ACI NSW Agency for Clinical Innovation

Aged Health Network

Key Principles for Improving Healthcare Environments for People with Dementia

ACKNOWLEDGEMENTS

The Agency for Clinical Innovation (ACI) Aged Health Network commissioned Professor Richard Fleming, Director, and Kirsty Bennett, Environmental Design Education Service Manager, of the NSW/ACT Dementia Training Study Centre, University of Wollongong to prepare the key Principles for improving Healthcare Environments for People with Dementia.

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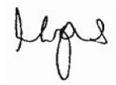
FOREWORD

In 2014, the ACI Aged Health Network commissioned Richard Fleming, Professor and Director of the NSW/ACT Dementia Training Study Centre (DTSC), and Kirsty Bennett, the Manager of the DTSCs Environmental Design Education Service, to update the Adapting the Ward for People with Dementia booklet first published by NSW Health in 2003. This publication aims to:

establish overarching principles to guide the design of new and refurbished inpatient units that will accommodate people with dementia

provide a systematic approach to the assessment of existing inpatient units and the planning of refurbishments.

On behalf of the ACI, I thank Richard Fleming and Kirsty Bennett, and the members of the steering committee for their dedication and expertise in revising and updating these design guidelines.



Dr Nigel Lyons

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ABOUT THE ACI

The Agency for Clinical Innovation (ACI) works with clinicians, consumers and managers to design and promote better healthcare for NSW. It does this by:

- *Service redesign and evaluation* – applying redesign methodology to assist healthcare providers and consumers to review and improve the quality, effectiveness and efficiency of services.
- *Specialist advice on healthcare innovation* – advising on the development, evaluation and adoption of healthcare innovations from optimal use through to disinvestment.
- *Initiatives including Guidelines and Models of Care* – developing a range of evidence-based healthcare improvement initiatives to benefit the NSW health system.
- *Implementation support* – working with ACI Networks, consumers and healthcare providers to assist delivery of healthcare innovations into practice across metropolitan and rural NSW.
- *Knowledge sharing* – partnering with healthcare providers to support collaboration, learning capability and knowledge sharing on healthcare innovation and improvement.
- *Continuous capability building* – working with healthcare providers to build capability in redesign, project management and change management through the Centre for Healthcare Redesign

ACI Clinical Networks, Taskforces and Institutes provide a unique forum for people to collaborate across clinical specialties and regional and service boundaries to develop successful healthcare innovations.

A priority for the ACI is identifying unwarranted variation in clinical practice and working in partnership with healthcare providers to develop mechanisms to improve clinical practice and patient care.

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EXECUTIVE SUMMARY

The ageing of the population is resulting in hospitals providing care for an increasing number of people with dementia. Their symptoms include cognitive impairment (problems with memory, speech, understanding language, orientation, carrying out tasks and recognising people or objects), behavioural and psychological symptoms (depression, delusions, hallucinations, agitation and aggression), and/or dysfunction in activities of daily living (problems with dressing, eating and bathing). These symptoms can make the delivery of care extremely difficult. Sometimes the person with dementia will refuse care, attempt to leave and be disruptive or aggressive.

A poorly designed or inappropriately set-up physical environment increases confusion and problem behaviours, slows or negates rehabilitation and contributes to the stress experienced by staff and families involved in providing care to these patients with complex needs. On the other hand, a well-designed environment can reduce confusion and agitation, improve orientation, encourage social interaction, reduce depression and speed healing.

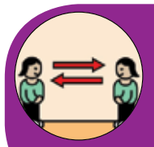
This document describes the ten key principles that define an appropriate physical environment for the care of people with dementia in hospital and describes the use of audit tools to assist with identifying areas for improvement. It has been developed by ACI in collaboration with the CHOPs steering committee, utilising evidence based practice and expert opinion.

PRINCIPLE 1: Unobtrusively reduce risks - safety

People with dementia require an internal and external environment that is safe, secure and easy to move around if they are to make the best of their remaining abilities. However, obvious safety features and barriers will lead to frustration, agitation and anger and so potential risks need to be reduced unobtrusively.

PRINCIPLE 2: Provide a human scale - size

The scale of a building will have an effect on the behaviour and feelings of a person with dementia. The experience of scale is determined by three factors; the number of people that the person encounters, the overall size of the building and the size of the individual components, such as doors, rooms and corridors. A person should not be intimidated by the size of the surroundings or confronted with a multitude of interactions and choices. Rather the scale should help the person feel in control.



PRINCIPLE 3: Allow people to see and be seen – visual access

An environment that allows people to see their destination will help to minimise confusion. It should also enable staff to see the patient from where they spend most of their time. This assists with the monitoring of the patient and reassures the patient of their safety.

PRINCIPLE 4: Reduce unhelpful stimulation - stimulus reduction

Because dementia reduces the ability to focus on only those things that are important, a person with dementia can become stressed by prolonged exposure to large amounts of stimulation. The environment should be designed to minimise exposure to stimuli that are not helpful. The full range of senses must be considered. Too much visual stimulation, for example, is as stressful as too much auditory stimulation.

PRINCIPLE 5: Optimise helpful stimulation - highlighting useful stimuli

Ensuring that those things that patient needs to be aware of are strongly highlighted will increase the chance of them being noticed and used. Providing multiple cues using vision, hearing, smell and touch will help to compensate for sensory losses.

PRINCIPLE 6: Support movement and engagement - provision for wandering, circulation and access to outside area

Aimless wandering can be minimised by providing a well-defined pathway, free of obstacles and complex decision points, that guides people past points of interest and gives them opportunities to engage in activities or social interaction. The pathway should be both internal and external, providing an opportunity and reason to go outside when the weather permits.

PRINCIPLE 7: Create a familiar space - familiarity

The person with dementia is more able to use and enjoy spaces and objects that were familiar to them in their early life. The environment should afford them the opportunity to maintain their competence through the use of familiar furniture, fittings and colours. The involvement of the person with dementia in personalising the environment with their own familiar objects should be encouraged.

PRINCIPLE 8: Provide a variety of spaces to be alone or with others

People with dementia need to be able to choose to be on their own or spend time with others. This requires the provision of a variety of spaces that prompt a range of activities, e.g. reading alone, conversing with one or two others or engaging in larger group activities.

PRINCIPLE 9: Provide links to the community - community links

Without constant reminders of who they were and are, a person with dementia will lose their sense of identity. The best people to remind them are their family and friends. The environment should therefore provide comfortable opportunities for visitors to spend time interacting with the patient.

PRINCIPLE 10: Support the values and goals of care

An environment that embodies the values and goals of care, e.g. provides opportunities for engagement with the ordinary activities of daily living to support rehabilitation goals, will assist the person with dementia to respond appropriately and the staff to deliver the desired care.

INTRODUCTION

Dementia is an umbrella term for a large number of disorders that affect thinking and memory. Alzheimer's Disease is the most common form and accounts for between 50 and 70% of dementias. The second most common form of dementia, resulting from small strokes, is Vascular Dementia. Symptoms of dementia have been broadly classified[1] as:

1. **Cognitive impairment:** indicated by problems with memory (amnesia), speech or understanding of language (aphasia), a failure to carry out physical tasks despite having intact motor function (apraxia), and failure to recognise objects or people despite having knowledge of their characteristics (agnosia).
2. **Behavioural and Psychological Symptoms (BPSD):** the cognitive impairment may be accompanied by symptoms such as depression, delusions, hallucinations (visual and auditory) – and abnormal behaviours such as wandering, incessant walking or agitation.
3. **Dysfunction in activities of daily living (ADL):** In the early stages of dementia these can include more complex difficulties with shopping, driving or handling money. In the later stages more basic tasks are affected such as dressing, eating and bathing.

While the levels of cognitive impairment and the problems with activities of daily living increase as the dementia progresses, the prevalence of behavioural and psychological symptoms (with the exception of passivity) tends to peak in the middle stages[2]. The median survival from initial diagnosis has been estimated as 4.2 years for men and 5.7 years for women[3].

It is important to understand that many of these symptoms may be due to the circumstances of the person with dementia rather than the dementing process itself.

People with dementia are major users of hospital services, largely due to the fact that dementia commonly occurs in older people and older people are likely to have health conditions that require medical attention. Common reasons for hospitalisation of people with dementia include hip fractures and other injuries, lower respiratory tract infections, urinary tract infections and delirium[4].

The design of hospitals and the focus on the treatment of physical conditions can pose risks to the person with dementia. People with dementia can find it hard to understand what they are required to do to cooperate with treatment or to communicate their needs. The often noisy and unfamiliar hospital environment can exacerbate these problems by causing confusion and distress, leading to disruptive behaviours that are difficult for staff to manage. As a result, providing treatment to people with dementia in a busy hospital inpatient unit can be challenging and sometimes leads to unintended consequence such as physical and cognitive functional decline, under-nutrition, skin tears and fall-related injuries [4-7]

The complex needs of people with dementia and the difficulties with communication and cooperation with treatment can lead to a delay in their recovery and longer lengths of stay, increasing the risk of complications and impairing the patient's physical and mental state [4]. In New South Wales people with dementia stay in hospital almost twice as long as those without dementia, averaging 16.4 days of care compared with 8.9 days for other patients[4, 8]. Looking at Australia as a whole, the average length of stay of people with a principle diagnosis of dementia who are admitted overnight is 22 days against the average for all hospitalisations involving an overnight stay of six days[9].

The average costs of hospital care for people with dementia are higher than for people without dementia. In 2006/7 the average cost per admission of people with a principal diagnosis of dementia was $13,434 per episode compared with $5,010 for people without dementia, a difference of $8,424. In other words, the average cost of hospitalisation for a person with a principal diagnosis of dementia is almost 2.7 times more than for a person without dementia. The total cost of care for people with dementia in New South Wales public hospitals was estimated to be $462.9 million, of which 35% ($162.5 million) is estimated to be additional costs that might be associated with a patient's dementia status[8].

