Department of Health

Environmental Design Guide

Adult Medium Secure Services

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Contents

Executive summary

This guidance builds upon previously published medium secure and mental health environmental guidance (*Design Guide 1993, Not Just Bricks and Mortar 1998*), drawing on the views and comments of clinicians, commissioners and patients.

The primary purpose of this guidance is to inform commissioners and providers of medium secure services who are considering new developments and the extension or refurbishment of existing facilities. It is not intended that this guidance be implemented retrospectively. Its purpose is also to help commissioners assess the suitability of medium secure services in meeting the needs of patients.

The medium secure environmental design guide sets out the following:

- Planning principles that should underpin design and technical detail
- Principles for room design
- Principles for maintaining service integrity
- Testing schedule for building materials
- Information about the installation and use of CCTV

This guide should be used in conjunction with the *Best Practice Guidance: Specifications for Adult Medium Secure Services* published in 2007 by the Department of Health, and with other applicable guidance and legislation connected to building regulations and the provision of health services, health and safety issues, and technical health memoranda.

Introduction

Medium secure health settings provide a safe clinical and therapeutic environment for patients who may present a serious danger to others and to themselves but do not need the physical security arrangements of a high security hospital.

The purpose of medium secure services is to provide effective care and treatment so reducing risk, promoting recovery and supporting patients to move through a care pathway to lower levels of security or to re-establishing themselves successfully in the community.

The intention of the guide is to be permissive but this cannot compromise the complex three-way balance that is required in all secure services. This balance is between maintaining the safety and security of patients and staff, providing an effective, beneficial therapeutic environment, and protecting the public. The design and construction of buildings have a key part to play in this equation.

There are currently around 65 NHS and independent sector services providing medium secure services in England, all varying in location, size and design. Patient needs vary and may depend on a number of factors such as diagnosis, gender, age and length of stay. Services should aim to meet individual needs and those of specific groups of patients, taking into account the experiences of current and former service users, carers, staff and other partners to consider how recovery and reduction of risk can be achieved.

Buildings can be used to facilitate the treatment model and care pathway, and to promote community engagement and recovery. Maintaining a high standard in building materials and continually improving the design of the environment will help to improve outcomes for patients. The building should also help to ensure the safety of patients, staff and the public, and provide comfortable, secure surroundings for patients many of whom are detained under the Mental Health Act for the duration of their treatment.

Security measures and therapeutic issues are closely linked; neither should be dealt with in isolation. Security provides a positive and supportive framework within which clinical care and therapy are safely delivered. Maintaining an appropriate approach to and level of security is the responsibility of all staff in the service. Good security and effective therapy should be seen as integrated concepts rather than opposite ends of a spectrum.

Medium secure services provide treatment to a range of detained patients including those transferred from prison under the Mental Health Act. Medium secure services provide a distinct and separate environment from prisons. This guide recognises these differences, and within this context, physical security must be provided within the building and site layout design in a sensitive and balanced way.

This guidance seeks to ensure that the approach to security and patients' requirements for privacy and dignity are considered within the guiding principles of the Human Rights Act and the Mental Health Act Code of Conduct and that they are lawful, legitimate and proportionate.

Introduction to security

Providing a safe and secure environment for patients, staff and visitors is integral to the provision of clinical care. Whilst the physical security measures in medium secure units are not of the same order as high secure services, the measures taken support the overall approach to security are similar.

The three domains of security are interdependent

- Physical: the internal and external perimeters, security mechanisms and technologies (e.g. manual/electronic lock systems, CCTV) and other physical barriers (e.g. airlocks) that exist in the unit and the service as a whole.
- Procedural: the timely, correct and consistent application of effective operational procedures and policies
- Relational: the understanding and use of knowledge about individual patients, the environment and population dynamic

It is essential that the three domains are developed, used and managed jointly, can withstand physical or behavioural challenge and used to inform decisions about individual/population care. The balance in emphasis between each domain will change given the operational needs of the unit as a whole, or the needs of a particular patient and/or group of patients, and the setting in which the service is provided.

Physical security

The physical integrity of the secure environment is dependent on the appropriate provision and maintenance of buildings, equipment and technology as well as the clear delineation of internal and external perimeters. Physical security requirements are based on the need to impede breaches of the secure perimeters by patients, prevent self-harm and protect staff and members of the public.

Procedural security

Procedural security relates to the effective application by staff of robust operational policies and procedures governing but not limited to the safety of patients, visitors and staff; risk, adverse incidents and operational management.

Establishing a comprehensive range of effective procedures across the service anchors the application of therapeutic activity to structure and routine. This ensures that staff are able to establish and maintain clear boundaries across the service.

The routine and appropriate application of procedures enables safe practices to be applied consistently and embedded into practice. Staff should receive training so they understand the context and purpose of these procedures and can adopt and apply them effectively.

Relational security

Relational security underpins the safety and integrity of the service, its patients, staff and visitors. The effectiveness of relational security is dependent on the entire staff team working cohesively – regardless of whether an individual has direct patient contact – and applies to all services regardless of the level of security they provide. Relational security is defined as

> 'the knowledge and understanding staff have of a patient and of the environment, and of the translation of that information into appropriate responses and care'

A breakdown in relational security will compromise the effectiveness of the services' procedural and physical security measures. It is rare that that a breakdown in relational security is not highlighted as a contributory factor when investigating serious incidents. Importantly the effect of a breakdown in relational security has on patients must be considered; patients may for example, lose confidence in the staff team so erode trust in the care and treatment they provide.

Extensive guidance and advice on relational security is provided in the Department of Health 2010 publication *See, Think Act*. The guidance can be accessed using the following link

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_113318

Principles of planning and design

Planning a medium secure environment should centre on developing a service where staff and patient live, recover from illness and work; it is not just about a building.

The impact secure buildings can have on the public and the patients' perception of services should be recognised as part of the design process. Whilst physical security is important, the location, design, layout and building materials will play an important role in:

- maintaining the integrity of the service
- reducing risk
- providing a safe, therapeutic environment
- integration into the community

Building design must comply with the national guidance on the provision of single sex accommodation.

