

Secure Dementia Care Home Design

Information Resource

A Summary



Acknowledgements

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Introduction

The environment in which a person with dementia lives can be a positive therapeutic intervention on its own, regardless of the type of health care that person receives (Day et al 2000; Zeisel et al 2003; Fleming and Purandare 2010; Marquardt et al 2014).

The aim of the *Secure Dementia Care Home Design: Information resource* is to support people involved with the development or major reconfiguration of secure dementia care homes, and to enhance the quality of life of people living in them. The information resource approaches these aims from a person-centred perspective. It is based on current research, consultation with key New Zealand stakeholders and international guidelines. This resource focuses on the experience of the person with dementia.

The full version of the resource provides in-depth information and research for aged care providers, DHBs and anyone else planning and designing new builds or reconfiguring secure dementia care homes. The design principles set out in the Resource are relevant to all people living with dementia in non-secure and secure care homes, in any setting. However, this Resource is specifically designed for secure dementia care homes, rather than other (non-secure) residential aged care built environments.

Structure

The complete research and consultation background data used to form the basis for each resource topic is presented in two documents.

The full information resource begins by presenting a background on dementia in general and the dementia care context in New Zealand. It provides design principles for secure dementia care homes, along with accompanying research rationales. It orders topics under three overarching headings:

- dignity, human rights and person-centred care
- cultural identity
- design principles.

This summary document presents the design principles concisely, for easy access.

It is recommended that designers of secure dementia care homes consider other documents that guide the provision of services in New Zealand, such as the Health and Disability Service Standards and DHBs' Aged Related Residential Care (ARRC) contract.

Dignity, human rights and person-centred care

Upholding of basic human rights forms the foundation of secure dementia care home design: preserving the dignity of people with dementia even though they require a secure care home, which by its very nature restricts personal freedom. There is an inherent tension between ensuring a person's safety and promoting their autonomy and quality of life. It is essential that personal dignity and person-centred care form the bases of care home design.

The Human Rights Commission has considered those cared for in secure dementia care homes to be subject to the human rights protections afforded to any detained persons. As such, their rights include the right to receive care that provides adequate staff training, as well as access to outdoor space and equipment suitable to promote health, exercise and recreation (Human Rights Commission 2014).

The 2015 New Zealand consultation workgroup participants provided the following considerations for a person-centred care approach.

- Providers facilitate person-centred care by offering personal space, a variety of flexible spaces, and the ability to choose how to occupy space and how and when to socialise.
- Person-centred care is delivered through models of care, philosophies of care and staff training – it is much more than just the environment.
- Collaboration between families and care staff is critical to person-centred care.
- Care home size determines staff's ability to really know the people they care for and to respond differentially to their needs, thereby providing person-centred care.

The New Zealand Code of Health and Disability Services Consumers' Rights sees patients'/consumers' dignity as an essential aspect of their interactions with health services; it states as follows.

Right 1: Right to be treated with respect

- (1) Every consumer has the right to be treated with respect.
- (2) Every consumer has the right to have his or her privacy respected.
- (3) Every consumer has the right to be provided with services that take into account the needs, values, and beliefs of different cultural, religious, social, and ethnic groups, including the needs, values, and beliefs of Māori.

Right 3: Right to dignity and independence

Every consumer has the right to have services provided in a manner that respects the dignity and independence of the individual.

Right 4: Right to services of an appropriate standard

- (4) Every consumer has the right to have services provided in a manner that minimises the potential harm to, and optimises the quality of life of, that consumer.

Right 8: Right to support

Every consumer has the right to have one or more support persons of his or her choice present, except where safety may be compromised or another consumer's rights may be unreasonably infringed.

Cultural identity

Research about cultural aspects of design for secure dementia care homes is very limited.

Participants in the workgroups noted the following requirements in regard to cultural considerations.

- Spaces must be varied and flexible enough to accommodate different kinds of families and different family, cultural and religious rituals, including visits by extended family.
- There is significant need for family space that is not the person's bedroom.
- Staff need to understand cultural issues.

