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GPS SAFER WALKING TECHNOLOGY FOR PEOPLE WITH EARLY-STAGE DEMENTIA: HOW IS IT USED?

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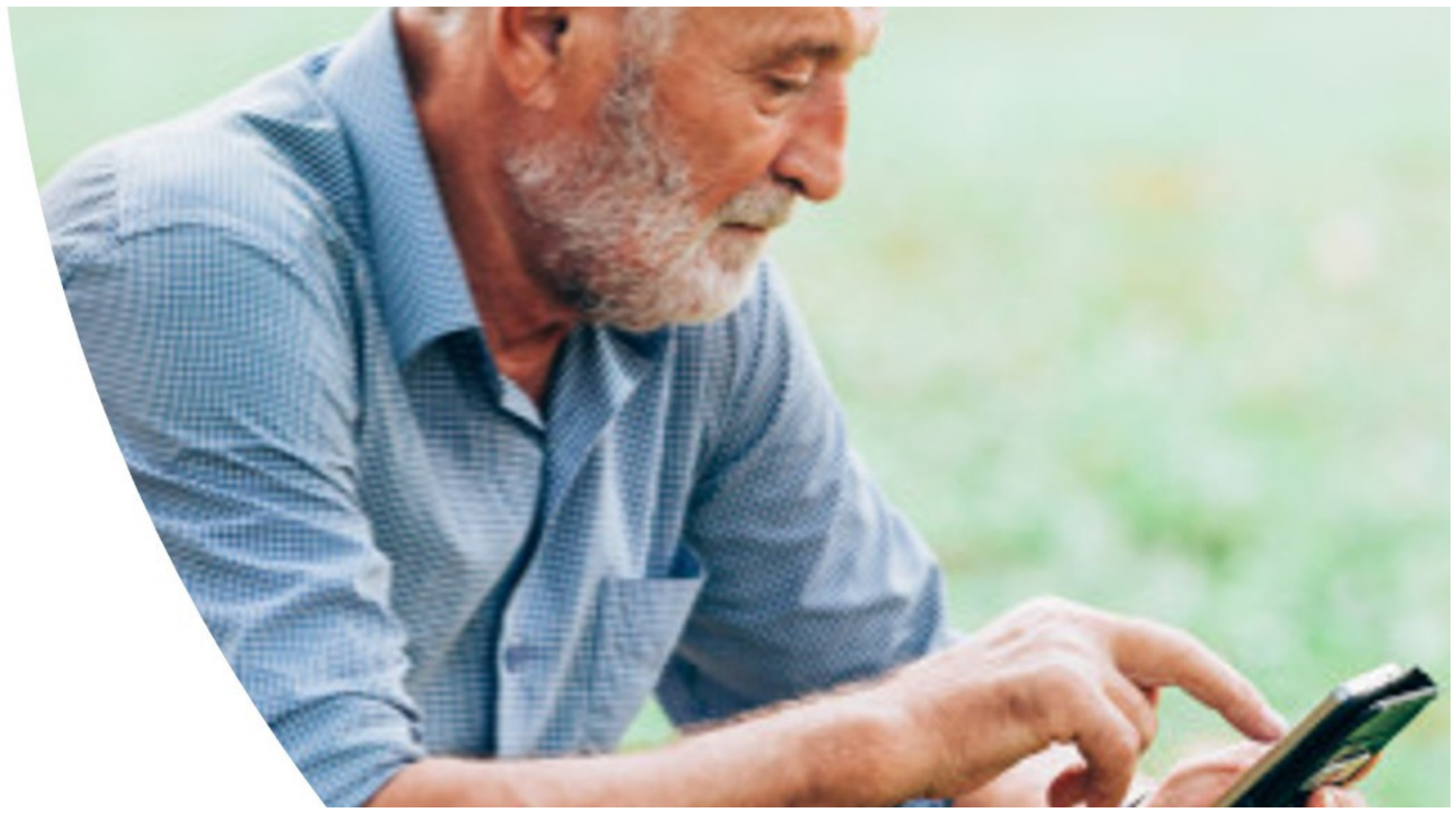
INTRODUCTION

People living with early stage dementia are using different forms of GPS safer walking technology to support or maintain access to outdoor environments. The UK Alzheimers Society (2015) supports the use of safer walking technology, stating that it has the potential to enable some people with dementia to have greater freedom and independence.

