

# Good practice in the design of homes and living spaces for people living with dementia and sight loss

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This research on the design of homes and living spaces for people living with dementia and sight loss was carried out for Thomas Pocklington Trust by Professor Alison Bowes, Dr Louise McCabe, Dr Alison Dawson and Dr Corinne Greasley-Adams of the University of Stirling.

The research findings provide a review of the evidence base and offer Guidelines on ways in which environments can be modified to enable people with dementia and sight loss to enjoy better quality of life. They also provide advice on some of the challenges presented when optimising home environments.

## Summary

- The review showed that the research on design for people with sight loss nearly always emphasises promoting independence and choice. While the literature on design for people with dementia is also concerned with assisting people to manage their home environment, it often includes a focus on control of behaviours, activities and locations.
- The Guidelines offer evidence-based information and recommendations about design for people with sight loss and dementia concerning: use of colour and contrast; lighting; fixtures and fittings; layout and design of kitchens; good bathroom design; entrances and exits; gardens and outdoor areas.
- All the recommendations in the Guidelines are aimed at supporting independence and capacity, and prioritise the person and their individual needs.



- The evidence base for the design recommendations is variable. The Guidelines therefore include information about the strength and source of the available evidence. The research literature, the experiences of people with dementia and sight loss, the advice of key contributors and the experiences of people who provide services are taken together as providing the evidence base.
- Contrary to some other research, the team does not highlight 'contradictions' in design advice for people with dementia and people with sight loss. Instead, the team identifies that, because of individual needs, choices about what is best need to be carefully considered. The views of people with dementia and sight loss and their carers should be central to this process.

## **Research aim**

The aim of the research was to produce new evidence-based resources that can assist organisations and individuals to create enabling environments that are sensitive to the needs of people with sight loss who also have dementia.

The objectives were:

- To review systematically the literature on designing environments for people living with dementia and sight loss in order to identify the evidence base;
- To work with people living with dementia and sight loss to develop a set of evidence-based best practice Guidelines shaped by their experiences and informed by professionals working in the field; and
- To create outputs based on those guidelines tailored to different stakeholder and individual needs.

## **Research method**

The research involved

- A systematic review of literature, involving searches of online scientific databases, quality assessment of material identified and collation of initial design recommendations;
- Consultation with 19 people living with dementia and sight loss and 10 care staff using interviews and focus groups to investigate their needs in terms of environmental design, and sense-checking of the initial recommendations to inform the Guidelines;

- Interviews with eight key professional stakeholders to identify their views on design of environments for people with dementia and sight loss. These interviews informed the evaluation of literature and the same participants were later invited to comment on the draft Guidelines;
- After revision of the Guidelines following advice from people living with dementia and sight loss and the key professional stakeholders, a survey of practitioners was conducted to assess the Guidelines' relevance and appropriateness for accommodation services and people's own homes.



## Background

One in five people in the UK over the age of 75 are living with sight loss, rising to half of all people aged over 90. The primary causes are age-related macular degeneration, glaucoma, cataract and diabetic retinopathy. Although it is increasingly recognised that in many instances sight loss is avoidable, reduced vision will be a fact of life for many older people.

Some of those same people will be among the estimated one in 14 people over 65 years of age and one in six people over 80 years of age in the UK who have a form of dementia. Impaired sight means people cannot see well. It may lead to 'visual mistakes', misperceptions and misidentifications, some of which may be associated with optical illusions. The consequences of such mistakes are more serious for people with dementia who, depending on the stage of their dementia journey, may not realise or remember that they have made a visual mistake or be able to rationalise or 'reality check' what they believe that they are seeing. Some forms of dementia, including Parkinson's disease, Lewy body dementia, vascular dementia where strokes have occurred along or near the visual pathway and the posterior cortical atrophy variant of Alzheimer's disease, have been linked with causing visual problems.

Design guidance has previously been separately produced for people with dementia and people with sight loss. Reviewing selected design guidance publications, previous authors suggested that, while there were many similarities, there appeared to be some areas of potential conflict, that the evidence base for the guidance was not always clear and that therefore its reliability was uncertain.

## The evidence base

Table 1 lists the types of studies included in the literature review and the quality assessments that were made of them. As design for both dementia and sight loss is a new area, the research record included material that offered suggestions, rather than definitively evidenced findings. As the Table shows, much of the research consisted of literature reviews, qualitative studies, practice guidelines and case studies. In developing the Guidelines, the variation in evidence was recognised by including information about the strength of the evidence for each element. The team has used the findings from other strands of the research to support suggestions arising from the literature, where relevant.

**Table 1: Included items and quality assessments**

Type of study	Quality assessment			Total
	High	Medium	Low	
Controlled before/after study		1		1
Randomised controlled trial		1	2	3
Literature review	3	3	3	9
Qualitative study	2	3	3	8
Other		1	11	12*
Total	5	9	19	33

\* Other = enquiry report; practice guidelines (3); case study (2); cross-sectional population study; experiment; ideas review; product review; study review (3); expert views.