While the causes of the complications and increased length of stay are multifactorial and benefit from multifactorial responses[10-12], it is becoming increasingly accepted that the modification of the built environment (or, preferably, the original design of the built environment) has an important role to play in responding to this unsatisfactory situation.

PURPOSE

The overall aim of CHOPs is to improve the experiences and outcomes of people with dementia in hospital. With regard to the impact of the physical environment, this will be achieved by understanding and implementing ten key principles of design.

PRINCIPLE 1: Unobtrusively reduce risks

PRINCIPLE 2: Provide a human scale

PRINCIPLE 3: Allow people to see and be seen

PRINCIPLE 4: Reduce unhelpful stimulation

PRINCIPLE 5: Optimise helpful stimulation

PRINCIPLE 6: Support movement and engagement

PRINCIPLE 7: Create a familiar space

PRINCIPLE 8: Provide a variety of spaces to be alone or with others

PRINCIPLE 9: Provide links to the community

PRINCIPLE 10: Support the values and goals of care

The specific objectives of CHOPs are to:

- design and prioritise principles for best practice care for people with dementia in hospital
- tailor implementation to the needs of the older person, carers and families and the hospital teams
- share achievements, innovation and knowledge and embed systems into practice to sustain and spread improvements in the care of people with dementia in hospital.

HOW TO USE THIS DOCUMENT

The implementation of the ten key principles will considerably improve the care and management of people with dementia in hospitals.

Each principle describes:

- an overview of the principle
- how to apply the principle in practice
- the evidence behind the principle
- expected outcomes
- quality measures.

Copies of the recommended audit tools are provided in Appendices A and B.

Health care facilities wishing to implement the CHOPs Program can utilise all principles within this document or initiate only the principles where gaps have been identified.

Local Health Districts (LHDs) and healthcare facilities should consider how best to:

1. incorporate the principles in local policies and procedures
2. incorporate the principles in local initiatives to improve the care of people with dementia in hospital
3. utilise their health professionals, capital works staff and external consultants such as architects and interior designers to support these initiatives.

i Where this symbol appears, there is access to further information. It will be hyperlinked on electronic versions and the reference will appear at the end of the document for paper based copies.

PRINCIPLE 1: UNOBTRUSIVELY REDUCE RISKS

Reduce potential risks and where safety features are provided, e.g. fences, security features on doors or windows, ensure that they are not obvious.

People with dementia require an internal and external environment that is safe, secure and easy to move around if they are to make the best of their remaining abilities. However, obvious safety features and barriers will lead to frustration, agitation and anger and so features introduced to reduce potential risks should not be obvious.

1.1 Applying the principle in practice

Creating a secure, safe and healthy environment will require a focus on managing people entering and leaving the inpatient unit and minimising potential hazards within the inpatient unit.

Ensure:

- a fence around a secure area is continuous and well maintained, designed to blend into the landscape, does not allow for climbing (in or out), and gates are secured (but allow for controlled coming and going)
- entry and exit to the inpatient unit can be controlled unobtrusively
- window design prevents exit (or entry) and the extent of window opening is controlled
- access to patient kitchen, and appliances within it, can be controlled
- all floor finishes are slip resistant, changes in floor surface are clearly marked with colour or texture, floors are graded to prevent ponding, and an appropriate cleaning regime is in place to maintain surface integrity
- staff are able to see patients easily

Avoid:

- fences and gates with openings or horizontal members which can be used as foot holds and planting near the fence which can be used for climbing
- windows that can be opened and allow for climbing in or out
- an open plan kitchen with unrestricted access to appliances which could be dangerous
- unnecessary changes in floor finishes, run off from air conditioners or rain water which wet outside floors, steps, hobs and set downs
- glare from light fittings and floor surfaces

Consider:

- using vegetation to hide a fence so it is not foreboding or institutional and the placement of latches to avoid their use from within the secure area
- designing the fence so that it is integrated with the topography of the landscape or is hidden by vegetation so that the height is not visually imposing
- screening the entry from inside the inpatient unit and providing other points of interest nearby to prevent patients being continually confronted by a locked door
- using decorative screens and louvres to control people leaving by a window
- using a half height door with key pad or a bench with an up-stand (a short wall, usually with a continuation of the bench on top) to limit access to a patient kitchen, including a cupboard that contains appliances, a lockable knife drawer or isolating the power as an alternative method of protecting patients from injury from appliances
- using concrete rather than pavers which can become uneven and cause tripping
- selecting fittings that provide support to patients but do not emphasise their need for assistance

1.2 Evidence base

The confusion which accompanies dementia determines the need for a variety of safety features to be built into the environment. Among other things, they often include the provision of a secure perimeter [13]. There is some evidence of an overemphasis on safety in British [14] and Australian healthcare facilities providing care to people with dementia [(15)] and it is important to note that patients may respond negatively to a safety or security measure if it obviously impedes their freedom [16, 17]. This can be mitigated by providing these unobtrusively [18, 19]. In the case of a perimeter fence, for example, shrubbery can be used to hide a fence that prevents someone wandering off.

Sometimes the safety of other patients has to be given priority. If an inpatient unit is likely to be used by people with dementia who may harm themselves or others, then access to a segregated area may be required [20]. These areas may include more space (at least 30 square meters per patient) [21], a garden, a quiet area, a seclusion suite, activity and games room as well as a specific model of care [20, 22, 23].

The benefits of locking these facilities is under debate[24]. The prevalence of locked psychiatric units in the U.K. and Sweden ranges from 25–73%[25, 26]. Gudeman[27] stated that acute psychiatric units in general hospitals are locked because of community perception that the patients are dangerous, for the convenience of staff, and because of stigma and hospital-wide resistance. His opinion is that when units are unlocked few disasters occur and patients are less stigmatised and better able to integrate into the community. Haglund et al. (2005) found that the staff mentioned more disadvantages than advantages to having locked doors. A study carried out in 100 UK psychiatric acute admission inpatient unit showed that while a significant proportion were locked at all times there was an extremely large variation in the approach to safety due, it was argued, to the tension between the nurses' desire to foster dignity and freedom and the need to provide security[25]. There is little, if any, literature on the effect of locked doors on outcomes, such as prevention of harm, use of psychopharmacology or staffing levels.

The prevention of falls is another key safety concern[28-30]. People with dementia are eight times more likely to experience a fall than those without[31]. The provision of care in a specialised behavioural management area has been shown to reduce falls[32]. A significant reduction in injuries associated with falls has been achieved by providing furniture that puts the person with dementia closer to the ground through the use of bean bag chairs, futons and mattresses placed on the floor[30]. This approach is in direct contrast to the practice of putting up bed rails, which simply ensure that if a fall does take place, it occurs from a greater height than normal. Evidence from a study involving 2000 patients suggests that the physical restraint of cognitively impaired patients does not reduce the risk of falls [33]. A recent review of the literature on people with dementia falling in hospitals concluded that multi-faceted approaches are required to reduce falls and that there is insufficient evidence to support dependence on any single approach such as the use of restraints or modifications to the environment[34]. This view is supported in a thorough review of the use of restrictive devices to minimise the risk of falling in people with dementia[35].

1.3 Expected Outcomes

1) Existing inpatient units will be audited to identify the absence of safety features required by people with dementia.
2) Existing inpatient units will be audited to identify obtrusive safety features.
3) The results of 1 and 2 will be addressed by the development of an approach to optimise the provision of unobtrusive safety features.
4) Plans for new inpatient units will take into consideration the provision of unobtrusive safety features

1.4 Quality measures

System measures	Agreed environmental audit tool is available for staff and external consultants.
Patient measures	Number of inpatient units used by people with dementia audited for the provision of unobtrusive safety (total and percentage of such units in the facility)
Staff measures	Staff identified by hospital as responsible for environmental auditing are trained in administering and interpreting the environmental audit tool.

PRINCIPLE 2: PROVIDE A HUMAN SCALE

The buildings and spaces encountered by the person with dementia shall not intimidate or confuse them by their size or the numbers of people in them

The scale of a building will have an effect on the behaviour and feelings of a person with dementia. The scale should help the person feel in control rather than feeling lost or uneasy. The experience of scale is determined by three factors; the number of people that the person encounters, the overall size of the building and the size of the individual components, such as doors, rooms and corridors. A person should not be intimidated by the scale of the surroundings.

2.1 Applying the principle in practice

Ensure:

- the facility can be broken up into discreet smaller clusters of inpatient unit (rather than remaining one large floor plate). Each cluster should accommodate no more than 16 patients.
- key patient functions are located so they are within easy reach of a patient (rather than requiring them to walk the length of a corridor to find the sitting room)
- finishes and furnishings help reduce the scale of the environment

Avoid:

- how flexibility can be created to allow larger inpatient units to be broken up into smaller units when required to meet patient needs
- how the number of patients in a shared room can be minimised
- creating small scale sitting and dining areas in more than one location (rather than providing one large space)
- selecting a variety of furniture so that not all furniture looks the same
- small scale decoration (pictures, etc)

2.2 Evidence base

TThe development of special care units for people with dementia has been influenced by the view that larger facilities increase agitation and are confusing for residents[36, 37] and high quality care is easier to provide in small groups[38, 39]. However, small size is almost always accompanied by particular approaches to the delivery of care, such as providing a homelike environment[40]. The variation in models of care may explain the variation in the findings on this topic. Zeisel, for example, found less social withdrawal in larger units[18] while a large study found no link between small size and low levels of neuropsychiatric symptoms[41]. The relative importance of the model of care as a modifier of behavior rather than size of the unit has also been noted in long term hospital care settings[42]. The evidence tends to suggest that the best outcomes occur when the resident lives in a small unit but has access to a larger social network.

The theme of access to other areas for social interaction to reduce patient density has been picked up in the acute care literature with suggestions for providing direct access to usable outdoor space as well as providing access to open communal areas[43].

A domestic scale and feel have been recommended in the acute care setting in order to make the inpatient experience more familiar and less confusing[43-45]. Compact units have been found to provide greater comfort, a more homelike atmosphere and better opportunities for monitoring patients[46].

