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NHS England

Health Building Note 03-02 Supplement 1: Medium and low secure mental health facilities for children and young people

Preface

About Health Building Notes

Health Building Notes (HBNs) give best practice guidance on the design and planning of new healthcare buildings and on the adaptation/extension of existing facilities.

They provide information to support the briefing and design processes for individual projects in the NHS building programme.

Language usage in technical guidance

In HTMs and HBNs, modal verbs such as "must", "should" and "may" are used to convey notions of obligation, recommendation or permission. The choice of modal verb will reflect the level of obligation needed to be compliant.

The following describes the implications and use of these modal verbs in HTMs/HBNs (readers should note that these meanings may differ from those of industry standards and legal documents):

- "Must" is used when indicating compliance with the law.
- "Should" is used to indicate a recommendation (not mandatory/ obligatory), i.e. among several possibilities or methods, one is recommended as being particularly suitable – without excluding other possibilities or methods.
- "May" is used for permission, i.e. to indicate a course of action permissible within the limits of the HBN or HTM.

Typical usage examples

- "Design teams **must** have due regard to the protected characteristics as defined in the Equality Act 2010." [obligation]
- "All clinical areas **should** have access to natural light." [recommendation]
- "Where it is not necessary to access both sides of the couch, the single-sided room layout **may** be used." [permission]

"Shall", in the obligatory sense of the word, is never used in current HTMs/HBNs.

Project derogations from the Technical Guidance

Healthcare facilities built for the NHS are expected to support the provision of high-quality healthcare and ensure the NHS Constitution right to a clean, safe and secure environment. It is therefore critical that they are designed and constructed to the highest and most appropriate technical standards and guidance. This applies when organisations, providers or commissioners invest in healthcare accommodation (irrespective of status, for example Foundation and non-Foundation trusts).

This guidance is not mandatory (unless specifically stated). However, any departures/ derogations from this HBN – including the measures implemented – should provide a degree of safety not less than that achieved by following the guidance set out in this HBN.

Statutory standards plus technical standards and guidance specific to NHS facilities:

- Health Building Notes
- Health Technical Memoranda
- Complete list of NHS estates-related guidance

The need to demonstrate a robust process for agreeing any derogation from Technical Guidance is a core component of the business case assurance process.

The starting point for all NHS healthcare projects at Project Initiation Document (PID) and/or Strategic Outline Case (SOC) stage is one of full compliance.

Derogations to standards will potentially jeopardise business case approval and will only be considered in exceptional circumstances. A schedule of derogations will be required for any project requiring external business case approval and may be requested for those that have gone through an internal approvals process.

While it is recognised that derogation is required in some cases, this must be risk-assessed and documented in order that it may be considered within the appraisal and approval process.

Derogations must be properly authorised by the project's senior responsible owner and informed and supported by appropriate technical advice (irrespective of a project's internal or external approval processes).

Sustainability and "Net Zero Carbon" targets

The UK is leading the way on tackling climate change and improving sustainability, and the NHS is leading the way in England.

In 2019, the UK became the first major economy to commit to net zero emission by 2050. In 2020, the NHS set out its intent to support this ambition through its 'Delivering a "Net Zero" National Health Service' report. The report sets a clear target for achieving a net zero health service for direct emissions by 2040 and indirect emissions by 2045.

The NHS Net Zero Building Standard was published on 22 February 2023 and provides technical guidance to support the development of sustainable, resilient and energy-efficient buildings that meet the needs of patients now and in the future.

In 2021, NHS England published supporting guidance for the NHS Estate in its 'Estates Net Zero Carbon Delivery Plan', available to NHS staff via the Estates and Facilities Hub on the FutureNHS website, and further guidance is planned over the coming years.

The NHS estate has a critical role to play in achieving net zero carbon emissions. It is vital that every opportunity is seized across the NHS to do so, and the NHS estate is an area where direct and cost-effective action can be taken with a high degree of confidence.

Executive summary

Health Building Note (HBN) 03-02 gives guidance on the design and planning of acute mental health facilities. HBN 03-02 does not cover low and medium secure facilities. This supplement to HBN 03-02 highlights the key additional requirements for low and medium secure environments.

Much of the environmental and space requirements outlined in the main HBN 03-02 and its parent HBN 03-01 for adults, where relevant, will apply to low or medium secure units and are not repeated in this supplement.

The HBN 03-01 supplement for low and medium secure adult facilities has been published at same time as this document. It is essential that this supplement be read in conjunction with the HBN 03 series of publications.

Specifically, this supplement to HBN 03-02:

- provides an overview of low and medium secure services for children and young people
- provides guidance for units that may be stand-alone medium secure, stand-alone low secure or combined medium and low secure
- provides an overview of the types of premises that are used to deliver care and treatment for low and medium secure services. It describes the principal similarities of secure mental health, learning disability and autism (MHLDA) in-patient service environments and the stepped approach to specifying the increased levels of security necessary for each service category within the least restrictive environment – as referenced in all NHS England-published service specifications.

NOTE:

During the early development of this document, the HBN Working Group undertook a review of the parent documents (HBN 03-01 and HBN 03-02), together with commonly occurring lessons learned from recent projects to highlight key areas where input and insight from Experts by Experience would be of particular benefit.

These topics and others were to be identified/discussed during Experts by Experience feedback workshops. However, owing to the COVID-19 pandemic, these workshops had to be cancelled.

Key recommendations

- This supplement recommends providing ground-floor living accommodation for secure services. However, where site constraints and location may necessitate innovative multi-storey solutions, these solutions will need to carefully consider how they will achieve an equivalent level of safety, security and therapeutic quality required across this HBN 03 series.
- The briefing and design should respond to the national service specifications around least restrictive environments.

- There must be a careful balance between maintaining a therapeutic and psychologically supportive environment within a safe and secure facility, while protecting the safety and well-being of service users, staff and the public.
- When planning a secure unit for children and young people, it should centre on designing a service, not just a building. Co-design with stakeholders should include those detailed in paragraph 3.3 of HBN 03-01 with the inclusion of Experts by Experience.
- Appropriate accessible accommodation and facilities should be provided that ensure that the needs of all service users are met in a way that promotes equality, choice and inclusivity including for physical disabilities, learning disabilities, autistic people and people living with other neurodivergent and neurodegenerative conditions.
- Through analysis of the evidence and experience base, the minimum secure outer perimeter boundary heights for medium secure should be 5.2 m (as per the Department of Health's (2011) 'Environmental design guide: adult medium secure services') and 4.2 m for low secure (to deter assisted absconsion).
- The schedule of accommodation appended to this supplement is based on 10-bed living units for low secure and 8-bed living units for medium secure as a maximum. The exact number of beds per ward should be determined by the specific clinical service model in support of therapeutic quality.
- Considering the length of stay, greater emphasis has been placed on supporting meaningful activity through a variety of spaces on the living units and centrally within the shared accommodation. Therapy/social spaces need to be supported by staffing models; these spaces are flexible and can be adapted to suit local service user needs.

Application

The guidance given in this document should be followed for all new developments including new builds, refurbishments and reconfigurations. It is not necessary to apply the guidance retrospectively unless service user, staff or visitor safety would be compromised. In this case, the guidance given in this document should be followed.

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Contents

Glossary of acronyms

ADL	Activities of Daily Living
BIM	Building Information Modelling
BRE	Building Research Establishment
BREEAM	Building Research Establishment Environmental Assessment Method
CCQI	The College Centre for Quality Improvement (Royal College of Psychiatrists)
CCTV	Closed-Circuit Television
COSHH	Control of Substances Hazardous to Health
CQC	Care Quality Commission
CYP	Children and Young People
DiMHN	Design in Mental Health Network
ecw	Effective clear width
EDG	Environmental Design Guide (Department of Health, 2011)
FM	Facilities management
GIA	Gross internal area
HBN	Health Building Note
HMPPS	Her Majesty's Prison and Probation Service
HTM	Health Technical Memoranda
ICS	Integrated Care System
IPC	Infection prevention and control
LDA	Learning disabilities and autism
LOS	Length of Stay

LSU	Low Secure Unit
MDT	Multidisciplinary team
MH	Mental Health
MHA	Mental Health Act
MHLDA	Mental Health, Learning Disabilities and Autism
MoJ	Ministry of Justice
MSU	Medium Secure Unit
NIA	Net internal area
P22/P23	Procure 22 / ProCure 23 (this is an NHS construction framework)
PICU	Psychiatric Intensive Care Unit
SoA	Schedules of accommodation
VSG	Ventilation safety group

1.0 Scope of guidance

NOTE:

Inclusive terminology and gender-neutral language and images are used whenever possible in this guidance document.

1.1 Health Building Note (HBN) 03-02 gives planning guidance specific to CAMHS in-patient accommodation. HBN 03-02 does not cover low and medium secure facilities. This supplement to HBN 03-02 highlights the key additional requirements for low and medium secure environments. Much of the environmental and space requirements outlined in HBN 03-01 and HBN 03-02, where relevant, will apply to low or medium secure units and are not repeated in this supplement. Therefore it is essential that HBN 03-01 and the parent HBN 03-02 be read in conjunction with this supplement.

1.2 Specifically, this supplement:

- provides an overview of low and medium secure services for children and young people
- provides guidance for units that may be stand-alone medium secure, stand-alone low secure or combined medium and low secure
- provides an overview of the types of premises that are used to deliver care and treatment for low and medium secure services. It describes the principal similarities of secure mental health, learning disability and autism (MHLDA) in-patient service environments and the stepped approach to specifying the increased levels of security necessary for each service category within the least restrictive environment – as referenced in all NHS England-published service specifications.

1.3 This supplement recommends ground-floor living accommodation. However, site constraints and location may necessitate innovative multi-storey solutions which will need to carefully consider how they will achieve an equivalent level of security.

Status

1.4 The guidance given in this document should be followed for all new developments including new builds, refurbishments and reconfigurations. It is not necessary to apply the guidance retrospectively unless service user, staff or visitor safety would be compromised. In this case, the guidance given in this document should be followed.

Structure

1.5 This supplement follows the same structure as the parent HBN 03-02.

Relationship to other data

1.6 Annex B in the Department of Health's (2011) 'Environmental design guide for medium secure units' sets the standard for testing that needs to be met. The latter guidance document and the Design in Mental

Health Network (DiMHN)/Building Research Establishment's (BRE) (2020) 'Informed choices' are cited with regard to appropriate testing regimes for products, fixtures and fittings. (Components may in future be tested and certified to the DiMHN/BRE's (2020) 'Informed choices' standard.)

1.7 This supplement does **not** replace the Department of Health's (2011) 'Environmental design guide' in relation to material and product specification and testing regimes.

1.8 Two key publications by the National Development Team for Inclusion (NDTi) have been used as key resources in the development of this HBN:

- '"It's not rocket science"' (NDTi, 2020)
- '"It's not rocket science". Sensory friendly wards principles list' (NDTi, 2022).

1.9 These publications set out the key principles for sensory design to support autistic people in their daily lives.

1.10 The key components of safety and security within this document reference:

- Royal College of Psychiatrists: Quality Network for Inpatient CAMHS (2019-2021) 'Secure bolt-on'.
- Royal College of Psychiatrists: Quality Network for Forensic Mental Health Services (2021a) 'Physical security in secure care'.

Schedules of accommodation

1.11 Schedules of accommodation (SoA) accompany this supplement. The SoA provide an overview of the quantities and types of rooms recommended to provide an appropriate service level and capacity based on bed numbers. They are used alongside room data sheets to form a useful starting point for planning. They are not a specified solution, but a baseline from which to work. In this way, the HBN aims to drive innovation in design rather than stifle it.

Exclusions

1.12 Psychiatric intensive care units (PICU) are covered in HBN 03-02.

1.13 This supplement does not cover the planning and design of specialist learning disability and/or autism services or palliative care services.

Research and evidence review

1.14 A high-level literature review was conducted as part of the initial scoping report for this HBN. The literature review concentrated on targeting literature searches on the safe design, planning and installation of low and medium secure mental health, learning disability and autism in-patient services in healthcare and specifically:

- summarised the existing peer-reviewed literature on the impact of mental health environments on healthcare outcomes, such as efficiency, service user/patient safety, staff safety, and satisfaction; and
- identified gaps in the literature in order to define areas for future research.

1.15 Scientific evidence used in the development of the literature review was based on findings from literature published between 2007 and 2019. Literature citations were obtained from Google Scholar, other healthcare databases such as PubMed, direct Internet searches, communications with engineering consultants and searches of references located in reviewed articles.

1.16 Keywords used included those referring to the built environment (such as hospital design, aesthetics, engineering, furniture fittings, planning, noise, low secure, medium secure and lighting), patient and staff

outcomes, well-being and improvements in mental health.

NOTE

There must be a careful balance between maintaining a therapeutic supportive environment within a safe and secure facility, while protecting the safety and well-being of service users, staff and the public.

1.17 The literature review clearly identified key design features which may influence service user and staff outcomes. The high-level review enabled the update of an evidence matrix (developed by Medical Architecture Research Unit (MARU) on behalf of ProCure22 for adult acute mental health facilities) which acts as an at-a-glance summary. The evidence matrix lists the key outcomes along the left-hand side and the design features which may influence the outcomes along the top. There are ticks to indicate where a design feature impacts on an outcome.

1.18 The bibliography from the literature review is included in the References section.

Differences between low and medium secure services

1.19 In general, with regard to medium and low secure, the greatest difference between the two is immediacy of risk and prevention of escape due to likelihood of harm and/or the need to ensure detention. Differences from a built-environment standpoint are rather basic and subtle. Table 1 gives an overview of these differences.

		Design principles														Environmental comfort				Fixtures + fittings					
		Therapeutic environment	Residential character (homely)	Openness and sight-lines	Personal space and privacy	Personalisation	Reduced ligature measures	Location of the bedrooms	Unit location	Unit size	Outlook	Sensory room	Colour	Access to outside space	Contact with nature	Temperature	Ventilation	Acoustics	Daylighting	Doors and ironmongery	Windows	Personal storage	Artificial lighting	Furniture (incl bed position)	Artwork
Service user experience	Increase satisfaction	✓✓✓	✓		✓			✓			✓	✓		✓✓	✓✓	✓	✓	✓				✓		✓	
	Increase control (choice)	✓				✓				✓✓	✓	✓✓		✓	✓	✓✓	✓✓	✓	✓		✓		✓	✓	✓
	Increase patient safety			✓	✓✓		✓✓	✓✓						✓✓	✓✓			✓		✓	✓		✓✓	✓	
	Increase social support	✓	✓✓						✓	✓				✓	✓										
	Reduce stress + agitation	✓✓	✓✓					✓		✓	✓	✓	✓	✓✓✓	✓✓✓			✓✓✓	✓				✓✓		✓
	Reduce violence and aggression	✓			✓✓	✓		✓						✓	✓			✓✓		✓		✓			
	Ability to sleep		✓		✓✓			✓✓		✓						✓		✓✓			✓		✓✓	✓	
	Enhances well-being	✓	✓✓✓								✓✓	✓	✓	✓✓✓	✓✓✓			✓✓	✓					✓	✓✓
Staff experience	Increase satisfaction	✓	✓		✓	✓									✓			✓✓	✓						✓
	Increase observation (attunement)			✓								✓						✓						✓	
	Enhances well-being	✓	✓												✓✓✓		✓	✓✓	✓						✓✓
	Reduce errors																	✓					✓		

Key:

✓ Some evidence to support correlation

✓✓ Strong evidence to support correlation

✓✓✓ Strong evidence supported by HBN 03.04 literature review

Table 1 Differences between and low and medium secure services

	Low secure unit (LSU)	Medium secure unit (MSU)
Extracts from 'Child and Adolescent Mental Health Services (CAMHS) – Medium secure' (NHS England, 2018a, 2018b)	"Low secure services accommodate young people with mental and neurodevelopmental disorders at lower but significant levels of physical, relational and procedural security. Young people may belong to one of two groups: those with 'forensic' presentations involving significant risk of harm to others and those with 'complex non-forensic' presentations principally associated with behaviour that challenges, self-harm and vulnerability."	"Medium secure services accommodate young people with mental and neurodevelopmental disorders (including learning disability and autism) who present with the highest levels of risk of harm to others including those who have committed grave crimes."
Service requirements	Part of the Adolescent Medium Secure Network (AMSN)	
Number of CYP secure beds commissioned by NHS England (2022 data)	136 beds (including 111 independent sector beds).	60 beds (including 10 independent sector beds).
Number of units in England as of 2022 (these figures are likely to change)	11	6
Commissioning	Service configuration determined locally based on population needs and existing service provision for Tier 4 CAMHS.	
Entrance	May have a dedicated entrance.	Entrance with airlock control. Separate vehicle airlock entrance.
Reception	Reception not staffed 24/7.	Reception staffed 24/7.
Management of access and egress	Airlock at living unit only.	Airlock at entrance and living unit.
Unit size	May be stand-alone single living unit. Sample schedule of accommodation based on 10 beds as a maximum per living unit.	Sample schedule of accommodation based on 8 beds as a maximum per living unit.
Secure perimeter fence/wall height	4.2 m minimum	5.2 m
Clear zone to perimeter fence/wall	No minimum requirement, to be determined by local constraints and risk assessment.	5 m sterile area outside the perimeter fence line; 7.5 m distance to any buildings within the secure perimeter (refer to the Department of Health's (2011) 'Environmental design guide'). Subject to local site constraints.
Building heights/eaves	Height, eaves depth and detail to be equivalent (or more) to perimeter fence/ wall.	Height, eaves depth and detail to be equivalent (or more) to perimeter fence/ wall.
Bedroom and service-user-accessed area placement	Can form part of the secure perimeter.	Cannot form part of the secure perimeter.
Average length of stay (2023)	370.3 days	533.9 days
Service users	Mental Health Act. Do not accept referrals through Youth Justice System.	Mental Health Act. Stepping up from low secure. Direct through criminal court process or youth justice custodial settings. Admission from non-criminal justice and welfare settings. Admission from PICU, community or non-secure adolescent in-patient service.

NOTE

This document refers to guidance from NHS England. If planning and designing a new or refurbished in-patient mental health service that is situated outside England, refer to guidance and commissioning arrangements relevant to the individual national or geographical location (for example, NHS Wales, NHS Scotland, Health and Social Care in Northern Ireland).

2.0 Policy and service context

NOTE

The term “service user” is used throughout this guidance to refer to people who have used or are using low/medium secure services. Other terms are just as valid, but for consistency and ease of use the term service user has been used throughout this document.

Children and young people’s (CYP) mental health services is used in this document as a term for all services that work with children and young people who have difficulties with their mental health or well-being.

Regulatory framework and policy drivers

2.1 Robust procedures relating to the responsibilities of services and staff under the Mental Health Act, the Children Acts and other relevant legislation must be put in place and regularly reviewed. The service must deliver services, comply to and work within the requirements of:

- Mental Health Act 1983
- Mental Health Act Code of Practice (Department of Health, 2015)
- Human Rights Act 1998
- Children Act 1989 and 2004
- Criminal Justice Act 2003
- The Department of Health’s (2005a) ‘Offender mental health care pathway’
- Mental Capacity Act 2005
- Autism Act 2009.

2.2 The service must have regard to the provisions of:

- NHS England’s (2015) ‘Building the right support’
- the Department for Education’s (2018) ‘Working together to safeguard children’ and relevant subsequent legislation
- the United Nations ‘Convention on the rights of the child’ (United Nations General Assembly, 1989)
- Royal College of Psychiatrists: Quality Network for Inpatient CAMHS (2019-2021) ‘Secure bolt-on’
- Royal College of Psychiatrists: Quality Network for Inpatient CAMHS (2021) ‘QNIC standards for inpatient eating disorder units’
- Royal College of Psychiatrists: Quality Network for Inpatient CAMHS (2019) ‘Standards for services’
- Royal College of Psychiatrists: Quality Network for Forensic Mental Health Services (2021a) ‘Physical security in secure care’.

Low and medium secure mental health services specifications

2.3 The NHS England service specifications for children and young people with mental health needs, learning disability and/or autism including specialist eating disorder services describe how these services are to be delivered within a clearly defined geographical area at multi-regional, regional and/or sub-regional level with service configuration determined locally based on population needs and existing service provision (https://www.england.nhs.uk/publication/child-and-adolescent-mental-health-services-camhs-medium-secure/).

