

Designing dementia-friendly care homes

May 17 2016



Mary carries out a wayfinding test as part of her PhD research. Credit: Philip Hartley

As the population ages and demography changes, the U.K. is facing an unprecedented challenge of how to care for and support its older people. While the fact that people are living longer should be celebrated, the flip side is that age-related illness such as dementia are on the rise and it's

important for us, as a country to find solutions and alleviate the difficulties people may face as a result.

Under the supervision of Associate Professor Jan Wiener, one of BU's Ph.D. students, Mary O'Malley, has been exploring how people with dementia learn to navigate unfamiliar environments and what consequences this could have for dementia care home building guidelines.

"My research is looking at ways to reduce potential spatial disorientation for older adults, both those with memory difficulties and those without," explained Mary, "By exploring this issue, I hope it will lead to design changes in the living environment that supports successful orientation."

"I'm looking at people's wayfinding systems and how navigational tools are used in [care homes](#), and how these might help or hinder people's abilities to find their way around," continues Mary, "I'm looking at the strategies people use to learn new environments and I'm also going into retirement developments and asking people how they find their way around and what helps them to navigate unfamiliar places – for me, it's important to hear the users' voice when it comes to designing the environment."

Mary is undertaking a mixed methods Ph.D., which is gathering both qualitative and quantitative data. By carrying out a number of studies and drawing on expertise from BU's Psychology Department, BU's Dementia Institute (BUDI) and external architecture expertise, Mary is taking a rounded, interdisciplinary approach to her work. For her, bridging the gap between disciplines has been very beneficial.

"If you were just approaching this from one angle, one discipline, you'd miss so much valuable information," said Mary, "To be able to improve the design environment, it's really important to get input from different

subject areas. There's no singular way of doing this, so it's great to draw on expertise from a spectrum of disciplines."

As she explained, "In psychology, we have a lot of knowledge about wayfinding and how people navigate around environments, but not a lot of that has been translated into applied settings. There's lots of potential to apply and test out this knowledge for older people in retirement settings and care homes, both of which are places where this research could make a real impact."

While design guidelines are often applied to care homes, there are lots of other spaces used by older people and people with memory problems which could benefit from better wayfinding guidelines – hospitals, retirement homes and shopping centres are just a few examples. Given the prominence of the idea of dementia friendly communities, Mary's research is very timely.

In order to carry out her research, Mary has been going out to retirement homes and care homes, and learning from their residents about their experiences of navigating their environments. She has also been using some of the state-of-the-art technology available in the Psychology Department to create virtual environments which older people navigate their way around.

One of her studies looked at how people learn a new route and which navigational strategies people use when learning it. "The results showed that [older adults](#) who performed lower on a neuropsychological assessment, suggesting possible atypical ageing, had difficulties with some specific measures of route memory– they found it hard to translate and to identify a recently learned route from a map perspective, and interestingly, there were significant differences between two separate forms of landmark memory which we would like to further investigate," explained Mary.

"We want to follow-up these findings with a second study which will explore how useful 'you are here' maps are for certain demographics and in certain environments," said Mary, "Additionally, we want to see whether a certain placement of landmarks would make a difference in how well a route is learned. For this we are going to be using a virtual care home environment, which will allow us to change the variables, such as corridor layout and where landmarks are placed."

Mary's research is already having an impact, as one of the retirement homes where she has been carrying out her qualitative research is intending to have a full re-design based on the findings and reports made by the residents living there. Ultimately, Mary's aim is to use her research to influence designers and architects to create built environments which are easier for [older people](#) and people with memory loss to navigate. The main tool for achieving this will be through informing building guidelines and regulations – something Mary is keen to develop.

More information: M. O'Malley et al. Decreasing spatial disorientation in care-home settings: How psychology can guide the development of dementia friendly design guidelines, *Dementia* (2015). [DOI: 10.1177/1471301215591334](https://doi.org/10.1177/1471301215591334)

Provided by Bournemouth University

Citation: Designing dementia-friendly care homes (2016, May 17) retrieved 26 April 2024 from <https://medicalxpress.com/news/2016-05-dementia-friendly-homes.html>

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