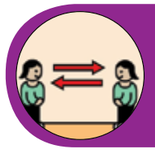
2.3 Expected Outcomes

1) Existing inpatient units will be audited to identify issues with the scale of the environment that people with dementia need to interact with.
2) If the results of the audit suggest that the person with dementia is likely to be negatively affected by the number of people they are interacting with or the size of the physical environment an approach will be developed and implemented to reduce these.
3) Plans for new inpatient units will take into consideration the need for people with dementia to be cared for in an environment with an appropriate scale.

2.4 Quality measures

System measures	Agreed environmental audit tool is available for staff and external consultants.
Patient measures	Number of inpatient units used by people with dementia audited for the provision of an appropriate scale (total and percentage of such units in the facility).
Staff measures	Staff identified by hospital as responsible for environmental auditing are trained in administering and interpreting the environmental audit tool.

PRINCIPLE 3: ALLOW PEOPLE TO SEE AND BE SEEN



The built environment shall enable the patient with dementia to see their destinations and be seen by staff.

An environment that allows people to see their destination will help to minimise confusion. It should also enable staff to see the patient from where they spend most of their time. This assists with the monitoring of the patient and reassures the patient.

3.1 Applying the principle in practice

Ensure:

- all key locations (eg sitting room, patient's rooms, patient kitchen, toilets, showers, outside) can be easily seen by patients and staff
- a staff base can be seen from corridors and wards used by confused people.
- a clear route exists between toilet,patient's rooms and sitting room
- the sitting room is located in a prominent position in the unit and is identifiable when leaving a room (eg by its scale, form, colour), any entry doors to the room are glazed to allow people to look inside, windows have low sill height to encourage view in and out of the room
- good visual access to outdoors from rooms and sitting room
- the toilet pan is visible when the door to the toilet is open

Avoid:

- repetition of building form, scale and colour which doesn't distinguish between sitting rooms, wet areas and patient's room
- obstructing the view in or out of the sitting room (eg by closing curtains or using solid doors)
- glare from windows

Consider:

- views when leaving inpatient unit and entering corridors to ensure it is easy for a patient or visitor to see where they can go and what they may find if they head in a particular direction.
- introducing sidelights to sitting room doors to allow patients to see inside the room and identify its purpose before entering
- placement of windows, window sill height, the use of glazed doors
- designing doors and windows so their function is clear (ie windows don't look like doors)
- locating patients with dementia in rooms with good views to and from staff base
- designing staff base to enable unobstructed viewing of patients by staff and staff by patients.
- providing easy access to safe outside area, locating and designing outside areas so they can be easily viewed by patients and staff
- providing good visual access to doors leading to the safe outside area
- providing good visual access to doors leading inside from the safe outside area
- designing staff access routes and service corridors to provide back up observational glimpses of all outdoor areas likely to be used by patients
- minimising glare by using light paint colours around windows to reduce contrast around windows, orientation of windows, adjustable internal window shading treatment such as curtains or blinds, outside awnings

3.2 Evidence base

Confusion may be reduced by caring for a person with dementia in a simple environment. The simplest environment is one in which the patient can see everywhere that he or she wants to go to from wherever they are. While healthcare buildings are often large, if they are seen as being made up of many different components this principle can be applied to each part of the building.

This principle defined the plans of the units for the confused and disturbed elderly built by the NSW Department of Health in the late 1980's which were shown to improve self-help, socialization and behavior[47, 48] and it is associated with improved orientation[49, 50]. Disorientation has been found to be less pronounced in L, H and square shaped units where the kitchen, dining room and activity rooms were located together[51] and where the straight layout of the circulation system (ie without any change of direction of the corridors) provided good visual access.[37].

Good visual access also provides benefits for the staff. If staff can see the patients from the places where they spend most of their time, this reduces their anxiety. At the same time the visibility of the staff to the patients helps them to feel supported. Staff working in facilities with good visual access spend less time locating and monitoring their patients[46]. The decentralisation of the nurses' station to small bays located so as to improve monitoring by staff, and visibility of staff to patients, has been found to reduce the use of the nurse call system and, by implication, improve contact between staff and patients[52].

3.3 Expected Outcomes

1) Existing inpatient units will be audited to identify issues with visual access.
2) The results of the audit will be used in an approach to improve the visual access available to those patients who have dementia.
3) Plans for new inpatient units will take into consideration the provision of good visual access for patients who have dementia.

3.4 Quality measures

System measures	Agreed environmental audit tool is available for staff and external consultants.
Patient measures	Number of inpatient units used by people with dementia audited for the provision of good visual access (total and percentage of such units in the facility)
Staff measures	Staff identified by hospital as responsible for environmental auditing are trained in administering and interpreting the environmental audit tool.

PRINCIPLE 4: REDUCE UNHELPFUL STIMULATION

Visual and auditory stimulation that is not helpful to the patient with dementia shall be reduced to the minimum required for the operation of the service.

Because dementia reduces the ability to filter stimulation and attend to only those things that are important, a person with dementia becomes stressed by prolonged exposure to large amounts of stimulation. This may lead to to agitation, aggression or withdrawal. The environment should be designed to minimise exposure to stimuli that are not helpful. The full range of senses must be considered. Too much visual stimulation, for example, is as stressful as too much auditory stimulation.

4.1 Applying the principle in practice

Ensure:

- there are separate entrances and circulation routes for deliveries/services and patients
- a discreet entry to the inpatient unit, not easily observed from the main public areas of the unit
- any door bells that will be used by visitors or for deliveries are only audible in staff areas
- doors to storage areas and other facilities used by staff are unobtrusive, doors to patient areas do not have the same finish as service areas
- staff bases are designed to reduce noise transfer and to allow staff to have conversations without them being heard in other parts of the inpatient unit
- staff paging/call monitors are located so the noise from these is not disruptive to a patient
- doors close quietly
- provision for easily accessed and obvious storage of a small number of clothes with storage of items not likely to be used in next 24 hours in a less obvious location.

Avoid:

- the entry to the inpatient unit opening into a sitting room,
- locked entry doors being clearly visible to patients
- deliveries coming through the patient entry to the inpatient unit, deliveries proceeding through patient areas
- loud bells, piercing tones, flashing lights and public announcements
- noise from the service entry intruding on patients
- large wardrobes with many doors, locking wardrobes, overcrowding a wardrobe with a lot of contents
- mirrors in corridors

Consider:

- ways in which the entry to the inpatient unit can be screened
- locating cupboards and service areas to minimise their impact on key patient areas
- acoustic isolation measures
- installing sound attenuation around doors
- the use of signage so that it provides information that is relevant to patients/visitors only in patient/visitor areas
- the use of signage so that it provides information that is relevant to staff only in staff areas.

4.2 Evidence base

As a person with dementia experiences difficulties in coping with a large amount of stimulation[5], the environment should be designed to reduce the impact of stimulation that is unnecessary for their well-being[53]. There is strong evidence that people with dementia are less verbally aggressive where sensory input is more understandable and where such input is more controlled[18].

Many patients are extremely sensitive to their auditory environment and in particular to noise levels which at times may be high. This calls for a high degree of control of the acoustics in the inpatient common spaces[7, 10, 54, 55] if aggression is to be avoided[56].

Busy entry doors pose particular problems for staff and patients as they are a constant source of over stimulation and offer a temptation to leave. These problems can be significantly reduced by reducing the stimulation[46, 57, 58].

The goal is to provide the patient with an optimum level of stimulation. This requires achieving a balance between reducing unhelpful stimulation and enhancing stimuli that aid orientation and engagement as described under the next principle.

4.3 Expected Outcomes

1) Existing inpatient units will be audited to identify sources of high levels of stimulation.
2) If the results of the audit suggest that there are high levels of unhelpful stimulation an approach will be developed and implemented to reduce it.
3) Plans for new inpatient units will take into consideration the need to avoid high levels of unhelpful stimulation.

4.4 Quality measures

System measures	Agreed environmental audit tool is available for staff and external consultants.
Patient measures	Number of inpatient units used by people with dementia audited for the presence of high levels of unhelpful stimulation (total and percentage of such units in the hospital).
Staff measures	Staff identified by hospital as responsible for environmental auditing are trained in administering and interpreting the environmental audit tool.

PRINCIPLE 5: OPTIMISE HELPFUL STIMULATION

Visual, auditory, tactile and olfactory cues shall be provided to assist the patient with dementia find their way around and behave competently.

Enabling the person with dementia to see, hear touch and smell things that give them cues about where they are and what they can do, can help to minimise their confusion and uncertainty.

Consideration needs to be given to providing redundant cueing i.e. providing a number of cues to the same thing, recognising that a person with dementia may require more than one source of information and that what is meaningful to one person will not necessarily be meaningful to another. A person may recognise their ward for example, by the view from the window, the presence of a particular piece of furniture, the colour of the walls, the light fitting, the bedspread or a combination of these things. The addition of a particular aroma or the feel of a doorknob may provide additional help. Cues need to be carefully designed so that they do not become unhelpful stimulation.

5.1 Applying the principle in practice

Ensure:

- the use of multiples cues (visual, auditory and olfactory) to identify areas that are directly relevant to patients (and visitors)
- doors/entries to patient areas are recognisable
- sitting room, toilets, showers and individual patients' rooms are distinguishable from each other and their purpose is clear
- long corridors are broken up into identifiable sections and include a range of features, such as colour, artwork and finishes
- patients can identify their room from the corridor, patients can personalise their places and see these objects when in bed
- there is good contrast between floors and walls
- toilet pan is visible as soon as the door of bathroom or toilet is opened
- contrasting toilet seats are used and that there is good contrast between the toilet pan (and cistern) and the wall behind
- sufficient natural lighting for daytime use
- ability to control glare from windows, light fittings and shades protect from glare (see below)
- signs are clear containing both text and images that contrast with the background and are mounted below eye level.