Environmental purpose

The provision of a purposeful, safe and therapeutic environment for patients should be the primary aim of a medium secure mental health service. The operation of the service will be influenced by the design, so care should be taken when thinking about effective lines of sight, and circulation and access routes for patients, staff and visitors.

Service planning should take into account the full therapeutic and social purpose of the service recognising that patients may stay for extended lengths of time. The design should enable a full range of social, clinical and therapeutic spaces to be provided in addition to a range of core areas that staff will need to support the operation of the service.

There should be a range of communal areas, spaces for quiet reflection, rooms for therapy, treatment, education and leisure; designed in a way that provides hope, calms, supports and empowers patients.

Medium secure service designs should be innovative using imaginative design to create interesting spaces. However, this must be balanced with designing uncomplicated, accessible buildings that are fit for purpose as secure health facilities.

Services should be designed to accommodate staff requirements and reflect their particular functions. There should be sufficient and appropriately located space for storage including

patient records, equipment, plant and services, and for housekeeping items such as laundry and cleaning supplies. Consideration should be taken of the need to store patients' possessions.

Quality of life

Patients need spaces where they have privacy and are able to reflect quietly in addition to areas where they can engage with staff, meet visitors, socialise with other patients, participate in leisure activities (hairdressing, indoor games, watching TV for example) and develop a sense of community. These areas should be well equipped and designed to feel comfortable and relaxed. Designs that have good acoustics (i.e. help reduce noise and echo), minimise the risk of crowding, and have natural light and ventilation are important in helping to create a positive, therapeutic atmosphere.

Engaging with stakeholders and identifying their needs

The planning of new medium secure services should consider the needs of relevant stakeholders; the level, frequency and type of engagement they require will vary. Although not an exhaustive list stakeholders are likely to include:

- Patients
- Carers, advocates and visitors
- Staff including clinicans and service managers
- Commissioners
- Professional bodies
- Local residents and community groups
- Police and other emergency services
- Local authorities

The identification and engagement with stakeholders should happen at an early stage in the planning process and should inform the development of an overarching communication and engagement strategy for the project. The DH consultation exercise conducted as part of the development of this guidance, identified a number of specific needs of particular groups; see Annex A for more details.

Clinical and operational involvement

There should be consistent clinical and operational input into the project from initiation right through to completion to ensure that the design is operationally realistic, reflects the philosophy of the treatment programme and the needs of the proposed patient group.

It is especially important to consider how different rooms and spaces fit together and contribute to the operational delivery and effectiveness of the service, accessibility and flow of daily life. Planners should not underestimate the time commitment required from key staff and should plan 'business as usual' staffing levels accordingly.

Patient involvement

Patients and their carers should be actively encouraged to participate in and contribute to the project from the outset and throughout the development process. This is particularly important for patients who may be transferring into the new development from existing services; they will have important contributions to make to the philosophy of the service, its design, layout, furnishings and colour schemes.

Community involvement

It is important that local residents and community groups understand the nature of the medium secure service, and its treatment and care philosophy. Active engagement with the local community from the very early stages of planning is vital so any concerns or questions about risk, design and privacy are responded to appropriately and in a timely way. This is particularly important when planning a service in a new geographical location.

It is important that communities and other interested stakeholders (for example the police) understand how authorised leave is used within the care pathway and how services will provide ongoing support to patients following their discharge. Services should consider an ongoing strategy for community engagement beyond the completion of the project that keeps channels of communication open and maximises understanding and co-operation.

Value for money

The physical security and staffing arrangements, the average duration of treatment and the multidisciplinary participation in care means that whilst medium secure services are relatively low volume, they are also high cost. Significant attention should be given to life cycle costing, and the fit with the longer term commissioning and service planning strategy.

A degree of 'future-proofing' should be built into development plans to ensure services can meet current and anticipated future need. This may include consideration of whether the

location, site layout and design are flexible enough to allow for future expansion through modification or extension.

Safety

Creating a safe environment for patients, visitors and staff is essential to building and maintaining a positive experience of care. It is important to recognise that whilst physical security measures have a part to play in supporting the delivery of a safe service; this is only part of the picture. The environment has a key role in encouraging patients to participate in life on the ward and actively engage with staff and in treatment. Importantly, environment also has a part to play in minimising risk and maintaining motivated, confident staff.

Shared learning with other services

Planners and designers should endeavour to learn from the experiences of other services and support system-wide improvement in the effectiveness of hospital design, construction and operational delivery of medium secure services.

The learning from serious untoward incidents and near misses may be valuable when considering estates design, layout and detailing. Listening to patients who may have experienced care and treatment in other services may also prove useful.

The prevention of self-harm and suicide

Spaces where patients may not be continually supervised or observed by staff (for example bedrooms and toilets) should be considered high-risk areas and designed, constructed and furnished to minimise the opportunity for self-harm. Lines of sight and access for staff responding to high-risk incidents and emergencies should be carefully considered when planning design, layout and furnishing.

All fixtures and fittings in the service such as window and door furniture, door closers and hinges, taps, showerheads, and coat hooks should be anti-ligature and meet national safety requirements.

Spaces and rooms that are continually observed by staff (for example communal areas or circulation spaces) should be designed and furnished to maximise light, be bright, comfortable and well equipped but minimise risk.

The prevention of injury to staff and others

The environment should be designed to allow thorough visual checks to be made in the shortest possible time. Opportunities to create weapons and/or conceal contraband should be eliminated as far as possible.

Rooms, doors and communal spaces should be designed to minimise the opportunity for patients to self-barricade and should allow staff to gain access in case of emergency. All rooms should be designed and furnished to minimise the possibility of patients, staff or visitors becoming isolated, hidden or barricaded in.

Infection control

A robust approach to infection control is required; this should be reflected in the service layout, design and fitting. Mental health services have a range of risks and needs associated with them that differ from other healthcare settings and it will be important for nursing, estates and facilities management to be involved in agreeing appropriate measures. The fitting of carpet, for example, whilst less appropriate for other healthcare settings, may be more appropriate in medium secure services in creating a more relaxed, comfortable environment and reducing noise.

Building materials and fittings

Materials used throughout the service and particularly in areas used by patients should be robust and resistant to sustained or immediate attack. Design elements should be carefully selected and installed with appropriate fixings that can withstand damage and cannot be removed easily.