Secure pathways and length of stay

Adult and Children & Young People's Medium and Low Secure Services

2.4 These services provide care and treatment for service users with mental and/or neurodevelopmental conditions who are liable to be detained under the MHA 1983, and whose risk of harm to themselves and/or others and risk of escape from hospital cannot be managed safely within the community or other mental health settings. These conditions include mental illness, personality disorder and neurodevelopmental conditions including learning disability and autism.

Neurodevelopmental conditions are disabilities associated primarily with the functioning of the neurological system and brain. Examples of neurodevelopmental conditions include attention-deficit/hyperactivity disorder (ADHD), autism and learning disability.

2.5 Length of stay in secure services will vary based on the clinical needs of individuals and risk. The average length of stay within secure services is longer than within a non-secure setting and can be months, and often years.

2.6 Service users will typically have complex chronic mental conditions; these can be linked to offending or seriously harmful behaviour. Some will be involved with the criminal justice system, courts and prison, and may have Ministry of Justice (MoJ) restrictions imposed on them in terms of being able to leave hospital.

Children and young people medium and low secure mental health services

2.7 Children and young people (CYP) mental health services in England offer in-patient care (see Chapter 3 in HBN 03-02) to support the care, treatment and safety of children and young people under 18 (see HBN 03-01 Supplement 1 for guidance on the planning and design of such facilities for adults):

- Low secure services accommodate young people with mental and neurodevelopmental disorders at lower but significant levels of physical, relational and procedural security. Young people may belong to one of two groups: those with "forensic" presentations involving significant risk of harm to others and those with "complex non-forensic" presentations principally associated with behaviour that challenges, self-harm and vulnerability.
- Medium secure services accommodate young people with mental and neurodevelopmental disorders (including learning disability and autism) who present with the highest levels of risk of harm to others including those who have committed grave crimes.

2.8 To "impede" absconding means a greater reliance on staffing arrangements and less reliance on physical security measures, whereas to "prevent" absconding means that security should be sufficient to deter all but the most determined. See paragraph 2.3 for links

to the NHS England service specifications. For length of stay, see paragraph 2.5.

Therapeutic environment

2.9 This supplement should be read in conjunction with the HBN 03 series. It highlights key additional requirements for low and medium secure internal and external environments

2.10 The evidence and experience base demonstrates the positive impact a well-considered, therapeutic (or psychologically supportive), inclusive and co-designed environment can have on service user, staff, carer and clinical service outcomes. Facilities that make service users feel equally valued, considered and empowered will support recovery within a wide range of low and medium secure in-patient services.

2.11 A key consideration for the built environment for low and medium secure mental health services is one of people or user flows (circulation) and adjacencies (room locations) to maintain service users' privacy and dignity, choice, control and ability for people to move away from incidents safely. A good sensory environment that considers and minimises noise levels, artificial lighting and other sensory inputs will support this aim.

2.12 Throughout briefing design and specification, decisions should be assessed on their therapeutic value alongside those of risk, safety and security.

Safety and security

2.13 A key principle underpinning the provision of secure services is that the patient must be managed in the least restrictive environment possible in order to facilitate their safe recovery.

2.14 Medium secure services must operate within a comprehensive set of physical, procedural and relational security measures, practices and policies that must comply with standards and requirements set by:

- the Royal College of Psychiatrists: Quality Network for Inpatient CAMHS
- the Care Quality Commission (CQC) and
- the Department of Health (2015) in the 'Mental Health Act 1983: Code of Practice'.

2.15 Within the design of the physical environment there is a need to ensure that a controlled environment is designed to prevent (in medium secure units) or impede (in low secure units) escape. This security works in tandem with the delivery of clinical services to ensure access to assessment and treatment to prevent harm to others (the public) and to uphold the detention of individuals subject to custody or remand from the courts in a safe and secure environment.

2.16 There are specific physical security aspects in forensic mental health services that are essential standards. Failure to meet these would result in a significant threat to service user safety, rights or dignity and/or would breach the law.

2.17 The key components of safety and security within this document reference:

- Royal College of Psychiatrists: Quality Network for Inpatient CAMHS (2019-2021) 'Secure bolt-on'
- Royal College of Psychiatrists: Quality Network for Forensic Mental Health Services (2021a) 'Physical security in secure care'.

2.18 These two documents categorise standards that are rated as essential, expected or desirable in relation to service user care. Key themes in relation to safety and security are included in Chapter 3. Further reference should be made to the documents and any updated editions subsequent to the publication of this HBN.

Long-term segregation requirements

2.19 As per the 'Mental Health Act 1983: Code of Practice' (Department of Health, 2015), the purpose of long-term segregation is to reduce a sustained risk of harm posed by the individual to other people, which cannot be managed through shutdown, seclusion or through any other measures. It can take place in any physical environment in an in-patient setting, including purpose-built seclusion or long-term segregation facilities. Whichever physical area is used, the Code of Practice specifies that the area must be homely and should be personalised to the needs of the individual. This would mean that the area needs to be adapted to the individual's needs. The Code of Practice requires access to a bathroom, a bedroom and relaxing lounge area as a minimum, as well as access to a secure outdoor area and space for a range of activities and interests. These considerations apply for individuals of all ages and in all in-patient settings where long-term segregation is used. There should be additional considerations for activities such as family visits and primary care, which may be operational (management) or environmental (building). See also:

- NHS England's Reducing long term segregation webpage
- the Care Quality Commission's (2020) 'Out of sight – who cares? A review of restraint, seclusion and segregation for autistic people, and people with a learning disability and/or mental health condition', which outlines the current state of the care system for children, young people and adults – especially those with a learning disability or who are autistic – who are subject to restrictive interventions and are cared for in a range of settings.

NOTE

At the time of writing, studies are being undertaken by the DiMHN and Experts by Experience to identify how individual needs can be better met within this environment to avoid the space being counter-therapeutic.

3.0 Principles of planning and design

Stakeholder involvement

3.1 Planning an acute in-patient unit for children and young people should ideally centre on designing a service, not just a building. The planning of new or refurbished in-patient mental health services should consider the needs of service users and all other relevant stakeholders. These stakeholders and the type of engagement they need may vary according to, for example, the location of the service planned and acuity level. Codesign stakeholders should include those detailed in paragraph 3.3 of HBN 03-01 with the inclusion of Experts by Experience and the boards of integrated care systems. All plans should be assessed against current local, regional and national healthcare strategies.

3.2 Further information on stakeholder involvement is covered in Chapter 4 of HBN 03-02.

3.3 The Design in Mental Health Network's (2018) 'Stakeholder engagement toolkit' gives an overview of the stages of a building project (using the RIBA plan of work) and the likely subjects that will need to be consulted on and considered.

Standardisation

3.4 Consideration should be given to using a variety of standard room sizes (for example, 8, 12, 16, 24, 32 m^2) to optimise room use and provide local choice for developing new interventions and activities. All standard rooms should use appropriate proportions (no less than 2:1). For standard single bedroom and en-suites, 15 m^2 is the established minimum area which will need to be adjusted to suit local options (larger than standard bed size). In longer-stay units, rooms may be increased to suit service users' needs.

Flexibility and service sustainability

3.5 The plan needs to consider future change and service model configuration to achieve a flexible and future-proofed facility. Consideration of multi-use spaces, where applicable, should be given to allow for flexibility of use and to maximise the utilisation of resources, workforce and staff time. The right-sizing of facilities is one of the key considerations in achieving sustainable services.

3.6 A key principle underpinning the provision of secure services is that the patient must be managed in the least restrictive environment possible in order to facilitate their safe recovery. Least restrictive refers to the therapeutic use of the minimum levels of physical, procedural and relational measures (see paragraph 3.13) necessary to provide a safe and recovery-focused environment. This should be applied to low secure living units within medium secure settings. Local

consideration needs to be made to ensure the differentiation between low and medium secure environments.

NOTE

With regard to the impact of the COVID-19 pandemic, the agreed approach by NHS England is to ensure that, where any lessons learned allow adaptability and flexibility, these should be included to allow cohorts of service users to be cared for separately. Social distancing is covered by operational arrangements; space provision will not be increased in HBNs.

Building fabric and materials

3.7 Teams should satisfy themselves that specifications, materials and components achieve the appropriate standards for the service while still maintaining a non-clinical therapeutic environment. The Department of Health's (2011) 'Environmental design guide' should be referred to and the testing regime in Annex B followed.

3.8 See also the DiMHN/BRE's (2020) 'Informed choices' guidance document.

Safety including security

3.9 Security provides the framework within which care and treatment can be safely provided. Neither service users nor staff can participate positively in the activities of the service unless they feel safe first.

3.10 Some mental health facilities may contain both medium and low secure services while some units will be stand-alone. In the combined setting, the overall build should reflect the more restrictive physical environment. However, consideration needs to be given to service users transitioning from low to medium (or vice-versa) within the building to reflect their different needs.

3.11 Within the medium secure service, all aspects of the service user's care and daily living will be within the secure perimeter of the medium secure unit (MSU), while in a low secure setting some service users may, as part of their recovery, have access to external therapy and daily living activities beyond the boundaries of the unit. Consideration should be given within combined buildings, if possible, to achieve differentiation between low and medium secure (relational rather than physical environment).

3.12 Providing a safe and secure environment for service users, staff and visitors is integral to the provision of clinical care. While the physical security measures in medium secure units are not of the same order as high secure services, the measures taken to support the overall approach to security are similar. The principles and key issues apply with equal emphasis across all in-patient settings regardless of the level of security.

3.13 There are three distinct but inter-related elements of security in a mental health setting which are interdependent:

- **physical:** the inner and outer perimeters, security mechanisms and technologies (for example, manual/ electronic lock systems, CCTV) and other physical barriers (for example, 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 service users, the environment and population dynamic.

Physical security

3.14 The physical integrity of the secure environment is dependent on the appropriate provision and maintenance of perimeter buildings, equipment and technology as well as the clear delineation of internal and outer perimeters. Physical security requirements are based on the need to impede breaches of the

secure perimeters by service users, prevent self-harm and protect staff and members of the public.

Procedural security

3.15 Procedural security relates to the effective application by staff of robust operational policies and procedures governing (but not limited to):

- the safety of service users, visitors and staff
- risk
- adverse incidents
- operational management.

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

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

Relational security

3.18 Relational security is defined as "the knowledge and understanding staff have of a service user and of the environment, and of the translation of that information into appropriate responses and care". It underpins the safety and integrity of the service, its service users, staff and visitors (see Figure 1). The effectiveness of relational security is dependent on the entire staff team working cohesively – regardless of whether an individual has direct service user contact – and applies to all services regardless of the level of security they provide.

3.19 A breakdown in relational security will compromise the effectiveness of the service's procedural and physical security measures. It is rare 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 service users must be considered; service users may, for example, lose confidence in the staff team and so erode trust in the care and treatment they provide.

Requirements for physical security relative to service user/unit category

NOTE

As per 'Physical security in secure care' (Royal College of Psychiatrists: Quality Network for Forensic Mental Health Services, 2021a), the description of physical security standards which were first published for medium secure services has been developed to encompass low security.

3.20 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 outer perimeters. Physical security requirements are based on the need to impede breaches of the secure perimeters by service users, prevent self-harm, and protect staff and members of the public.

3.21 These requirements have been assimilated from several publications which are still considered appropriate, specifically:

- the Department of Health's (2011) 'Environmental design guide for adult medium secure services'
- the Royal College of Psychiatrists: Quality Network for Forensic Mental Health Services (2021a) 'Physical security in secure care'

Figure 1 Relational security explorer from 'SEE THINK ACT' (Royal College of Psychiatrists: Quality Network for Forensic Mental Health Services, 2015)

'See Think Act' was first published by Department of Health for medium secure care in 2010. In 2015, the Quality Network for Forensic Mental Health Services along with Elizabeth Allen, the original author of the work, undertook a review with high, medium and low secure providers, patients and their friends and family, of what had been learned since the first publication.
While it was found that there had been no specific incidents 'See Think Act' had not provided for and the publication was widely valued, the emphasis of the second edition reflects how secure services have evolved in the last five years and is now written for all levels of secure care.

Relational Security Explorer

NHS

Good relational security is the collective knowledge and understanding we have about our patients and the actions we take to ensure security and high quality care. Everybody has a responsibility for relational security, which is why it's so important to talk as a team about how it feels on the ward and decide together how it can be improved.

HOW TO USE THE EXPLORER

There are eight dimensions within the Relational Security Explorer. Follow the steps to choose what you want to talk about today. You should make time over the next few months to discuss all the dimensions within the Explorer.

During the exercise you will be talking about how confident you feel about each dimension of relational security on your ward. Think about the ward in general rather than focusing on individual patients. You'll be discussing the reasons behind any issues you are experiencing and what you think the solutions are.

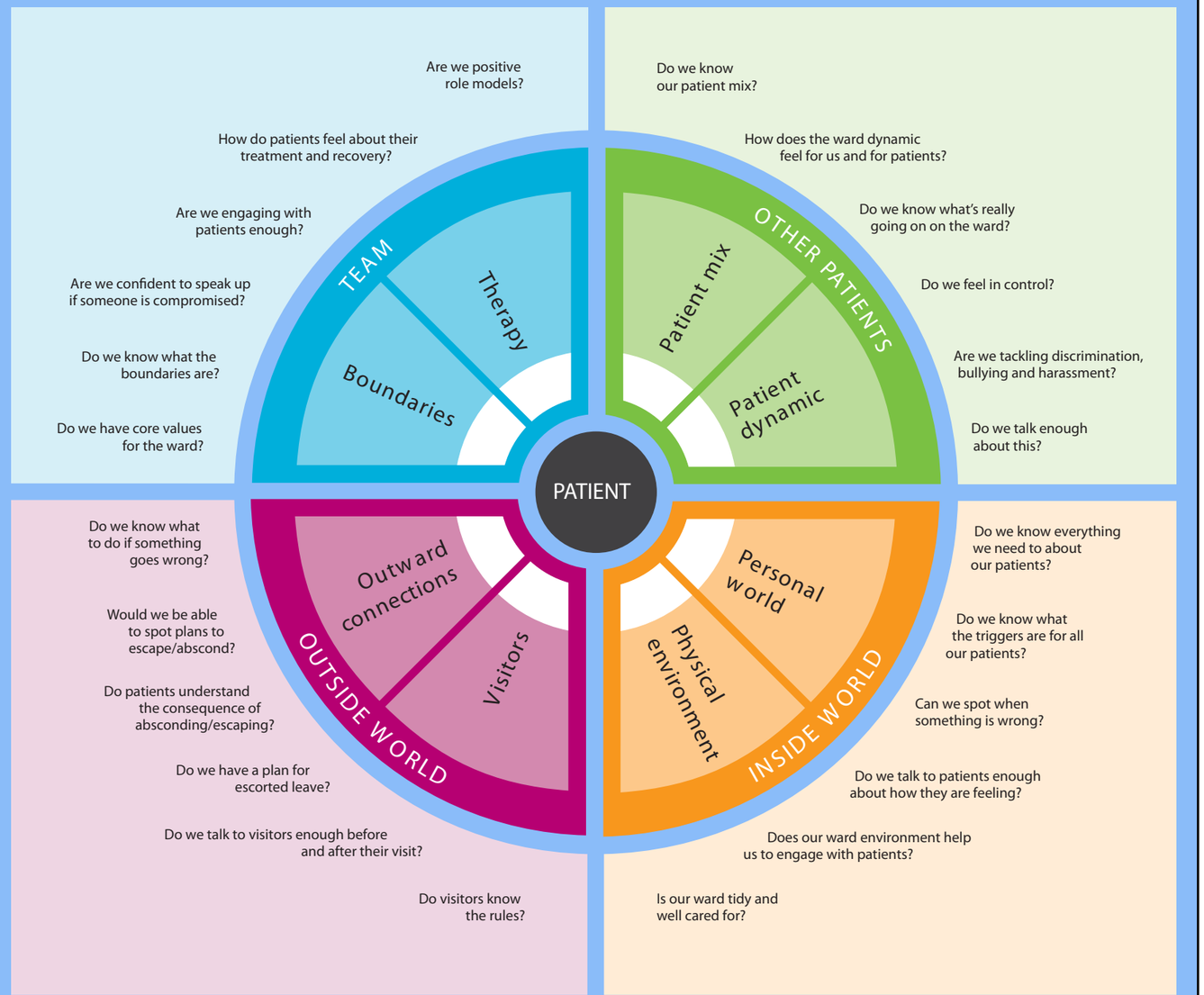
1. Look at the eight dimensions in the Relational Security Explorer. Check that everyone understands each dimension using your guide to relational security, SEE THINK ACT .

2. Talk about how confident you feel on a scale of one to ten in each of the eight dimensions.

   You can use the suggested questions within the shaded area outside the Explorer to help you get started, or look at "when we are getting it right" in your SEE THINK ACT handbook to think about what good feels like. (The first time you do this might take much longer so allow yourselves plenty of time and consider setting a time limit for each dimension.)

   Now write the number in the white space on each segment of the Explorer (see example below).

3. Look at the area/s that you feel least confident in. Talk together about the things that would improve this area and decide what you are going to do over the next few weeks to make a difference.



Keep everyone safe act on it

- Royal College of Psychiatrists: Quality Network for Inpatient CAMHS (2019-2021) 'Secure bolt-on'.

The descriptions in the following sections apply equally to low and medium secure services unless identified specifically.

The secure outer perimeter

3.22 The secure outer perimeter is a physical barrier aimed at reducing risk and maintaining service integrity. It can be defined as a number of systems and processes that protect against unauthorised egress from and access to a facility.

3.23 Perimeter security involves the use of multiple layers of interdependent systems, including CCTV surveillance, security roles, protective barriers, locks, access control protocols and many other techniques.

3.24 A holistic approach is taken to perimeter security; the perimeter is the solid foundation upon which the other aspects of security are built. It is essential that it conforms to the minimum design standards (see paragraph 3.26) and that there are systems and processes in place that can be demonstrated to evidence its compliance, maintenance and control.

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

3.26 A secure outer perimeter:

- can be formed by buildings
- is formed by buildings connected with fencing/enclosures (see paragraph 3.29 for minimum heights)
- joins the secure reception and surrounds the remainder of the unit
- surrounds the whole unit.

Perimeter security

3.27 The following principles apply to outer perimeter security (for the perimeter clear zone, see also paragraph 3.41):

- Climbing deterrents that cause harm, such as 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 outer perimeter; these should be centrally controlled, monitored and operated.
- Gates should not incorporate any footholds nor 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 gates that are centrally controlled, monitored and operated.
- Where roofs are part of the outer 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.
- Service user bedroom windows should not form part of the secure outer perimeter.
- All windows in the outer perimeter line should be designed to maintain the integrity and security of the building.
- Openings in the outer perimeter for pipes and service routes should be avoided, or if they cannot be avoided they should be concealed and secure. Overall access requirements should be agreed locally with the healthcare provider's team.

- Where roofs surround courtyards or service user 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 outer 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.

3.28 Physical security may be supported by technological systems that are controlled and monitored by the secure reception. These might include:

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

Perimeter height and construction

3.29 Through analysis of the evidence and experience base, the minimum perimeter heights for medium secure should be 5.2 m (all perimeter heights and construction should be as per the Department of Health's (2011) 'Environmental design guide') and 4.2 m for low secure. This recognises the difference in service specification requirements in that:

- medium secure adults present a serious risk of harm to others and their escape from hospital must be prevented
- low secure adults present a serious risk of harm to others and their escape from hospital must be impeded.

3.30 Local service, site and design factors including ground level or multi-storey, flexibility of service designation and/or local planning constraints may require additional measures or mitigations, which may include anti-climb eaves, fence alarms, wider clear perimeter zones, etc. A combination of measures may be considered (for example, a reduced perimeter height with deeper overhanging eaves combined to achieve an equivalent level of security). For multi-storey facilities where the risk of harm as a result of absconding is significantly higher than a ground-floor location, additional local measures should be considered.

3.31 Additional to the requirements listed in the Department of Health's (2011) 'Environmental design guide', corners of 90 degrees or less which may aid climbing need to be avoided and appropriate design solutions used.

Perimeter walls

3.32 Perimeter wall heights should match those of the perimeter fence (see paragraph 3.29).

3.33 The walls forming the secure perimeter should be difficult to break through. At technical design stage the proposed wall construction should be tested as per the testing regime in Annex B of the Department of Health's (2011) 'Environmental design guide'. 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 (see Figures 3 and 4).

3.34 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 designed to minimise the risk of climbing.