Avoid:

- corridors being repetitive (eg through the use of the same door finish, colour, layout)
- doors to patient areas being same colour and finish as service/staff doors
- multiple signs (as these become ineffective and cause stress)
- glare, highly reflective surfaces and finishes
- sharp contrast between floor finishes
- flooring with geometric patterns

Consider:

- • placement of windows and the the use of glazed doors so that features are framed and views are maximised/emphasized, window sill height to ensure a person can see out when seated
- introducing signs or symbols near the sitting room approach (eg a painting of people sitting relaxing) to assist patients and visitors to locate this room if it is not immediately visibla
- introducing features to highlight key places eg lighting (both natural and artificial), colour, a change in ceiling height or treatment, skylight, views, paintings, varying the width of the corridor, varying the placement of windows
- use of a variety of colours, name plates, photos, art work, lighting and layout to avoid repetition (taking care not to overstimulate a person)
- design of shelving in room so that items on it can be seen from the patient's bed
- natural or artificial lighting directly over the toilet, a low level of night lighting to the toilet and en-suite area, positioning the toilet pan so it can be seen from the patient's bed when the door is left open
- providing the opportunity for varied lighting using dimmers, having some constant low level lighting for night time
- minimising glare by using light paint colours around windows to reduce contrast around windows, orientation of windows, adjustable internal window shading treatment such as curtains or blinds, outside awnings

5.2 Evidence base

The reduction in unhelpful stimulation should be balanced by highlighting stimuli that are important to the patients. The provision of signs and aids to assist wayfinding is integral to the design of many environments for people with dementia[55, 59, 60] and has been associated with a reduction in behavioural symptoms[61]. The placement and nature of the signs is important; signs placed low and using words rather than pictograms are most effective[62]. Signs should be clear and highlighted by a contrasting background while those that are only relevant to staff should not contrast[63]. The available evidence suggests, however, that signage is of limited effectiveness. A sign is a poor replacement for the real thing as demonstrated in a study in which people with dementia were able to see the toilet directly. Clear visibility of the toilet increased its use eightfold[64].

Personalised signs and cues may be used to good effect[65]. They can take the form of a glass fronted box immediately outside of the person's room or close to their bed. Personal objects and photos can be placed in it, preferably with the relatives helping the resident or patient to choose and place them. These provide a unique and familiar reminder to a person that this is their room or bed[44]. Within a multi bed room, the use of signs and cues (such as a bedspread or photos at the patient's bedside) is important to help a person identify their place in the room.

There is some evidence that the use of color to distinguish the doors to residents' rooms has a beneficial effect (54) and the display of personal memorabilia outside the room may be of some benefit[65, 66].

Contrasting the object to be seen with its background is one of the most powerful ways of enhancing helpful stimulation. However, contrast can have negative effects when it takes the form of sharp edges between floorcoverings or geometric patterns which can be seen as steps by people with dementia[67].

Contrast is useful to help patients eat well. Brighter light and greater colour contrast between the tablecloth, place mats and dishes results in more eating and less agitation[68].

High levels of illumination are often recommended[69]. People with dementia in institutional settings are often exposed to inadequate levels of bright light[70]. Increasing illumination to normal has been shown to regulate circadian rhythms and improved sleep patterns for people with dementia[71, 72] however some studies have shown that high levels of illumination are associated with increased agitation[71-74].

There is some evidence suggesting that sunlight in patient rooms can reduce depression, which is often found in people with dementia[75].

5.3 Expected Outcomes

1) Existing inpatient units will be audited to identify areas where the provision of useful stimulation can be improved.
2) Where areas for improvement are identified an approach will be formulated to supplement existing stimulation, keeping in mind Principle 4 concerning the need to avoid over-stimulation.
3) Plans for new inpatient units will take into account the need to provide multiple sources of information to assist patients to orientate themselves.

5.4 Quality measures

System measures	Agreed environmental audit tool is available for staff and external consultants.
Patient measures	Number of inpatient units used by people with dementia audited for the presence of low levels of helpful stimulation (total and percentage of such units in the facility).
Staff measures	Staff identified by hospital as responsible for environmental auditing are trained in administering and interpreting the environmental audit tool.

PRINCIPLE 6: SUPPORT MOVEMENT AND ENGAGEMENT

A clearly defined pathway shall be provided to guide patients with dementia to areas where they can engage with objects or activities.

Aimless walking, which may be present in the behaviour of people with dementia, can be minimised by providing a well-defined pathway, free of obstacles and complex decision points, that guides them past points of interest and gives them opportunities to engage in activities or social interaction. The pathway should be, wherever possible, both internal and external, providing an opportunity and reason to go outside when the weather permits. The pathway should be able to be monitored from where staff spend most of their time.

6.1 Applying the principle in practice

Ensure:

- corridors have clear destinations and contain no blank dead ends
- there is easy access to a safe outside area that can be supervised easily.
- locked exit doors are unobtrusive
- corridors provide a good view to sitting rooms, patients' rooms, toilets, outside and staff base (as these are likely to be points of interest for the patient/visitor)
- paths are continuous, do not contain hazards (such as potholes, slippery or uneven surfaces, overhanging branches)
- path edges are clearly marked with contrasting coloured materials
- seating is provided at regular intervals
- patients can experience shade and sun along the path
- the path guides patients past opportunities to engage in activities or social interaction

Avoid:

- long corridors,
- corridors that lead to nowhere
- paths that lead to nowhere, paths with no views or points of engagement
- seating with sharp edges and rough surfaces,
- seating that offers inadequate arm support

Consider:

- the design of circulation routes within the inpatient unit to make the route clear and offer a variety of experiences as a patient moves about, with places where patients and visitors can sit and relax.
- creating a walking route within part of the unit to allow patients with dementia to move about a smaller section of the unit and be engaged as they do so
- widening paths occasionally to provide sitting areas that are removed from the circulation flow but offer views to activity
- selecting landscaping to create a varied outside environment eg ensuring there is a close view (patients and activities), medium view (possible destinations within the inpatient unit) and long view (the world outside the inpatient unit)
- offering a variety of different seats (heights, materials and locations), allowing for wheelchair stopping points near seating
- where the shade will fall in summer and winter and how the edges of the buildings can be used to provide relief from the sun
- installing drinking fountains at an appropriate height with large controls that are easy to use

6.2 Evidence base

Poorly designed environments can contribute to the agitated wandering sometimes seen in patients with dementia[76]. Controlling movement by emphasising security can be counterproductive, resulting in patients hovering around locked exit doors waiting for their chance to leave. The provision of a walking path has been shown to be associated with lower levels of agitation[18]. Access to an outside area is associated with reduced sadness and increased pleasure[77]. If patients are offered attractive alternatives to wandering, they are likely to take them, so the wandering path should take them past areas of comfort and interest[78]. However, the provision of a walking path alone does not reduce neuropsychiatric symptoms by itself[41]; it is necessary for someone to interact with the patients while they are outside for benefits to occur[79].

An innovative study of the external environment in the community provides some clear guidance on the characteristics that make the outside world friendly to people with dementia. It should be familiar, legible, distinctive, accessible, comfortable and safe[80].

6.3 Expected Outcomes

1) Existing inpatient units will be audited to identify the presence or absence of an adequate pathway accessible easily accessible to patients with dementia.
2) Should an adequate pathway not be available an approach will be developed and implemented to provide one.
3) Plans for new inpatient units will take into consideration the need for people with dementia to be engaged while they walk around a well-defined internal/external pathway.

6.4 Quality measures

System measures	Agreed environmental audit tool is available for staff and external consultants.
Patient measures	Number of inpatient units used by people with dementia audited for the provision of an adequate pathway (total and percentage of such units in the facility).
Staff measures	Staff identified by hospital as responsible for environmental auditing are trained in administering and interpreting the environmental audit tool.

PRINCIPLE 7: MAXIMISE THE FAMILIARITY OF THE ENVIRONMENT

The early experience and culture of the person with dementia shall be used to inform the provision appropriate spaces, furniture, fittings and décor.

The person with dementia is more able to use and enjoy spaces and objects that were familiar to them in their early life. The inpatient unit should afford them the opportunity to maintain their competence through the use of familiar building design (internal and external), furniture, fittings and colours. This will involve an understanding of the personal and cultural background of the people in the unit.

The involvement of the person with dementia in personalising the environment with their own familiar objects should be encouraged.

7.1 Applying the principle in practice

Ensure:

- familiar finishes, objects and colours are introduced to the inpatient unit.
- patients can bring familiar objects with them eg a bedspread, cushion, photos
- colour selection and layout for the sitting areas is as domestic and welcoming as possible (rather than commercial or institutional)
- there is a variety of furniture types i.e. several styles of chairs
- capstan style handles (ie a traditional cross formation) are used on taps in patient areas
- provision of shelving where personal items can be placed / displayed, hooks and rails on walls to hang photos and other objects
- lever handles or D pulls are used in patient areas
- outdoor places are designed with features that are familiar to patients and visitors such as tables and chairs, garden beds, sculptures

Avoid:

- ldark colours throughout the lounge and dining areas
- commercial or institutional furniture selection, repetitive furniture selection which makes different areas appear the same
- mixer taps with single handles that control water flow and temperature
- light switches that are too small to be seen easily
- round door knobs

Consider:

- materials and colours that may have special significance to the local community (sports teams, traditional colour combinations)
- design of any shelving in room so that items on it can be seen from the patient's bed
- how verandahs and outside areas between buildings can be designed to be familiar.

7.2 Evidence base

The person with dementia recalls the distant past more easily than the recent past. This may explain the beneficial effects associated with them being in an environment similar to that of their early life. The opportunity to increase the familiarity of the surroundings by the residents of aged care facilities bringing in their own belongings has been associated with the maintenance of activities of daily living and reductions in aggression, anxiety and depression[19]. Similarly, making the healthcare environment as familiar as possible has been recognised as contributing to the avoidance of agitation and disorientation[6, 81] and to improving staff morale on institutional psychiatric inpatient unit[82].

While it is possible for people with dementia to learn to use new technologies this is not easy and requires a great deal of support from skilled staff[83]. It is much easier, more practical and, possibly, more pleasant for the person with dementia to be provided with fittings, e.g. taps, that they can use because their use is recorded in their long term memory.