Different cultures perceive dementia differently. Townsend and New (2011) investigated contemporary Māori views of dementia resulting from both spiritual and traditional beliefs. They noted that approaches to dementia care for Māori needed to be more holistic; the exclusion of Māori cultural values and understandings from service provision was detrimental to the wellbeing of older Māori.

Designing care homes with consideration of a particular cultural group requires attending to that group's:

- history and life experiences
- characteristics
- beliefs and values
- caregiving practices
- activities and behaviours (Day and Cohen 2000).

Design principles

Marshall's key design principles for secure dementia care homes (Marshall 1998b) arguably provide the definitive quality standard. Fleming et al 2015 and Fleming and Bennett 2015 cite significant empirical support for these principles, which include:

- compensation for disability
- maximising independence
- enhancement of self-esteem and confidence
- demonstration of care for staff
- ability to be orientating and understandable
- reinforcement of personal identity
- welcoming of relatives and the local community
- allowance for the control of stimuli.

Based on research evidence, Fleming and Bennett (2015) incorporated eight design principles into their development of the *Environmental Assessment Tool* (Fleming et al 2012; Fleming and Bennett 2015):

1. unobtrusively reduce risks (be safe and secure)
2. provide a human scale (eg, 'family-sized' clusters and a low number of people per care home)
3. allow people to see and be seen (be simple and provide good 'visual access')
4. manage levels of stimulation:
 - reduce unhelpful stimulation
 - optimise/highlight helpful stimulation
5. support movement and engagement (provide for planned wandering)
6. create a familiar place
7. provide a variety of spaces, that provide opportunities to be alone, with others, or with others from the community
8. respond to a vision for the values and goals of care (eg, domestic and homelike).

The consultation process for this resource found general agreement with these principles. However, some respondents noted that connection to the wider community was missing as a basic principle. Respondents also noted that the size of a care home should be a core principle, and that design of physical space could not be separated from models of care. Workgroup participants noted the inherent tension between security and safety and quality of life, and said that too much emphasis on risk reduction can impoverish a person's quality of life.

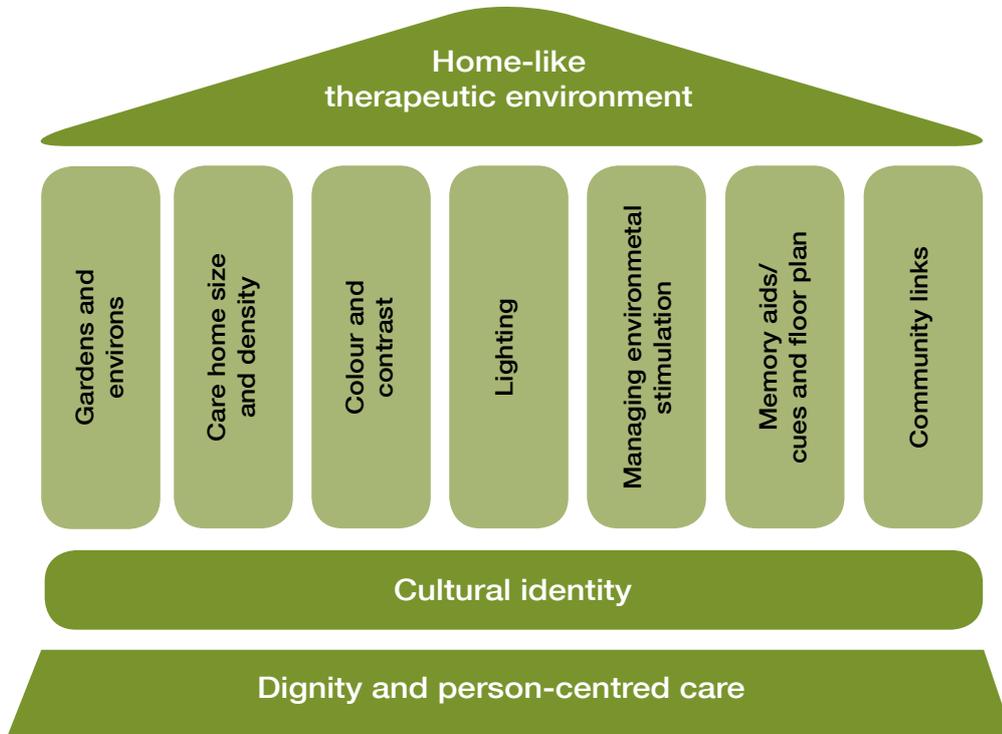
The resource explores design principles in more detail under the following headings.