All areas or rooms used by patients should be designed to minimise the chance of prohibited items and weapons being concealed or stored. Design, layout and fittings should facilitate easy checking and searching by sight or touch.

See Annex B for information on testing criteria for fixtures, fittings and building materials.

Principles for room design

Planners should take into account the need to provide rooms and other spaces with therapeutic benefit for patients that will contribute to the daily life of the service and the welfare of visitors. These should include:

- education rooms
- library
- multi-faith rooms
- visiting rooms
- multi-gym and sports facilities
- primary health care facilities
- self catering/cooking
- shop /café

These spaces should be provided within the secure external perimeter and accessible to patients regardless of any additional restrictions that are imposed under the Mental Health Act.

Consideration should be made of other areas needed to support operational delivery and welfare of staff away from the ward area such as:

- spaces for confidential working
- spaces for staff learning and development
- dining and rest areas
- changing rooms and locker facilities
- storage spaces
- facilities for plant and equipment

This section of the guide deals with the main rooms and areas in the service where specific detail is required because of their particular function.

Main entrance and lobby

There should be a single main entrance to and exit from the building with an airlock operated by central control room that co-ordinates the entry and exit of all staff, patients and visitors. In cases where the service has a separate dedicated entrance for staff, this should have an airlock that is centrally controlled and monitored.

There should be a secure centrally controlled and monitored airlock for vehicles requiring access to deliver goods and services to the site. Planners will need to consider how vehicles transporting patients being admitted to the service are able to access the site appropriately.

The entrance environment for patients, visitors and staff should be welcoming, appropriate to a healthcare setting and should operate efficiently.

- The lobby area inside the main entrance should only be used for visitors and should have comfortable seating, natural light and an interior that provides a positive first impression. The service may wish to provide an additional dedicated and comfortable welcoming area for visitors.

- Patient areas should not be visible from the visitors lobby.

- There should be lockers in the lobby area so that visitors can store items that are not permitted on the unit during their visit.

- Beyond the main lobby, entry to the secure service should be through a centrally controlled airlock with two sets of controlled interlocking doors. This means one set of doors will open and close before the second set opens.

- Airlocks should not give direct access to areas accessible to patients. Ideally, there should be a further set of doors controlling access from the patient side to the airlock

- There should be a failsafe mechanism to ensure that in the event of a power failure the operation of magnetic or electronic airlocks, door locks or controls are not compromised

- The default position for the airlock in the event of operational failure is closed and locked

- Where staff entry is controlled by an automated entry system, (for example a biometric system) this should be connected to, monitored by and capable of being overridden by the control room.

Control room

- The control room should have a dedicated entrance on the secure service side of the airlock; it should not be possible to enter the control room from the main entrance lobby or from the airlock itself.

- The control room should have clear sight of the main entrance, lobby and airlocks. It should also have an effective (audible) communication system with each of these areas to enable visitors and staff to complete security processes effectively.

- The control room should be on a separate locking suite that prevents unauthorised access by staff, patients or visitors.

- There should be a search area beyond the airlock before entry to patient areas that can be used, if necessary, to search staff, visitors or patients. This should be supported by either portal or handheld scanning equipment.

- The merits of CCTV coverage for the main entrance, lobby, additional visitor waiting rooms, search area and the control room should be considered (see Annex D).

Patient bedroom

Bedrooms should be en-suite, allow patients a measure of privacy, be designed to maximise the use of space and be bright with natural light.

- The bedroom should be a minimum of 15 sq m including the en-suite facility. Assisted bedrooms should be between 17 and 19 sq m.

- Planners should take account of the need to maintain patient privacy whilst allowing for appropriate staff observation. Bedroom doors should incorporate an observation panel fitted with an integrated louvre blind. The blind should be operated by the patient from inside the room, with a staff override facility located outside.

- Each bedroom and en-suite should have a staff call facility, ideally this should be a wireless system

- The layout of the bedroom and en-suite, furniture design, fixtures and fittings should not allow patients to conceal themselves in the room.

- Each room should have tamper-proof mechanical and electrical services fittings. The lighting, water and electrical override controls should be located outside the bedroom.

- Bedrooms should be arranged so wherever possible they share common services such as water and electricity.

- All pipe work and services should be located in a secure duct adjacent to the room and should only be accessible from the circulation area or a non- patient area.

- The bedroom design should enable patients to watch television, store personal belongings and clothes, play music and access information about the service.

- Planners may consider incorporating a controlled distributed media system across the service

- The bedroom should have a patient operated lock that staff can over-ride from the outside.

Bathrooms and toilets

Bathrooms and toilets are high-risk areas, their design and layout, fixtures fittings should be such that it would be extremely difficult for a patient to commit suicide or to harm themselves or others. The following principles should apply:

- To eliminate potential ligature points, taps, showers, bath and toilet flush should be activated using wave on – wave off technology, push button or electronic sensor with timer control.

- All ductwork, plumbing and pipe-work should be concealed

- Traps and wastes must be made readily accessible to assist in the retrieval of patient effects

- The water and electrical supplies to the bathroom and toilets (communal and en-suite) throughout the service should be able to be isolated by staff from outside the room

- Floors should be slip resistant and edge-to-edge; there should be seamless finishes around walls and splashback areas

- Removable support bars should be available for patients who may require additional assistance but kept in a store and fixed only when needed.

- Toilet pans should be rimless with an integrated seat to avoid creating hiding places for prohibited items or contraband.

- Mirrors should never give a distorted image of the patient and should

    o be non-breakable
    o be polycarbonate
    o have polished edges and securely contained within a resin-based frame
    o be finished with anti-pick mastic to prevent items being concealed behind the mirror.

- Where shelves or soap dishes are not part of an integrated unit, they should be

    o non-breakable
    o formed from a composite resin and powder-based material
    o securely fixed and sealed around the edges with anti-pick mastic

Communal patient bathroom

Each ward should have a fully wheelchair accessible bathroom for patient use with or without staff support.

- The assisted bathroom should be a minimum of 16 sq m and suitably located within easy access of the bedrooms.

- The room should be fitted with a bath, shower and wash hand basin; all fittings should be anti-ligature.