People with dementia who come from other cultures are at particular risk of finding themselves in an unfamiliar environment. A detailed knowledge of their heritage, customs and beliefs is required to provide an environment that will help them make the most of their abilities[84].

7.3 Expected Outcomes

1) Existing inpatient units will be audited to identify the presence of features that reduce familiarity and the absence of features that increase familiarity.
2) If the results of the audit suggest that the person with dementia is likely to be negatively affected by the lack of familiarity an approach will be developed and implemented to replace unfamiliar items with more familiar items where possible and to introduce new familiar items if required.
3) Plans for new inpatient units will take into consideration the need for people with dementia to be cared for in a familiar environment.

7.4 Quality measures

System measures	Agreed environmental audit tool is available for staff and external consultants.
Patient measures	Number of inpatient units used by people with dementia audited for the provision of a familiar environment (total and percentage of such units in the facility).
Staff measures	Staff identified by hospital as responsible for environmental auditing are trained in administering and interpreting the environmental audit tool.

PRINCIPLE 8: PROVIDE A VARIETY OF SPACES TO BE ALONE OR WITH OTHERS

The built environment shall provide a range of accessible spaces that allow the patient with dementia to be alone, with one or two others or in larger groups.

People with dementia need to be able to choose to be on their own or spend time with others. This requires the provision of a variety of spaces that prompt a range of activities, e.g. reading alone, conversing with one or two others or engaging in larger group activities.

8.1 Applying the principle in practice

Ensure:

- patients and visitors can leave their room and enjoy an alternative space in the unit
- a variety of sitting areas is provided within an inpatient unit, material and finishes used in these is varied to create a range of experiences
- the intended use of the room is clear
- appropriate lighting for the intended uses
- furniture layouts accommodate small groups as well as private conversations
- there is some flexibility in how the rooms can be used (to allow for different patient and visitor needs eg by introducing different furniture into a room or rearranging the furniture so the room has a different aspect)

Avoid:

- large undifferentiated spaces and furniture arrangements that cater only for large groups
- sitting places that have a poor aspect (eg face a storage cupboard)
- fixed furniture that limits flexibility
- seating and tables outside that are exposed to the wind and sun

Consider:

- varying corridor widths to accommodate small sitting places
- a good view, both inside and outside from smaller sitting places
- incorporating a close, mid and far view from sitting places
- flexible furniture design to suit different group sizes
- how the use of the sitting area can be varied to meet the needs of different group sizes
- accommodating dining for one or two people in the sitting room
- the design of the social spaces to ensure they are familiar.

8.2 Evidence base

The provision of rooms for different functions has been shown to be a hallmark of dementia specific units in a survey involving 436 Minnesota nursing homes[59]. The strongest evidence for its importance comes from Zeisel's well controlled study[18] which indicated that residents with the opportunity to enjoy privacy were less anxious and aggressive and those who had access to a variety of common spaces with varying ambiance were less socially withdrawn and depressed. The time residents of aged care homes spend in active behavior has been shown to be associated with the provision of a variety of spaces[85] and patients in special care units have been described as enjoying the opportunity to be alone and in social spaces[46].

Single rooms are important for most people with dementia in that they provide them with an opportunity to withdraw when they feel threatened[86, 87]. They have been associated with a reduction in the need for intervention, including medications, and improvements in sleeping[88] and rather than increasing loneliness, when there are opportunities for the patients to spend time elsewhere, they contribute to privacy and choice[89].

Specific recommendations for providing a variety of spaces within an inpatient unit have been provided[90] and they include 'dedicating space for social interaction, clearly indicating a room's intended use, making areas visually distinct so that the intended use of different parts can be delineated from their appearance, using colours to enhance activities and spaces, using various materials to provide different tactile and visual experiences, using lighting to help define space, and finally, making the spaces that have special meaning to patients stand out.'[90]

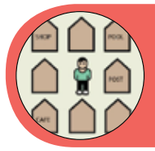
8.3 Expected Outcomes

1) Existing inpatient units will be audited to identify the availability and accessibility of opportunities for patients with dementia to be by themselves or with others in a variety of spaces.
2) If the results of the audit suggest that the availability of a variety of spaces is too limited an approach will be developed and implemented to increase the availability of a variety of spaces.
3) Plans for new inpatient units will take into consideration the need for people with dementia to have access to a variety of spaces.

8.4 Quality measures

System measures	Agreed environmental audit tool is available for staff and external consultants.
Patient measures	Number of inpatient units used by people with dementia audited for the provision of a variety of spaces (total and percentage of such units in the facility).
Staff measures	Staff identified by hospital as responsible for environmental auditing are trained in administering and interpreting the environmental audit tool.

PRINCIPLE 9: PROVIDE LINKS TO THE COMMUNITY



The built environment shall encourage family and friends to visit and maintain links to the community.

Without constant reminders of who they are, a person with dementia will lose their sense of identity. Frequent interaction with friends and relatives can help to maintain that identity. The environment must therefore include spaces for the person with dementia and their visitors to use within the unit and in its immediate surrounds. These need to be attractive and comfortable to encourage visitors to come and spend time. Stigma remains a problem for people with dementia so the unit should be designed to blend with other units and not stand out as a 'special' unit. Where possible a 'bridge' should be built between the unit and the community by providing a space that is used by both the community and people with dementia.

9.1 Applying the principle in practice

Ensure:

- one or more rooms (or outdoor areas) which can be used by visitors to dine or socialise with a patient in comfort.
- outdoor areas contain places, such as seating, bbq areas and playgrounds, that are inviting to the wider community
- the hospital incudes spaces which make local community groups welcome
- areas are provided which encourage community members to be involved in key events of the hospital's life eg through the provision of areas to hold stalls, special celebratory events, speakers
- community groups are encouraged to volunteer at the hospital by having places where they can fundraise and meet

Avoid:

- designing a setting which is intimidating and unwelcoming and so discourages community interaction

Consider:

- providing drop off points near the entry and facilitating transport between the hospital, transport nodes and local shops and amenities to encourage involvement by the community
- providing short term parking for people with special needs near the entry to encourage their (and their families') involvement in the hospital
- encouraging patients to engage with meaningful activity in preparation for their discharge such as making a cup of tea or preparing a simple meal
- ways the local context can be reflected in the design, eg through the use of local materials, by incorporating references to features of the area such as local sports teams or produce from the region
- designing the hospital café to attract customers from the community and not just hospital patients, staff and visitors
- incorporating local art and sculpture into the hospital

9.2 Evidence base

It has been stated[47] that facilities should be placed close to the community of origin of the person because the identity of a person who has lost their recent memories can be more easily supported by familiar sights and visits from friends and relatives. This view has been supported[91] but despite the increasing attention to the role of the community in supporting people with dementia no empirical investigations of the advantages have been found[92].

The provision of links to the community in a healthcare context involves encouraging visitors. This has been picked up by some architects as described by Poulter[93] "The idea is to include in the design a welcoming, caring environment for the patient, the visitor, and the neighborhood," Pages 5-6. This is achieved by creating spaces that are sensitive to the patient and family experience, welcome visitors, mimimise patient confusion and anxiety, offer positive diversion to patients and families, provide features that are visually and audibly soothing (eg water features) and encourage wonder and playfulness.

9.3 Expected Outcomes

1) Existing inpatient units will be audited to identify the facilities provided for patients with dementia to be supported by family and friends
2) If the results of the audit identify a lack of facilities an approach will be developed and implemented to improve them.
3) Plans for new inpatient units will take into consideration the need for patients with dementia to be supported by families and friends.

9.4 Quality measures

System measures	Agreed environmental audit tool is available for staff and external consultants.
Patient measures	Number of inpatient units used by people with dementia audited for the provision of appropriate facilities for families and friends to use in their support of the patient with dementia (total and percentage of such units in the facility).
Staff measures	Staff identified by hospital as responsible for environmental auditing are trained in administering and interpreting the environmental audit tool.

PRINCIPLE 10: SUPPORT THE VALUES AND GOALS OF CARE

A clear statement of the inpatient units values and goals of care shall be available and used to guide decisions on the design of the built environment.

An environment that embodies the values and goals of care, e.g. provides opportunities for engagement with the ordinary activities of daily living to support rehabilitation goals, will assist the patient with dementia to respond appropriately and the staff to deliver the desired care. The values and goals need to be clearly stated and the building designed both to support them and to make them evident to the person with dementia and staff. The building becomes the embodiment of the philosophy of care, constantly reminding the staff of the values and practices that are required while providing them with the tools they need to do their job.

10.1 Applying the principle in practice

Ensure:

- the philosophy of care is clearly articulated
- patients can engage with meaningful activity in preparation for their discharge
- places where meaningful activities (such as those relating to daily life) can be pursued are included in inpatient units

Avoid:

- creating a setting which does not allow for the philosophy of care to be realised

Consider:

- the role of the hospital in the life of the community and how this can be a positive one
- the use of art and sculpture in the hospital
- how the design can respond to the range of life experiences that patients will bring (rather than to only one scenario)
- the different cultural and socio economic backgrounds of patients and how this affects the way care is perceived and responded to

10.2 Evidence base

Over the last twenty five years there has been extensive interest in providing 'homelike' environments for people with dementia[94]. This is the approach that was reflected in the first edition of Adapting the Ward.

Whether the values and goals of care are focused on the ordinary activities of daily life or not, the need to have a clearly formulated philosophy of care to guide the design of healthcare facilities has been recognised. Poulter describes this:-

"Health care providers are beginning to recognise the important role physical space plays in defining quality care experiences- not only for patients, but also for visitors, families, physicians, and staffers. One of the most notable trends is many hospitals' efforts to incorporate the concept of holistic care in facility design. Whether it's the familiar Planetree modeL philosophies such as "Patients First" or the "Healing Environment," or some other attitudinal framework, the goal is to meet patients' biological, psychological, and social needs and help them attain higher levels of wellness. And these efforts are paying off-in increased patient, family, and physician satisfaction"[95] Page 5

The advantages of going beyond a simple medical model aimed at the efficient delivery of medical services is becoming apparent[55] and in Australia can be seen in the design of the new Royal Childrens' Hospital in Melbourne, for example. The application of this approach to the development of appropriate models of care for people with dementia, and their embodiment in the built healthcare environment, remains largely unexplored. However, a systematic review of over 600 papers on the impact of art, design and the environment in mental healthcare[96] concluded that

"…exposure to the arts may reduce anxiety and depression in specific groups of patients. Further, there is evidence that the arts can positively affect clinical and behavioural outcomes." (Page 92)

This underlines the opportunity for the creative use of the environment in the pursuit of a variety of goals.