- Rainwater pipes (anti-climb pipes) should be far enough away from an

internal corner, window ledges and other projections to prevent climbing and be a minimum of 900 mm from any opening or projection.

- Internal rainwater pipes may be considered as an alternative.
- Consideration should be given to doors providing external access to garden areas opening inwards, to address the risk of outward-opening doors being used as climbing aids.
- All fittings, such as lights or cameras, should be a minimum of 900 mm 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

3.35 Where roofs are part of the outer perimeter, and are below the stipulated height, additional measures will be required to protect against climbing. These may include:

- anti-climb projecting eaves
- flexible secure topping or other anti-climb devices
- weld mesh fixed to achieve the stipulated height for perimeters
- alarm systems with an immediate planned response.

The design should consider the visual impact and overall impression for both building occupants and neighbours, balancing the therapeutic impact with safety and security.

3.36 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.

Windows

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

3.38 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 secure outer perimeter should not open. Ventilation should be achieved through secure ventilation.

3.39 Openable windows should be:

- constrained by secure mesh or to an opening of ≤100 mm, or
- if risk-assessed, and in a secure, safe enclosure, may have an unconstrained opening (for example, French window or patio door).

Openable windows are recommended for user choice/sustainability. But fixed windows may be installed based on the project's fire strategy, security strategy or mechanical ventilation strategy (see Figure 2).

3.40 If privacy films are needed from a sensory and perceptual perspective, matt finishes covering the lower section of the window are preferred.

NOTE

Service user bedroom windows should not form part of the secure outer perimeter. Careful consideration should be given to outlook from secure external areas, where possible, while protecting the privacy of service users.

Figure 3 Window specifications for the secure outer and inner perimeters

		Outer perimeter	Main entrance (non-service user accommodation)	Staff-only administration areas	Inner perimeter	Visiting (service-user access)	Tribunal suite (service-user access)	Central therapy activity (service-user access)	Living unit	Other: seclusion suite	Staff-only administration areas
Types of open-ing	**Fixed window**	Yes	Yes	Yes	PD	PD	PD	PD	PD	Yes	PD
	Openable window	No	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes

Notes:

PD = Project decision

Secure sliding sash windows are also acceptable in this environment.

Refer to the Department of Health's (2011) 'Environmental design guide' for further environmental criteria including applicable testing regimes to be undertaken in relation to windows.

Perimeter zone

3.41 Within medium secure units, designers should aim to achieve a minimum clear zone of 5 m either side of the secure outer perimeter. This means there should be no trees or buildings within this zone which could aid a piece of equipment such as a ladder or climbing aid being utilised in conjunction to breach the secure perimeter. Within urban or suburban locations, there may be innovative, alternative solutions to achieving the secure perimeter (for example, secure accommodation on upper floors achieving the same level of physical barrier to address risk and maintain service integrity).

3.42 Careful consideration should be given to the materials and landscape proposals within the perimeter zone to provide an integrated approach to the surrounding context from rural through to urban locations. Thick shrubbery and long grasses should be avoided in this zone, as parts of the secure perimeter could be left undetected by surveillance CCTV or by inspections. Moreover, such planting could conceal any attempts to tamper with the secure perimeter (see Figures 3 and 4). However, there should be an area of screen planting outside the clear zone to improve the therapeutic outlook and enhance privacy for building occupants.

Refer to 'Physical security in secure care' (Royal College of Psychiatrists: Quality Network for Forensic Mental Health Services, 2021a) for guidance on associated matters such as:

- inspection of the perimeter and programme of maintenance
- the need to prepare a physical security document which describes the physical security in place for the service, including:
  - how the building and security elements work

Figure 3 Minimum recommended heights and distances (CYP medium secure)

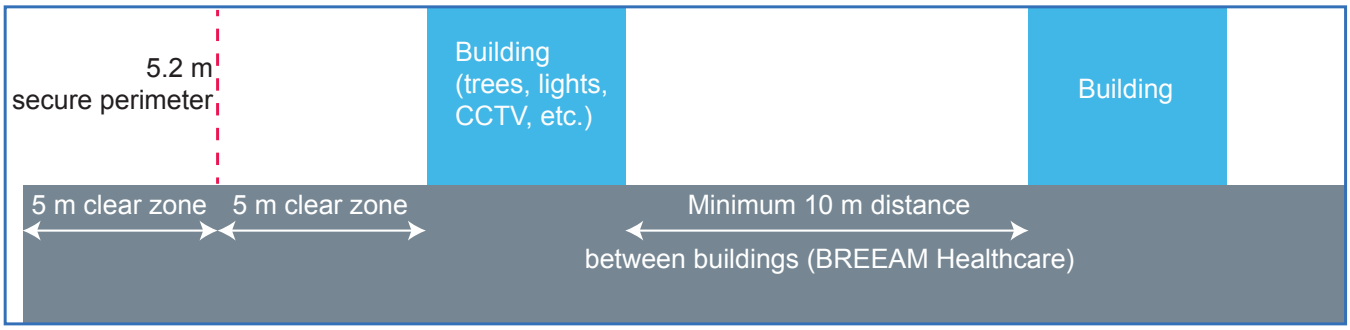
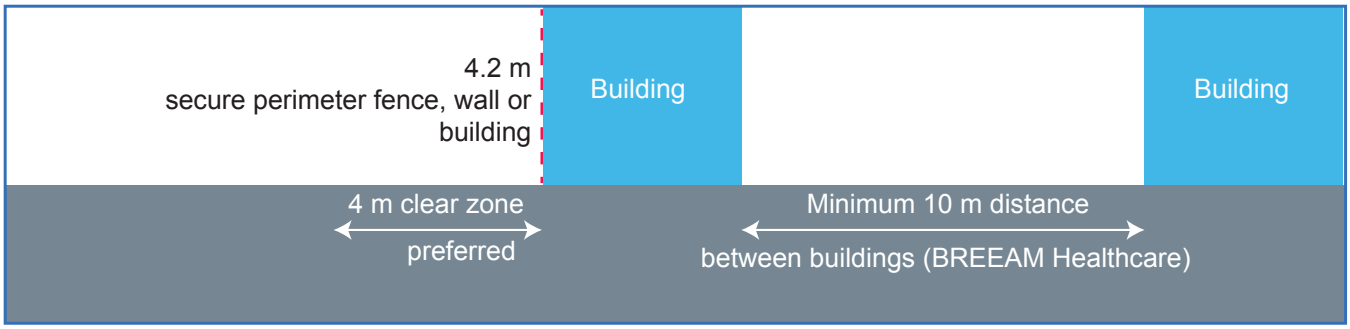


Figure 4 Minimum recommended heights and distances (CYP low secure)



– the inner and outer security of the building and how they relate

– the security process in controlling the environment

– the security systems in place to a level that it can be used as a training aid

– how physical security processes are monitored, audited and reviewed

– how staff are trained, evaluated and developed.

Access through the secure outer perimeter

3.43 There should be a single main entrance to and exit from the building with an airlock operated by central secure reception that coordinates the entry and exit of all staff, service users and visitors.

3.44 In cases where the service has a separate dedicated entrance for staff, this should have an airlock that is centrally controlled and monitored. The secure perimeter line could run within the entrance building, providing a more welcoming public space into the building.

3.45 An airlock is a physical access security system comprising a space with two or more doors/gates, one of which must be closed before another can be opened. All access through the secure perimeter is managed by such an airlock system, either procedurally or electronically, whereby the integrity of the secure perimeter is maintained by at least one of the two doors/gates being locked at all times. This applies to pedestrian and vehicular access to the service.

3.46 As mentioned earlier, consideration should be given at briefing stages where there is a low and medium secure service operating within the same building and the need to provide a separate entrance to low secure services (see also paragraph 3.11).

3.47 There should be a secure centrally controlled and monitored airlock for vehicles requiring access to deliver goods and services

to the site. Early liaison with the healthcare provider's FM team is required to understand the size of vehicles needed. Planners will need to consider how vehicles transporting service users being admitted to the service are able to access the site appropriately.

NOTE

Where the service yard and external access for service user transfers is combined, there should be no other vehicles within the area (or associated people) at the time of an ambulance or secure transport vehicle entering the external area via the airlock.

3.48 Consideration should be given to a vehicle layby outside the secure outer yard for vehicles waiting to enter if multiple vehicles arrive in an unplanned fashion (as a result of traffic delays, for example), as transfers of service users would usually occur under planned conditions.

3.49 To ensure the security of the external yard area, thought needs to be given at early planning stages to the location of waste bins, compactors, etc. While it is not recommended to house these internally within the building, there should be no opportunity during a service user transfer for an induvial to harm themselves or use the items mentioned to aid escape if placed adjacent to the security perimeter.

Main entrance and lobby

3.50 The entrance environment for service users, staff and visitors should be welcoming and appropriate to a healthcare setting, and should operate efficiently as described in Chapter 8 on room spaces. The following are elements associated with security that should be adhered to:

- Service user areas should not be visible from the visitors' lobby.
- There should be lockers in the lobby area so that staff and 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 service users. Ideally, there should be a further set of doors controlling access from the service user side to the airlock.
- Careful consideration should be given to the sensory impact of these spaces: controlling noise (echo, doors slamming, alarms activating), minimising the light transition, etc.
- 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 is not compromised (see also the chapter on the use of electronic locks on doors in Health Technical Memorandum 05-03 Part K – 'Guidance on fire risk assessments in complex healthcare premises').
- 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 secure reception.
- There should be a search area beyond the airlock and before entry to service user areas which may be used, if necessary, to search service users, staff or visitors. It will be a local decision whether this is located directly off the

entrance area or via the visitor/service user airlock. It should be supported by either portable or handheld scanning equipment.

Secure reception

3.51 A secure reception is a purpose-built facility. It acts as the coordination and control centre for all aspects of the unit's security. The operation of the secure reception is documented within the operational procedure for the service. The secure reception is responsible for access and egress through all doors and gates that form part of the secure outer perimeter.

- The secure reception should have a dedicated entrance on the secure service side of the airlock; it should not be possible to enter the secure reception from the main entrance lobby or from the airlock itself.
- The secure reception should have clear sight (physical or virtual) 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 secure reception should be on a separate locking suite that prevents unauthorised access by service users, staff or visitors.
- Within a secure environment, the secure reception is expected to be staffed 24 hours a day, seven days a week.

3.52 The merits of CCTV coverage for the main entrance, lobby, additional visitor waiting rooms, search area and the secure reception should be considered.

Call button/personal alarms/alerts

3.53 Call button/personal alarms are available to all service users, staff and visitors within the secure perimeter.

3.54 Service users: Service users have access to hard-wired nurse call and emergency call buttons within their bedrooms.

3.55 Staff: All staff entering areas of direct service user contact must be allocated an alarm which is pre-programmed for alarm response appropriate to the area(s) which they are entering. Alarm issue can be automated or be carried out by reception staff. All alarms issued must be returned by staff before leaving the building.

3.56 Visitors: Visitors entering the secure perimeter must be accompanied by a staff member. Practices should be detailed in local operational policies.

Inner perimeter and controls

3.57 The crucial principle of the inner perimeter relates to the authorised movement between the inner and outer perimeter and how by management of key handling, access control and technological systems the integrity of the inner perimeter is maintained.

3.58 Key handling, access control and management are the most critical parts of maintaining service integrity. Constant accounting for the correct allocation and receipt of keys/fobs and associated technology ensures any breaches in security are immediately identified. Immediate response to any key handling/access control breaches will ensure the service is able to maintain effective perimeter security.

3.59 Management of key systems, including the design of the key suiting systems, supports effective key control. In routine practice, keys allocated are zoned to support good perimeter control. Services do not allocate a master key or sub-master key in routine use, as this will compromise perimeter security. The transition

between inner and outer perimeter results in a key exchange that is designed to prevent pass-back or the use of inner security keys outside the building.

3.60 To enable this, there needs to be a key management system in place which accounts for all secure keys/passes, including spare/replacement keys which are held under the control of a senior manager.

Service user rooms

3.61 There should be an emergency staff override system in place on anti-barricade bedroom doors. This can include simple override keys or more complex systems to render the locking system redundant.

3.62 Bedroom doors should have observation panels with integrated blinds/obscuring mechanisms. These can be operated by service users, with an external override feature for staff.

3.63 Accessing any space during emergencies or to maintain general or specific observation requires staff to be able to see service users.

3.64 The maintenance of privacy and dignity requires a process to enable observation that not only supports maximum privacy, or as much privacy as possible, but also allows staff to override the system for safety reasons.

Smart technology and surveillance

CCTV

3.65 CCTV is generally not used within the living unit.

3.66 It is a tool to aid observation and supervision but it does not replace the need for appropriate levels of service user observation and engagement, nor should it require more staff to realise its benefits. (See paragraphs 11.51–11.60 for further information on CCTV.)

3.67 Services that have CCTV in use around their perimeter or in communal areas should have policies/procedures in place that are compliant with general data protection regulation (https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources).

Observation within service user areas

3.68 There should be clear lines of sight to enable staff members to view service users within secure services. Design that encourages passive observation with good sight-lines, the use of open-plan areas and glazing should first be considered. Measures should be taken to address blind spots and ensure sight-lines are not impeded.

3.69 Observation of the environment is a key part of relational and procedural security. The physical design of the building should support and enhance good observation.

3.70 Sight-lines should be tested with building information modelling (BIM) software at the design stage.

3.71 Consideration should be given to reducing observational difficulties where physical obstructions to observations exist that cannot be addressed by design.

Developmental practices

3.72 Developmental security practices such as body-worn cameras do not form part of the standards published by the Royal College of Psychiatrists: Quality Network for Forensic Mental Health Services. Services can choose to participate in developing practice in relation to these areas further. However, any developments should adhere to relevant guidance provided by commissioners, regulators and organisations providing national guidance and advice on health and social care.

System resilience

3.73 The effects of unplanned disruptions to the delivery of healthcare activities can range from short-term impacts such as interruptions to utilities or IT services, or major or more long-term disruption effects such as the loss of physical facilities which would require the relocation of service users to alternative care facilities.

3.74 While the focus should always be on preventing disruption as part of a proactive risk-managed approach, it is important that up-to-date contingency plans and arrangements are available and practised to mitigate disruption effects and to reinstate service user care delivery with the minimum of delay.

3.75 A contingency plan is essential within a secure services setting, and addresses:

- the chain of operational control
- communications
- patient and staff safety and security
- maintaining continuity in treatment
- accommodation
- testing by live and desktop exercises, including a collective response to rehearsing alarm calls at least six-monthly.

See 'Standards for forensic mental health services: low and medium secure care' (Royal College of Psychiatrists: Quality Network for Forensic Mental Health Services, 2021b).

Service user, staff and visitor safety and security

3.76 Service user safety and security will depend on the continued availability of a range of facilities, services or resources, which if lost or disrupted could have significant safety and security impacts.

3.77 A risk assessment on facilities, services and resource dependencies for service user safety and security should be in place to identify the potential impacts of the loss of one or more of these factors on service user safety and security. This will then prioritise contingency planning arrangements.

3.78 Contingency plans consider requirements for temporary and alternative accommodation for service users, accommodation security levels, the provision of access to medications and prescriptions, access to service user medical records, availability of specialist clinical equipment, and the availability of sufficient numbers of trained staff to maintain care, safety standards and security.

Refer to 'Physical security in secure care' (Royal College of Psychiatrists: Quality Network for Forensic Mental Health Services, 2021a) for further guidance on key learnings and further aspects in detail.

Safety including integration with fire strategy

3.79 See the HTM 05 (Firecode) series of documents (https://www.england.nhs.uk/estates/health-technical-memoranda).

Safety including infection prevention and control

3.80 A building's design can help infection prevention and control by providing an environment that is easy to clean and maintain. It is important that these features are designed into a project from the beginning, incorporating the lessons learnt from COVID-19 regarding the built environment.

3.81 All national infection, prevention and control (IPC) guidance should be followed (see NHS England's (2023a) 'National infection prevention and control manual (NIPCM) for England' for more detailed guidance).

Ventilation and other environmental requirements are given in Chapter 11. See also Appendix 1 in HBN 00-09 – 'Infection control in the built environment'.

3.82 Location and design of handwashing facilities for staff and access to handwashing in communal areas should be given careful consideration ensuring safe systems of work, including the completion of a risk assessment approved through local governance procedures.

4.0 Stakeholder needs

4.1 Table 2 outlines the different needs of building occupants/stakeholders including service users, visitors (including families, carers, friends, advocates, professionals and others), managers and staff. This can be expanded and developed through collaboration with stakeholders to meet specific local needs.

Table 2 Needs of building occupants

Stakeholders		Characteristics
Children and young people	**Privacy and dignity**	Young people should have their own en-suite bedroom. They should have control over their lighting (including reading light), natural light (if integral blinds are fitted), ventilation (fan run-time) and heating. They should have the ability to lock the bedroom door from both the outside and inside, with the capability for staff to override this to protect their safety.
	Safety	Children and young people need to feel and be safe. They will not be able to engage with the therapeutic purpose of the living unit unless they feel safe. This includes the safety of belongings in a lockable space. The local multidisciplinary team (MDT) should make decisions on any changes in levels of access to computers and mobile devices and regularly consider any risks and requests in line with local policy.
	Space	The size, furnishing and quality of spaces and circulation areas will influence how children and young people engage with and use it. A variety of different spaces should be provided to allow them a choice of environment.
	Accommodation for those with a disability	Appropriate accessible accommodation and facilities should be provided that ensures that the needs of anyone with a disability is met in a way that promotes inclusivity.
	Sensory needs	See the National Development Team for Inclusion's (NDTi) (2022) '"It's not rocket science"'. Sensory friendly wards principles list'. There should be access to a sensory room and to a de-escalation room.
	Space to meet others	Contact with the outside world is an important part of treatment and recovery. Children and young people need appropriate spaces where they are able to meet friends, family, carers and other professional visitors. Larger family visiting and social spaces should be provided that are suitable for siblings who may be younger or older than the young person being visited. Suitable meeting/conference facilities may be utilised to support virtual meetings.
	Access to outside areas	Direct access from internal spaces to outside areas offers children and young people greater freedom of movement and fresh air. The design should provide staff with good sight-lines to all entry and exit points. Space to play should be provided.

Stakeholders		Characteristics
Children and young people (contd)	**Variety of activities**	It is essential to provide facilities for group therapy and social and recreational use. The use of room and outdoor spaces can be maximised by early service user and clinical involvement and the application of a service's clinical philosophy. Space for interactive games and for ball games are particularly important for this age group. Space for studying should be provided.
	Learning and education	It is essential to provide a wide range of opportunities for learning and education in close collaboration with the local education authority.
	Healthy lifestyle	Physical healthcare is an essential aspect of care, treatment and mental well-being. The unit design should provide opportunities to improve the lifestyles of young people, including access to fresh air and exercise (e.g. walking routes inside and outside, with destinations along the way and places to exercise/play outdoor games).
	A space for contemplation	The design should provide for a suitable multi-faith room in which young people are able to spend time in worship, meditation or reflection.
	Natural light and ventilation	These are essential attributes of a well-designed unit and the physical and mental well-being of staff, young people and visitors to the unit.
	Clean, well-maintained building	This conveys a positive message to children, young people, staff and carers and encourages pride in the living-unit environment. There may be a zero-tolerance policy on damage in general. The ability to maintain a clean, homely service will be dictated by the material used to build and furnish it.
	A domestic environment	Children and young people describe a preference for an environment that is comfortable, non-threatening, homely and familiar and that minimises institutional features. This approach should be supported through operational policy (for example, avoid one-sitting institutional dining).
	Avoidance of noise	At initial planning stage, consideration should be given to the location of potentially noisy rooms (such as laundries and de-escalation suites) in relation to quiet accommodation such as bedrooms. Adequate soundproofing should be installed between rooms, and heavy-duty sound-reducing doors should be used. Noisy engineering equipment, fans and light fittings should be avoided to promote a therapeutic environment. Alarm disturbance should be minimised while also ensuring staff are appropriately alerted.
	Avoidance of overcrowding	Overcrowding can also create tension on a living unit. Activity areas and dining rooms should provide adequate space to avoid overcrowding.
	Storage	There should be adequate facilities for storing and accessing a reasonable number of personal possessions.
	Choice and control	There should be opportunity to personalise and feel settled within the living-unit environment, and the service user should be offered the opportunity to take control of lighting, temperature and ventilation, with the ability to access a variety of spaces.
	Managed risk	It must be recognised that not all risks can be designed-out of the built environment. Procedural and operational management work alongside the built environment to provide a safe, supportive, therapeutic environment. The therapeutic environment should be prioritised and a custodial or institutional ambience avoided.
Carers and visitors	**Welcome**	It can be daunting to visit a CYP unit, especially for the first time. Visitors need to feel welcome and reassured by the surroundings.
	Privacy	There should be discrete areas for visiting. Care should be taken to accommodate child visiting as close to the entrance as possible.
	Safety	Visitors need to feel reassured that there is someone on hand if needed.
Managers	**Flexibility**	Managers need design solutions that build in a degree of flexibility. Where practical, rooms should be designed to allow for different functions or to respond to changing service user populations and needs.
	Incident minimisation	The design of the environment should give careful consideration to safety and security for children and young people and for staff and the public.