- The door should be fitted with a security lock and indicator bolt that is operated internally but can overridden by staff from the outside.

Communal patient toilet

Each ward should provide an appropriate number of toilets for patients using communal and patient activity areas.

- The fixtures and fittings should be anti-ligature with flushes and water supplies operated with wave-on-wave-off, push button or electronic sensor.

- The door should be fitted with a security lock and indicator bolt that is operated internally but can be overridden by staff from the outside.

De-escalation area

The de-escalation room or area can provide a quiet, low stimulus space for patients experiencing high levels of arousal who may not require a period of seclusion. It can also be used as part of the therapeutic process when patients are moving out of seclusion and back into the main ward area.

The de-escalation space should be planned as a single purpose area; it may be close or connected to the seclusion suite. Planners should consider how staff will use the space during the therapeutic process and although a low-stimulus space, thought should be given to providing centrally controlled music. Spaces used for de-escalation should be:

- Minimally furnished with either robust furniture that cannot be lifted and thrown, or lightweight furniture (for example foam) that would not cause injury or damage if thrown

- Soothing in decor with muted and restful colours

- Quiet, without a telephone or television

Seclusion suite

The need for seclusion suites in medium secure services should be considered at an early stage. The purpose of seclusion is to manage a highly disturbed or high-risk patient away from the main patient area in a room that may be locked.

The seclusion suite is a single-function space; it should be en-suite and specifically designed to be low stimulus and to ensure the safety and physical wellbeing of the patient. All fixtures, furniture and fittings should substantially limit the risk and ability of patients to harm themselves or others.

The design and location should protect patients' privacy and dignity and minimise interaction between secluded and non-secluded patients. In addition:

- A clock should be visible to a patient in seclusion.

- Seclusion facilities should be located away from other patients' rooms. Locating seclusion facilities at points where wards meet will enable rooms to be available for either ward.

- Wherever possible seclusion facilities should be arranged so that they share common services with ward areas.

- All pipe work and services should be located in a secure duct adjacent to the room and should only be accessible from the non- patient area.

- The seclusion suite should be located away from main thoroughfares and in an area that is not visible by other patients.

- Staff should be able to observe the entire suite. Consideration should be made of how staff will use the approach to and space within and around the suite to manage, observe and support patients.

- The area staff use in the seclusion suite during the time they are supporting and observing patients should be not be used as office space.

- Each seclusion suite should have tamper-proof mechanical and electrical services fittings. The lighting, water and electrical override controls should be external to the suite.

- The suite must provide adequate ventilation, heating, cooling and water; these should be controlled by staff from outside the suite. The window should not open and should have an integral blind controlled from outside the room by staff.

- The patient seclusion bedroom should be a minimum of 15 sq m including the en-suite facility. Any door between the bedroom and en-suite should be fitted with a fully encased lock-back facility.

Visiting suites

Visiting suites should be furnished comfortably, and be bright and welcoming. The suite should have two doors to allow separate entry/exit for patients with appropriate measures in place to support appropriate observation.

A dedicated suite for visiting children should be located inside the secure perimeter as close to the main entrance/reception as possible to ensure the experience of the visiting child is as positive as possible. Ideally, there should be access to secure outside space for play that is not overlooked by patients. The suite should have:

- natural daylight and views to the outside
- a toilet
- baby-changing facilities (separate from the toilet)
- comfortable seating with space for play
- a range of age-appropriate toys
- facilities for infant feeding and for making drinks for children.

Treatment and dispensary rooms

These rooms should be used for dispensing and the physical examination and treatment of patients either routinely or in an emergency. They may also be used for administering medication.

- The operation, design and fitting of the dispensary should be compliant with current guidance in relation to the control and administration of drugs

- The position of the dispensary and treatment rooms should aim to protect the privacy and dignity of patients whilst fulfilling the need for operational effectiveness on the ward

- The dispensary should be located adjacent to the treatment room with a connecting door

- The entrance to both rooms should be easily observable by ward staff.

Ward base

The activities of patients and staff should be coordinated from a central point on the ward. This should have good lines of sight to the main patient areas including the outdoor ward space and the ward entrance.

The ward base should not necessarily function as the ward office, alternatives that are more inclusive should be considered depending on the ward purpose or service philosophy, and the risk profile of the patient population.

The ward base could be a clearly defined but open plan space that encourages greater engagement of and accessibility to staff. Where an open plan solution is in use, separate areas for confidential working and storage will be important.

Administration facilities

This area should be designed as a confidential work and storage space for staff and should be away from but provide easy access to patient areas.

Any monitors or controls for local (for example ward) CCTV cameras should be located in the administration room and out of sight of patients.

Consideration should be give to the provision of secure facilities for the appropriate storage of medical and other patient records.

Ward kitchen and servery

The size, layout, design and equipping of a kitchen will depend on its purpose (service-wide, ward specific or for patient use) and location. A ward servery should be located adjacent to the dining area but with ease of access from the ward entrance for deliveries.

- The kitchen and servery are high-risk areas and should be designed so that they can be easily observed, supervised and managed by staff.

- Boilers, other heating devices, food preparation and waste disposal equipment should be able to be isolated, locked away, or rendered inoperable by ward staff when required.

- All cupboards and drawers in non-patient kitchens should be lockable with keys controlled by staff.

- Servery hatches should be secured shut when not in use.

- Planners should consider the provision of appropriate facilities and equipment for patients to make hot and cold beverages.

Tribunal suite

The tribunal suite should be located inside the secure perimeter. It should

- accommodate up to 20 people seated at a table

- provide separate space for Mental Health Act Administrators

- be located near to or provide within it appropriate space for patients to meet privately with their representatives

Circulation routes

When planning circulation routes, care should be taken to ensure that the design facilitates operational delivery of the service. Changes in floor coverings can be useful in delineating areas within the service and within the ward, they also have a role in helping to create flow without compromising space.

- Spaces in which patients are likely to be escorted or restrained should be of adequate width and height and have minimal physical obstructions.

- Corridors should provide good lines of sight and maximize the use of natural light, and have adequate ventilation and heating. Long corridors without natural lighting should be avoided.