- home-like therapeutic environment
- gardens and environs
- care home size and density
- colour and contrast

- lighting
- managing environmental stimulation
- memory aides/cues and floor plans
- community links.

The following figure provides a schematic overview of the philosophical basis and the key features of well-designed secure dementia care homes.

Figure 1: Schematic overview of design principles



Home-like therapeutic environment

In terms of the design of secure dementia care home, ‘homeliness’, ‘home-likeness’ and similar words attempt to describe a non-institutional living environment. A homelike environment includes a living room, dining room, kitchen, homelike furnishings, and objects and artefacts that carry personal meaning.

The following components are important determinants of a ‘home-like’ environment.

Components	Detail
Design is to a human, domestic scale	<ul style="list-style-type: none"> • No long corridors • ‘Clustered care’ – a family-like setting (Some participants thought that the ideal number of people living together was between five and twelve as commonly found in the disability sector, but others noted that this was not economically feasible. There was a general consensus that there should be no more than 20 people in one care home, as specified in the current Age Related Residential Care (ARRC) contract.) • Common spaces, kitchen, sitting area and dining area of a domestic size • Domestic furniture • Domestic focus points (eg, kitchen table, fireplace) • Domestic scale and domestic appearance – familiar • Domestic dining experience • No internal rooms – each room should have windows • Lack of clutter (eg, no equipment stored in corridors) • Heating systems to accommodate the needs of frail older people • Incontinence management considerations (everything easily cleaned)
A variety of communal spaces that facilitate family and community engagement, and personal choice	<ul style="list-style-type: none"> • ‘Hosting space’ where friends and family can go that is not the bedroom • Spaces such as sunrooms, decks and libraries • Gardens • Quiet places • Space to accommodate extended family for family events (eg, celebrating birthdays or other ceremonies) appropriate for a variety of cultures • Cues to welcome different cultures • A pet-friendly environment • A child-friendly environment (eg, children’s play areas) • Spaces to show or create art
People can easily personalise their individual space	<ul style="list-style-type: none"> • Opportunity for people to have their own furniture and curtains • Allowance for pictures and familiar things in people’s own rooms • Comfortably sized rooms, with space for furniture as well as equipment needed to provide care
Design facilitates people’s independent domestic activity	<ul style="list-style-type: none"> • Easy access to a communal kitchen • Opportunity for people to access domestic spaces and undertake a variety of household tasks • Potentially raised garden beds, a working shed, a clothes line
Design facilitates visual and physical flow between indoors and outdoors	<ul style="list-style-type: none"> • Opportunity for people to engage with the outdoor environment • Freedom to walk around – places to go • Cues for meaningful activity – clothes line, working shed, mailbox • Decreased obviousness of entries and exits • Designs that allow easy access to cars so staff or family can easily help people into a vehicle

Security is unobtrusive	<ul style="list-style-type: none"> • Unobtrusive boundary security – no obviously high gates or fences • Perimeter fencing that provides both privacy and a view to the outside community • Philosophy of care that allows for reasonable, supported risk-taking, on the understanding that an overly restrictive approach to risk can impoverish the environment and people’s lives • Systems that allow family and friends to enter easily
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Gardens and environs

The successful design of gardens for people with dementia is complex but important for many reasons, the greatest of which is the conservation of dignity. Access to the outdoors bestows a certain level of potential autonomy on people with dementia (Schwarz and Rodiek 2007), as well as affording them the opportunity to experience and enjoy nature. Participants in the workgroups noted that gardens and outdoor environments in dementia care homes do two things – they provide access and exposure to nature, known to be health-giving, and they provide the space for exercise and recreation (a basic human right). They are therefore essential, rather than optional.

Workshop participants clearly stated that secure dementia care should be provided on the ground floor in order to offer independent access to safe outdoor space that provides an experience of nature and the space for exercise. This outdoor space needs to be sized appropriately for the number of people who will use it. Dementia care providers who build units on upper levels in New Zealand should take steps to ensure they meet the principles set out in this Resource, including independent access to an outdoor area.