Stakeholders		Characteristics
Managers (contd)	**Stable staffing levels**	A high-quality environment for staff can play an important role in improving staff morale, decreasing sickness absence and improving recruitment and retention. A good design enables staff to be deployed in the right areas, to engage with young people and to maximise the use of resources.
Staff	**A pleasant environment**	Staff function better in environments that feel safe, calm and spacious. Staff can engage with children and young people 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 service user accommodation will enable the safe movement, supervision and management of young people.
	Private areas	Space should be provided for staff to do confidential work and hold meetings. There should also be areas for staff to rest; these should be located away from the main service user areas on the living unit. A private external staff-only garden is recommended.
	Storage	There should be adequate facilities for the secure storage of personal possessions.

5.0 Quality of life checklist

5.1 Table 3 outlines the different needs of building occupants/stakeholders including service users, visitors (including families, carers, friends, advocates, professionals and others), managers and staff. This can be expanded and developed through collaboration with stakeholders to meet specific local needs. See also NHS England's (2017) 'The fifteen steps challenge: Quality from a patient's perspective; a mental health toolkit'.

Table 3 Quality of Life Checklist

The table below should be used as a checklist for Projects to evidence how the design supports each item. This could form part of the compliance review.

What are we trying to create?		What is required?	How do we achieve it?
Healing and therapeutic environment	**1**	**Natural daylight is maximised.**	High ceilings with clerestory windows, glazed corridors, and glazed doors opening out of the communal space add to the amount of light entering the building.
	2	**All areas look clean and friendly and smell clean.**	Correct cleaning regimes, and maintenance and replacement programmes should be in place. Strong odorous cleaning products should be avoided.
	3	**Ambient temperatures and ventilation adequately controlled.**	Thermostats and controls should be provided to easily alter ambient temperatures. Safe opening windows should be installed in all areas but particularly in bedrooms.
	4	**Noise levels are adjusted to meet the needs of the people living/residing here.**	Sound attenuation should be available where required. Textile floor coverings and furnishings should be used, where applicable, to deaden sound reverberation.
	5	**There is access to external space that includes a covered area for use during inclement weather.**	Dedicated spaces within the living unit and separate external areas should be provided as unit-wide social hubs, and they should be accessible for families, carers and young people. External spaces should be designed in a way that facilitates staff observation without requiring them to leave the space.
	6	**Social spaces and play spaces are located to provide views into external areas.**	Garden areas, sufficiently large to accommodate all needs, should be available from the communal space.
	7	**A quiet low-stimulus area is provided.**	This area should be suitably located to protect privacy and dignity and be easily accessible, and should minimise impact on others.
	8	**Areas which need to be quiet are located as far away as possible from any sources of unavoidable noise.**	Quiet rooms should be provided in areas away from communal areas.
	9	**Multi-sensory needs are met.**	Consideration should be given to reducing/eliminating alarm noise, avoiding glare, transition zones, dining experience, bedding choice.
	10	**Support regulations.**	Operational policy and choice e.g. noise-cancelling headphones.

What are we trying to create?		What is required?	How do we achieve it?
Healing and therapeutic environment (contd)	**11**	**Predictable environment.**	There should be clear visual cues, and arrangement of spaces should be predictable.
	12	**Age-appropriate environment.**	The specific needs of children and young people should be addressed, including specific differentiation by age group, where appropriate.
Space	**1**	**There is a perception of space, and overcrowding is avoided.**	Planned spaces should be large enough to accommodate the people expected to be in them. A scenario test should be carried out during a 24/7 period and be supported operationally e.g. consider smaller meal sittings.
	2	**The living unit should not be accommodated on more than two floors.**	Ground-floor living unit accommodation is recommended, as it provides direct access to outside space and avoids risks associated with moving service users between different floor levels.
	3	**Sleeping and day areas are separate.**	To support adherence to HTM 05-02, wider privacy and dignity aspects and the general environment designation, the bedroom clusters should be in a different zone to the semi-public day spaces.
	4	**All bedrooms should be single rooms with en-suites.**	100% single bedroom accommodation should be provided.
	5	**There are adequate quiet spaces for young people and staff.**	There should be quiet rooms in living-unit areas for young people. Staff rest rooms should be available either at living-unit level or centrally.
	6	**The day rooms are open at night for people who cannot sleep.**	Operational policy.
	7	**Adequate private spaces are provided for interactions.**	Sufficient multi-functional meeting/interview rooms should be available in the living units and in shared areas.
	8	**The living unit size and design is appropriate to the service user population.**	Rooms and room areas should meet the requirements of the schedule of accommodations in HBN 03-02.
	9	**The living unit provides suitable access and facilities for people who require assistance.**	Sufficient larger bedrooms/en-suites should available. All areas should be accessible.
	10	**The living-unit environment is sufficiently flexible to allow for specific individual needs in relation to gender, ethnicity and disability.**	Gender-specific areas should be available. See also NHS England's (2019) 'Delivering same-sex accommodation'. (This guidance remains in place until the revised guidance is published.) All areas should be accessible for those with mobility impairments and there should be accessible bedrooms with en-suite facilities.
	11	**The living unit offers a range of semi-private and public spaces outside the private bedroom, which allow people a different level of participation with the life of the living unit.**	A range of multi-functional rooms including quiet, activity and interview rooms should be made available.
	12	**The living unit/whole unit provides suitable access and facilities for learning and education.**	A range of suitable education accommodation including one-to-one learning, classrooms, and subject-specific rooms including art and science should be provided.
	0	**Design that lends itself to effective safeguarding. Design which supports CYP to feel safe.**	Consider trauma-informed environment drivers including CYP choice, privacy and flow.
Privacy, dignity and safety	**1**	**Bedrooms should be within a gender-specific area, separate to the day spaces.**	There are a number of ways to achieve this. Planners should refer to NHS England's (2019) 'Delivering same-sex accommodation' and also refer to the Gender Development Identity Service.
	2	**Privacy in toilets and bathrooms is ensured.**	En-suite bedrooms should be provided throughout to ensure that this requirement is met.
	3	**Sight-lines are unimpeded. All exits and entrances are within sight of staff.**	Good visibility from and to all areas is important to ensure privacy, dignity and safety is maintained for all. This should be tested and demonstrated at the design stage.

What are we trying to create?		What is required?	How do we achieve it?
Privacy, dignity and safety (contd)	**4**	**There is a designated space for young people to receive visits from family and friends, including other children and young people.**	Child visiting rooms should be provided at the entrance to the unit or living unit.
	5	**There is at least one room for interviewing and meeting with individual young people and carers/ relatives, which is furnished with comfortable seating.**	Multi-functional rooms should be provided within both shared areas and living-unit areas. They should have comfortable informal seating and be able to be used for interviewing/meetings.
	6	**Privacy in receiving medication with the opportunity to ask and receive answers to questions regarding medication.**	There should be a private room located adjacent to either the treatment room or the drug storage room, or medication should be taken to the bedroom (operational policy).
Security	**1**	**Personal effects area is safe and accessible.**	Young people should have the ability to lock their bedroom doors when they are inside. Locked storage should be available within the room and a property store should be available (as per local policies).
	2	**Existing alarm systems are appropriate to the needs of the living unit.**	Staff should have an appropriate personal attack alarm with response protocols in place. Patient-to-staff call systems should be in place in assisted sanitary facilities as required.
	3	**While ensuring appropriate levels of security, the environment is open and does not unnecessarily restrict young people.**	See Table 1 on the differences between low and medium secure environments.
	4	**Secure perimeter.**	The secure perimeter should protect young people from wanted or unwanted attention. It should provide visual cues to safety, support and security. (Low secure is impeding escape. Medium secure is preventing escape.)
Activity	**1**	**There are activity areas inside and outside.**	Therapy areas should be provided for a range of activities with outside space as required (e.g. horticulture space at living-unit level and a dedicated shared space). There should be a physical activity area including a kick-about space, trim-trails, jogging track or internal gym and sports hall.
	2	**Inside and outside activity areas are safe.**	The equipment should be suitable for a variety of individual needs and abilities.
	3	**The living unit has direct access to an outside space for exercise and access to fresh air, which is safe and has seating available for relaxation.**	In addition to outside space around the unit as a whole, there should be direct access from the communal living-unit area to a garden. There should be opportunities offered to go for a walk inside and outside.
Access	**1**	**Areas are accessible for someone using walking aids/or a wheelchair. Other physical and sensory impairments should be considered.**	Suitable designs should incorporate full accessibility for service users, staff and visitors using walking aids and/or a wheelchair.
	2	**The living unit is managed to allow optimum and accessible use of available space and rooms.**	Many areas should be open-plan to allow for continual access. Where there are rooms for general use, these should be unlocked for the majority of the day.
	3	**Reception areas are well-planned.**	There should be a welcoming reception area, with clear wayfinding that enhances access to the building.
	4	**Signage is clear and visible.**	Integration of wayfinding, signage and artwork should be considered. See the Department of Health's (2005b) 'Wayfinding' guidance.

6.0 Planning considerations

Size of unit

6.1 Schemes may vary from complete new-build stand-alone units to expansion within existing units. The key zones to be considered include areas outside the secure perimeter, the entrance area and areas within the secure perimeter, entrance and staff support spaces, central activity and therapy provision, facilities management (FM) support and the living units (which may be paired with local shared accommodation such as therapy spaces, staff rest areas and FM support).

Children and young people

6.2 Low and medium secure service lines can vary locally and nationally. Numbers of beds required and the size of individual living units will need to be determined locally considering:

- activity, demand and capacity
- service specification
- service user experience
- clinical strategy and model of care
- efficient staffing (layout typologies and clusters may impact staffing)
- social structure within the living unit (not too large or too small)
- service expansion
- decant facilities
- future flexibility.

6.3 Experience suggests for a CYP secure living unit, bed numbers vary between six and 12 beds, with 12-bed living units being the most common. The schedule of accommodation appended to this supplement is based on 10-bed living units for low secure and 8-bed living units for medium secure (cascading down from Tier 4 CAMHS (HBN 03-02) at 12-bed living units). The number of beds should be determined in support of the specific clinical service model. To support non-institutional environments, consideration should be given to smaller bed clusters within living unit areas that are more domestic in scale.

Site selection, location and access

Site selection

6.4 The selection of a suitable site for a secure facility is always challenging and depends greatly on the existing land use, the nature and scale of the land available, commissioners' requirements and the surrounding developments. The selection of the site should take account of the scale of the unit being proposed, availability of the land for construction, adjacency of other buildings, site topography, outlook, orientation (sun path) and nature of the services or other organisations in close proximity.

6.5 Site selection should consider access to local amenities (for example, local acute hospital) including public transport as well as

the unit's integration within the local community.

6.6 While it may not be possible to select the ground conditions of the selected site, the prevalence of gravel and loose sand, flints, cobbles, etc in the local soil will require careful ground treatment and landscaping to prevent access to objects that may be used as potential weapons, or for self-harm, or that may allow easy escape adjacent to fence lines. It is also important to ensure good ground drainage and landscaping features to avoid flooding and boggy conditions so that external spaces can be utilised all year round for service user activity and therapeutic benefits.

6.7 The site should always take account of the extent of amenity and therapeutic space for service user exercise within the secure perimeter of the unit, as well as access for vehicles and maintenance of the secure element of the site. Access into the secure perimeter will be gained via an airlocked gate arrangement which also requires a large amount of space.

6.8 Service user privacy is another key element in the selection of the appropriate site. Consideration should be given to the adjacency of public and residential properties and necessary screening to ensure that the privacy of service users and therapeutic activities is maintained.

6.9 Where the unit is proposed to be located on an existing hospital site, careful consideration of adjacent services should be made to ensure appropriate clinical adjacencies, privacy and dignity, and access for service and emergency vehicles.

6.10 Where possible, external space for managed grounds should be considered within the curtilage of the healthcare site. This is easier where the unit may be located on a larger hospital campus site or a large isolated site, but this is a vital service user recovery and rehabilitation activity so even on constrained sites this needs to be designed into the site layout.

6.11 The construction or inclusion of external buildings or structures within the secure perimeter of the unit should be avoided as far as possible to minimise climb points, line-of-sight visibility issues and additional security and lighting complications.

6.12 CCTV will inevitably be used in external spaces around a secure facility, and consideration should be given to the extent to which the secure spaces can be viewed while preventing inappropriate views of adjacent private properties or residences.

6.13 The orientation and layout of the building on the selected site should be very carefully considered to avoid line-of-sight privacy issues for those people approaching the building on its designated access routes or those passing it on a shared or multi-use site. This principle should also apply to adjacent buildings that may overlook parts of the site, including the outdoor spaces where service users may be accessing fresh air.

Access

6.14 The overall selection of the site should give thought to the extent and location of parking and access routes for staff and visitors to the unit. Inadequate parking capacity can cause stress to users, and it should be part of a site-wide sustainable travel plan to ensure easy access to and from the workplace for all staff as well as stress-free access for visitors who may already find the visiting of a loved one in such a facility stressful or distressing.

6.15 Staff and visitor parking should be separate. Service users should not be able to see the staff car park. It is often more beneficial for the overall environment of the secure unit for the parking and access roadways to be a short distance away from the building in order to ensure good visibility for security and prevent visibility of service user spaces of the building from parked cars. This

also eliminates unnecessary nuisance from passing car headlights and alarms and general traffic noise.

6.16 The access routes for deliveries, emergency vehicles, secure transport and ambulances should be carefully considered in the overall site layout at the earliest stage of a development to ensure that access, external layby/vehicle holding, unloading and entrance into the building is safe and efficient and minimises the time that vehicles may be in a controlled space and subject to specific security processes. These times can cause a diversion to the attention of staff and security, and can lessen the normal security standards for a short period. Normal access to the main entrance and parking areas should be maintained.

6.17 Some staff and visitors to the unit may use public transport or alternatives to car use. Consideration of this should include proximity of local bus stops and other transport hubs, public parking off-site, and local facilities such as shops and restaurants. On-site car parking should comply with relevant HTMs and should also include electric vehicle (EV) charging points to comply with green plans and net zero carbon requirements. Covered cycle shelters should be located close to the facility in an appropriate space, with suitable lighting and security features to ensure that staff and visitors feel safe when using the facilities in the dark or at quiet times.

6.18 Service users may undertake treatment, activities and therapies external to the unit or may have daily employment which will necessitate travel to a different site or location. The considerations for local public transport above may also need to be assessed for this purpose, or alternative transport arrangements should be provided along with suitable drop-off and access facilities.

Functional relationships, workflows and logistics

6.19 Whether the development is for an entirely new stand-alone unit or an extension/expansion of an existing unit, the accommodation required inside and outside the secure perimeter should be briefed, based on the number of beds and required sizes of living units. There should be early consideration of the building concept to support a structured daily routine for service users. This should reflect the specific care model, service level and mobility of building occupants (Figure 5–7).

6.20 The overall size of the unit and the number of living units and beds will determine the amount of support and activity accommodation required, along with economies of scale for inclusion of larger one-off spaces. It is common for living units to be paired, with shared accommodation local to each unit based on activity, staffing and proximity. Different typologies of living units, reflecting service types, will deliver different levels of efficiency, observation, connection with the outside and plan depth, and need to be selected in discussion with the architect as to the most suitable typology for the given site conditions, constraints and the service model.

Figure 5 Functional relationships (stand-alone CYP medium secure unit)

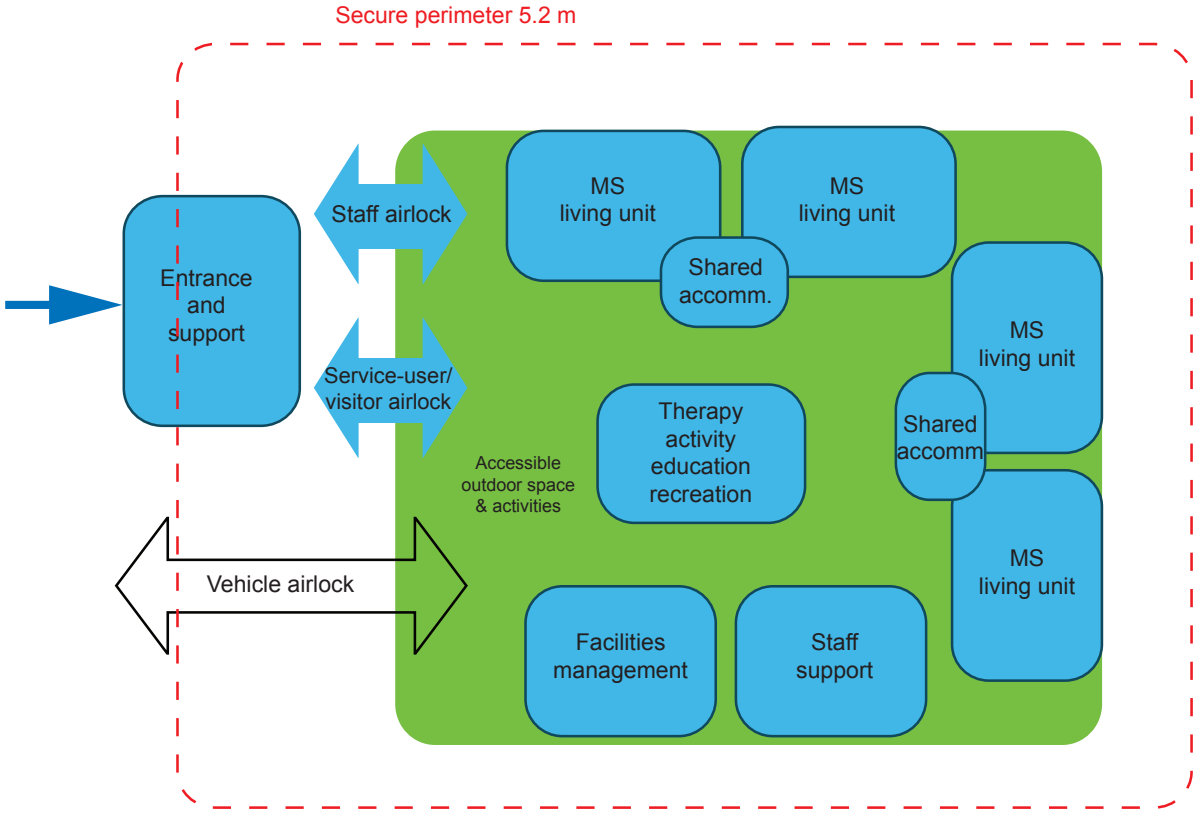


Figure 6 Functional relationships (stand-alone CYP low secure unit)