Provision of safer walking technology through state services in the UK is variable and there is a growing commercial market in this field. Although initially developed to track individuals who may become lost, the use of safer walking technology has developed to include enabling a person to independently navigate and locate themselves, (Wood, Woolham and Ward 2015).





SAFER WALKING TECHNOLOGY

Is an umbrella term for a range of new and developing technologies or apps.





METHODS

The importance of understanding the experiences of the individual led to the use of a phenomenological approach to research design and analysis.

Participants were recruited with support from two national charities: The Alzheimer's Society and Dementia Adventure, and utilised the NIHR 'Join Dementia Research' database. The qualitative design also included innovative recruitment strategies such as the use of social media adverts and video based recruitment methods.

Scan the QR code to watch the research recruitment video or view it directly at .https://youtu.be/mf__Ni2TPc8



PATIENT AND PUBLIC INVOLVEMENT (PPI) IN DESIGN

The study was designed with the support of a stakeholder advisory group that included occupational therapists, people with dementia, family carers and older people with an interest in technology. The group had a central role in the design of the overall research, participant recruitment materials and semi structured interview schedule.

Qualitative data was collected from 18 in-depth interviews with two groups of people,

Study 1 People living with early stage dementia

Study 2 Family carers of people living with dementia

Interpretative Phenomenological Analysis (Smith, Flowers and Larkin 2009) was used to explore the lived expereinces of participants.



FINDINGS

In total the data revealed thirteen different types of safer walking technology being used by participants, with many adopting several types of technology at once to combine different features or undertake different activities. These technologies were:

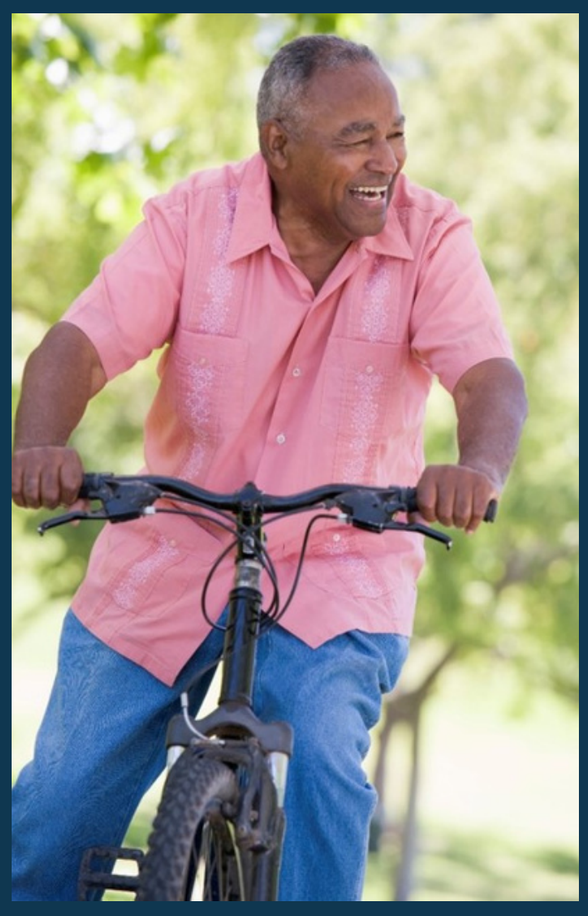
- *Small tracking device*
- *Pendant alarm system*
- *Garmin running watch*
- *iPhone app- map my walk/run*
- *iPhone app- Google maps*
- *Find my iPhone*
- *GPS sat nav system*
- *iPad App - Google earth*

