DCRC Dementia Collaborative Research Centres

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Dementia Collaborative Research Centre
Assessment and Better Care Outcomes

Summary

Project Title: **A review of the empirical literature on the design of physical environments for people with dementia.**

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In her influential statement on designing environments for people with dementia Professor Mary Marshall of the Dementia Services Development Centre in the University of Stirling, Scotland recommended that dementia specific residential facilities should :

- Be small in size and
- Domestic and home like;
- With scope for ordinary activities (unit kitchens, washing lines, garden sheds);
- Include unobtrusive safety features;
- Have rooms for different functions with furniture and fittings familiar to the age and generation of the residents;
- Provide a safe outside space;
- Have single rooms big enough for a reasonable amount of personal belongings;
- Provide good signage and multiple cues where possible; eg. sight, smell, sound;
- Use objects rather than colour for orientation;
- Enhance visual access, i.e. ensure that the resident can see what they need to see from wherever they spend most of their time; and
- Control stimuli, especially noise.

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This report reviews the findings of 57 methodologically sound papers relevant to these recommendations.

There is good evidence that unobtrusive safety features improve resident well being, especially by reducing depression. However an over emphasis on safety may have a detrimental effect on mood and agitation. There is also good evidence for the provision of a variety of spaces in environments for people with dementia as they assist in reducing anxiety and depression while improving social interaction and may assist the resident to find their way around. The availability of single rooms for people with dementia appears to be beneficial

The careful optimisation of levels of stimulation by reducing unhelpful noise and activity is well supported. Methods of dealing with specific elements of the environment that cause over-stimulation, e.g. hiding or disguising busy entry doors that provide a view to the outside, have been thoroughly investigated and found to be effective While it is necessary to reduce unhelpful stimulation care must be taken to optimise helpful stimuli. There is good evidence to show that increasing levels of illumination beyond that which is usually considered to be normal can improve sleep patterns and reduce behavioural disturbance.

The evidence for the incorporation of good visual access as a general design principle, i.e the opportunity for the resident to see all of those things and places that she wants to access, is not strong but the evidence is very supportive of making important amenities, like the toilet, easily seen.

While there is evidence supporting the proposition that small size is associated with a variety of positive outcomes for people with dementia it is impossible to quantify the contribution that the size of the unit makes in comparison with the other environmental factors that are commonly associated with a purposely designed, small unit e.g. homelikeness, safety and familiarity. The same problem of an intricate relationship between the social/professional environment and the physical environment make it difficult to conclude that a homelike physical environment has a broad impact, especially in the case of people with advanced dementia. However there is good evidence that it reduces aggression.

There is moderately strong evidence for the beneficial effects of providing people with dementia with an environment that gives them an opportunity to engage in ordinary activities of daily living. However it is very difficult to differentiate the contribution of the physical environment from that of staff encouragement and support. There is little evidence for the benefits of outside spaces by themselves but good evidence of benefit when combined with staff interaction. The evidence for the beneficial effects of signage is not strong and no empirical support was found for the use of the display of personal memorabilia as aids to orientation.

The fact that the evidence for a particular design principle is weak at the moment is not an argument for abandoning the design principle. Researchers are only just beginning to develop methodologies that can cope with the complexities of the inter-relationships between the physical environment and the care that takes place within it. At the moment we can say with a reasonable level of certainty that designers and architects may be confident about using unobtrusive safety measures; varying the ambience, size and shape of spaces; providing single rooms; maximizing visual access to important features and providing for stimulus control with the periodic availability of high levels of illumination. Indeed these features could be seen as essential attributes of all physical environments that have a claim on being designed specifically for people with dementia.

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