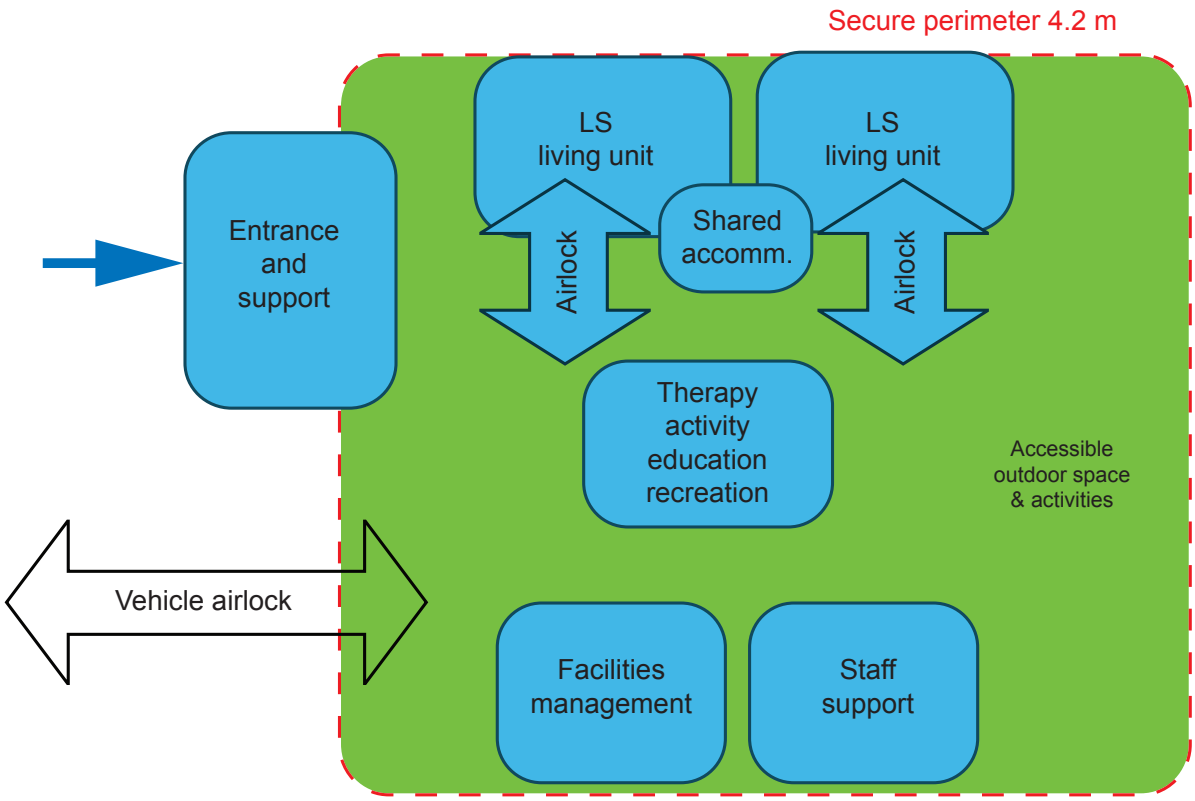
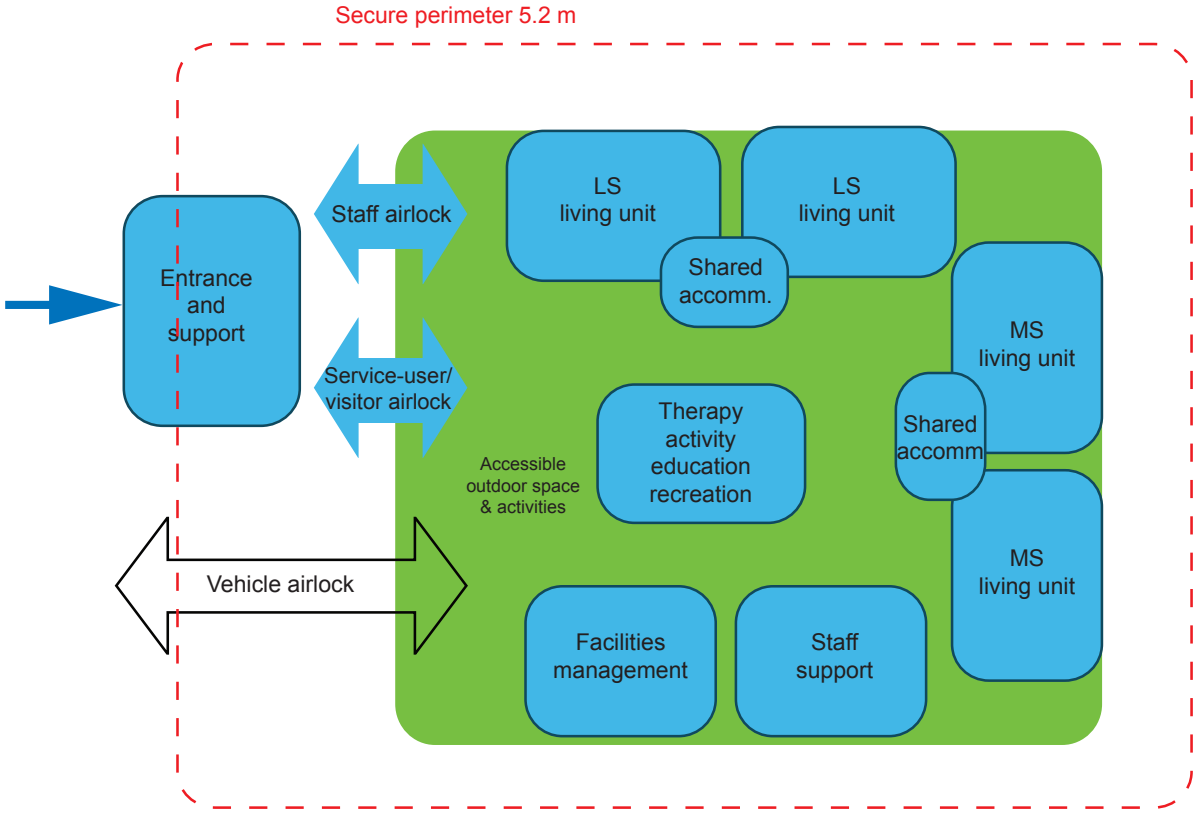


Figure 7 Functional relationships combined CYP low and medium secure unit)



7.0 Design considerations

Site layout planning

7.1 The secure perimeter and visual impact require early consideration within the context of the selected site's constraints.

7.2 Overlooking should be considered and minimised. This can often be achieved by the entrance building screening the living units and shared space behind.

7.3 Secure vehicle access should be provided in accordance with the Department of Health's (2011) 'Environmental design guide'.

Creating a therapeutic environment

7.4 The therapeutic environment needs to comprise high-quality and varied spaces developed through co-design with stakeholders, which:

- promote positive working relationships between service users, carers and staff including sensory needs
- promote well-being through maximising daylight, views out, integration of nature, healing art and landscape
- promote health through sensory design (sensory-friendly environment)
- empower through choice (variety of activities and spaces) and offering control (opportunity to personalise private space, adjust temperature, light)
- provide sufficient personal and social space for the individual to thrive
- promote movement and physical activity
- respond to trauma-informed environment learning (for example, smaller living units, individualised routine, avoiding objectification)
- support staff development, training and well-being (for example, consider staff "take a minute" rooms (private reflection spaces) in addition to staff rest areas).

See also chapter 11 in HBN 03-02 on innovations.

Sensory-friendly environments

The right sensory environment can support improved health and well-being. Everybody experiences the world through some or all of the five external senses – sight, sound, smell, touch and taste. There are also three lesser-known internal senses that people process at the same time.

Sense of balance and orientation in space is controlled by the vestibular system. "Proprioception" is awareness and movement of the body. Interception gives people the ability to feel what is happening inside their body, including their emotional state – fear, anger and joy or physical sensations such as cold, hunger or sleepiness.

Most people have different sensory profiles; the environment can have a significant impact on the processing of this sensory load and can lead to some environments being disabling and physically inaccessible. This can especially be the case in a busy living environment for many autistic and neurodivergent people.

7.5 Engagement with user representatives should be initiated at early design stages to influence the design and management to:

- reduce the potential for sensory overload or distress from features within the built environment
- provide flexibility and choice to meet a spectrum of requirements
- offer places for recovery and respite when needed.

7.6 Sensory ward principles are referenced in paragraph 1.8 and the References section. (The NDTi's (2020) '"It's not rocket science"' was originally developed for CAMHS in-patient settings but has been agreed relevant for all ages as per NHS England's Learning Disability and Autism Programme.)

7.7 There are extensive procedural recommendations to show how the in-patient experience can be supported within the referenced documents. These include creating predictable environments, ensuring staff understand sensory needs, and ensuring assessments are carried out at admission stage to understand how people can be supported in care plans relevant to the environment the service user will be treated within (see Table 4). The checklists in Tables 2 and 3 (Chapters 4 and 5) highlight environmental and design considerations, which are more fully explored in the referenced documents.

Layout considerations for seclusion, de-escalation and long-term segregation spaces

7.8 The location and potential co-location of any seclusion, de-escalation and long-term segregation space needs to reflect local operational practices and potential access for staff members who may need to respond from other living units. The schedule of accommodation is based on a dedicated seclusion suite and a separate de-escalation room on each living unit with the potential to share a segregation suite between a pair of living units.

Designing for harm minimisation

7.9 The guiding clinical principle is to try and move away from the concept of low/medium/high risk in association with individual service users. Managing risks in the built environment is not enough to mitigate ligature harm risk in mental health in-patient settings. There is a need for a systematic approach to assessing and managing risks in the environment. This needs to be dynamic and take account of a whole range of interdependent factors, for example

- the built environment
- layout and design
- fixtures and fittings
- environmental controls
- individual service user risk
- staffing levels, and
- awareness/policies.

7.10 Harm-minimisation should be assessed against:

- the extent to which a service user may be at risk of self-harm or suicide (for

Table 4 Considerations for creating a sensory-friendly environment

External senses	Some example adjustments or considerations
Sound (see also paragraphs 11.24–11.25)	The inclusion of acoustic finishes (i.e. ceiling- or wall-mounted sound-absorbing panels in corridors and communal spaces, as well as furniture) can improve the soundscape.
	Changes in ceiling heights alter how sound moves in the space. This can be overwhelming and disorientating and for some people will affect their proprioception and vestibular senses (balance and position of body in space). Where this is included, additional sound absorption can be helpful to reduce the echo.
	Soft-closing doors should be considered to reduce the auditory shock of frequent, unpredictable banging.
	Silent alarms for staff- and patient-call systems should be considered.
	Quiet or sensory rooms should be positioned away from other noisy activities such as games or laundry rooms.
	Consideration should be given to extractor fan run-on times and the ability to switch off extractor fans independently of lighting.
Sight	Patterned flooring can add to sensory overload; consistent flooring between different rooms reduces processing demands.
	Consideration should be given to using calm, neutral colours in communal areas. This may not be the desired choice for all areas. As part of the interior design development, where it could be appropriate to improve the sensory environment for everyday spaces, visual separation should be created if introducing colours or textures that may be too bright, too distracting or too rough for the most sensitive.
	Dimmable LED lighting should not flicker or hum.
	Lighting to address glare should be explored i.e. window placement, light diffusers and matt surfaces reduce reflection and glare.
	Calm, clutter-free environments are often beneficial for people to process information effectively. Consideration should be given to the storage requirements in rooms and the option to close off storage areas to reduce visual-processing demands.
	Consideration should be given to the inclusion of glazed screens beside doors, as visibility between rooms can support ease of movement between spaces.
Smell	Consideration should be given to specific areas for cooking, eating, laundry where the door can be closed, and to how close someone's bedroom may be to these spaces when allocating rooms if someone is sensitive to smell.
Touch	A domestic bathroom has been included in the schedule. This option should be reviewed with stakeholders at the early design stage as it is sometimes preferable to take a bath rather than having a shower. Consideration should be given to where best to place this within the bedroom wing for accessibility.
	Consideration should be given to the selection of furniture for the unit. There is a need for supportive chairs for people with hypermobility.
Taste	The need for flexibility in a way that meets people's needs should be acknowledged. Consideration should be given to spaces elsewhere in the living unit where someone can eat beyond the allocated dining room.

example, self-reported intention, behavioural indicators, service user history) and operational mitigations put in place

- the extent to which service users may have an opportunity to self-harm (for example, time alone, no supervision, blind spots) should be reflected in the building risk plan (see paragraph 7.12).

7.11 While there can be no one standardised approach to assessing ligature risk (as in-patient care environments, service user populations and relative ligature harm risks will vary by context and over time), there should be a systematic approach drawing on local intelligence and co-design that draws on the local workforce (made up of a group of relevant staff together with in-patient staff, estates, health and safety and management) alongside national guidance and evidence. This should not be limited to a focus on rooms and usage alone, but incorporate all the interacting factors, for example:

- individual service user risks and dynamic environmental risk assessment

- therapeutic environment versus restrictions and controls
- staffing levels, induction and training
- therapeutic relationships
- policy
- built environment
- fixtures and fittings.

7.12 At the design, construction and handover stages in close collaboration with the clinical team, key areas of risk within the proposed facility should be identified and mitigated wherever possible. This should be recorded on a risk plan which can be colour-coded room-by-room to support service user understanding of areas they can or cannot access, with appropriate categories identified, for example:

- green for unaccompanied service user access
- amber for accompanied service user access
- red for staff-only access.

8.0 Room spaces

NOTE

The rooms described in this chapter are supplement-specific variations to HBN 03-02.

See the schedules of accommodation associated with this supplement for all room types and sizes. The schedule of components is listed in the component sheets. Both the schedules of accommodation and component sheets can be downloaded from the HBN 03-01/02 supplements webpage.

General

8.1 All service-user-accessible spaces should be designed to enable easy searching.

Main entrance

8.2 All building users should be made to feel welcome, with clear separation between staff access and non-staff access (service users, visitors, carers).

8.3 Consideration should be given to carer and peer support network accommodation within and outside the secure perimeter. Access onto the unit (that is, within the secure perimeter) needs to be carefully controlled and managed to maintain safety and security for all (see paragraph 3.51 for security aspects of the main entrance).

8.4 Accommodation should comprise:

- draught lobby (a buffer zone between the inside and outside to reduce draughts and maintain inside temperature)
- secure reception (including small staff beverage bay and staff WC)
- waiting area for staff, visitors and carers, suitably sized for separation and privacy
- sanitary accommodation, baby-change and consideration of accessibility for visitors and carers
- access to secure lockers for visitors
- interview room
- search and/or scan rooms
- service-user/visitor airlock
- staff airlock
- staff alarm/key pick-up
- carer/advocate information support hub.

Secure reception

The choice of whether to combine the secure reception and secure control room into one area or keep them as separate spaces is a local decision. There are advantages and disadvantages to each approach that should be weighed carefully during the planning process. For example:

- Combining the secure reception and control room reduces staffing

requirements and offers operational efficiencies. However, care should be taken to ensure the security function is not compromised or distracted by the public reception duties.

- Separating the secure reception and control room allows staff in each area to focus solely on their specialised duties without distraction. But it requires greater staffing and resources. Importantly, if separated, the reception area can close outside of business hours but the secure control room needs to be staffed 24 hours a day.

In either case, the design should enable the control room to fulfil its security duties without interference while also allowing staff to work effectively.

8.5 A secure reception acts as the coordination and control centre for all aspects of the unit's security. It is responsible for access and egress through all doors and gates that form part of the secure outer perimeter.

Considerations

- Staff movement through the entrance area should be fully automated, but be capable of being overridden when searching is required.
- Combined reception/control room. Local option: control room can be separate and should be within the secure line to create a calmer reception and greater security resilience. Determined by level of security, staffing and operational policy.
- Local consideration of procedural policy regarding on-hand visual oversight of vehicle airlock.
- Numbers of personnel determined by unit size (example based on an adult 90-bed medium secure unit with a four-place combined reception/control room). Adjust to suit scale and type of development.
- Staff entry may be supported by an automated system (for example, biometric); this should be monitored and controlled with an override facility from the control room.
- Separate/dedicated locking suite to prevent unauthorised access.
- Acoustic privacy should be maintained.
- The reception component should be obvious, well-located in relation to the entrance and approach, welcoming and attractive in appearance, with consideration given to the incorporation of natural materials, lighting, signage and artwork.
- Split-level desk to comply with Approved Document M of the Building Regulations and accommodate wheelchair-users
- First-aid/defibrillation equipment
- Local policy to determine equipment required for visitor booking-in process

Activities/requirements

- Operated 24/7 (medium secure).
- Clear line of sight and audible communication to the main entrance, lobby and airlocks.
- All visitors, service users and staff will report to and register/sign in at the reception desk (staff access and egress may be automated). Visitor passes/badges will be issued and returned to the reception along with any visitors' locker keys. Systems should be in place to prevent any items issued from reception leaving the facility.
- Reception staff will oversee and control entry and egress through both the visitor/service user airlock and the staff airlock.

- Undertake reception and administrative duties and control personnel access and egress.
- Monitor locally specified systems (computer-based and/or alarm panels) including perimeter and internal security systems and alarms, access control, fire, nurse call, staff attack alarms, etc.
- Monitor, operate and control CCTV systems (ensuring screens meet privacy requirements).
- May be monitored by CCTV (local decision).
- Monitor and control vehicle access to the vehicle airlock/delivery yard/service area.
- Computer workstations with multiple screens and systems interface are used.
- Telephone enquiries may be dealt with (local decision).
- Glazed secure screens with appropriate audible communication including hearing loop.

This space will be used by

- Four or more staff.

Search room

8.6 This is an area that is used, if necessary, to search service users and/or visitors.

Considerations

- Provides privacy and dignity to service users being searched.
- Supports staff safety in undertaking authorised searches.
- Local policy to define prohibited items.
- Local policy to determine where prohibited items, if found, should be stored or disposed of.
- Local decision as to whether accessed off, before or after the airlock (the Department of Health's (2011) 'Environmental design guide' suggests a search area beyond the airlock before entry to patient areas).
- Essential that staff undertaking searches are able to contact security and emergency services.
- Local policy to determine whether biometric identification and access controls is needed.

Activities and requirements

- For staff to conduct an authorised search of a service user and/or visitor, in order to identify and confiscate any prohibited items.
- Room occupants may be seated or standing.
- Visitors may bring in babies, who may be searched and may require a nappy change.
- Handwashing and hand sanitisation.
- The specific equipment will be determined by local search and screening policy.
- Any testing for drugs or alcohol would be undertaken within the designated treatment rooms.
- For staff to observe, undertake, monitor and document the search undertaken.
- Communicate with other staff or security personnel.
- Operated 24/7 (medium secure).
- Controlled access.
- Clear line of sight (or CCTV) and intercom communication to the secure reception.

- Clearly displayed safety signage explaining the function of the search room.
- All finishes, furniture and fittings and outlets/sensors should be tamper-proof and minimise the risk of self-harm or damage.

This space will be used by

- One service user with up to two staff (local policy and activity to determine maximum number).
- Local option: consider personal space; adapt size to suit local needs; size stated is a minimum requirement.

Service-user/visitor airlock

8.7 This is a transitional space that allows service users and authorised visitors to access the unit under supervision.

Considerations

- Provides enhanced security and controlled access.
- Access is monitored and controlled from the secure reception/control room.
- Prohibited items belonging to visitors should be stored in lockers provided within the waiting area before accessing the airlock.

Activities/requirements

- Operated 24/7 (medium secure).
- All authorised visitors and service users will access the unit via the airlock (unless accessing via the secure vehicle airlock).
- Only one door will open at a time, which is security controlled and linked.
- Clear line of sight (or CCTV) and audible communication to the secure reception.
- Reception staff will oversee and control entry and egress.
- Acoustic privacy should be maintained between the airlock and reception/ control room, with audible controlled communication via a glazed secure screen/hatch including hearing loop.
- Local options: search room can be accessed either outside or inside the secure perimeter, or from within the airlock.
- No other rooms (other than search room) should be accessed from the service user/visitor airlock.
- Local policy safety and security protocols will determine whether visitors are issued with personal attack alarms.
- Clearly displayed safety signage explaining the function of the airlock.
- All finishes, furniture and fittings and outlets/sensors should be tamper-proof and minimise the risk of self-harm or damage.
- To accommodate ambulance-style trolley/stretcher in the event of vehicle airlock failure.

This space will be used by

- Up to three people (i.e. service user with two staff) (local policy and activity to determine maximum number).
- Local option: consider personal space; adapt size to suit local needs; size stated is a minimum requirement.

Staff airlock

8.8 This is a secure transitional space that allows staff to access the unit.

Considerations:

- Provides enhanced security and controlled access.

- Access is monitored and controlled from the secure reception/control room.
- Local option if staff airlock is combined with staff alarm/key pick up (flows and capacity should be considered while maintaining security of access and egress, particularly at peak times).
- Management and control of staff personal mobile phones determined by local operational policy.
- Staff entry may be supported by an automated system (for example, biometric); this should be monitored and controlled, with an override facility from the control room.

Activities and requirements:

- Operated 24/7 (medium secure).
- All authorised staff will access the unit via the staff airlock.
- Only one door will open at a time, security controlled and linked.
- Clear line of sight (or CCTV) and audible communication to the secure reception.
- Reception staff will oversee and control entry and egress.
- Acoustic privacy should be maintained between the airlock and reception/ control room, with audible controlled communication via a glazed secure screen/hatch including hearing loop.
- Local options: staff search room can be accessed either outside or inside the secure perimeter, or from within the airlock.
- No other rooms (other than staff search room) should be accessed from the staff airlock.
- Clearly displayed safety signage explaining the function of the airlock.