External areas and landscaping

Access to external space plays an important part in the care pathway. Patients need external spaces where they can relax, exercise and socialise; this will have a significant role in their recovery.

Each ward in the service should have level access from the lounge or communal area to a dedicated secure external garden designed to facilitate appropriate observation. This garden should be of sufficient size to allow all patients to use it at one time and should not be used as a smoking area. Planners should take account of the service providers smoking policy when considering the provision of facilities for patients who smoke.

When designing and constructing the garden the following should be taken into account:

- Building design rather than anti-climb devices should prevent unauthorised access to roof areas from the secure garden.

- Doors, garden furniture and equipment, light fittings, posts, and CCTV fixings must be secure and not provide a climbing aid.

- Materials used for hard landscaping should not be easily misused or removed

- Lighting cover for external areas within the secure perimeter should be sufficient to see any movement.

- All permanent garden furniture and fittings should be robust and secured to avoid being used as a climbing aid or weapon.

- Where planters are used, they should be either secured or of sufficient size and weight that they cannot be moved easily.

Planting

Park-like spaces with open grassy areas, scented flowers, textured plants and shrubs can alleviate stress and help to create a positive environment for patients and visitors to the service.

Planting should be imaginative, encourage use of the space and reflect the movement of seasons. Care is required when selecting planting schemes; poisonous plants and those with spikes or thorns should be avoided.

Plants that could be used as a climbing aid, for fermenting or as a weapon (including blowpipes) should not be used. Careful consideration should be given to all proposed planting to ensure that it will not compromise the visibility of the perimeter or CCTV coverage (where used) as it grows.

- There should be a clear space adjacent to the secure perimeter, trees and shrubs should not obscure or overhang the perimeter fence or wall, provide a climbing aid or places for concealment.

- To avoid the possibility of contaminants particularly glass and metals, British Standard screened topsoil should be used.

Principles for maintaining service integrity

This section sets out specific components and requirements aimed at reducing risk and maintaining service integrity. The overall purpose is to ensure the safety and security of patients, visitors and staff in medium secure services as well as the public.

The areas within the secure perimeter should comprise

- Areas where patients are continually observed or engaged in treatment and therapy for example in clinical and therapy rooms, workshops and communal day areas including the secure garden
- Areas where patients are intermittently observed such as bedrooms and en-suite, communal bathrooms and toilets, visitors facilities
- Staff areas that are directly related to operational service delivery
- The reception and control room

In order to facilitate freedom of movement for patients within the unit, the service should agree an internal perimeter normally defined by the secure doors leading to outside areas.

The secure external perimeter

Medium secure units should have a secure external perimeter. This is achieved in a number of ways:

- secure area formed by buildings
- secure area formed by perimeter buildings connected with perimeter fencing
- perimeter joining reception and surrounding the remainder of the unit
- perimeter surrounding the whole unit.

The following principles apply to external perimeter security:

- Razor or barbed wire or rotating spiked toppings are not acceptable within a healthcare setting.

- Only essential gates or entry points should be allowed in the external perimeter, these should be centrally controlled, monitored and operated.

- Gates should not incorporate any footholds or assist climbing. Locks should be integral to the gates and be on a separate locking suite. Access through the gates should be controlled and monitored.

- Vehicle entry should be via an airlock with two sets of interlocked doors that are centrally controlled, monitored and operated.

- Where roofs are part of the external perimeter, care should be taken when designing access to internal roof spaces given the potential to compromise security.

- Entrances to buildings should be designed as secure lobbies.

- Patient bedroom windows should not form part of the external secure perimeter.

- All windows in the external perimeter line should be designed to maintain the integrity and security of the building.

- All openings in the external perimeter for pipes and service routes should be concealed and secure.

- Where roofs surround courtyards or patient access areas, there should be a regular planned review and elimination of climbing points. In some circumstances, it may be appropriate to install anti-climb capping to the external perimeter.

- Designers should consider how to appropriately locate and install light fittings, CCTV brackets, lightning conductor tape fittings, trees, unprotected windowsills, drainpipes, guttering and air conditioning units. All these items are potential climbing aids.

Physical security may be supported by technological systems that are controlled and monitored by the control room. These might include:

- access control systems
- perimeter lighting
- external lighting within the secure perimeter
- CCTV
- perimeter intrusion detection systems (PIDS)

Perimeter height and construction

Where fencing is used to form all or part of the secure perimeter it must be a minimum of 5.2m in height and should be BS358 weld mesh (3mm diameter and 13mm centres vertically and 75mm centres horizontally).

- Consideration should be given to the need for double skinning the lower half of the fence either with metal cladding or with double mesh.

- The fencing posts should be placed on the non-patient side of the fence.

- Where the fence meets buildings or other fences care should be taken to ensure there are no gaps between the joins and no climbing aids for example, hinge gaps between the perimeter gates and the perimeter fence.

- The main entrance and reception building is part of the external perimeter and should be protected against climbing, it should maintain the height of the secure perimeter.

Perimeter walls

The walls forming the secure perimeter should be difficult to break through. Junctions between single storey and two storey buildings should be avoided where they do occur, the junction detail should not allow jumping or climbing between buildings.

Walls and external facades should be vertical. The elevations should be detailed to make wall scaling as difficult as possible, joints should be smooth and without configurations that can be used as climbing aids. Where projections are used, they should be rounded or sloping.

- Rainwater pipes should be far enough away from an internal corner to prevent climbing and be a minimum of 900mm from any opening or projection.

- All fittings, such as lights or cameras, should be a minimum of 900mm apart and be designed with smooth and sloped surfaces to impede climbing.

- All lightning conductor tapes should be installed within the external wall construction.

Perimeter roofs

Complicated roof designs should be avoided; wherever possible any activity on the roof should be able to seen from ground level.

Where roofs form part of the perimeter they should be protected against climbing; there are a number of options to reduce risk:

- gooseneck capping
- flexible secure topping
- weld mesh fence fixed from below the eaves to a height of 5.2 m
- alarm systems with an immediate planned response

Perimeter clear zone

Ideally, planners should aim to achieve a minimum clear zone of 5m either side of the secure external perimeter.

Ward service entry

A separate entrance to the ward for the delivery and collection of clean and dirty goods and food should be provided. The entrance should not be accessible to patients or their visitors.

