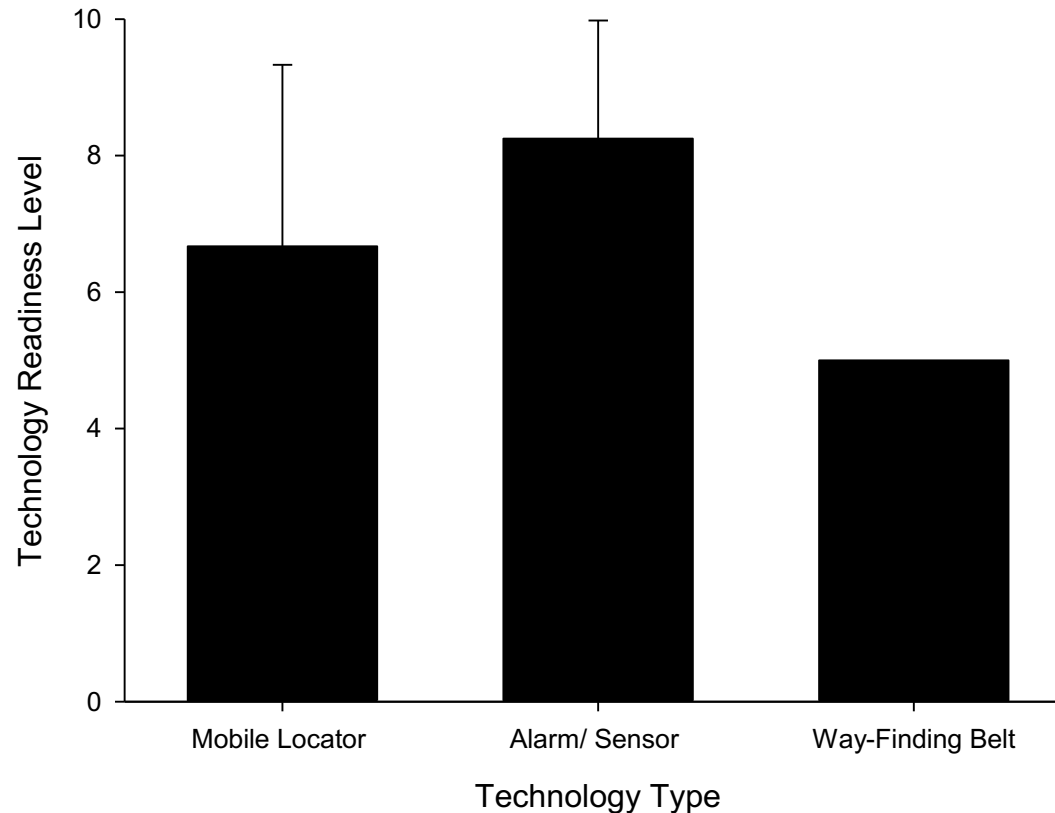


Figure 3. Technology readiness level (DOE, 2009) of included articles from scholarly literature (n = 12)

Review results

Table 2. Barriers to use of wander-management technologies

Device Type	Barriers to use of technology
Mobile Locator	Cost of equipment (2); device is uncomfortable (2); concerns of damaging device (1); difficulties using device (1); remembering to charge device (1); movements inside room not detected (1); low user acceptance (1); inconvenient (1); fear of being labelled (1); data leakage (1); N/A (4)
Sensor and Alarm/ Locks	Force measurements too sensitive (1); need monitoring ranges that work in variety of distances (1); other hazards caused by device must be considered (1); N/A (3)
Way-finding belt	Errors due to responding to cue in wrong direction (1); errors due to distractions to perceptual focus (1)

Implications

1. There is general acceptance that wander-management technologies can reduce risks of wandering
2. Ethical issues need to be addressed
3. Technologies should be affordable and available
4. Further research is needed to identify technologies with high levels of evidence for effectiveness and usability

Key take-home messages

- There are many locating devices to choose from to reduce the risks associated with dementia-related wandering
- One size does not fit all
- Need other proactive strategies in place in the event that the device fails
- More research is needed to determine if there is a locating devices that is more effective than others

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