This space will be used by

- Up to four staff (local policy and activity to determine maximum number).
- Local option: to combine staff airlock with staff alarm/key pick up; size stated is a minimum requirement.

Staff alarm/Key pick-up

8.9 This is a secure area where staff can obtain alarms and keys to access restricted zones or service-user areas.

Considerations

- Anti-passback and fob tracking should be incorporated into the design of the key-handling system in order to prevent anyone leaving the site with keys. The aim is to ensure that access and egress is controlled and that no unauthorised egress is possible through the observed spaces that make up the secure reception, key pick-up and airlock areas. Key loss should be prevented by the effective tracking of key authorisation and allocation.
- Local policy whether this function is managed by reception or security staff, based in the secure reception or is a dedicated security room.
- Staff entry will be controlled and monitored; this may be supported by an automated system (for example, biometric) with an override facility from the control room.
- Staff personal alarm and key management and control process and requirements to be determined locally; this may be through biometrically accessed dispensing and receipt units.
- Controlled access may be provided to the secure reception/control room.
- Management and control of staff personal mobile phones will be determined by local operational policy.

- Communication function/intercom with secure reception/security personnel to respond to any queries/difficulties with regard to access.
- Local policy to determine whether staff lockers for prohibited items (for example, mobile phones) are required within this area. The suggested room area does not include space for staff lockers.
- Local option if staff airlock is combined with staff alarm/key pick up (flows and capacity should be considered while maintaining security of access and egress, particularly at peak times).

Activities and requirements

- Operated 24/7 (medium secure).
- All authorised staff will access the unit via the staff alarm/key pick-up room via the staff airlock.
- Access and egress managed and controlled.
- Local option: CCTV coverage and presence detection.
- No other rooms (other than the secure reception) should be accessed from the staff alarm/key pick-up room.
- Clearly displayed policy and security signage.
- To collect and return authorised access control fob/card/key.
- To collect and return authorised staff personal alarm (may include integral communication function) and/or communication device (for example, pager, radio).
- Charging and monitoring of access control fobs/cards/keys.
- Charging and monitoring of staff personal alarm (may include integral communication function) and/or communication device (for example, pager, radio).

This space will be used by

- Up to five staff (local policy and activity to determine maximum number).
- Local option: to combine staff airlock with staff alarm/key pick-up; size stated is a minimum requirement.

Carer/advocate information support hub

8.10 A carer/advocate information support hub provides a welcoming space for caregivers to meet, relax and access resources.

Considerations

- Local decision informed by carer feedback as to whether this should be outside or inside of the secure line; it provides an opportunity for caregivers, many of whom travel long distances to visit, to meet and support each other.
- May be located within the main entrance foyer or the visiting area.
- Acoustic privacy should be maintained.
- This room should be well-located and easily accessed, welcoming and attractive in appearance, with consideration given to the incorporation of natural materials, amenity lighting and artwork.

Activities and requirements

- Space for carers and/or advocates to relax, meet, share and access information (electronically and/or hard copy).
- May be supported by authorised volunteers.
- Local option: open access or access control.

- Clearly display information.
- All finishes, furniture and fittings and outlets/sensors should be tamper-proof and minimise the risk of self-harm or damage.

This space will be used by

- Up to three people (local policy, unit scale and activity to determine maximum number and therefore room size).
- Local option: consider personal space; adapt size to suit local needs; size stated is a minimum requirement.

Family, carer visiting space

8.11 See HBN 03-02 for family and carer visiting space. Specifically, for low and medium secure, this should also include suites close to the entrance airlock within the secure perimeter and an accessible visitor garden. Storage for children's toys and a play area should also be included.

Tribunal suite

8.12 This room is as described in HBN 03-01, albeit the number of tribunals and accessibility may require more than one tribunal room and associated private interview/ante-space.

8.13 In addition to the facilities described in HBN 03-01 for the tribunal suite, the following need to be taken into account:

- consideration of access from the main entrance to the tribunal room for panel members and for carers/family members where appropriate
- unescorted service users are not permitted to be in the vicinity of the tribunal room
- personal screening
- access to beverages within the room
- good levels of lighting
- access to facilities for copying and shredding
- access to a telephone in the room.

See HM Courts & Tribunal Service's (2018) 'Minimum requirements for tribunal hearings to be held in hospitals'.

Staff support spaces

8.14 Access should be provided to a central staff hub associated with training and development.

8.15 With the move towards staff members wearing uniform in secure services following the COVID-19 pandemic, staff-change provision needs to be fully considered and sized based on the staffing numbers, shift patterns and supporting green travel plans.

8.16 Depending on the scale of the facility, staff change may be local, central or a combination of both. Depending on local policy, it may be located inside or outside the secure line. The most efficient flow of staff, while meeting the security and staff-change requirements, needs to be tested and the design developed to support this.

8.17 The central staff support space should include a dedicated staff room for those staff who are not based in the living unit. It will be a local decision as to its location and whether a small café is to be provided.

8.18 Staff rest areas and lockers should be considered at the place of work (for example, living unit, therapy spaces, FM support). These may be shared between pairs of living units and co-located with staff WCs and beverage bays.

8.19 Access to a staff external space should be considered at living unit level associated with the staff rest area. If this is not possible due to the nature of the site location, as a minimum provision, there should be a dedicated staff garden for respite, rest and relaxation, away from the main unit activities.

8.20 Each project will need to tailor its requirements for in-patient unit staff accommodation to the number of staff working or based within the unit (see paragraph 8.67). In addition to the typical administration and central staff hub associated with training and development accommodation, there should be consideration of providing "Take a moment" rooms – learning from COVID, which will be equally applied to these services.

Shared therapy, social and activity space (on/off the living unit)

8.21 Based on the model of care and activity, consideration should be given to both therapy on the living unit (for those service users unable to leave the ward) and therapy off the unit to engender a structure to the day and a sense of "going to …", be that to work, to train, to therapy or to play. This accommodation can be contained within linked or separate buildings, creating a community rather than a single entity institution. It is beneficial for service users, where agreed through relevant risk assessment, to leave the living unit itself

CYP low and medium secure benchmarking data

The proportion of living units to central shared support space depends on the model of care and levels of service user restriction. This may vary over time and will depend upon local operational policies and staffing levels. From the analysis of the evidence and the experience base, proposals would generally fit within the following benchmarking (influenced by the overall size of the facility planned and associated economies of scale):

- **Entrance** (outside the secure perimeter) based on a medium secure environment:
  - > the sample schedules of accommodation (SoA) based on an 18–36-bed facility totals a net internal area (NIA) of 130 m² (excluding staff-change)
  - > the sample SoA based on an 18–36-bed facility totals a gross internal area (GIA) of 200 m² (excluding staff-change).
- **Entrance** (inside the secure perimeter) based on a medium secure environment:
  - > the sample SoA based on an 18–36-bed facility totals an NIA of 165 m²
  - > the sample SoA based on an 18–36-bed facility totals a GIA of 250 m².
- **In-patient living unit** (NIA per service user (excluding garden, planning, circulation and engineering)). Difference in overall space provision between low secure 10-bed units and medium secure 8-bed units:
  - > a total low secure NIA of 60–70 m²; a total medium secure NIA of 70–85 m², of which:
    - (1) service user bedroom and bathroom areas is 20–25%
    - (2) service user-accessed day/social/therapy space is approximately 25%
    - (3) staff support space is a minimum of 36 m² excluding the multidisciplinary team (MDT) meeting room and offices.
  - > a circulation percentage of between 45% and 55% reflects different typologies based on single-loaded corridors for bedroom areas and recognises the role of circulation spaces as informal social interaction and support areas
  - > the sample low secure SoA based on a 10-bed unit totals an NIA of approximately 67 m² per service user
  - > the sample medium secure SoA based on an 8-bed unit totals an NIA of circa 79 m² per service user.
- **Central therapy activity area** will vary depending on the total number of service users accommodated. This is a key area to support both the low and medium secure model of care. Flexible spaces should be encouraged to accommodate local initiatives and service users' and staff members' areas of interest. The number and mix of rooms need to be assessed against the anticipated utilisation and be supported by clearly stated staffing assumptions.

  NIA per service user (excluding garden, planning, circulation and engineering):
  - > a total NIA of 20–45 m², of which:
    - (1) sports/recreation hall ranges from 40% to 45%
    - (2) social hub will vary depending on central café between 10% and 15%
    - (3) central therapy ranges from 15% to 25%
  - > the sample SoA based on an 18–36-bed facility has an NIA range of 20–45 m² per service user
  - > the sample SoA based on an 18–36-bed facility has a GIA range of 35–70 m² per service user.
- **Staff support** (indicative schedule provided to illustrate range and size of spaces to be considered) **and facilities management** provision should be determined locally.

Fitzroy House, St Andrew's Healthcare (110 beds) (Camhs), P+HS Architects

Sports Hall. Fitzroy House, St Andrew's Healthcare (110 beds) (Camhs), P+HS Architects

and access space outside the living environment to support their recovery.

8.22 Many spaces may be multi-use or single-use depending on fit-out/equipment required and demand. The sensory environment is important in these spaces (for example, natural light and avoidance of noise from extractor fans).

8.23 Spaces off the living unit may include, for example:

- café with café servery, shop or kiosk
- spiritual contemplation room (ablutions and store)
- service user affairs office with informal meeting area for advocates
- hairdresser's
- alternative therapies
- lounge
- central garden.

8.24 Central therapy spaces align with the recommendations in HBN 03-02. Specifically for low and medium secure CYP units, the inclusion of a soft-play sensory room should be determined locally. The size may range from 12 m^2 to 32 m^2.

8.25 For central sports and physical activity, spaces may additionally include (with associated WCs, staff administration, and clinical and facilities management support spaces):

- gym/fitness suite
- outdoor sports barn as an alternative to the activity/sports hall
- multi-use games area (MUGA)
- trim trail
- memorial/reflection area
- areas in shade
- horticulture and gardening.

8.26 Other central or shared accommodation may include (dependent on the size of the unit and needs of the population):

- primary care space
- consultation/examination room
- dental room
- associated clinical support space and stores.

Education/school facilities

8.27 The recommended classroom sizes for the school are larger than those given in HBN 03-02 to reflect current CYP educational experience. Local policy will determine the number of classrooms and supporting spaces in consultation with the local education authority. Consideration should be given to creating an environment that feels natural and appropriate for a school setting by clear separation of the education/school facilities from the living unit.

Entrance to the living unit

8.28 The entrance to the living unit comprises an airlock to control access and egress from the unit. A visitor/interview room should be provided close to the living entrance with co-located WC designed to reflect the risk rating of the space.

Service user communal areas

8.29 Consideration should be given to which day spaces need to be rooms and which can be open spaces adjacent to one another.

Flexible rooms

8.30 In support of the local model of care, four rooms of the same size have been scheduled to provide quiet, chill-out, interview functions. These may be located centrally or dispersed with the bedroom clusters to suit.

Library/chill out room. Sowenna P22 (14 beds CYP non-secure) Cornwall Partnership NHS FT, Ryder, Tilbury Douglas

Sanctuary room. National Forensic Dublin (170 beds total incl CAMHS) NFMHS Portane, OHL, Scott Talon Walker + Medical Architecture

8.31 These rooms provide an alternative to a larger communal sitting room, especially when the communal space is open-plan and can be used flexibly.

Therapy room/multi-function room

8.32 For service users unable to leave the living unit, and to provide greater integration and accessibility to therapies, a therapy room/ multi-function room should be provided within the living unit environment, ideally connected to a secure outside space.

Games area/room

8.33 An area to play games should be provided. This room requires more space to allow for movement in activities such as table tennis, pool or computer games/exercise programmes. Lockable storage may also be required for the tables and other equipment. In low secure facilities, this could be a central social/therapy area.

Open area social space/lounge

8.34 This area provides an informal space to encourage interaction between service users and staff away from the TV room.

Dining area

8.35 Single-sitting institutional practices should be avoided where possible.

ADL kitchen

8.36 One ADL kitchen should be shared per pair of living units.

Bedroom and bedroom support spaces

8.37 Refer to the “mental health bedroom arrangements” in the ProCure22 ‘Repeatable Rooms and Standard Components App’ (these are predesigned layouts with different furniture configurations for local choice). See also Figure 8 for an annotated aerial and perspective view of the ProCure23 Repeatable Room (RR) bedroom layout.

8.38 Figure 9 shows the five activity zones within the bedroom, including the importance and design of the threshold entry zone. Reflecting the longer length of stay, bedrooms should offer the opportunity for personalisation of space.

8.39 Local choices may impact on room size. This includes establishing the preferred bed size in dialogue with service users. Clinical and service user feedback has highlighted the need for longer than standard beds for an increasingly taller population. Requirements for CYP of size should be discussed with local stakeholders, and consideration should be given to wider beds.

8.40 Local choices which do not impact on room size but are supported by service user feedback are the inclusion of window seats within the room, some of which have been developed into desk/seats, as well as increased window sizes (width and height).

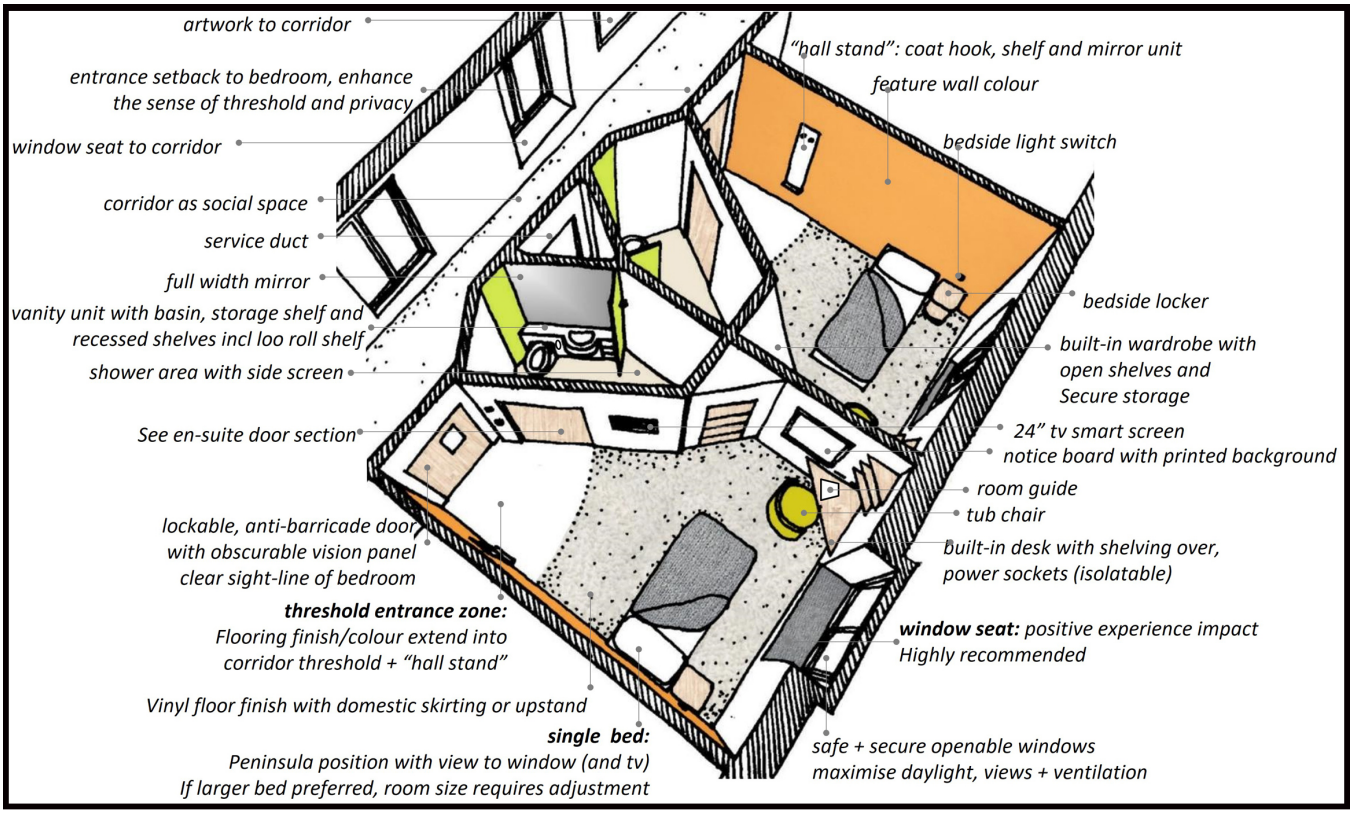
8.41 The schedule of accommodation reflects the experience-base room dimensions including the en-suite service cupboard. This is based on a standard bed size and would need to be increased if additional or larger furniture needed to be accommodated.

8.42 In the schedule of accommodation, the accessible bedrooms and associated en-suite have been sized for independent wheelchair users. The requirement for assisted bedrooms and en-suite should be determined locally.

Sanitary facilities

See also the requirements and standards referred to within both the section on “bathrooms and toilets” and Annex B of the Department of Health’s (2011) ‘Environmental design guide’.

Figure 8 Annotated aerial and perspective view of the ProCure23 Repeatable Room (RR) bedroom layout



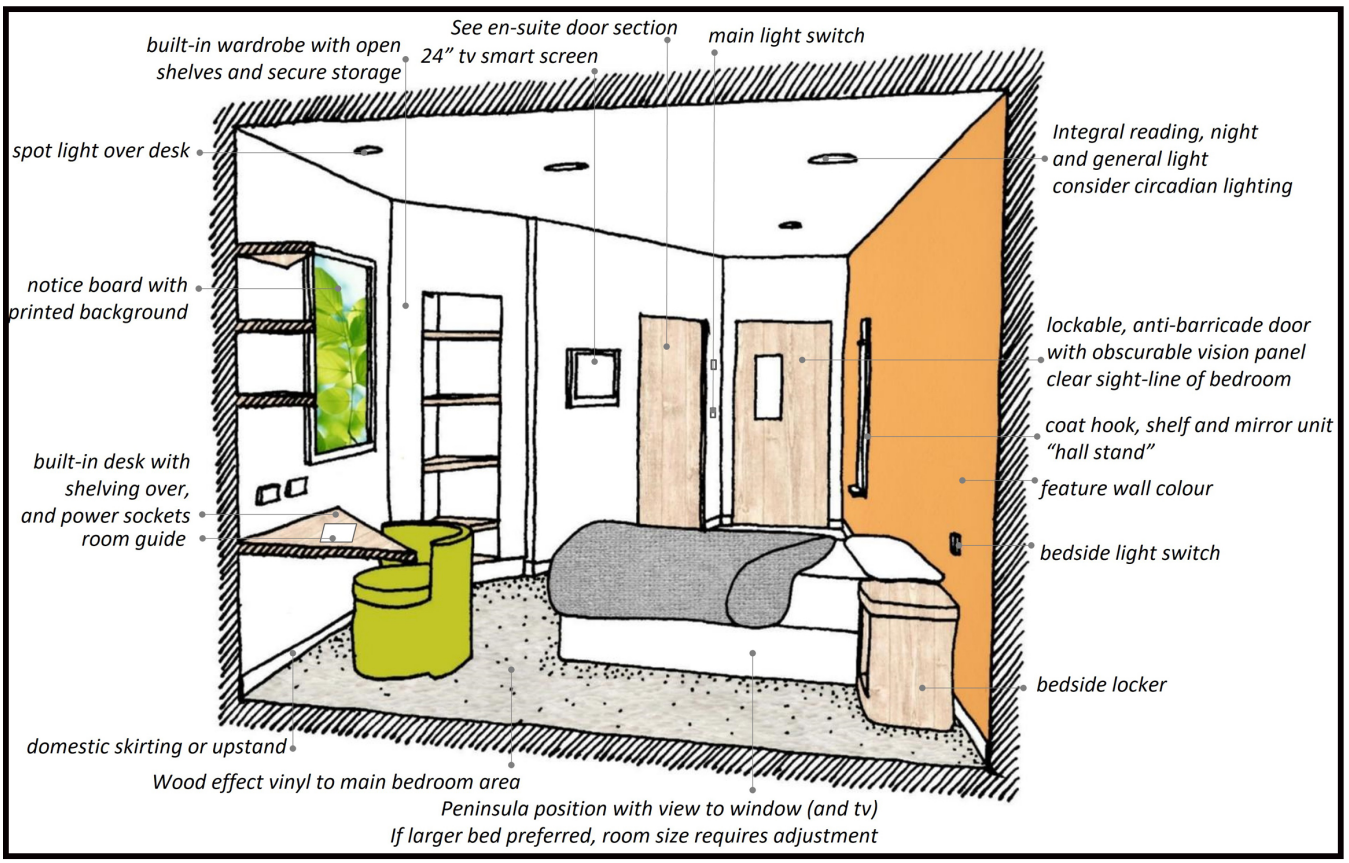
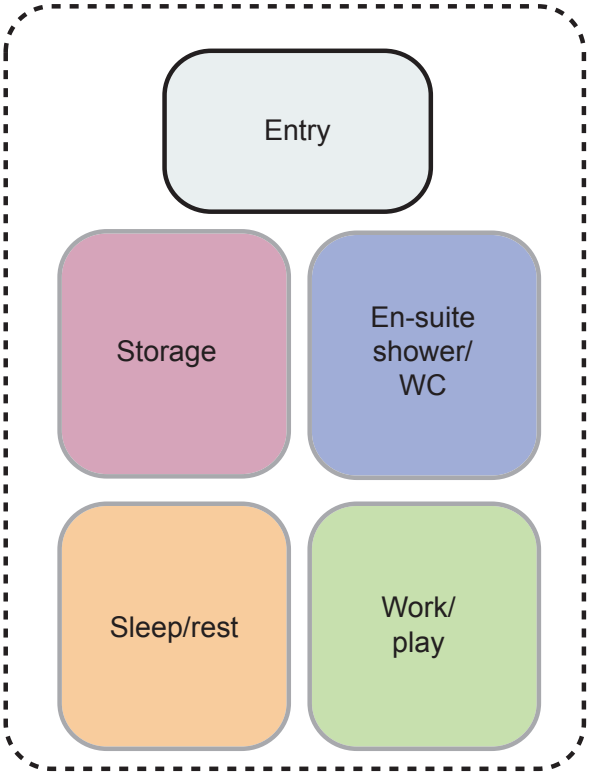


