

A design for life

4 April 2019

A project is showcasing the best practice in design and technology to assist those with dementia

The [Building Research Establishment](#) (BRE) has created a project to demonstrate how homes can assist those with dementia live independently for longer at its [Innovation Park in Watford](#) .

Dementia care costs families in the UK around ?18bn a year. It affects about 850,000 people in this country alone, a figure expected to rise to more than 1m by 2025. Two-thirds of dementia-related costs are paid by those who suffer from the condition and by their families. Early diagnosis is critical so the correct medication can be prescribed and adaptations to the home can be planned.

The BRE project, named [Chris and Sally?s house](#) , has developed the [Design for Dementia](#) work carried out by Halsall Lloyd Partnership and Liverpool John Moores University and adapted it from new build to refurbishment, exploring the requirements and benefits of altering existing homes to meet the demands of our ageing population.

The design principles include clear lines of sight and increased natural lighting, which is proven to help people to stay alert during the day and so sleep better at night, while noise reduction features can lower stress, according to the [Alzheimer?s Society](#) .

Better insulation improves warmth, and the location of appliances, level access and wide doorsets allow for greater mobility in the home. The colour contrasts of walls, floors and furnishings can help residents navigate more safely around the home and prevent accidents. Views of green space also stimulate the brain, maintaining alertness.

Those with some forms of dementia can be distressed by unexpected noises that could be interpreted as an intruder in the home, so special care has been taken with insulation for acoustics as well as warmth. The washing machine has been isolated from the living area and visitors can be easily identified through adaptations such as well-connected rooms with clear sightlines to the external doors.

A stylish wet room has been fitted with handrails, as the walls have been strengthened and the dimensions are Part M-ready (see photo, below). The home is also equipped with plenty of IT infrastructure, such as monitors for temperature, humidity and movement, to test innovative assisted living technologies.



Figure 1: The refurbished home includes a wet room that has been designed for compliance with Part M of the Building Regulations

The ground floor is designed for early onset dementia where the resident can maintain independence through cooking and an active lifestyle. The upper floor demonstrates support for more advanced dementia, with the emphasis on 24-hour care. It has an additional carer's bedroom, wheelchair charging points and capacity to install a hoist and a through-floor lift.

Project partners included Rockwool, Azko Nobel, Ideal Standard and John Lewis Business. Loughborough University has meanwhile brought to the project its expertise in internal environments and physical exercise to stimulate the brain and protect against the condition. The university has developed a range of exercises and products, as well as assistive technology, to prompt residents to maintain activity and hydration. Sensors in the property detect activity, air quality and temperature levels and control ventilation to maintain comfort levels.

A suite of characters such as Chris and Sally has been devised by the university to represent different stages of dementia; in 1 case, Chris has dementia and his wife Sally is his carer. They give a sense of how the condition affects day-to-day life, and they are portrayed by actors in videos on [the BRE website](#). This enables comparison of good days, medium days and bad days, to build a better understanding of the impact on those with dementia, their carers and family.

The project will look to evaluate the marginal costs of incorporating the design principles into

routine improvements and alterations. It will also inform homeowners and landlords on how to adapt their dwellings so that the residents can remain in their homes, near the support network of friends and family, with familiar surroundings that will help occupants remain independent for longer.

John O'Brien is associate director, construction innovation, [BRE](#)

Further information

- Image ? BRE
- Related competences include: [Design and specification](#) , [Inclusive environments](#)
- This feature is taken from the RICS Built Environment journal (April/May 2019)
- Related categories: [Inclusive design](#)