The following components are important in terms of secure dementia care homes’ gardens and environs.

Components	Detail
Outdoor space is designed as an extension of indoor space	<ul style="list-style-type: none"> • Visual and physical access between inside and outside • Opportunity for independent physical access from inside to outside • A transition between indoors and outdoors that is even underfoot • Appropriately surfaced and consistently coloured pathways • An entrance to the home itself that is home-like: no confronting signage, and some garden elements at the entrance
Outdoor space provides opportunity for walking	<ul style="list-style-type: none"> • A continuous looped path with destination points but no dead ends (with well-placed benches and sheltered rest areas) • A space large enough for meaningful exercise and therapeutic benefit • Motion sensor lighting for night use
Outdoor space and garden is designed to provide opportunities for social interaction and engagement with the environment	<ul style="list-style-type: none"> • Raised garden beds, shed, clothes line • Mixed spaces – large and small • Seating and tables • Sunny places and shady places • Space for animals • Space for children • Allowance for privacy but also for engagement with the surrounding community
Outdoor space and garden is designed to provide sensory stimulation	<ul style="list-style-type: none"> • Flowers, colour, water, textures • Seasonal variation • Vegetable gardens • Scented plants (to stimulate memory)

Secure dementia care home size and density

There was general consensus among workgroup participants that, in terms of dementia care home size and design, small clusters of people were desirable, as the research suggests that people with dementia experience less agitation and distress in ‘family-sized’ care homes. However, there was no consensus on the ideal number of people per cluster or care home. Participants commented further that a variety of care home sizes and styles was appropriate, to give people a choice. Workgroup participants compared the institutionalisation and stigmatisation of dementia care to arising in the context of treatment of people with mental health issues. The move towards small care homes in mental health was suggested as a model for dementia care (Peace et al 2002).

Marquardt et al (2014) defined small-scale environments as catering for between 5 and 15 people and having home-like features. They reviewed 30 studies investigating this feature, and cited sufficient empirical evidence to support lower people density in secure dementia care homes.

Fleming and Bennett (2015) determine that the scale of a dementia care home should be human, and be governed by three factors:

- the number of people that the person encounters on a daily basis
- the overall size of the building
- the size of the individual components, such as doors, rooms and corridors.

The following component is important in terms of dementia care home size and density.

Components	Detail
Secure dementia care homes are designed so that people live in small, independently secure clusters approximating a household	<ul style="list-style-type: none">• A number of clusters within one care home (independently physically constrained environment) as the best or most viable strategy• Acknowledgement of the critical interaction between the number of people and design of the space: larger clusters may be acceptable if there are multiple breakout spaces and the domestic dining experience is not compromised• Scale that helps people feel in control• Multiple clusters within a large care home to allow for the clustering of people with similar needs – people with dementia are not a homogeneous group

Colour and contrast

People with dementia have difficulty seeing differences in shades or tones of colour (Brawley 2009; van Hoof et al 2010). Colour contrasts allow people with visual impairment to distinguish edges. Conversely, designers can hide doors or exit ways by eliminating colour contrasts. Colour use is also important for personalisation and for way-finding: for example, colours can be used for labelling spaces and rooms (Kelly et al 2011).

The following component is important in terms of colour and contrast that adheres to recognised design principles.

Component	Detail
Secure dementia care homes use colour and contrast effectively	<ul style="list-style-type: none">• Contrasting colour on toilet seats• Contrasting colour on doors that people should engage with• Low contrast on spaces people should not engage with• Surfaces of different textures• Low contrast in transition from one surface to another• Contrast between plates and table cloths• Colour contrast to demarcate walls and floor• Even colours on floors – no patterns• Colour to assist with seating• Matt surfaces rather than shiny ones• Application of the psychology of colour – the way different colours evoke different feelings• Purposeful, age-appropriate colour schemes, rather than hotel-like, neutral schemes

Lighting

Older adults need exposure to natural sunlight to maintain circadian rhythms, vitamin D synthesis and stimulation of serotonin (Brawley 2009). Internal lighting in dementia care homes needs to be a mix of direct and accessible sunlight and adjustable artificial lighting to control glare and shadows and help regulate circadian rhythms (Torrington and Tregenza 2007).