Figure 9 The five activity zones



Bedroom with window detail. Ferndene CYP (40 beds incl Low Secure), Cumbria Northumberland Tyne & Wear NHS FT, Laing O'Rourke, Medical Architecture

Bedroom with lower window sill. National Forensic Dublin (170 beds total incl CAMHS) NFMHS Portane, OHL, Scott Talon Walker + Medical Architecture

8.43 All service users will have access to private en-suite facilities. Bathrooms, en-suites and toilets are high-risk areas, in that service users will be unobserved. The following considerations should be taken into account:

- Solid surfaces are preferred to stainless steel in all areas as they are more normal and domestic in appearance and offer harm-minimisation features. Vitreous china should only be considered in non-service-user-accessed areas. (Stainless steel may be considered within the seclusion suite depending on local requirements and specification preferences.)
- Wash-hand basins may be recessed or wall-mounted, and be of the corner-fit, semi-vanity or vanity type. All should be easy to use, easy to clean and easy to maintain, with concealed services and fittings that minimise the risk of harm.
- It will be a local policy decision:
  - whether plugs are allowed, as these present a risk and will need to be managed operationally
  - regarding the method of water operation (that is, manual, sensor or pneumatic).
- All fittings should be robust and specified as “vandal resistant” or “anti-vandal”.

8.44 Local policy will inform the toilet and bathroom designation, with consideration of same-sex and universal (where the wash-hand basin is within an enclosed cubicle or room), accessible, staff, service-user-shared and individual facilities (for example, en-suites).

8.45 The requirement for assisted/accessible bathrooms and/or domestic bathrooms should be determined locally, noting that all bedrooms will benefit from a wet-room-type shower. Assisted/accessible bathrooms should be screened from the communal areas for privacy and dignity.

8.46 Accessible WC grabrail solutions need to align with the healthcare provider’s local policy on whether reduced ligature handrails are permanently installed or fixed in place when required, supported by an operational risk assessment. In public areas, decisions with regard to accessible visitor WCs are to be determined locally, supported by an operational risk assessment.

8.47 WCs should be provided centrally, with easy access from the service user communal area.

8.48 Safe and integrated shelving should be included for service users to place toiletries (see the en-suite layout in the ProCure22 Repeatable Rooms https://procure22.nhs.uk/repeatable-rooms-and-standard-components-app/).

8.49 Staff WCs should be conveniently located, but lobbied and co-located with the staff rest area if accessed directly off the living unit circulation area.

En-suite doors

8.50 HBN 03-01 assumes there is a full door to the en-suite with a lock-back facility; however, in practice across low and medium secure units, there are a number of options. 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

while also maximising the service user’s privacy, dignity, comfort, experience, well-being and therapeutic benefits.

8.51 The en-suite door presents a number of challenges in balancing creation of a therapeutic environment, offering choice and control with minimising ligature risk and addressing safety concerns. Technology can be incorporated to enhance safety (for example, door-top alarms). Local experience should be considered in balancing these requirements. For options, see Figure 10.

See the DiMHN/BRE's (2020) 'Informed choices' for the independent testing of manufacturers' potential solutions against key performance criteria.

8.52 All options require a degree of risk assessment of service users by staff to ensure the bedroom and en-suite door can be safely managed.

Circulation routes/corridors

8.53 Circulation space percentage allowances need to acknowledge the informal interaction and social function which these spaces fulfil.

8.54 For corridor widths in service user access areas, 1800 mm should be maintained as the minimum effective clear width (ecw). Bedroom cluster corridors where doors open out in an emergency should include a set-back to the corridor at the bedroom entrance threshold. Consideration should be given to whether corridors are double- or single-loaded (rooms to both sides or one side), as this will impact on the amount of activity and the sense of enclosure. Single-loaded corridors with windows and outlook to one side feel less constrained and are preferred. Where continuous handrails are necessitated by the needs of the service user group, effective clear widths should be increased accordingly. For double-loaded corridors, consideration should be given to increasing the width to 2100 mm ecw.

8.55 There needs to be careful consideration of both daytime and night-time lighting to manage light spill into service users' bedrooms. Consideration should be given to a variety of lighting that contributes to the

Single-loaded corridor with window seat. Ferndene CYP (40 beds incl Low Secure), Cumbria Northumberland Tyne & Wear NHS FT, Laing O'Rourke, Medical Architecture

Figure 10 En-suite door options

Description	Service-user experience	Therapeutic impact	Privacy	Fan noise	Odours	Secure shut	Secure open	Reduced ligature/ mitigation
No door	Unfamiliar, unsettling	Negative	X	X	X	X	✔	✔
Standard door	Familiar	Positive	✔	✔	✔	✔	X	Ligature risk: Cut-back option Door-top alarm
Lock-back en-suite doors	Unfamiliar, possibly custodial	Neutral	✔	✔	✔	✔	✔	Cut-back option
Saloon-style	Unfamiliar	Negative	✔	X	X	X	Can be removed	✔

Full-height lock-back

Chamfered lock-back

Saloon “soft screen” (height varies)

Single-leaf “soft screen” (height varies)

Curtain (length varies)

No door

ambience and can be locally controlled, including luminosity and Kelvin scale. Lighting that supports the circadian rhythm is beneficial (for example, maximising natural light in circulation spaces or compensating for insufficient natural light through the use of artificial lighting).

8.56 Building/living-unit typology will dictate movement and flow; this needs careful review with stakeholders, along with assessment and identification of flow and any risk mitigations required (for example, observation/lines of sight, ability to move away, two directions of travel that provide an alternative means of escape for fire).

8.57 Orientation, window position and glass specification should be carefully considered to avoid any glare or silhouetting of building occupants.

Seclusion, segregation and de-escalation

Refer also to the "extra care area" section in Chapter 9 in HBN 03-02 with the additional requirement for secure outside space.

Extra care area is the overarching term used in HBN 03-02 which can comprise any locally determined combination of de-escalation, high care and/or safety (seclusion) suite

8.58 Design proposals need to reflect and support the local policy around seclusion, segregation and de-escalation. Suites are commonly grouped in pairs that are shared between living units or provided within dedicated suites in each living unit. Consideration should be given to the location based on service type and needs of the service user population, and the route to and between seclusion, segregation and de-escalation, together with the most appropriate location in order to provide support while not disrupting the operation of the living unit (see Figure 11). See also "Improving the patient experience of seclusion" (Medical Architecture, 2022).

NOTE

On means of escape in case of fire, particularly the maximum travel distance before there is a choice of escape, HTM 05-02 says that "escape from an inner room via an access room is permitted provided the access room is not a fire hazard room".

Segregation suite

8.59 The segregation suite is a separate daily living area of a single service user for a limited period of time and should include:

- bedroom with separate WC and shower facilities
- confiding space
- sitting room with safe furnishings
- environmental control and temperature adjustment
- local option for patient entertainment system
- observation area/lobby
- outside space.

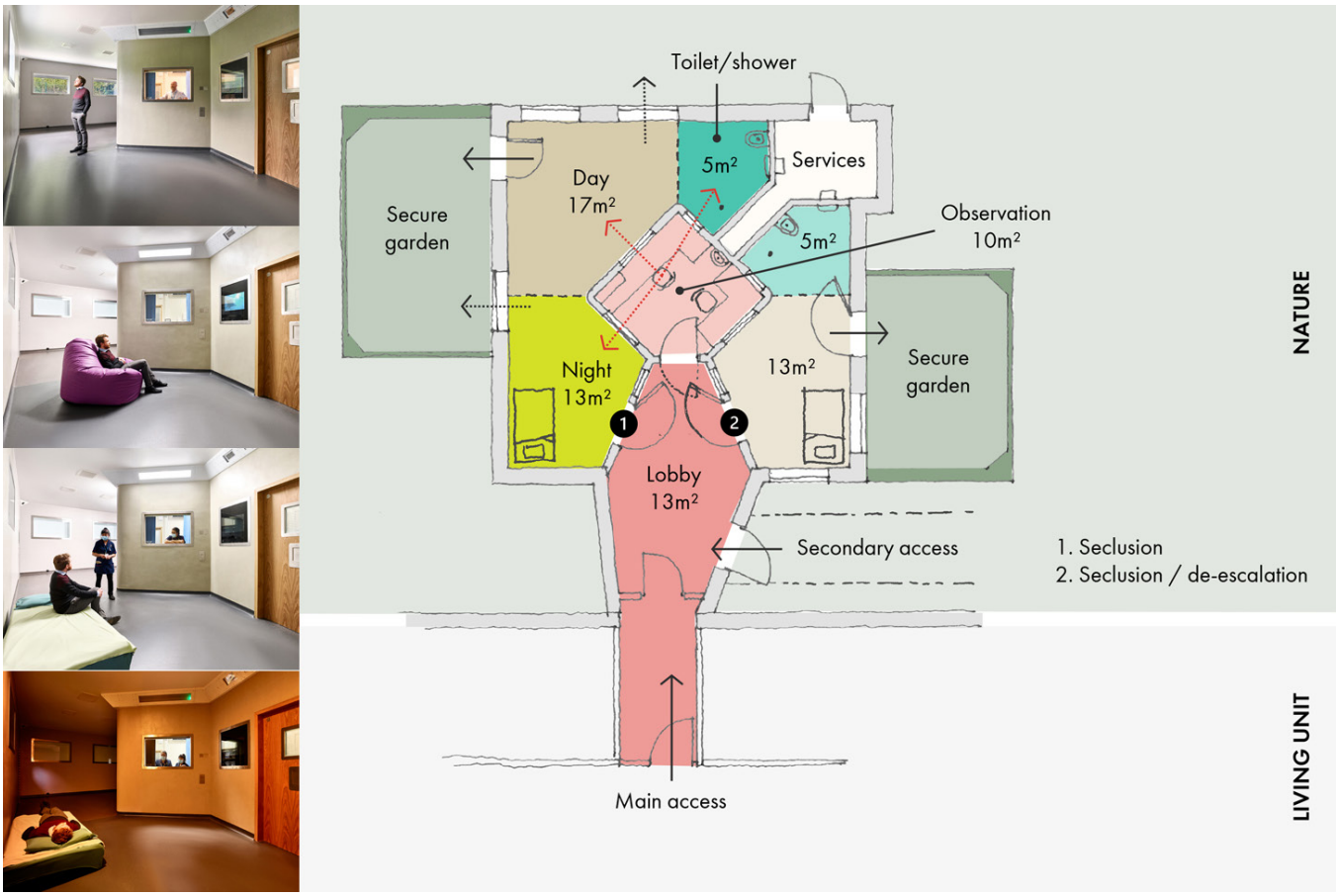
Unit support spaces

NOTE

Many units have dispensed with the central glazed staff base and moved towards a more open arrangement with a separate private administration space. In this arrangement, staff can engage directly with service users.

8.60 Service users' property storage may include central and/or localised storage. Consideration should be given during the briefing stage for storage of service users'

Figure 11 Seclusion and de-escalation exemplar arrangement (image courtesy of Hertfordshire Partnership NHS FT, Kier, Medical Architecture and ProCure 22)



Collaborative staff base. Sowenna P22 (14 beds CYP non-secure) Cornwall Partnership NHS FT, Ryder, Tilbury Douglas

personal hygiene products. Distribution should be controlled by staff.

8.61 Sufficient multidisciplinary team (MDT) space is required on the living unit to support MDT working, aid communication and engender a sense of teamwork within the living unit.

8.62 A staff night base may be needed depending on the typology and arrangement of the living unit. This can be designed with flexibility for informal social seating as well as use at night for staff, if required.

8.63 Central charging points for phones/tables should be included in the central common spaces, with individual lockers for each service user, ideally located near the staff base for observation.

NOTE

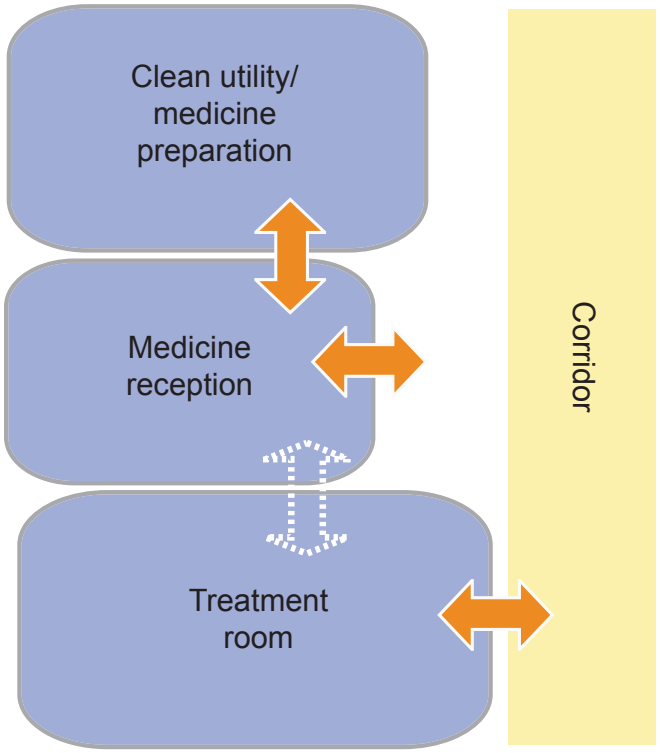
Any accommodation requirements associated with facilities management (for example, maintenance, catering, hotel services, receipt and dispatch) should be determined locally.

Clinical suite

8.64 The clinical suite should comprise three rooms (Figure 12). This suite allows for drugs to be administered in privacy, allowing the service user to discuss their medication in a private environment. It also leaves the treatment room free to be used simultaneously:

- treatment/consulting/examination room (service user is always accompanied by a member of staff) (see HBN 03-01)
- clean utility/medicine preparation (staff access only) (see HBN 00-03 – 'Clinical and clinical support spaces')
- medicine reception lobby (controlled access for service users).

Figure 12 The clinical suite



8.65 Medication is dispensed on a one-to-one basis. There should be no queuing for service users awaiting medication. In the medicine reception area, there needs to be adequate space for wheelchair turning and two comfortable chairs for one-to-one discussion.

Administration/office accommodation

8.66 For more detailed guidance, see HBN 03-01 and Chapter 11 of HBN 00-03.

Ancillary accommodation

8.67 Local whole hospital policies will determine the approach and requirements for facilities management accommodation.

Outdoor space/external rooms

8.68 External accessible space is essential to promoting and maintaining well-being. Accessible outside space should be maximised within the constraints of the site

Sheltered outside space. Ferndene CYP (40 beds incl Low Secure), Cumbria Northumberland Tyne & Wear NHS FT, Laing O'Rourke, Medical Architecture

and setting (for example, rural, urban). The external spaces can be in one of three zones: public, semi-public or private.

8.69 All gardens and outside spaces should be seen as an additional day space and integral to making the living unit feel more open. They should be briefed in detail as "external rooms".

8.70 Minimum provision should be as follows:

- dedicated living-unit gardens with external furniture and fixtures, accessed from central day spaces and/or circulation spaces, of a size appropriate for the occupancy, outlook and therapeutic and amenity benefit
- seclusion and segregation outside space (accessed via a lobby)
- de-escalation outside space
- shared therapy/activity/recreation gardens as a shared provision within the unit (for example, MUGA, outdoor gyms/ trim trails, gardening and horticulture linked to cooking, relaxation, socialising and active spaces)
- staff garden: private dedicated area for respite, rest and relaxation, away from the main unit activities
- visitor gardens accessed from the social hub/visitor area.

8.71 The design should maximise therapeutic value, safety, security and maintenance in developing both the brief and the design in close consultation with stakeholders.

8.72 The objectives of external rooms are to ensure:

- an appropriate amount of amenity space
- appropriate degrees of privacy

Small outside space. Fitzroy House, St Andrew's Healthcare (110 beds) (Camhs), P+HS Architects

- units receive appropriate levels of natural light and direct sunlight and have an appropriate outlook.

8.73 The design should maximise therapeutic value, safety, security and maintenance in developing both the brief and the design in close consultation with stakeholders.

Secure outer space

8.74 All medium secure units should have a vehicle airlock to enable safe transport and receipt of service users arriving or departing the site who are subject to detention. It should be of a size to enable a standard prison transport vehicle to park within, and to have a reasonable distance from surrounding perimeter.

8.75 There should be a separate storage area for bins and/or receipt of goods (for example, catering) that is within the secure perimeter and part of the vehicle airlock. This area must be secure and kept clear to enable access to the site for deliveries and service user transfers (see also paragraphs 3.42–3.44).

8.76 In both cases these access points cannot compromise the safety of the site and should not be used to exit the unit and bypass site security

8.77 Based on local policy, inclusion of an admission suite may be considered, co-located with the vehicle airlock and/or main entrance, but within the secure perimeter.

NOTE

This is not included in the sample schedules of accommodation.

9.0 Evaluating furniture, fixtures and fittings

9.1 All furniture fixtures and fittings should be subject to a formal client approval process to ensure they achieve the appropriate standard.

9.2 There is a well-established robustness testing process within the Department of Health's (2011) 'Environmental design guide'; it is important to consider the robustness of the product and the interface between the product and the structure – a common failure point.

9.3 BRE/DiMHN's 'Informed choices' provides client and design teams with independent and repeatable test evidence of ligature performance for products which can be used as part of the evaluation process to help compare different options. This provides additional reassurance that the manufacturers' processes can reliably deliver consistent quality through an annual factory production control (FPC) audit.

9.4 Paragraphs 7.9–7.12 on harm minimisation highlight the criteria that are important for a specific location or product, and most importantly the service users. It is important to consider the appropriate ligature safety level required alongside the therapeutic impact of the product.

9.5 Ligature is just one risk within an in-patient setting; other risks and considerations should also be factored in during the evaluation. Ingestion of foreign bodies is another of the most common environmental hazards, together with furniture, fittings and components being dismantled and used to self-harm.

9.6 BRE/DiMHN's 'Informed choices' provides independent and repeatable test evidence of staff-override and anti-barricade access for bedroom doors as per the recommendations in paragraph 3.56.

10.0 Building construction and components

10.1 In tandem with the best practice guidance given in this HBN, there is also a need to meet the current standards on building construction and components in the Building Research Establishment's (2023) BREEAM, NHS England's (2023b) 'NHS net zero building standard', the Department of Health's (2011) 'Environmental design guide' and the DiMHN/BRE's (2020) 'Informed choices'. All construction materials, assemblies and components should be subject to a formal client approval process to ensure they achieve the appropriate standard.

Internal wall construction

See also the requirements and standards referred to in the Department of Health's (2011) 'Environmental design guide' (including Annex B for testing levels) and HBN 03-01.

