

With few pharmacological interventions and an ever-increasing number of people likely to be affected by dementia, it seems sensible to consider other ways in which we might address their needs and maximise their independence and quality of life. I became interested in the idea of specific environmental design aimed at improving quality of life and functioning for people with dementia when reading about Hogeweyk, a specially designed village for those affected (<https://hogeweyk.dementiavillage.com/en/>). Hogeweyk is made up of 23 houses offering seven different lifestyles chosen to reflect the most common Dutch home environments.<sup>1</sup> Residents manage the household and carry out activities of daily living such as washing and cooking as far as they are able, just as they would in their own homes but aided and encouraged by a team of staff. Residents are able to shop for groceries, go to the restaurant, pub, or cinema, or simply for a walk in the village as they choose. Relatives and local residents are also able to use the facilities. Hogeweyk thus aims to create a safe environment that nevertheless maintains the autonomy of residents, allowing them to preserve as normal a life as possible in a nursing home facility and also maintaining integration with the local community. This unique approach seems to improve functioning and reduce the need for medication.

#### ENVIRONMENTAL INTERVENTIONS

These principles of maximising autonomy, optimising functioning, and maintaining integration for people with dementia can be applied anywhere. Adaptations in the home can allow people with dementia to continue to live well while remaining in their homes. As well as the benefit to the individual, good design for dementia can reduce the burden on carers and also reduce expenditure on health and residential care.

A further bonus is that environmental interventions are appropriate for any type or stage of dementia, unlike many of the available pharmacological interventions.

Essentially, the aim is to make the

living environment as simple and easily understandable as possible, with particular attention paid to the sensory and perceptual challenges that can come with dementia. The Dementia Services Development Centre<sup>2</sup> in Scotland and the Dementia Enabling Environments Project in Australia,<sup>3</sup> among others, have both produced very clear and pragmatic guidance. Visual cues are critical for those with impaired memory and reasoning, meaning that simple layouts with clear lines of sight between rooms are beneficial.

Furniture and fittings can also provide visual cues and encourage appropriate use, such as seating areas in the lounge or a dining set in the dining room. Depending on the level of impairment, it may be helpful to provide clear pictorial and written signs labelling, for example, the toilet. Similarly, glass-fronted cabinets or open shelves in the kitchen obviate the need to remember where items are kept, while a glass-fronted refrigerator may remind and encourage the resident to eat. The same strategy can be employed in the bedroom, with clothes for the day kept in an open wardrobe or shelving.

#### LIGHTING AND TECHNOLOGY

Good lighting at levels at least double to those usually provided for younger people is important for clarity and can also help with reinforcing circadian rhythm. Glare and shadows can be misinterpreted, so lighting needs to be carefully planned to avoid this. Natural light in particular should be maximised. Large, clear clocks indicating night and day and calendars can also help with orientation in time. Noise can also be disruptive and overwhelming; thought should be given to soft furnishings and floorings to minimise this.

Colour and contrast can be used to aid perception, highlighting features such as doors, skirting boards, handrails, and even toilet seats and basins. It has also been shown that brightly coloured crockery can significantly increase the amount of food and drink consumed by patients with severe dementia.<sup>4</sup> Flooring, on the other

hand, should be as uniform as possible, as changes in colour can be interpreted as steps or holes. Threshold strips and patterned flooring should therefore be removed. Highly reflective or speckled flooring or counter tops should also be avoided as they can be confusing for people with dementia.<sup>2</sup>

Assistive technology is likely to play an increasing role in facilitating independent living for those with dementia. Rochdale Boroughwide Housing, for example, has developed an Assistive Technology Service. This service for tenants with dementia provides waistband fall detectors, enabling on-site first aid-trained staff to respond and assist. The service has also fitted exit sensors to their sheltered accommodation. These measures have reduced the need for ambulance attendances for falls and police attendances in cases where residents have got lost, with savings of almost £400 000 a year.<sup>5</sup>

As GPs, we are ideally placed to suggest simple changes such as these to our patients and potentially to residential and nursing homes, providing truly holistic care and hopefully improving the autonomy and functioning of our patients living with dementia.

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