The following component is important in terms of lighting design.

Component	Detail
Secure dementia care homes are designed to maximise natural light and lighting that assists orientation	<ul style="list-style-type: none">• Natural light maximised• Shadowing minimised• Very high lux levels• Standards for lighting• Sensors to provide lighting at night

Managing environmental stimulation

Fleming investigated two aspects of stimulus control: decrease of distressing stimulation and augmentation of useful stimulation (Fleming et al 2008). Benbow (2014) recommended a layout that separates noisy areas from quiet areas and includes: acoustic ceiling and wall products, double glazing, partitioning, sound reduction in bedrooms, noise reduction adaptations, alarms/paging systems, places for quiet only and soundproofing in bathrooms.

The following component is important in terms of managing environmental stimulation.

Component	Detail
<p>Secure dementia care homes are designed to decrease harmful stimuli and increase helpful stimuli</p>	<ul style="list-style-type: none"> • Noise control: <ul style="list-style-type: none"> – Overall noise control – curtaining, flooring choice, baffles – Noisy machinery located an appropriate distance from bedrooms – Exploration of alternatives to auditory call bell alert systems – Soundproofing in bedrooms as needed, with moderation for those who need extra monitoring • Design of space: <ul style="list-style-type: none"> – Ability to close off areas and separate small groups from large groups – Multi-purpose rooms – Protection of people’s privacy – Design that allows for staff and visitor movement – Space for hosting people’s friends and family – No storage along corridors – Staff utility rooms kept out of the way – Different furniture/décor, and the ability to easily change decor – Cultural displays • Good stimulation: <ul style="list-style-type: none"> – Reminiscence boards on walls and common spaces – Use of pictures, objects and books that are familiar to the cohort – Technology (eg, Skype) – Pleasant odours (eg, baking) – Music, especially if it can be controlled by people living in the care home (including through headphones)

Memory aides/cues and floor plans

People with dementia have reduced capabilities to adjust or modify their physical environment; therefore, the environment needs to compensate accordingly through therapeutic design. Therapeutic design to assist memory and way-finding impacts on floor plans and interior finishing such as lighting and colour.

The following component is important in terms of memory aides/cues and floor plans.

Component	Detail
Secure dementia care homes are designed to incorporate components to provide memory aides and cues	<ul style="list-style-type: none">• Personalised doors to people's rooms• A mix of types of cues, including colours and symbols• Cues for activities• Cues positioned lower than might seem natural• Standardised colours for different sorts of rooms

Community links

Strong community and family links are an essential element that supports the creation of dementia-friendly environments, and a major factor in de-institutionalisation within care homes and de-stigmatisation of dementia within the wider community. A dementia-friendly environment 'can be defined as a cohesive system of support that recognises the experiences of the person with dementia and best provides assistance for the person to remain engaged in everyday life in a meaningful way' (Davis et al 2009, p. 187).

Care homes can give people with dementia the opportunity to remain part of organisations or groups, by offering spaces for meetings (Davis et al 2009).

Through building location and affordances (Topo et al 2012), care homes can assist people to participate in the community. Such participation might involve outings, or invitations for community groups to visit. Also, the orientation and location of care homes can consciously offer people the chance to watch the world go by outside (Utton 2007).

The following component is important in terms links with the community.

Component	Detail
Secure dementia care homes are designed to incorporate links with the community	<ul style="list-style-type: none">• Design of buildings and gardens that welcomes the community in to the space• Design that reflects the community of location, to provide a sense of familiarity

Recommended design audit tool

There are various audit tools for the design of secure dementia care homes internationally. The validated Australian *Environmental Audit Tool: High Care* (Fleming and Bennett 2015) is the most appropriate for the New Zealand context. This tool includes an accompanying Excel spreadsheet to assist with scoring. There is also an app version called BEAT-D, which is available on iTunes (Fleming 2011; Fleming et al 2012; Smith et al 2012; University of Wollongong 2012; Fleming et al 2015). Several other audit tools are listed in the complete Resource.

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