The domestic, or homelike, environment may continue to be of interest in a healthcare setting because of the expectation that patients will be discharged to continue with their lives in as independent a way as possible. In a domestic, or homelike, environment the goal of care is to maintain the person's activities of daily living abilities for as long as possible. This requires that they have access to all of the normal household facilities and encouragement to use their abilities[97]. It has been shown that the introduction of a small number of homelike features into an institutional environment resulted in a reduction in pacing, agitation and exit seeking[98] and improved social interaction and eating behavior[99].

10.3 Expected Outcomes

1) Existing inpatient units will be audited to identify the availability of a clear statement of the values and goals of their care of people with dementia.
2) Should no clear statement of the values and goals of care for people with dementia exist one will be developed.
3) The features of the physical environment that impede the implementation of the values and goals of care will be identified and an approach developed and implemented to improve them.
4) Plans for new inpatient units will take into account the need for the units to provide support for the staff to express the values in the delivery of care and assist them in achieving the goals of care.

10.4 Quality measures

System measures	Agreed tool for auditing the values and goals of care is available for staff and external consultants.
Patient measures	Number of inpatient units used by people with dementia audited for the availability of a clear statement of the values and goals of care of patients with dementia (total and percentage of such units in the facility).
Staff measures	Staff identified by hospital as responsible for environmental auditing are trained in administering and interpreting the audit tool.

THE USE OF AUDIT TOOLS

Appendices A and B contain the Environmental Audit Tool[100, 101] and the Enabling Healing Environments audit tool[102]. These tools are recommended for use in collecting information to inform a systematic conversation about the strengths and weaknesses of an environment and then to lead on to the identification of areas which have room for improvement. The intended result is a plan that identifies the improvements recommended and places these into a time frame based on ease of implementation of the recommendations.

This process requires the collaboration of a team. The ideal team includes an expert in environmental design for people with dementia; the architect, designer and/or capital works person; senior managers, senior clinicians, nursing/direct care staff and a person with dementia, or their representative, who has had experience of care in a hospital. However, the lack of one or two of these should not prevent the audit and discussions taking place.

Both the EAT and EHE are designed to be able to be used with minimal training. Familiarity with the evidence base supporting the design principles is, however, essential if the tools are to be used confidently and to best effect.

The following steps have been found to result in a productive and enjoyable, systematic conversation about an inpatient unit.

1. Presentation to the team by the 'expert', or person most familiar with them, of the principles of designing environments for people with dementia.
2. Introduction to the EAT and EHE by handing them out and encouraging a thorough reading of them and discussion of the questions. (This may be shortened by giving team members copies of the tools before the meeting.)
3. Audit of the environment. Some members of the team use the EAT others use the EHE.
4. Scoring of the audit tools. The spread sheets should be downloaded from ********* prior to the meeting. The spread sheets enable the scores of up to five people to be entered. The average of the ratings is used in the graphs and reports generated.
5. Discussion of the overall picture

   The Excel spreadsheet provides graphs summarising the results. The graph below shows the EHE scores for each of the EHE sub-scales. The lowest possible score on the EHE is 20% so it is immediately clear that there is room for a great deal of improvement in most areas.

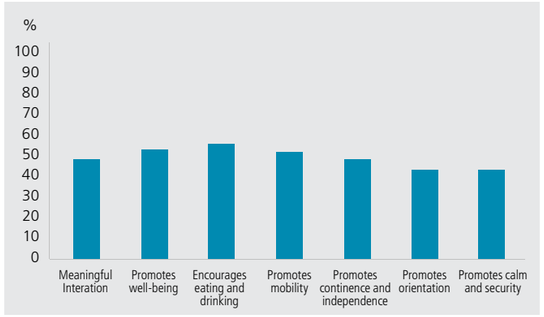


Figure 1: Medical Inpatient Unit EHE results

The spreadsheet also provides a summary of the EAT scores. In this case the medical inpatient unit scores can be compared with the average scores of a number of NSW main stream (in red) and purpose built (in green), aged care facilities. It can be seen that the inpatient unit does not compare well with these, which is not much of a problem if the patients are usually bed bound and have short lengths of stay. However if the typical length of stay is measured in weeks it is clear that the patient will not be supported by the environment. The most obvious areas of concern are visual access, provision of opportunities for movement and engagement, community links (e.g. facilities for visitors) and opportunities for engagement in normal life.

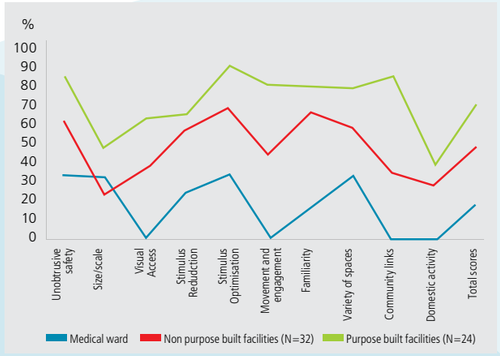


Figure 2: Medical Inpatient Unit EAT results

6. Discussion of the specific items that have a high 'Room for Improvement Score'

The spreadsheet provides the means of generating a 'Room for Improvement' (RIF) report for the EAT. This is simply a table in which the EAT items are ranked according to the amount of room for improvement that is available, i.e. the possible score minus the actual score. This can be used to structure the discussion. Starting at the top and discussing the items one by one until you reach the point where there is no room for improvement (because the item is scored at the maximum) ensures that you cover all of the main points efficiently.

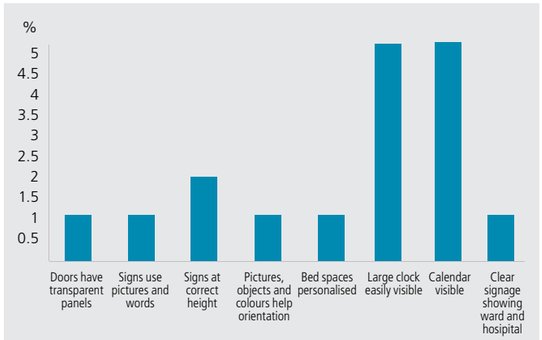
Table 1: Abbreviated EAT 'Room for Improvement' report

EAT Item	Actual EAT score	Possible EAT score	Room for Improvement Score
Secure front door	0	2	2
Secure side doors	0	2	2
Size of unit	1	3	2
Taps, light switches etc are familiar	0	2	2
Furniture in lounge area is familiar	0	2	2
Furniture in bedrooms is familiar	0	2	2
Patients have own ornaments/photos in bedroom	0	2	2
Small areas available for conversation	1	3	2
Small areas have pleasant views	1	3	2
Floor areas safe from being slippery when wet (water or urine)?	0	1	1
Doors to dangerous areas easily seen	0	1	1
Wardrobe full of too many clothes	0	1	1
Deliveries made across public areas	0	1	1
Intrusive public address or paging system	0	1	1
Front entrance easily visible	0	1	1
Service entry easily visible	0	1	1
Discuss items in turn to this point. The items below (RFI =0) do not need discussion			
Water temperature safe	1	1	0
All areas used by patients well lit?	1	1	0
Doorbell intrusive	1	1	0
Too much noise from kitchen	1	1	0
Toilet bowl visible as soon as toilet door opened.	1	1	0
Artificial light bright enough	1	1	0
Lighting is free from glare	1	1	0
Colours are familiar	2	2	0

EAT Item	Actual EAT score	Possible EAT score	Room for Improvement Score
Look at the items below that have been scored as Not Applicable. Would the inpatient unit be improved if they were considered to be applicable and were available?			
Lounge room easily supervised from the point(s) where the staff spend most of their time?	n/a	2	n/a
Visibility of bedroom doors to patients	n/a	4	n/a
Visibility of lounge room from bedrooms	n/a	4	n/a
Opportunity for small group activities	n/a	2	n/a
Opportunity for small groups to eat together	n/a	2	n/a

The room for improvement in the EHE scores is indicated by the shortness of the bars in the graphs describing the sub-scale item scores. These graphs are generated in the spreadsheet.

Table 2: Graph illustrating room for improvement in EHE Promotes Orientation scale



a. Use the structure of the Planning Template in Table 5 to guide the discussion and to record the recommendations.

Generally speaking the discussion of an item should begin by asking the question 'Can we improve this situation by using our existing resources differently?' There might be some chairs available, for example, that can be used to furnish a small area for conversation.

If this isn't the case then the next question is 'What can we do in the short term?', which may mean 'What can we do with the money in the petty cash?' or 'what can we do as part of our planned maintenance works?'

If this isn't sufficient to improve the situation the next question is 'What can we do in the medium term?', i.e 'What can we do at the end of the financial year when there are some funds left over or when the Auxiliary have held their jumble sale? Can we allocate some money in next year's budget to achieve this change? Can we apply for a grant or contact the local service organisation?'

The final question is 'What can we do in the 'long term? or 'Does this need to be put into the capital works budget? Does this need to be the subject of ongoing strategic planning and fundraising?'

Table 3: Planning template

Item from 'Room for Improvement' score	How can we re-use what is there?	What can we do in the short term?	What can we do in the medium term?	What can we do in the long term?
1				
2				
3				
4				
5				
6				

7. Review and discuss the plan that you have developed in step 5 until it is agreed that it is achievable.

This process will take the best part of a day, at least. Splitting it at step 3 or 4 and carrying it over two or even three meetings may be necessary.