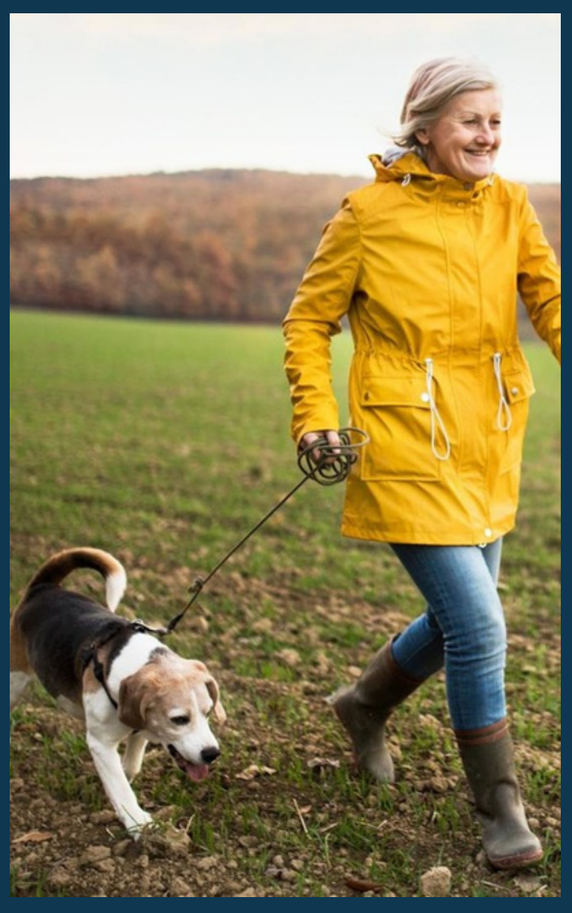
BRICOLAGE

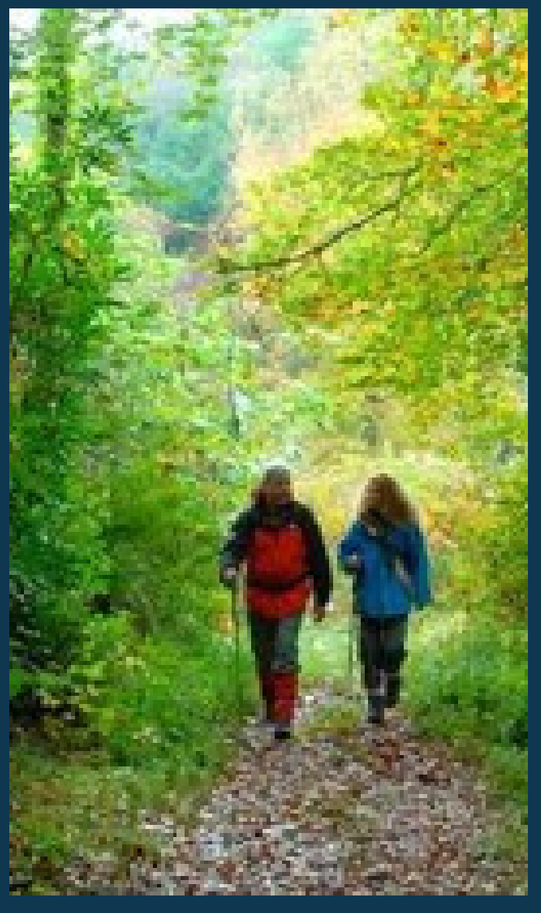
For many, the technology did not provide all the functions they needed. Participants demonstrated several different innovative ways in which they used and combined the technologies. This is known as 'bricolage', (Greenhalgh et al. 2013), (Gibson 2019) and the adaptations and combinations highlighted the limitations of existing safer walking technologies.

WHAT IS IT USED FOR?

Although the risk of getting lost remained the key motivator for its use. The technology was actually used for many different purposes, including to track and safeguard, locate and support as well as to promote independence for individuals with dementia when accessing outdoor environments. The research identified that people with dementia were engaging regularly in a great variety of outdoor occupations. These included walking, dog walking, gardening, cycling, bird watching, fly fishing, golf, wildlife rescue, marathon training, foraging, running and mowing grass meadows.









DISCUSSION

Within this research, family carers were more likely to adopt a purpose built device to track their relative, whereas people living with dementia were more likely to use technology to way-find and seek to use existing technology they were familiar with, such as their smartphone. The findings also identified several barriers and enablers to the use of this technology. The reasons behind the difference in technology adopted across the two participants groups were complex, but the original motivations for use, challenges of adopting new technology and ability to combine technologies in a form of 'bricolage' were all contributing factors..





CONCLUSION

The use of safer walking technology to support access to outdoor environments is growing within the UK. Within this field there has been a shift away from the need to manage risks associated with outdoor spaces and an increased focus on the need to support independence and autonomy. This shift has been driven by both social policy and the needs and wishes of people living with dementia. The current range of safer walking technologies and smartphone apps rarely meet all the needs of people living with dementia, and so people living with dementia and family carers are using this technology in innovative ways to compensate for the lack of suitable technologies to meet their needs.

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