
The design of housing for people with dementia

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Abstract

This paper looks at how the principles of designing for people with dementia have been successfully applied to care homes and extra care housing. Two completed projects illustrate these principles.

Keywords:

design, dementia, extra care, care home, independence, person-centred care, community

INTRODUCTION

There is an ageing population in the UK: the Alzheimer's Society reports that there are currently 700,000 people living with dementia in the UK, a figure it predicts will increase to more than one million by the year 2025.¹ The demand for suitable housing will increase and the design of such housing must accommodate the needs of the people who will live there. A fundamental principle in any building design is that the design should compensate for impairments. An impairment becomes a disability only when the built environment does not compensate for impairments. Impairments can be:

- *physical*: requiring a wheelchair, walking frame or handrail;
- *visual*: no or partial sight;
- *aural*: full or partial deafness;
- *cognitive*: dementia, which can be mild or severe and affects individuals in different ways.

This paper will look at how each of these principles of designing for people with dementia has been successfully applied to two completed care and extra care housing developments.

Designing for people with dementia is helpful for everybody as everyone benefits from more understandable buildings. Any building for older people, even for people currently without dementia, should be dementia-friendly as it offers a greater flexibility should there be future changes in the profile and needs of the people who live there.

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The two projects referred to and illustrated in this paper are described below.

Belong Macclesfield, Cheshire

This development for CLS Care Services Ltd is a 72-bed care home with 18 extra care apartments plus community facilities. The care home is made up of six households, where residents live with their own en-suite bedrooms and a communal open-plan lounge, dining area, kitchenette, assisted bathing facility and garden or balcony. Households consist of 11, 12 or 13 residents. The extra care apartments are one-bedroom apartments with a lounge, kitchen, bedroom, shower-room and hallway. The community facilities are for the residents of the care home and the extra care apartments as well as the wider neighbourhood. These facilities include a café/bistro, hair and beauty salon, community room and a gym.

Millhouse, Nantwich, Cheshire

This development for Wulvern Housing Group consists of 46 extra care apartments plus community facilities. The apartments are mostly two-bedroomed but there are several one-bedroom apartments. All of the apartments have a lounge, kitchen, bedroom(s), shower-room and hallway. Community facilities, which are also available for use by the wider neighbourhood, include a café/bistro, hair and beauty salon, community room, laundry and a wellbeing suite.

PRINCIPLES OF DESIGNING FOR PEOPLE WITH DEMENTIA

There is an international consensus on the principles of designing for people with dementia:²

- design should compensate for impairments;
- design should maximise independence;
- design should enhance self-esteem and confidence;
- design should demonstrate care for staff;
- design should be orientating and understandable;
- design should reinforce personal identity;
- design should welcome relatives and the local community;
- design should allow the control of stimuli.

This paper will now examine each principle of design in closer detail.

Design should compensate for impairments

Impaired memory

An example of where design has compensated for someone with impaired memory can be demonstrated by an open-plan arrangement to communal areas. This provides high levels of visual access which in turn allow different spaces and uses (eg activity or dining) to be seen from these communal areas. Within each of the

High levels of visual access

households at Belong Macclesfield the communal living spaces are of an open-plan arrangement, allowing the residents to see clearly where the areas for sitting and eating are and where the kitchenette is (Figure 1). If these were separate rooms behind doors this could be confusing. At Mill House the ground floor communal areas of foyer, lounge, café and library are also open plan.

‘Dead-end’ situations can also be negated by having an event at the end of a corridor. At Belong this has been provided with a simple table and chair or a hat-stand at the end of corridors. Within an individual’s personal space, toilet doors should always be highly visible with contrast and the WC visible from the bed. A connecting door between the shower-room and main bedroom at Mill House provides the en-suite but there is also a door to the shower-room from the apartment hallway as might be found in a more ‘traditional’ apartment layout.

Impaired reasoning

Compensating for impaired reasoning is demonstrated by contrasts between surfaces and objects. At Belong and Mill House there is a clear contrast between floor and wall finishes and between handrails and grabrails and the walls behind; light-switches contrast with the background, toilet seats contrast with the WC, which in turn contrasts with the background floor and wall tiling. At Belong the kitchen flooring is a dark wood-effect vinyl and the flooring to the adjoining dining area is a dark-toned carpet. Because a sharp contrast in flooring can be perceived as a step by people with dementia, similar floor tones have been used.