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APPENDIX A: ENVIRONMENTAL AUDIT TOOL (EAT)

The Environmental Audit Tool and detailed instructions on its use are available for downloading from …

An Excel spreadsheet is available to facilitate the scoring and reporting of the EAT results from …

Case studies illustrating the application of the EAT to existing inpatient units and plans for a new unit are included in the companion to this publication "Improving healthcare environments for people with dementia", available for download from …

The Environmental Audit Tool (EAT) was first designed to assist with identifying modifications to inpatient units in rural New South Wales hospitals to make them more suitable for the people with dementia who tended to be admitted for prolonged periods. It was published by NSW Health in a book 'Adapting the Ward' (101). It was subsequently modified in the light of the survey of the literature summarised used to inform the 'Evidence Base'sections in this publication (103) and published in a report comparing its psychometric properties with that of the TESS-NH (104) and the Stirling Environmental Audit Tool (105).

The use of the EAT in aged care homes and hospitals where the majority of residents/patients are relatively immobile has highlighted the need for its modification. Work on this is almost complete and a revised version of the EAT will be available from the website listed above in the near future.

ENVIRONMENTAL AUDIT TOOL

Date: .....
Time: .....
Facility: .....
Unit: .....
Assessor: .....

	Safety	N/A	NO	YES	Add 1 if Unobtrusive	Score
1	Is the garden secure, i.e. are patients prevented from getting over/under fence or out of the gate without the assistance of a staff member?	0	0	1	1	
2	If the front door leads out of the unit is it secure?	0	0	1	1	
3	Are all side doors leading out of the unit secure?	0	0	1	1	
4	Are bedroom windows restricted in the extent to which they open so that patients cannot climb out?	0	0	1	1	
5	Is the garden easily supervised from the point(s) where staff spend most of their time?	0	0	1	1	
6	Is there a way to keep patients who are not safe with knives and/or appliances out of the kitchen?	0	0	1	1	
7	If the kitchen is used by patients is there a lockable knife draw in the kitchen?	0	0	1	1	
8	If the kitchen is used by patients is the cooker a gas cooker?	1	3	2		
9	If the kitchen is used by patients is there a master switch that can be turned off quickly?	1	3	2		
10	Is the temperature of the water from all taps accessible to patients limited so that it cannot scald?	0	1	1		
11	If patients are involved in meal preparation are the pots and pans used small enough for them to lift easily?	0	1	1		
12	Are all floor areas safe from being slippery when wet (water or urine)?	0	1	1		
13	Is the lounge room easily supervised from the point(s) where the staff spend most of their time?	0	1	1		
14	Are all areas used by patients well lit?	0	1	1		
					Total	

	SIZE	10 OR LESS	11-16	17-30	30+	Score
1	How many people live in the unit?	3	2	1	0	

	VISUAL ACCESS FEATURES							Score
1	What proportion of confused patients can see their bedroom door from the lounge room?	N/A	0	25% Score 1	50% Score 2	75% Score 3	100% Score 4	
2	What proportion of confused patients can see the lounge room as soon as they leave their bedroom?	N/A	0	25% Score 1	50% Score 2	75% Score 3	100% Score 4	
3	What proportion of confused patients can see the dining room as soon as they leave their bedroom?	N/A	0	25% Score 1	50% Score 2	75% Score 3	100% Score 4	
4	Can the exit to the garden be seen from the lounge room? If there is more than 1 lounge room answer with reference to the one most used by most confused patients.	N/A		NO	Score 0	Yes	Score 1	
5	Is the garden easily supervised from the point(s) where staff spend most of their time?	N/A		NO	Score 0	Yes	Score 1	
6	Can the dining room be seen into from the lounge room? If there is more than 1 dining room or lounge room answer with reference to those used by most confused patients.	N/A		NO	Score 0	Yes	Score 1	
7	Can the kitchen be seen into from the lounge room? If there is more than 1 lounge room answer with reference to the one used by most confused patients.	N/A		NO	Score 0	Yes	Score 1	
8	Can a toilet be seen from the dining room? If there is more than 1 dining room answer with reference to the one used by most confused patients.	N/A		NO	Score 0	Yes	Score 1	
9	Can a toilet be seen from the lounge room? If there is more than 1 lounge room answer with reference to the one used by most confused patients.	N/A		NO	Score 0	Yes	Score 1	
10	Can the lounge room be seen into from the point(s) where staff spend most of their time?	N/A		NO	Score 0	Yes	Score 1	

	Stimulus reduction features	YES	NO	Score
1	Does the doorbell attract the attention of the patients?	0	1	
2	Is the noise from the kitchen distracting for the patients?	0	1	
3	Are doors to cleaner's cupboards, storerooms and other areas where patients may find danger easily seen (i.e. not hidden or painted to merge with the walls?)	0	1	
4	Is the wardrobe that the resident uses full of a confusing number of clothes?	0	1	
5	Are deliveries of food, linen etc. taken across public areas such as the lounge or dining room?	0	1	
6	Is there a public address, staff paging or call system in use that involves the use of loud speakers, flashing lights, bells etc?	0	1	
7	Is the front entry to the unit easily visible to the patients?	0	1	
8	Is the service entry (where food, linen etc is delivered to) easily visible to the patients?	0	1	
			Score is number of NO responses	

	Highlighting useful stimuli	YES	NO	Score
1	Is the dining room looked into from the lounge room or clearly marked with a sign or symbol?	1	0	
2	Is the lounge room either looked into from the dining room or clearly marked with a sign or symbol?	1	0	
3	Do bedrooms have a sign, symbol or display that identifies them as belonging to a particular individual?	1	0	
4	Are the shared bathrooms and/or toilets clearly marked with a sign, symbol or colour coded door?	1	0	
5	Is the kitchen either looked into from the lounge or dining room or clearly marked with a sign or symbol?	1	0	
6	Are toilets visible as soon as the toilet/bathroom door is opened?	1	0	
7	Is there a lot of natural lighting in the lounge room?	1	0	
8	Is the artificial lighting bright enough in all areas?	1	0	
9	Is the lighting free of glare, eg from bare bulbs, off shiny surfaces?	1	0	
			Score is number of YES responses	

	Provision for wandering and access to outside area	YES	NO	Score
1a	Is there a clearly defined and easily accessible (i.e. no locked exit) path in the garden that guides the resident back to their starting point without taking them into a blind alley?	1	0	
	If answer to 1a is YES answer 1b,1c,1d,1e,1g and 1g			
1b	Does the external path allow the resident to see into areas that might invite participation in an appropriate activity other than wandering?	1	0	
1c	Is the path within a secure perimeter	1	0	
1d	Can this path be easily and unobtrusively surveyed by staff members?	1	0	
1e	Are there chairs or benches along the path where people can sit and enjoy the fresh air?	1	0	
1f	Are there both sunny and shady areas along the path?	1	0	
1g	Does the path take patients past a toilet?	1	0	
2a	Is there a clearly defined path inside that takes the resident around furniture and back to their starting point without taking them into a blind alley?	1	0	
	If answer to 2a is YES answer 2b			
2b	Does the internal path allow the resident to see into areas that might invite participation in an appropriate activity other wandering?	1	0	
			Score is number of YES responses	

	Familiarity	MANY	A FEW	NONE	Score
1	Are there any colours in the furnishings or the decoration that would not have been familiar to the majority of patients when they were 30 years old?	0	1	2	
2	Are there any taps, light switches, door knobs that are to be used by patients that are of a design that would not have been familiar to the majority of patients when they were 30 years old?	0	1	2	
3	Are there any pieces of furniture in the lounge room or the dining room that are of a design that would not have been familiar to the majority of patients when they were 30 years old?	0	1	2	
4	Are there any pieces of furniture in the bedrooms that are of a design that would not have been familiar to the majority of patients when they were 30 years old?	0	1	2	
5	How many patients have their own ornaments, photos in their bedroom	2	1	0	
6	How many patients have their own furniture in their bedroom	2	1	0	
				Total score	

	Privacy and Community					Score
1	Are there small areas (nooks) that provide opportunities for casual interaction and quiet chats?	None Score 0	1 Score 1	2 Score 2	3 or more Score 3	
2	How many of these areas or nooks have views of pleasant or interesting scenes (outside, the living room, the nursing station)?	None Score 0	1 Score 1	2 Score 2	3 or more Score 3	
3	Do the shared living areas support small group activities (4-6 people) without re-arranging the furniture?	N/A	NO Score 1	YES Score 2		
4	Does the dining room provide opportunities for patients to eat in small groups (2-4)?	N/A	NO Score 1	YES Score 2		
5	Does the dining area provide opportunities for people to eat alone?	N/A	NO Score 1	YES Score 2		
				Total score		

	Community links	YES	NO	Score
1	Is the dining room looked into from the lounge room or clearly marked with a sign or symbol?	1	0	
	If answer to 1 is YES answer 1a			
1a	Is this room/area domestic and familiar in nature, to reassure family members and friends and encourage them to visit and to participate in the care of the resident?	1	0	
			Score is number of YES responses	

	DOMESTIC ACTIVITY Record the percentage of residents who:	None	Up to 50%	More Than 50%	Score
1	Have access to a kitchen	0	1	2	
2	Have a significant involvement in main meal preparation	0	1	2	
3	Have a significant involvement in making snacks or drinks	0	1	2	
4	Have a significant involvement in keeping bedroom clean and tidy	0	1	2	
5	Have a significant involvement in personal laundry	0	1	2	
6	Are involved in gardening	0	1	2	
7	Have constant and easy access to a lounge?	0	1	2	
8	Have constant and easy access to a dining room?	0	1	2	
				Total score	

Summary of Scores			
	Possible Score	Actual Score	Percentage
Safety	14	1	2
Size	3	1	2
Visual Access	10	1	2
Stimulus Reduction	8	1	2
Stimulus Enhancement	9	1	2
Wandering and access outside	9	1	2
Familiarity	12	1	2
Privacy and community	12	1	2
Community access	2		
Domestic activities	16		
Total	95		The Total score is the average of the percentage scores above.