Doors

The design of doors, frames, hinges and door furniture and observation panels should be considered as part of one structure, the integrity of which is dependent on the weakest element.

Careful consideration should be given to their design and installation to ensure they minimise the opportunity for:

- ligature
- escape
- breakage
- barricade
- concealment
- dismantling
- removal of parts

The design of corridors and room doors should ensure they cannot be levered against open doors, corners, architraves, fixtures and fittings or doorstops causing damage to the door, hinge or frame or making it impossible to close.

Locks and keys

There will normally be a single locking suite for the unit. It is good practice to have a separate suite for doors providing access to outside areas. Each unit should keep control of its own number of allocated keys/pass cards/fobs

Security locks

When used in this guide the term 'key' can include any of the following systems:

- electro-mechanical
- traditional manual keys
- magnetic
- swipe card
- proximity readers
- biometric readers

All these systems can be combined with keypad systems. Tracking and/or audit trails are also available within some of these systems.

Privacy locks

Bedroom doors should be fitted with anti-ligature privacy locks. All locks should be:

- Suited so that staff have an overriding key and patients have an individual key to their own room
- Have an override facility so that staff can gain rapid access in an emergency.

Clinic and treatment room locks

Clinic and treatment room doors including cupboard doors should be fitted with a suited lock. Each ward's clinic and treatment rooms should be on an individual suite.

Internal walls

All internal walls should be of standard but robust construction, with non-removal wall finishes and reflective of the need to reduce noise and echo. Internal walls in patient areas particularly those in seclusion or high dependency areas should be able to resist sustained attack. See Annex B for testing criteria.

Protective bumper rails where used, should be securely fixed and able to resist challenge; they should have rounded edges and corners.

Floors and floor surfacing

A risk assessment should inform decisions about appropriate floor coverings throughout the service. This should take account of infection control issues but also facilitate the creation of comfortable and therapeutic environments. The need to reduce echo and minimise noise should also be considered.

- Seclusion and de-escalation suite floors and skirting should be durable, with a hardwearing and slip resistant surface resistant to attack and picking.

- Sheet carpets, sheet vinyl or linoleum with impervious backing may be used for patient areas in bedrooms corridors and lounges. This should be fully bonded to the floor.

- Woven fibre backing on carpets should be avoided as this could be used to form a ligature.

- Dining areas should be finished with an impervious vinyl or other robust slip-resistant and attractive finish.

- Bathrooms, shower rooms, kitchens and disposal rooms should have slip resistant floor coverings.

- Expansion strips should be fixed and tamper-proof, care should be taken to ensure they cannot become a trip hazard.

Skirting

In periodically observed patient areas if skirting is provided this should be made of the same material as the floor and be an integral part of the floor finish.

In continually observed patient areas, where skirting is not an integral part of the floor finish, hardwood or a composite material of an equivalent density can be used.

Ceilings

Ceilings should generally be considered to form part of the perimeter providing protection to the internal and external roof area and any plant or equipment that it houses.

- Grid type suspended ceilings should not be used in patient areas.

- Ceiling heights should minimise the opportunity for patients to access light fittings and radiant panels. It is important to consider the impact of ceilings on acoustics, particularly in communal areas.

- Roof access points should be located in non-patient areas

- To reduce the risk of harm, ceiling finishes in patient areas should be smooth and tamper proof.

- Emergency escape hatches should not discharge into patient areas.

Secure ducts and concealment of services

- In areas that are accessible to patients, all pipes, ventilation ducts and cabling should be contained in concealed, secure ductwork.

- Access for maintenance and servicing should be away from patient areas and should be through secure locked doors or panels. Secure ducts should generally be of a walk-in size.

Windows

Access to fresh air, daylight and views contributes significantly to quality of life. Careful consideration should be given to the design of windows, the way they are fixed to the building structure and their associated fixtures and fittings.

Particular consideration should be given to the design, construction, fixing, framing, glazing and detailing of windows to maintain the integrity of the perimeter. Windows that form part of

the external secure perimeter should not open. Ventilation should be achieved through secure ventilation.

- Windows should be tested to Criteria type 1 to 3 (see Annex B) to ensure they maintain integrity against sustained or immediate attempts to escape.

- If windows are provided with opening lights, these should be robustly constrained to provide a maximum opening of 125mm to avoid a patient being able to climb out (this is greater than the standard for other NHS services on the basis that this medium secure design guide addresses accommodation for adults only).

- Windows where the passage of drugs or weapons is a risk should be constructed with a secure mesh.

- Where windows do open to greater dimension than 125mm the opening area should be protected by a secure ventilation grille.

- All catches, restraints, and controls for integral blinds should be designed to minimise ligature risk. The facility for staff to lock a window in the open position as well as in the closed position reduces the ability for it to be used as a ligature point

- The windows must be able to be cleaned effectively from within the patient area.

Blinds and curtains

Where blinds are fitted in patient bedrooms, they should be integral to the window structure and controllable by the patient (except in seclusion rooms where they should be controlled by staff from outside the room).

Integral window blinds in observation panels should have an external override feature for staff use.

The mounting or tracking of curtains in patient areas should not provide a ligature opportunity or be removable for use as a weapon.

Fixings

Building fixings have an important part to play in maintaining the security and integrity of the service. At times, fixings may be subject to sustained attempts to dismantle, vandalise, and break or to remove them; on occasion, they may also need to withstand considerable physical force. Fixings should be chosen appropriately to reflect these risks and their associated repair costs.