Tactile materials can be used to alert someone to a change in direction or end of a handrail such as a raised button on a handrail or a stainless steel cap on the end of a timber handrail.

There is a much-misunderstood issue of colour perception. As most people get older they can lose the ability to differentiate

Contrast is more important than colour



Figure 1: Open plan communal area at Millhouse helps residents to see different uses and spaces

between colours, so colour contrast rather than colours are the key to orientation. The ability to discriminate between colours fails first at the violet end of the spectrum with the red/orange/yellow end failing last, so these colours may be more effective for some people.³ Of course, colours can be useful to assist younger relatives and staff to find their way, but usually not the people with dementia. Wall junctions will be more easily perceived, for example, if the two walls are of contrasting colours or a colour and a neutral tone.

Older people can have a range of sight impairments. People with dementia may not understand that they have an impairment so may not be able to work out what they are seeing. Strong visual and tactile cues in handrails will help, although they may not be able to work out why there is a knob on the end of a handrail. Nevertheless, it will probably make them stop at a door.

Impaired learning

Compensating for impaired learning is illustrated by multiple cues for doors, such as all toilet doors being a single bright contrasting colour with a picture as well as words. Objects or architectural features work better than colour for orientation. Certain walls can be curved, for example, or have a noticeably different texture, or a painting/clock/pot plant can be strategically positioned. Motifs on doors or at eye level on walls and noticeably different joinery can give an identity to each household and cues for residents to know where they are. At Mill House, a combination of feature wall colour contrasts, large and distinct paintings, and wall-mounted light-fittings aid orientation and help with wayfinding (Figure 2).

Multiple cues to help with orientation



Figure 2: Contrasting wall, wall-light and wall painting, plus kitchen window sited to provide cues for orientation at Millhouse

High levels of stress can be a consequence of the frustration that can arise from a person's impairments and the failure of design to compensate for these. At *Belong* and *Mill House*, alcoves have been provided as alternative places to go to from the larger lounge areas. The aim is to reduce stress levels not only in the people with dementia but also in their families and the people who provide care for them.

Design should maximise independence

This has worked with success in care homes where a resident can safely explore or walk around their household making their own choices. To extend this to extra care housing would be to allow a resident the opportunities to move safely about their own apartment and to and from communal areas.

The principle of extra care housing as being self-contained apartments is a key factor in maximising independence, as is access to safe and stimulating external spaces. Social isolation can be problematic in housing where people may shut the door behind them and not come out of their personal space. At *Mill House*, by creating a kitchen window onto communal spaces and a small recessed porch area by an apartment door, the opportunity is provided for informal social contact (Figure 3). This kitchen window helps residents to maintain contact with the world but providing blinds will also provide privacy if required.

