



Dementia-friendly environments

DEMENTIA CARE

This evidence theme on dementia-friendly environments is a summary of one of the key topics identified by a scoping review of dementia research.

Key points

- An environment might be considered 'dementia-friendly' if it supports people with dementia to feel a sense of belonging, safety, independence and being connected to others.
- Care environments catering for a smaller number of people appear to improve social interaction, communication, and physical activity but show no impact on responsive behaviours such as aggression or agitation.
- Homes with a home-like character and personalised, private spaces can increase the quality of life of people with dementia, their social interactions, and their ability to perform daily tasks independently. These homes may also increase food consumption.
- People with dementia often need environmental cues to help them navigate the home space independently. A wide variety of easy-to-adopt strategies have been tested for their effectiveness.
- Residential aged care facilities are often lit poorly and can have levels of noise far exceeding safe and comfortable levels. Bringing in natural light and ensuring rooms are well lit may lift the mood of the person with dementia and support them to perform daily tasks. Reducing noise can also reduce responsive behaviours, while background music and care worker singing can create calm morning routines.

What is a dementia-friendly environment?

People with dementia can experience the physical environment differently as their condition develops. They may find the space challenging to understand, leading to an increase in expressions of anxiety and agitation.

An environment might be considered 'dementia-friendly' if it supports people with dementia to feel a sense of belonging, safety, independence and being connected to

others. It should also be designed to empower people to participate in everyday life. [1]

Numerous researchers have tested how changes to the size, layout and interior features of the home may affect the person with dementia. [2] This includes modifying levels of lighting, heating, and noise. [2] There is also growing interest in more dementia-friendly housing designs. These include special care units within a facility, small-scale, group living homes, and dementia villages. [3]

Are dementia-friendly environments effective?

Multiple reviews focus on the impact of dementia-friendly environments. [2, 4-11] Some have focused on the fixed architectural features of the environment such as size and layout. Others have investigated interior features that can be modified such as furnishings, lighting, the colour of the decor, and levels of noise.

Smaller facilities

Small-scale environments accommodating around 5-15 people living with dementia have shown some promise in:

- Supporting people to undertake daily tasks and maintain physical function. [5, 11]
- Improving mood and reducing depressive symptoms. [2, 5]
- Increasing quality of life. [6]
- Engaging people in tasks, leisure, and outdoor activities, including exercise. [4, 5, 11]
- Encouraging social interaction and communication, possibly through the closer proximity of communal areas with activities. [2, 4, 6]
- Creating opportunities for staff to provide more individualised attention and care. [2]

Findings were inconclusive about the impact of this type of accommodation on responsive behaviours such as agitation. This is because the smaller homelike environment decreased agitation in some studies [2], but increased agitation in others [5], or showed no effect either way. [2, 9]

One review suggests that small-scale shared housing may best suit people at the earlier rather than later stages of dementia. [5]

Interior design features

A homely character

Numerous studies have described a positive relationship between physical living spaces with a homelike, non-institutional character and improvements in the quality of life and wellbeing of people living with dementia. [6] People also appear to spend more time in home-like communal areas where they are more socially engaged and independent in their activities. [4] Several studies found an increase in food consumption by people with dementia at mealtimes when the atmosphere of the dining room was made more homelike. [11]

Some other dementia-friendly design features supported by evidence include:

- Furniture set out in an arrangement that stimulates social interaction [6]
- Areas with clear access to outdoor areas and nature [11, 12]
- Homelike décor that includes personalised objects such as photographs, visual stimuli such as colours, mood lamps, and fish tanks, and occupational stimuli including books, games, and magazines. [6]

Personalised spaces

There is strong evidence that providing residents with private, rather than shared, bedrooms increases the satisfaction of families and staff while improving residents' quality of life and their ability to perform daily activities. [6]

Environmental cues for navigating the space

Several reviews found that it was important to provide people with dementia with ways to orient themselves in the space and find their way around the home. Wayfinding strategies backed by some evidence include:

- Using informative pictures such as posters and murals on walls [9]
- Installing furnishings that clearly indicate the purpose of each room
- Labelling cupboards, and drawers to indicate their contents [4]
- Providing plenty of access to natural sunlight and views to the outside in places where people move from one space to another (e.g., hallways) [6]
- Having a straight or L-shaped circulation system [2, 11], but without long corridors [2]
- Creating direct visual access to important places such as toilets [9]
- Zoning different areas and giving each its own unique character [9]
- Setting up a small number of doors and exit points [9, 11]
- Having communal spaces close by [2]
- Using contrasting colours between furniture or handrails and the walls behind them if you want these features to stand out as visual cues. [1]
- Installing assistive technology with lights and remote-controlled sounds to cue wayfinding. [11]