APPENDIX B: THE ENHANCING HEALING ENVIRONMENTS (EHE) AUDIT TOOL

i Enhancing Healing Environments is a project of the King's Fund in the UK. The EHE project is ongoing and new versions of the EHE Audit Tool may be available from http://www.kingsfund.org.uk/ . As the King's Fund is actively involved in many projects aimed at improving health care service you may find information relevant to your needs at this site.

The use of the EHE has been approved by the King's Fund Centre. Their assistance with this publication is acknowledged and appreciated.

Case studies illustrating the application of the EHE to existing inpatient units are included in the companion to this publication "Improving healthcare environments for people with dementia", available for download from …

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Is your ward dementia-friendly?

The EHE Environmental Assessment Tool

The King's Fund

Ideas that change health care

Date .....

Ward/Unit/Department

.....

Assessment carried out by

.....

How to use the assessment tool

The assessment tool contains seven overarching criteria and a set of questions to prompt discussions. It should be completed in full. Walk around the ward/clinical area you are assessing. Consider each of the questions in turn and give them a score out of five, where five indicates that this aspect of the criteria is met completely.

The assessment tool can be used by a single individual but using it in pairs, ideally a mix of patient/carer and clinical/estates staff, offers valuable opportunities for different perspectives on the care environment and how to improve it. The experience from pilot sites has been that joint completion of the tool by carers and staff led to constructive conversations about the philosophy and purpose of care.

A summary sheet has been provided for you to fill in at the end of the assessment tool should help to that guide you to the areas you may wish to highlight for initial improvement.

How the tool was developed

This assessment tool was developed in collaboration with NHS trusts participating in The King's Fund's Enhancing the Healing Environment (EHE) programme. This phase of the EHE programme was funded by the Department of Health to support the implementation of the National Dementia Strategy. The assessment tool is informed by research evidence and reflects best practice. It is the first of a series of tools produced by The King's Fund to help individuals and organisations develop more supportive design for people with dementia. For further details about the EHE programme go to www.kingsfund.org.uk/ehe

How you might use the results

Before carrying out the assessment please ensure that you have relevant management backing to build support and commitment to the results.

You could benchmark your scores against other wards and departments in your trust and even more widely, to see how you compare and to highlight particular areas for improvement.

If you have low scores in a particular area, think what action you can take to make improvements within your area of control or whether it needs to be addressed with others. If your scores are low overall you might want to use this to help inform discussions on the need for environmental improvements with trust senior management.

We would be happy to receive feedback on the assessment tool. If you would like to contact us please email us at **ehe@kingsfund.org.uk**

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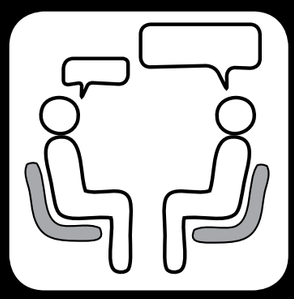
1

The environment promotes meaningful interaction between patients, their families and staff



Questions

Please score each answer from 1 – 5
(1=barely met, 5=totally met)

- [ ] **A** Does the approach to the ward/unit/department look and feel welcoming?
- [ ] **B** Is there an obvious reception desk?
- [ ] **C** Does the ward/department give a good first impression ie, does it look clean, tidy and cared for?
- [ ] **D** Are there obvious social areas, such as day rooms?
- [ ] **E** Are the chairs in these social areas arranged in small clusters that encourage conversation?
- [ ] **F** Are other activities encouraged in social areas rather than just passively watching TV?
- [ ] **G** Can staff observe unobtrusively, while being seen themselves, in all areas of the ward/department/unit?

Please give examples of good practice/areas of concern

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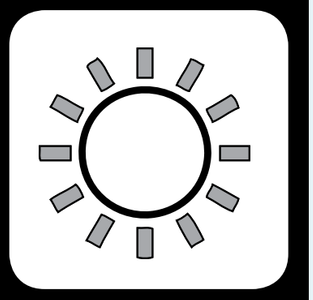
2

The environment promotes well-being



Questions

Please score each answer from 1 – 5
(1=barely met, 5=totally met)

- [A] Is the level of light comfortable and appropriate for what patients want to do in the space? ☐
- [B] Is it possible to adjust the light levels according to the time of day and care needs? ☐
- [C] Is the lighting even eg without pools of light and/or dark areas, stripes or shadows? ☐
- [D] Is the lighting designed to support normal sleep and wake patterns? ☐
- [E] Is there good natural light in bed areas and social spaces? ☐
- [F] Are personal objects, including self-care items, situated where the patient can find them? ☐
- [G] Are views of nature maximised? ☐
- [H] Are links to nature maximised, eg, by the use of natural materials, colours, artefacts and artworks? ☐
- [I] Do patients have independent access to outside space eg garden, courtyard, terrace, that it is safe for them to use? ☐

Please give examples of good practice/areas of concern

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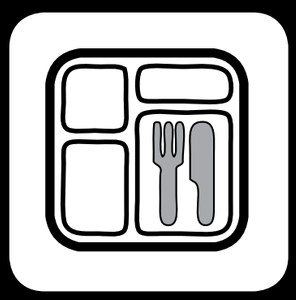
3

The environment encourages eating and drinking



Questions

Please score each answer from 1 – 5
(1=barely met, 5=totally met)

- [A] Do patients and/or their relatives have constant independent access to hot and cold drinks? ☐
- [B] Do patients have independent access to snacks and finger food? ☐
- [C] Is the crockery and glassware of familiar design and in a distinctive colour that contrasts with tables and trays? ☐
- [D] Is there a space where patients can eat together away from the bedside? ☐

Please give examples of good practice/areas of concern

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The environment promotes mobility

Questions

Please score each answer from 1 – 5
(1=barely met, 5=totally met)

- [A] Is the flooring matt rather than shiny? ☐
- [B] Could the lighting or natural light from windows make the floor appear to be wet or slippery? ☐
- [C] Is the flooring in a colour that contrasts with the walls and furniture? ☐
- [D] Is the flooring a consistent colour, ie does not have speckles or pebble effects? ☐
- [E] Are there handrails in the corridors? ☐
- [F] Are the handrails in a colour that contrasts with the walls? ☐
- [G] Is it possible to grasp the handrails properly? ☐
- [H] Is there space for patients to walk around independently? ☐
- [I] Are there small seating areas for people to rest along corridors and/or by the reception desk? ☐
- [J] Are there points of interest eg photographs or tactile artworks, along the corridors? ☐

Please give examples of good practice/areas of concern

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5

The environment promotes continence and independence

Questions

Please score each answer from 1 – 5
(1=barely met, 5=totally met)

- [A] Can the signs to the toilets be seen from all patient areas? ☐
- [B] Do all toilets and bathrooms have the same clear signage? ☐
- [C] Are all toilet doors painted in a single distinctive colour? ☐
- [D] Are the toilet seats, flush handles and rails in a colour that contrasts with the toilet/bathroom walls and floor? ☐
- [E] Are the flushes and taps of a traditional design? ☐
- [F] Are basins and baths of familiar design? ☐

Please give examples of good practice/areas of concern

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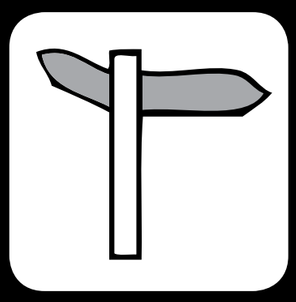
6

The environment promotes orientation



Questions

Please score each answer from 1 – 5
(1=barely met, 5=totally met)

- [ ] **A** Do doors have a panel you can see through or do they open against the wall to show where they lead to?
- [ ] **B** Do signs on doors, eg, for toilets or day rooms, use both pictures and words?
- [ ] **C** Are signs hung at a height (approximately 4 foot/1.21m) that makes viewing them easy?
- [ ] **D** Are pictures/objects and/or colours used to help patients find their way around?
- [ ] **E** Are bedrooms/bed spaces personalised, eg, through the use of numbers, accent colours, memory boxes, or personal photographs?
- [ ] **F** Is there a large-face clock easily visible from the bedside?
- [ ] **G** Are patients able to see a calendar in the ward?
- [ ] **H** Is there clear signage in the ward showing the name of the hospital and the ward?

Please give examples of good practice/areas of concern

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7

The environment promotes calm and security

Questions

Please score each answer from 1 – 5
(1=barely met, 5=totally met)

- [ ] **A** Are notices kept to a minimum to avoid distraction and confusion?
- [ ] **B** Are spaces clutter free?
- [ ] **C** Have noise absorbent surfaces been used eg on floors to aid noise reduction?
- [ ] **D** Is noise kept at a level that will enable patients to relax and concentrate?
- [ ] **E** Do patients have any control over the sounds they hear, eg can they listen to their own choice of music?
- [ ] **F** Are doors to exits, 'staff only' areas, etc, disguised, eg by painting the doors and door handles in the same colours as the walls?
- [ ] **G** Are patients cared for in the least restrictive environment possible while maintaining the appropriate level of security, eg, bed rails only used following a comprehensive individual assessment ?
- [ ] **H** Are safety and security measures, eg, baffle locks, window restrictors and alarms, as discreet as possible?
- [ ] **I** Are all hazardous liquids and solids, eg, cleaning materials, locked away?

Please give examples of good practice/areas of concern

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Summary

	Please add your scores for each criterion here	A	B	C	D	E	F	G	H	I	J
1	The environment promotes meaningful interaction between patients, their families and staff	☐	☐	☐	☐	☐	☐	☐			
2	The environment promotes well-being	☐	☐	☐	☐	☐	☐	☐	☐	☐	
3	The environment encourages eating and drinking	☐	☐	☐	☐						
4	The environment promotes mobility	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5	The environment promotes continence and and independence	☐	☐	☐	☐	☐	☐				
6	The environment promotes orientation	☐	☐	☐	☐	☐	☐	☐	☐		
7	The environment promotes calm and security	☐	☐	☐	☐	☐	☐	☐	☐	☐	

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