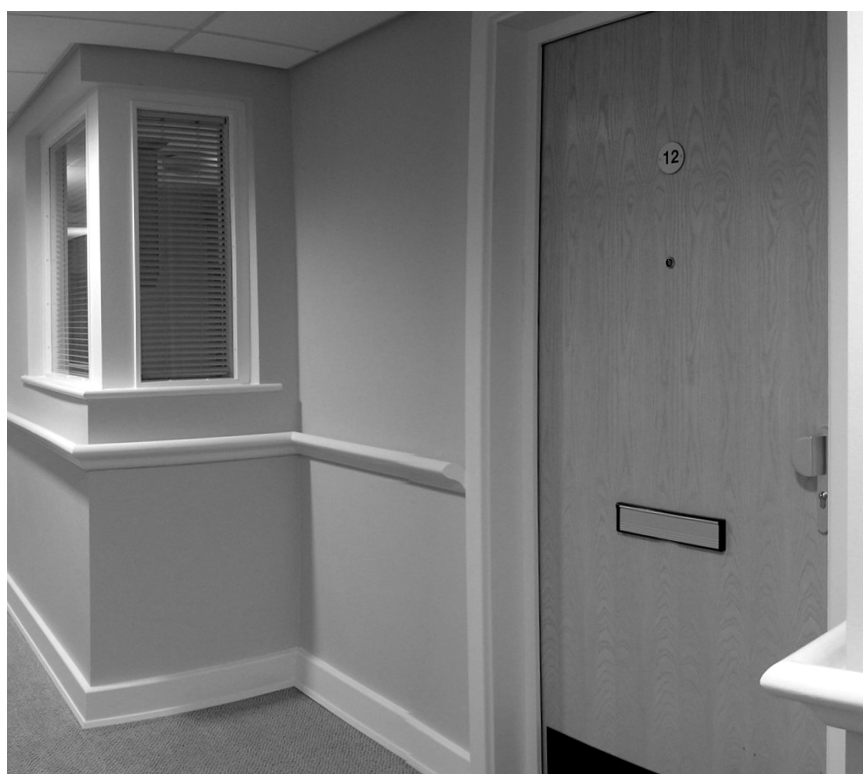


Figure 3: Recessed 'porch' and kitchen window at *Millhouse*

Provide opportunities for walking

Many people with dementia like to walk a lot and may not be able to explain why. It may be a lifetime habit, it may be a consequence of stress or it may result from pain and so on.⁴ Design should provide opportunities for walking inside or outside, depending on the weather, and at the same time allow unobtrusive observation by staff and families. At *Belong*, non-accessible doors and gates have been hidden by painting them the same colour as the walls alongside, extending skirting board and handrails and omitting architraves to ensure that people with dementia are not alerted to opportunities to leave the premises. Distractions at the end of a corridor, where there may be an exit door, like a table and chair or a hat-stand, and things to look at along the way will also help with this as well as addressing impaired memory issues.

Undertaking everyday tasks

Design should enhance self-esteem and confidence

Design should enhance self-esteem and confidence by allowing people to maintain skills they may have used in the past. Such skills can vary from making a cup of tea to playing a musical instrument. Adjustable-height kitchen work surfaces and careful thought given to the kitchen layout can help with this. The option for residents to contribute to the running of their own household by undertaking everyday tasks is important in maintaining a continuation of their everyday life. At *Belong*, the kitchenettes in the care home households are accessible to residents and breakfast, lunch, snacks and drinks are made by the residents and staff together. A discreet gate also allows the kitchenette to be closed off should there be a risk. A lower worktop on the 'outside' allows residents to sit and become involved with kitchen activities, such as peeling vegetables.

Providing a kitchen within a resident's own apartment, as at the extra care apartments at *Belong* and *Mill House* (Figure 4), allows them to make a drink or snack independently and not to have to go to a communal kitchen, where other activity may be taking place.

Providing people with an opportunity to make a contribution to the overall life and community is also essential. Community rooms, gardens and smaller alternative spaces can be the setting for small clubs within the development to meet up. There is a link to the operation and management of the development but the design should create the opportunities for such events to happen. *Belong* and *Mill House* both have community rooms and at *Belong* there are two courtyard garden areas: a semi-public morning garden facing the road and a private courtyard that receives the afternoon and evening sun.

Design should demonstrate care for staff

A separate staff lounge should be provided separate to any staff base office or study. Separate meeting rooms, training rooms, management offices and spaces for private meetings with residents' families allow staff to take a break from sometimes stressful situations. At *Belong* and *Mill House* there are staff rooms with



Figure 4: Open and accessible kitchen allows everyday tasks to be undertaken easily at Millhouse

changing, toilet, shower and lounge facilities and the staff can also use the café and foyer seating areas as social spaces, in addition to private meeting rooms and offices.

A compact layout and dispersed storage mean that staff do not have to walk long distances over the course of a working shift. In this respect there is an advantage in multi-storey developments as the travel distance is less than in a comparable sized low-rise development that is spread out over a larger footprint.

Dispersed storage allows for items that the residents may need to be close to hand and staff do not have to spend time and effort going to a central store. At *Belong*, each resident's medication is kept in a secure store within their rooms which allows the medication to be on hand and also avoids the need for an institutional medical trolley to be passing through often. The wardrobe also allows for linen, pads and other sundry items to be kept close at hand. Open plan communal areas also allow staff to maintain a discreet overview of residents in these areas. Separate lounges and dining rooms may require staff to be present in each room which could be a pressure on staff time and resources.

Design should be orientating and understandable

Having a non-institutional, homely and domestic feel is essential to any care and extra care development. This continues throughout the entire design from fundamental design decisions such as small groups of apartments clustered together through to strategies for

Compact layout and dispersed storage

Non-institutional

dealing with fire risks (allowing open-plan areas and omitting overhead door closers, georgian wired glass, etc) and familiar-sized and proportioned spaces. The right objects and fixtures and finishes are also essential details. *Belong* (Figure 5) and *Mill House* have both strived for domestic-scale rooms, homely-looking furniture, potted plants, ornaments, domestic kitchen cupboards, and cross-head separate hot and cold water taps, which are all examples of objects which are familiar to people in their own homes. This is very much influenced by culture and context and is something that will change as future generations are more familiar with remote control television, compact discs, computers, the internet, etc. Confusion can arise for people with dementia because something is unfamiliar. For example, in the UK, floors tend to have a carpeted finish, therefore reflections on a shiny floor could be perceived as being wet as this is ‘unfamiliar’.