Annex A: Stakeholder needs

Patients	
Privacy & dignity	Patients should have their own en-suite bedroom. They should have control over their lighting (including reading light), natural light (if integral blinds are fitted), and ventilation and where appropriate their heating. A patient should have the ability to lock their bedroom door from both the outside and inside, with the capability for staff to override this to protect their safety.
Safety	Patients need to feel safe. Patients will not be able to engage with the therapeutic purpose of the ward unless they feel safe first.
Space	The size, furnishing and quality of spaces and circulation areas will influence how patients engage with and use it. A variety of different spaces should be provided to allow patients a choice of environment.
Disabled accommodation	Appropriate accessible accommodation and facilities should be provided that ensures that the needs of disabled patients are met in a way that promotes inclusivity.
Space to meet others	Contact with the outside world is an important part of treatment and recovery. Part of the purpose of medium secure services is to support patients to develop safe and sustainable relationships with others so they are prepared for a successful return to the community. Patients need spaces where they are able to meet friends, family, carers, advocates, their solicitors and other professional visitors.
Gender specific	Accommodation should not only be planned to be gender specific but also furnished and decorated in such a way that meets the needs of different genders.
Access to outside areas	Direct, controlled access from internal spaces to outside areas offers patients greater freedom of movement and fresh air. The design should provide staff with good lines of observation and control of all access and egress.
Variety of activities	It is essential to provide a wide range of activities for group therapy, social and recreational use. The use of room and outdoor spaces can be maximised by early patient and clinical involvement and the application of a service's clinical philosophy.
Healthy lifestyle	Physical health care is an important aspect of care, treatment and mental wellbeing. The unit design should provide opportunities to improve the lifestyles of patients including access to fresh air and exercise.
A space to pray	The design should provide for a suitable multi-faith room in which patients are able to pray.
Natural light and ventilation	These are essential attributes to a well-designed unit and the physical and mental wellbeing of patients.
Clean, well-maintained building	This conveys a positive message to patients, patient's advocates and staff and encourages pride in the ward environment. There should be a zero tolerance policy on graffiti and damage in general. The ability to maintain a clean homely

	service will be dictated by the material used to build and furnish it.
A "homely" feeling	The definition of 'home' is different for everyone and whist some patients may be in medium secure units for long periods, they are not homes but places of care and treatment. However, patients describe a preference for an environment that is comfortable, non -threatening and minimises institutional features.
Avoidance of noise	At initial planning stage, consideration should be given to the location of potentially noisy rooms (laundries, de-escalation suites) in relation to quiet accommodation such as bedrooms. Good soundproofing should be installed between rooms and use heavy-duty sound reducing doors. Noisy engineering equipment, fans and light fittings should be avoided. Noise is a factor that can contribute to feelings of fear and tension on a ward.
Avoidance of overcrowding	Overcrowding can also create tension on a ward. Activity areas and dining rooms should provide adequate space to avoid overcrowding whilst maintaining the ability to promote community living.
Storage	There should be adequate facility for storing and accessing a reasonable amount of personal possessions for patients.
Carers and visitors	
Welcome	It can be daunting visiting a secure unit, especially for the first time. Visitors need to feel welcome and reassured by the surroundings.
Privacy	There should be discrete areas for visiting with facilities for safeguarding children and sufficient rooms to accommodate visits from solicitors, other advisers and carers.
Safety	Visitors need to feel reassured that there is someone on hand if they are needed. Areas used by carers and visitors should provide for good observation by staff supported by the necessary technology.
Managers	
Flexibility	Managers need design solutions that allow for maximum capacity in the unit with options to respond to changing patient populations, levels of risk and needs.
Low levels of incidents	The design of the environment should give careful consideration security and safety; for patients, for staff and the public. High levels of safety or security incidents on a ward can undermine the feeling of safety for everyone and impede the therapeutic purpose of the ward.
Stable staffing levels	A high quality environment for staff can play an important role in improving staff morale, increasing attendance and attracting recruits to the service. A good design enables staff to be deployed in the right areas, engage with patients and maximise the use of resources.
Staff	
A pleasant environment	Staff function better in environments that feel safe, calm and spacious. Staff can engage with patients and deliver a better quality of care if they are unconstrained by the design of the unit.
Safe working conditions	Better quality of care and staff experience will be enabled by a design, supported by appropriate technology that reassures staff and facilitates rapid response and assistance when necessary.

Good layouts	Single level patient accommodation will enable the safe movement, observation and management of patients.
Private areas	Space should be provided for staff to do confidential work, hold meetings and rest away from the main patient areas on the ward.
Storage	There should be adequate facilities for the secure storage of personal possessions.

Annex B: Testing Levels

The testing of materials of components is a critical element of the development project. The project plan should clearly identify responsibilities for testing at an early stage and ensure that the appropriate skills, training, recording and safety measures are in place. The tests types provided below are designed to replicate a number and/or combination of actions.

Results

A component or element of construction will pass testing if:

- it exhibits no significant failure resulting in the removal of the whole or part of the component
- it does not break or fracture enabling its use as a weapon or means of self-harm
- there is no escape or exposure to live electrical wiring, high-temperature pipe work or any other vulnerable services.

If the element or component becomes deformed as a result of testing, this should not necessarily be classified as a failure provided the extent of deformation does not enable access to any recess or void within which it is fixed.

Type 1: An attack on a component or element of construction by the use of an implement or weapon

Implement:	36 x 36 x 1000 mm hardwood shaft (minimum density 650 kg /m^3), chamfered at one end to replicate the jagged edge/arises/etc. of a vandalised component, to be planed and all arises rounded
Test:	Carry out sustained attack for a period of 15 minutes (maximum potential period for a patient to work undetected on a component, notwithstanding the noise that this would create), including hitting with the flat section of the weapon a minimum of 10 consecutive blows, attacking end-on with the non-chamfered end of the weapon for a minimum of 10 consecutive blows and, where testing a component, prizing away from the structure to which it is fixed by the chamfered end of the weapon (the latter applies to the whole or any part of the component)

Type 2: Attack by punching or kicking

Implement:	1.2 kg rubber mallet (75 mm)
Test:	Carry out sustained attack with implement comprising of 15 consecutive blows commencing each blow with the implement withdrawn a minimum of 1000 mm away from the component/element of construction

Type 3: The impact of the full body weight of a person

Implement:	Rubber paving maul
Test:	Carry out sustained attack with implement comprising of 15 consecutive blows commencing each blow with the implement withdrawn a minimum of 1000 mm away from the component/element of construction

Type 4: The testing of the item and its fixings up to and including destruction

Implement:	Appropriate tools and equipment or items that a patient may be able to obtain or have access to. (For example, a metal teaspoon, zip components, metal spring from hi-fi headsets, etc).
Test:	Carry out a sustained attack for a period of 45 minutes or until the item or its fixings fail, whichever is the soonest

Type 5: Specific test regimes: glass-reinforced plastic bed

Implement:	To be carried out with use of British Standard testing equipment comprising a steel pendulum head (mass 6.4 kg) with a hardwood face, finished with rubber (50 International Rubber Hardness Degrees (IRHD)) on a pendulum arm (length 950 mm, tensile steel tube diameter 38 x 2 mm, mass 2 kg +/- 0.2 kg). Hammer to be mounted so it impacts the bed at a 40-degree angle to represent kicking or punching.
Test:	The test panel should be mounted in a rigid steel framework, and sandwiched between two regular frames, and bolted through at frequent intervals. The two frames are attached to a braced steel framework that is rigidly attached to the floor. The tests should be applied to all surfaces of the bed including the top. Beds should also be tested for ignitability in accordance with BS 6807.