The identified literature focused either on people with dementia or people with sight loss, with only three sources focusing on people living with both. The large majority of sources focused on private spaces, including general housing, care homes or sheltered/extra care housing. There was a particular emphasis on care homes, with 17 items covering these environments.

A wide range of design features was included as follows, with some sources covering more than one aspect: a specific area within a building (e.g. entrance, particular room) (11 times); architectural aspects of a building (e.g. arrangements of rooms, corridors etc) (11); internal fixtures and fittings (e.g. switches, baths, toilets) (12); internal finishes (e.g. wall textures, paint types) (12); furniture and furnishings (e.g. wardrobes, drawers,

carpets) (17); outside areas attached to buildings (e.g. gardens, driveways) (11).

Design properties considered most frequently were: colour (11 times); texture (6); contrast (11) and lighting levels (18), with other mentions of the whole building (2); technologies (2); lighting (2); neighbourhood design (1); and multiple elements (1).

Summarising the results of the literature review generated a set of findings under key topics that were then distilled into seven statements for the draft guidelines. The key topics were colour and contrast, lighting, fixtures and fittings, kitchens, bathrooms, entrances and exits, and outdoor spaces.

More fundamentally, the literature review highlighted that for people living with sight loss, design recommendations overwhelmingly focused on promoting independence and supporting capacity. For people living with dementia, there was also a focus on control and containment, with less emphasis on capacity. The Guidelines developed draw attention to this, and promote a focus on the person, their individual needs and rights, and emphasise ways in which independence can be promoted and capacity supported for people living with dementia and sight loss.

## **Consultations with people with dementia and sight loss**

Prior to developing the draft Guidelines, people living with sight loss and dementia in two care homes, and staff supporting them, were consulted about what helped and hindered them in their everyday lives. These interviews provided useful background information on the knowledge and views of care home staff alongside the thoughts and experiences of care home residents who have dementia and sight loss.

The residents' views of the care homes were generally positive, and their interview responses demonstrated appreciation of the support given by staff in the homes. While residents did not talk specifically about design features of their home, it was apparent that they appreciated some of them, such as the simple layout of the individual units, and the clear signs used, particularly those on bedroom doors.



Staff at the homes had not received training about environmental design but did comment on aspects of the homes that they felt were beneficial to people with dementia and sight loss. There were numerous features that staff felt were helpful, such as: contrasting colours for handrails; flat gardens with clear paths; signs; smooth flooring; and encouraging residents to personalise their bedrooms. The staff could also see areas for improvement, such as: using more bright colours; finding space for a quiet room; and, ideally, designing homes with a circular corridor inside allowing people to walk freely round the building.

## Developing the Guidelines

The information from the literature review and the consultations with people living with dementia and sight loss and with key professional stakeholders were used to generate a set of initial recommendations about design. These were then taken for further consultation to inform the development of the Guidelines. Consultation focus groups at this stage included people living at home in the community, as well as people living in care homes. The initial recommendations covered the seven key topics of lighting, colour and contrast, gardens and outdoor areas, entrances and exits, kitchens and bathrooms, and fixtures and fittings. There was a balance to be struck between making sure the feedback was meaningful, and not overwhelming people with huge amounts of information.

These focus groups provided useful information about the seven topics covered in the initial recommendations. The more focused approach to these groups helped participants respond usefully to the questions. There were significant differences in the experiences and needs of those living in the care homes and those living at home. The care home residents had less independence and often relied on care staff to provide help. The design features that were evident in the care homes were of mixed help – the hand rails and garden designs promoted independence while the signs to assist people to navigate around the home were perceived by residents as less useful.

Those living at home used a number of aids and adaptations to help them specifically with sight loss rather than memory problems or dementia. Hand rails at entrances and exits, contrasting and plain colours in bedrooms and kitchens and appropriate lighting were all important.



In the final stage of consultation, some statements from the draft Guidelines were discussed with a focus group of day centre attendees, who commented on the validity of the statements and their usefulness and relevance for everyday life. This final focus group was helpful in confirming the broad recommendations within the guidelines for gardens and outdoor spaces and for colour and contrast. The same people were also asked what information they would most trust. Participants tended to rely on family, friends and support workers for information about their health condition and ideas relating to care and support.

## **Survey results**

Feedback on the draft Guidelines was obtained using an online survey, in which people with an interest in dementia and sight loss were asked to comment on each of the key areas addressed. Nearly all the respondents were working in the fields of dementia and sight loss, and 360 responses to the survey were received. There was a strong level of agreement with most of the elements in the Guidelines and this is reflected in their final format.

## **Conclusions**

The Guidelines are available at the following web address:  
[www.dementia.stir.ac.uk](http://www.dementia.stir.ac.uk)

They are also summarised in an easy-read booklet and in audio format, obtainable from the Stirling University and Thomas Pocklington Trust websites:

[www.pocklington-trust.org.uk](http://www.pocklington-trust.org.uk)  
[www.dementia.stir.ac.uk](http://www.dementia.stir.ac.uk)

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In this publication, the terms 'visually impaired people', 'blind and partially sighted people' and 'people with sight loss' are used interchangeably.



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