Design should reinforce personal identity

Rooms large enough to have residents’ own furniture and personal possessions are essential. The option of having residents’ furniture in communal areas can also work successfully. At *Belong*, memory boxes of different shapes and sizes allow for personalising a door area as well as providing a cue for a resident to identify their own space and telling others about the person whose room that is (Figure 6). At *Mill House* the kitchen window and recessed porch provide the same opportunities.

‘Extended family’ size of households

Small numbers of apartments grouped together in an extra care scheme or an ‘extended family’ size of household in a care home allow individual personalities to shine through. *Belong* has a total of 18 extra care apartments as three floors of six apartments per floor. The higher-dependency households vary from 11 to 13 residents per household.

Design should welcome relatives and the local community

Design should welcome residents and the local community with a



Figure 5: A lounge with a homely and familiar atmosphere at *Belong*



Figure 6: Memory box and photographs provide cues to a resident's own space, and tell others about the person there at Belong

Eliminate any sense of isolation

generally domestic, non-institutional feel, a welcoming entrance and the opportunity to do ordinary things. The appearance of the building should be sensitive to its context, be it the appearance of a hotel, apartment block or bungalow, or contemporary or traditional design, and located in residential areas. The ability for residents to watch the world going by outside, or to visit the local shops, integrates them within the neighbourhood and helps to eliminate any sense of isolation or being institutionalised. Most of the apartments at Mill House have views over the surrounding streets, as do the communal areas and gardens. Belong and Mill House have both provided a café/bistro, hair and beauty salon and community room which create opportunities for the local community to come in, such as students from a local art college to do craft activities with residents, and for use by local groups and societies. These all help to further reinforce integration within the local community.

Uncontrolled stimulation can be overwhelming

Design should allow control of stimuli

Uncontrolled stimulation of the senses can be overwhelming for the person with dementia. High levels of lighting are essential for people with poor eyesight but this needs to be controlled. Large windows and taller floor-to-ceiling heights can bring in extra daylight, while external sun blinds and overhanging eaves can reduce glare and harsh shadows which can cause confusion. Sound-absorbing carpets, curtains and soft furnishings in communal areas can reduce overall noise levels in these areas. At Belong and Mill House, 'buffer' spaces such as storerooms have been located to separate individual apartments from noisy areas and party wall and floor sound insulation that exceeds Building Regulation minimum standards helps to eliminate distracting and confusing background noise.

A central courtyard space or communal areas with windows on both sides can provide natural cross-ventilation, as has been achieved for the central communal areas at Belong and Mill House. This has to be balanced with pleasant smells such as cooking, which are desirable for their subtle stimulation. Changes in ceiling height and ceiling downstands can help in this regard.

CONCLUSION

The design of care homes and extra care housing has to accommodate current needs and also has to be adaptable to future changing levels of care, expectations and aspirations while balancing staffing and cost issues. Buildings designed and constructed today will be expected to have a lifespan of at least 25 years, if not more. People who will live in these buildings in the future are sure to have a different outlook and expectations than the current generation. Future residents coming to live in the designs of today are likely to be more familiar with open-plan living, car ownership, modern furniture, computers, mobile phones, wireless technology and pop music and these, perhaps coupled with a greater sense of

Accommodate current demands and design in flexibility for change

independence, are among the things that future residents may expect to have as standard. The skill of designing for dementia today is to accommodate current demands and to design in the flexibility for change in the future as people's attitudes and expectations alter.

If the built environment can provide opportunities for greater independence and choice for the people who live there, then there should be less stress for the residents, their families and the staff who care for them. Design should maximise the opportunity for residents to exercise choice and make their own decisions without reliance on others.

Providing care can be stressful and having a high staff turnover can be very disruptive for everyone. The built environment should facilitate and enhance the delivery of care, and by providing this, people will *choose* to live in these developments, in a supported environment, rather than be admitted at a point of crisis.

Finally, it should always be remembered that the built environment is just one aspect of a total person-centred care approach. The approach and attitude towards care and the delivery of care are equally or more important than the built environment. The design and layout of buildings should allow, facilitate and add to the quality of care and to the quality of life of the residents, their families and the people who provide care for them.

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