Testing schedule for main components and elements

The following table is only intended as a guide to key components and elements. A specific testing regime identifying design specific risk elements should be developed early in planning.

Element	Detail	Test level	Additional guidance
Door	Hinges	1	Check for captive pins
	Vision panels	1 + 2	Check method of fixing
	Vision panel glass	1, 2, 3 + 4	
	Pull handles	1 + 4	
Doorframe	Architrave	1 + 2	Ensure there are no exposed voids to the rear of architrave and frame. Check the method of fixing
Door and frame	Frame	1 + 3	To replicate a person running at the door.
Window	Beading	1, 2, 3 + 4	Carry out additional penetration test with pen lid insert for 15 minutes
	Frame	1, 2, 3 + 4	
	Glazing	1, 2 + 3	
Skirting		1 + 4	
Ceiling	Main area light wells, arises	1 + 2	Expanded metal lathing is not suitable for patient areas
		1 + 2	
Light fittings		1, 2 + 4	
Electrical accessories/ smoke detectors/CCTV		1, 2 + 4	Apply test to plaster work surrounding accessories
Radiators and radiant panels		1, 2 + 4	Check for robustness of junction with ceiling
Shower	Head	1, 2 + 4	Check mastic
	Controls	1, 2 + 4	
Sanitary ware		1, 2 + 3	

Fixed furniture	Wardrobes	1, 2, 3 + 4	
	Shelving	1, 2, 3 + 4	
	Cupboards	1, 2, 3 + 4	
	Notice boards	1, 2, 3 + 4	
	TV shroud	1, 2 + 3	

Annex C: CCTV

Principles of the use of CCTV

A CCTV system can enhance observation and provide patients with greater freedom within the secure perimeter; it can also have a role in enhancing safety by deterring or detecting untoward incidents. Data from CCTV can also be used as part of the investigative process following disruptive or criminal acts. However, CCTV installation should take account of the provisions of the Human Rights Act (1998), Data Protection Act (1998) and other relevant legislation and guidance.

The use of a CCTV system in patient accessible areas should be in accordance with organisational policy and supported by local procedures.

CCTV is a tool to aid observation and supervision but it does not replace the need for appropriate levels of patient observation and engagement, nor should it require more staff to realize its benefits.

CCTV specification

Consideration should be given to the best available technology but as a minimum CCTV systems should be unobtrusive and ligature free with the ability to:

- Record images 24 hours a day, 7 days a week
- Retain images for determined period of time identified by the client

In addition CCTV systems should be

- user friendly
- easy to configure and adjust
- capable of providing good night coverage

External CCTV (outside the secure perimeter)

Local risk assessment should determine the need for CCTV coverage outside of the secure perimeter. The need for CCTV in car parks, high-risk buildings and approach or access roads should all be considered, where used these should be integrated into the main CCTV system. Stops should be fixed to all cameras to avoid any possibility of intrusive observation of adjacent private properties.

External CCTV (perimeter)

The requirements for CCTV and associated lighting for the secure external perimeter and areas within the perimeter should:

- Provide coverage of both sides of the perimeter and key entry positions.

- Provide adequate coverage during the hours of darkness so all activity can be clearly seen

- Provide for the clear viewing and monitoring of people, vehicles and activity on access routes, surrounds and entry points

- Interface with management control systems and be monitored, operated and controlled from the control room.

- Be capable of continuous recording on all cameras with the ability to switch to 'real time' recording when required.

Locations covered should include:

- vehicles routes
- pedestrian routes
- main airlock entrances/exits to buildings

Internal CCTV

An internal review should take place that includes multi-disciplinary teams to determine the extent to which internal areas would benefit from CCTV and where each camera should be located. These might typically include:

- Patient corridors and day rooms

- Interview and therapy rooms

- Vocational and educational services

- Visits room

- Secure lobby at reception

- Seclusion suites and de-escalation areas

Internal CCTV should not cover:

- Patient's bedrooms

- Bathroom and toilets other than the entrance/exit to these areas

Principles of implementing CCTV

- The location of control and recording equipment should be carefully considered to ensure that CCTV images cannot be viewed or the control equipment accessed by unauthorised persons.

- CCTV cameras should be integrated into the main site CCTV system (with the exception of seclusion suite cameras).

- Camera installations should be such that they cannot be tampered with and minimise the opportunity for use as a ligature or damage by patients.

- Camera lenses should be individual to each camera and be chosen to provide optimum viewing from each location. Cameras should be mounted in protective housings.

- The system should be operable under artificial lighting conditions with or without natural lighting. Particular attention should be given to the location and type of luminaries that could cause flaring due to lamp intensity.

- The design of the internal CCTV system should be carried out three dimensionally taking into account the physical features and purpose of the area within which it is located. Rooms should also be designed to ensure that they are configured to maximise the views and minimise the numbers of the cameras required.

- The detail of images and whether continuous, intermittent or motion detected recording is appropriate, should be determined by the project team. Consideration should be given to the preferred mix between fixed and pan tilt zoom PTZ.

Viewing, recording and reviewing

The system should be capable of allowing various levels of access to users on a password protected basis, access should be auditable in accordance with local policy. Software systems should not require the input of the original manufacture when interfaces with other systems are required (i.e. they should be open architecture systems).The local policy for accessing images should be agreed and take into account:

- storage of data and location of viewing facilities
- recording, reviewing, retention and deletion of recorded images.