10.2 There has been a move away from traditional brick-and-block construction towards dry-lined plasterboard partitions (approximately 125–140 mm thick), some of which incorporate 15–18 mm exterior-grade plywood lining in addition to the impact-, fire- and acoustic-resistant plasterboard (one or two layers depending on board specification and thickness). The plywood lining provides additional robustness and continuous pattressing for fixings. The final specification should be determined locally and testing proven against Annex B of the Department of Health's (2011) 'Environmental design guide'.

NOTE

Blockwork is commonly specified in seclusion/segregation/de-escalation rooms (with a 215 mm block, hard-wall plaster, metal corner beads and steel goalposts at openings). It reduces the perception that a wall/door may give way with further blows/attack, since there is no deflection at the first attempts compared to metal or timber construction.

10.3 Plywood within the partition requires fire-testing.

NOTE

Clients, insurers and regulatory authorities require full fire test certification.

10.4 The risk posed by plywood may be mitigated by painting the non-plasterboard contact face with intumescent paint.

10.5 As the plywood layer may impair the acoustic absorption of the partition, acoustic testing may be required. When undertaking testing and certification, consideration needs to be given as to who commissions this (for example, board manufacturer, client or contractor) to avoid unnecessary repeated testing.

NOTE

Fire dampers, which penetrate the internal walls, will need to be tested within the proposed wall build-up.

10.6 Testing and certification needs early consideration and programming to ensure appropriate, robust and sustainable specifications are used.

10.7 Consideration should be given to doubling-up studs at doorways to ensure the load-bearing capacity of the stud can accommodate the doors.

Ceilings

Ceiling construction

See also:

- the requirements and standards referred to within the section on “ceilings” and in Annex B of the Department of Health’s (2011) ‘Environmental design guide’
- the guidance within chapter 10 of HBN 03-01. In particular, it states: “Ceilings should be able to withstand damage by implementing plywood backing or the like”.

10.8 Specification may vary dependent on the height of the ceiling. Commonly, impact-resistant board with a plywood lining is specified, with care required around coordination and detailing of secure access hatches, if required.

10.9 For accessible ceilings, a secure plank ceiling system may be used, as it meets the criteria for robustness and harm minimisation and allows controlled access to services in the ceiling void.

NOTE

Plank ceilings are commonly used in multi-storey units within corridors where the amount of services in the ceiling void would make the use of board and access hatches inappropriate.

Ceiling heights

See also:

- the requirements and standards referred to within the section on “ceilings” and in Annex B of the Department of Health’s (2011) ‘Environmental design guide’
- the guidance within chapter 10 of HBN 03-01. In particular, it states: “Ceiling heights are generally set at a minimum height of 2700 mm in mental health design and 3000 mm in a secure unit”.

10.10 The following points should be taken into consideration:

- The experience base suggests that service-user-accessed areas have a minimum ceiling height of 3000 mm as the accepted standard to be applied within both low and medium secure units (see Chapter 10 in HBN 03-01).
- The average male height in the UK is 1780 mm. Applying a reach-to-height ratio of 1.35 suggests the reach of an average male is 2400 mm. The average male can jump and reach between 400 mm and 500 mm, which supports a general minimum ceiling height of 3000 mm.
- Ceiling heights can minimise the risk of service users accessing light fittings, sensors, sounders, sprinklers, acoustic finishes, roof lights, etc.
- Service users should not be able to access the ceiling when standing on any furniture or fittings. Within a bedroom or

dining area – where they may be able to stand on a table or desk (750 mm high) – consideration should be given to raising the ceiling height.

- Varying the ceiling heights, form, finishes and fittings adds variety and interest and also accentuates spaces that fulfil different functions. Ceiling heights should be proportional to the room/activity space, with larger spaces supported by higher ceilings.
- Ceiling heights affect how sound travels within a space; additional acoustic control measures should be considered (see the DiMHN's (2017) 'Design with people in mind: the sound issue').
- The heated volume will impact on the unit's servicing strategy and energy use; ceiling heights should be optimised to support the therapeutic environment.

11.0 Engineering requirements

Scope of this chapter

11.1 This chapter sets out the engineering services and environmental recommendations in relation to low and medium secure mental health facilities.

11.2 It will inform designers with the criteria needed to meet the functional requirements. Specific requirements should be formulated in discussion with:

- service users
- carers and families
- clinicians across MDTs
- operational staff
- commissioners
- FM and estates professionals
- security advisers
- design teams
- all relevant specialist safety groups including the ventilation safety group (see HTM 03-01 – 'Specialised ventilation for healthcare premises'); electrical safety group (see HTM 06-01 – 'Electrical services supply and distribution'); and water safety group (see HTM 04-01 – 'Safe water in healthcare premises')
- manufacturers of specialist equipment.

11.3 Consultation should take place at the outset of the design process to determine whether any equipment proposed for use has particular environmental requirements, so that these can be met by the design.

11.4 Designers should aim to create an environment that is conducive to the well-being of staff and service users (see HBN 00-01 – 'General design guidance for healthcare buildings').

Energy and net zero carbon

11.5 The NHS is committed to achieving net zero carbon emissions by 2045 across all three Greenhouse Gas Protocol scopes. NHS England's (2023b) 'NHS net zero building standard' has been produced with the intent to create a set of performance criteria relating to various elements of a net zero carbon building – both in construction and in operation.

11.6 It lays the foundation for all major construction and refurbishment projects in the NHS, including mental health facilities. It is recognised that the different space types within mental health will largely translate to the space categories described in the standard.

Designing for harm-minimisation risk

11.7 Risk-assessment workshops should be conducted. These should include architects, mechanical and electrical engineering consultants, healthcare planners, clinicians, estates professionals, and should be carried out in collaboration with the healthcare provider to determine the areas where reduced-ligature fittings are required.

11.8 In addition, the workshops should consider:

- reduced-ligature type (for example, grilles, lights, detectors, heat emitters)
- performance implications (for example, reduced airflow through perforated grilles)
- access and maintenance.

11.9 The risk assessment workshops should take place during the design briefing to determine the performance specifications to establish suitable products that can be implemented into the design.

11.10 Engineering service outlets, fixtures and fittings, including heat emitters, sensors, ventilation grilles, luminaires, drainage systems etc are required to be of robust, high-quality construction, and in all service user areas should be designed to be tamper-proof and minimise the potential for use as ligature points.

11.11 All engineering outlets and fixtures and fittings that the client will interface with should be agreed by the stakeholders.

11.12 Engineering services should not be accessible to service users. Where it is not possible to provide reduced-ligature fixtures, the engineering service fixture should not be able to bear weight. Through engagement with the healthcare provider, mitigation measures may include increasing the ceiling height. All such instances should be agreed with the service user group provider.

Isolation of engineering services

11.13 Devices for the control and safe isolation of engineering services should be:

- located in circulation rather than working areas or service users' bedrooms
- protected against unauthorised operation
- clearly visible and accessible, where intended for operation by estates and the department clinical staff
- mapped so that they are available to the nursing staff for the purposes of knowing potential risk areas/vulnerabilities (this could also form part of staff induction training).

11.14 In bedroom areas, domestic water services and small power and lighting systems should have the provision to externally isolate each room individually.

Access to services

11.15 Guidance in the Department of Health's (2011) 'Environmental design guide' states: "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."

11.16 Consideration should be given to the overall servicing, maintenance and replacement strategy. Current common practice in new build schemes includes provision for a dedicated service walkway above service-user-accessed areas, enabling routine monitoring and maintenance of services outside the service user environment. Careful consideration is required of fire and acoustic separation along with means of escape within what is commonly an accessible roof-void area.

11.17 Ceiling service-access hatches should be avoided wherever possible within service user areas. Where necessary, these should be carefully planned, coordinated and specified to address harm minimisation.

11.18 There should be early engagement with the healthcare organisation's estates, facilities management and maintenance teams to achieve safe and secure access to services.

Resilience

11.19 Resilience of major plant and systems is covered in the associated HTMs.

11.20 HTMs provide guidance on engineering services relating to a range of healthcare facilities, with resilience being an important consideration. The level of resilience provided should therefore be proportionate to the risk that disruption of services would cause, in terms of both patient safety and business continuity.

Mechanical services

Environmental criteria

11.21 The primary objective is to maintain a comfortable environment for service users, staff and visitors.

11.22 On this basis, environmental criteria should be provided to achieve the minimum requirements set out in industry-standard guidance including HTM 03-01, the Chartered Institution of Building Services Engineers' (CIBSE) (2015) 'Guide A: Environmental design' guidance plus the relevant approved documents of the Building Regulations.

11.23 Seclusion-type spaces will require enhanced environmental criteria – especially in relation to ventilation and overheating – over and above an HTM-compliant service user bedroom. This should be carefully considered based on site-specific constraints and healthcare providers' existing policies for agreement and sign-off by the relevant clinical stakeholders and the ventilation safety group.

11.24 Service user and staff feedback has highlighted that poor acoustics (for example, cross-talk, performance walls/partitions/doors, flanking noise and noise from plant and services) has a direct impact on experience and outcomes and requires greater focus in the design and detail. A good night's sleep is essential for mental and physical well-being; disturbance from other occupants, en-suite fans, doors slamming and alarms significantly impacts on this.

11.25 While acoustic criteria should be selected in accordance with HTM 08-01 – 'Acoustics', at the project outset the project's acoustic specialist should consider and agree with the clinical stakeholders any specific noise requirements for people with sensory-processing differences, autism and other neurodivergent and neurodegenerative conditions.

11.26 See also HBN 14-02 – 'Medicines storage in clinical areas' for guidance on cooling of storage areas for medicines.

Ventilation

11.27 The selection of a ventilation system should follow priority given in HTM 03-01:

- first choice – natural ventilation
- second choice – mixed mode ventilation
- final option – mechanical ventilation.

11.28 Natural ventilation should be encouraged as the preferred solution across most of the unit. This should be verified through the following considerations with the healthcare provider's ventilation safety group (VSG):

- impact on the internal environmental criteria (including adequately controlled space temperatures, providing appropriate volumes of fresh air and reducing unwanted smells)
- privacy considerations
- location of openable windows in relation to sources of noise and pollution
- constraints of openable windows (for example, mesh and restricted opening)
- security and ligature
- CIBSE's (2005) 'AM10 – Natural ventilation in non-domestic buildings guidance'

- pandemic policies.

11.29 Consideration should be given to providing air quality monitoring in spaces where deemed beneficial to the occupied environment (for example, corridors and education and communal spaces).

Cooling

11.30 Natural ventilation should be the preferred choice to maintain the internal environment.

Medical gases

11.31 Piped medical gas installations are seldom required within secure services, as portable medical gas equipment is preferred. Where piped medical gas installations are provided, they should be designed in accordance with HTM 02-01 – 'Medical gas pipeline systems'. In areas where medical gas is intended to be used, either piped or portable, the Control of Substances Hazardous to Health (COSHH) regulations should be adhered to, including consideration of workplace exposure limits (WELs). Ventilation provision in these areas should be considered carefully to ensure compliance.

Building management system

11.32 A central BMS should either be installed or be integrated with an existing system, if one is already in place.

11.33 The BMS should provide full automation of heating control, with local manual override where practical. This will allow local environmental control of service user bedrooms, for example. A building energy management system (BEMS) should also be provided where possible and, subject to budget considerations, monitor energy consumption for key equipment, energy metering, water consumption, etc.

11.34 If service user control is considered, the following should be taken into account:

- In service users' bedrooms, controllers should be user-friendly with an easily adjusted temperature control within a small band.
- In communal areas, controllers should be located at staff bases or the office. Controllers in these areas can provide more adjustment capabilities (for example, fan speed where local fan coil units are provided), but should be secure to avoid any potential tampering and damage. The controllers should be connected to temperature sensors within the airstream to maintain accurate control.
- In staff areas, the controllers can be as those in the communal areas and be located locally in the room.

Electrical services

11.35 Given the low level of clinical treatment undertaken within a given mental health facility, generally all room types would fall under clinical risk category C when assessed against HTM 06-01. However, HTM 06-01 may not be appropriate for standard rooms within low and medium secure mental health facilities; therefore, the clinical and business continuity risks will need to be agreed with the client and the appropriate resilience provided.

NOTE

The clinical risk category outlined above (that is, clinical risk C) is from HTM 06-01 – 'Electrical services supply and distribution' and relates to the risk to the patient/service user in the event of a loss of electrical supply. The risks are graded from A to E according to the dependence certain departments have on the sustainability of the electrical supply. Grade A is the highest risk (life support/complex surgery) and grade E is the lowest risk (support services and circulation). Grade C is general patient care.

11.36 Once the clinical risk and business continuity has been assessed and agreed, the resilience of the overall system – including but not limited to the need for dual incoming supplies and standby power generation – should be discussed and agreed with all stakeholders in order to form the basis of the final design strategy.

Lighting

11.37 As a minimum, all lighting proposals should generally reflect the guidance set out in CIBSE's lighting guides. Particular attention should be paid to section 6 and Table 1 of CIBSE's (2019) 'Lighting guide 2: Lighting for healthcare premises', which identifies specific lighting criteria for all mental health facilities. However, other general room types such as reception areas can be found throughout the lighting guide. See also Buro Happold/National Development Team for Inclusion's (NDTi) (2022) 'Technical note: sensory friendly LED lighting for healthcare environments', which pays particular attention to people who are hypersensitive to light (such as people with sensory processing differences, autistic people and other neurodivergent and neurodegenerative conditions).

Call systems

11.38 An addressable call system should be included to provide a "service user to staff" and "staff to staff" emergency call system to enable both the service users and clinical team to summon assistance when required. Provision of call system points should be designed in accordance with HTM 08-03 – 'Bedhead services' as a minimum; however, the provision of emergency call points should be developed with all key stakeholders at an early stage of the design to capture any particular needs. Subsequently, these requirements will then feed into the production of the project's room data sheets.

11.39 A panic alarm system for the clinical team and visitors should be provided. Dependent on the system specified, this can either form a stand-alone system or be integrated into the general call system. Coverage, type of system (fixed or mobile) and where panic alarm calls will report to and are reset should be agreed with all key stakeholders at an early stage to define the brief.

11.40 Consideration should be given to noise levels of alarms in service user areas such as seclusion rooms and bedrooms, as they can be loud and disturbing to service users.

11.41 A two-level panic alarm system should be considered so that staff can raise two levels of calls when in need of assistance:

- one level where service user behaviour is escalating and additional staff presence is required
- and another level in the event of a physical attack.

11.42 Upon activation of a call system, the clinical team should be able to accurately identify the call location from anywhere within the building. Dependent on the specific project needs, building type and size, consideration should be given to the use of "follow me lights" or wireless handheld tracking call devices as a means of identifying call locations.

11.43 All calls should report to all departmental staff bases or a suitable secure reception manned by staff with a visual and audible alarm to include the name and location of the call as a minimum.

11.44 Mobile staff-to-staff emergency call systems are quickly becoming an industry standard now; however, consideration should also be given to a hybrid system with both fixed wall-mounted call-points and mobile handsets.

11.45 Nuisance calls are often an issue, and therefore the provision of service user-to-staff call-points should be considered. Provision of these call-points may need to be limited to older or dependent service user groups to

minimise the risk of nuisance calls; however, this will need to be agreed with all key stakeholders at an early stage of design.

11.46 A visual and audible warning test facility needs to be provided so that staff can confirm when a call device is operational.

11.47 Any handheld call system devices should be capable of providing an audible warning to alert staff in the event of staff attempting to leave the building with the device. Consideration should be given to noise levels of alarms on handheld call systems, as they can be disturbing to service users.

Lifts

11.48 HTM 08-02 – 'Lifts' gives guidance on all types of lifts, including new lifts installed in healthcare buildings, and can also be used as guidance for when upgrading the safety and performance of existing lifts. Design and control requirements for new lifts in secure services should be outlined early in the design stage.

11.49 Project-specific requirements including specification and finishes should meet the healthcare provider's operational policies and risk assessment (for example, service users will not use lifts unaccompanied).

Security

11.50 All aspects of the security system should be agreed with the healthcare provider's risk officer to understand local operational policies, secure-by-design principles and local police requirements. The following systems should all form part of these discussions.

CCTV

See also Chapter 3 for further guidance.

11.51 Surveillance technology continues to evolve, with the latest digital solutions including CCTV, cameras, sensors and microphones. Where a service is using surveillance technology, it should operate in line with the CQC's (2022) 'Using surveillance in your care service' guidance.

11.52 It should also comply with relevant legislation, codes of practice and local policies and procedures. Notices should be provided in areas covered by CCTV surveillance. Service user privacy and the confidential nature of footage should be taken into consideration when positioning cameras and managing the data obtained.

11.53 Where CCTV is in use, there should be recording of the perimeter, reception frontage and access from the secure area to reception.

11.54 The monitoring location of the CCTV should be agreed with the healthcare provider (for example, whether there is a secure reception or security office).

11.55 While the system brief is being set at the start of the project, consideration should be given to the following items which will need to be confirmed by all key stakeholders:

- recording capability (24 hours, seven days a week)
- retention time of recorded images (set by the client, usually a minimum of 30 days)
- client's security operational policy
- camera type
- frame speed
- picture quality.

11.56 In addition to CCTV, the premises will generally require a significant level of access control to non-service-user areas, the unit entrance and departmental doors. The provision and coverage of access-controlled doors should align with the client's security policy and should be agreed at an early stage in the design to set the brief.

11.57 The following principles should be taken into account when 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's CCTV system (with the exception of seclusion suite cameras).
- Cameras should be located to prevent tampering and be designed to prevent them being used as a ligature point or to damage other service users.
- The lenses for CCTV cameras should be selected to provide the best possible viewing angle and coverage for their intended location. Cameras should be mounted in protective housings.
- The system should be operable under all expected lighting conditions. Particular attention should be given to the location and type of luminaires 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.

11.58 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 manufacturer when interfaces with other systems are required (that is, they should be open architecture systems).

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

11.60 The requirements for CCTV and associated lighting for the secure outer 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 secure reception
- be capable of continuous recording on all cameras, with the ability to switch to real-time viewing when required.

Internal CCTV

11.61 With regard to internal CCTV, an internal review should take place that includes multi-disciplinary teams to determine the extent to which internal areas may benefit from CCTV and where each camera should be located. These may include:

- service users' corridors and day rooms
- interview and therapy rooms

- vocational and educational services
- visiting spaces
- secure lobby at reception
- seclusion suites and de-escalation areas.

11.62 Internal CCTV should not cover:

- service users' bedrooms
- bathrooms and toilets other than the entrance/exit to these areas.

Intruder alarm

11.63 As a general principle, mental health facilities are operable by staff 24 hours a day, with a security team overseeing ingress and egress outside normal working hours. Therefore, intruder alarm systems are not usually required, but this should be assessed at the early stages of the project with the client and a defined brief agreed for development through the design stages.

Fire safety

11.64 A fire risk assessment and evacuation strategy should be developed at the design stage and include wide consultation with stakeholders including the users, the fire safety group and the local fire-and-rescue service.

11.65 An addressable fire alarm and detection system should be provided in accordance with HTM 05-02, HTM 05-03 Part B, BS 5839-1 and the wider fire strategy for the building in agreement with the fire safety adviser and local fire-and-rescue service.

11.66 Consideration should be given to the type and location of detection device to avoid nuisance fire alarm activation. This is of particular significance within a secure mental health facility as the alarm can cause distress to service users. Therefore, within service user areas, the location and quantity of alarm devices should be carefully considered in order to alert staff without causing the service users unnecessary distress. Key-operated call points are provided to avoid nuisance alarm activation; however, this is to be agreed with the client in line with their site-wide fire alarm policy.

Information technology and communications

11.67 Consideration should be given to the client's internal IT brief and in particular, the extent of WiFi coverage. This can be of great significance when wireless call systems and other such systems are used within the building. Therefore, the extent of coverage both internally and externally should be agreed with the client at the early stages of the project so as to be included in the design proposals and included as part of the final installation/ commissioning process.

Entertainment

11.68 Entertainment facilities such as television or multimedia radio/music systems may be provided in bedrooms or other required service user areas to help facilitate the domestic atmosphere of the building. However, these services are generally controlled at a central point by staff and should have the capability to modify access to each service on a room-by-room basis. Consideration should be given to the entertainment system type and its engineering services requirements, as these systems may require coordination with the IT rack design if a more conventional approach is not taken, such as TV aerials.

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