The home environment might also be modified to deter people with dementia from using certain areas, such as external exits. [9] For example, putting horizontal grids of black tape on the floor in front of exit doors and camouflaging doorknobs have shown moderate effectiveness in discouraging people from using them. [9] However, staff might want to consider the impact on people's wellbeing of restricting freedom of movement in this way. [11]

Freedom of movement

Compared to closed residential aged care homes, semi-open and open homes have been shown to have a positive

influence on bodily functions, mental functions and perception, quality of life and social participation. The influence on daily functioning and spiritual/existential health are unclear. Having access to a garden has also been found to be beneficial in reducing agitation in people with dementia. [13]

Sensory features

Some reviews reported on the benefits of modifying ambient noise, light, heat, and colours to reduce responsive behaviours. [4, 6-8, 10]

Noise levels

Studies of noise levels in residential aged care have found them to exceed recommended thresholds and to be at levels likely to have a negative effect on both staff and residents. [8] This high level of noise was usually made by staff, other residents, and electronic appliances. [8]

For people living with dementia, daytime and night-time noise in the facility has been shown to lead to increased agitation and apathy, fewer social interactions, and sleep disturbance. Meanwhile, staff report feeling more irritable, anxious, and lacking concentration during times of high noise. [8]

There is moderate evidence that noise reduction in residential aged care settings can reduce responsive behaviours such as agitation in people living with dementia. [9, 14] Specific types of noise can also have a beneficial effect. For example:

- Natural sounds, recorded or otherwise, have been shown to reduce agitation and aggression.
- The sound of a care worker singing along to music during morning care tasks can increase positive emotions and reduce aggression.
- Soothing background music during dinner times can increase food intake and reduce irritability and depressed mood scores. [8]

Light levels

There is no conclusive evidence that the level of indoor light can influence responsive behaviours or improve sleep quality. However, several studies have demonstrated that indoor light may influence mood [7, 9], and quality of life [1], and help people orientate their space. [2] Furthermore, a very cool light of moderate intensity has shown some promise in reducing agitation. [7] However, at its most basic, people need good, strong lighting (preferably natural and without glare) to be able to see properly.

Evidence limitations

The reviews on dementia-friendly environments raised several concerns between them as to the methods used in some of the studies. This reduces the degree of certainty we might have about the benefits of some aspects of dementia-friendly environments. For example:

- Most studies only had a small number of participants. [4, 6]

- Studies did not compare the effectiveness of dementia-friendly environments across different stages or types of dementia. [9, 13]
- The environmental elements studied varied widely across studies making it hard to conclude their overall effectiveness. [2, 10]
- Authors did not always report what they did, nor describe the setting and conditions in adequate detail. For example, some light studies did not report the level of light tested and the equipment used to produce it. [7, 8]
- Important outcomes such as reduction of depression and agitation were not always the study focus. [6]
- Studies often did not ask people with dementia their opinions and preferences. [6]

What can an individual do?

- Consider making small changes to the home environment which may improve outcomes for people living with dementia, helping them remain independent and maintain their dignity.
- Provide reassurance if changes to the home environment cause confusion and distress.
- Be conscious of the levels of lighting in the indoor environment. Consider the risks associated with poor lighting including accidental falls, inability to do daily activities, and staff medication errors.
- Allow as much natural light into the home as possible to help people keep track of the time of day.
- Take notice of the impact sounds may have on the individuals in your care. Turn off televisions that are not being watched, and perhaps put on soothing background music to bring calm to the space. However, be aware that some people may prefer a noisy, lively environment and find too much quietness understimulating.

What can the organisation do?

- Regularly audit the residential facility to check if it is dementia friendly. Make action plans to fix problem areas.
- Look for ways to ensure the residential facility has a homelike character with soft, comfortable furniture, family photographs, pictures on walls, and a small dining room area set up next to the kitchen. [6] Consider opportunities for allowing appropriate freedom of movement and access to a garden. [13]
- Measure lighting levels to ensure they meet or exceed the recommended minimum.
- Consider installing dimmer switches to give staff and residents more control over the levels of light. Install sensor lights that come on automatically at night to help people find their way.
- For home care, consider an assessment from an occupational therapist to gain insight into the individual's home environment and to suggest strategies to improve it for the person with dementia. This might include the use of assistive technologies.

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