

HEALTH BUILDING NOTE 8

Facilities for rehabilitation services

2004

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HBN 8 Facilities for rehabilitation services

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Executive summary

'Facilities for rehabilitation services' covers facilities for rehabilitation services provided within acute general hospitals as well as a range of community settings.

People who use rehabilitation services are not a homogeneous group; they have widely differing needs and require a range of services in a variety of settings. The guidance refers to accommodation for adults; where children are treated, significant adaptations will be needed. Facilities may range from a simple administrative base for an outreach team to wider-ranging facilities provided within acute general hospitals or community hospitals. Getting the balance of provision right is a difficult task which requires a thorough assessment of needs at local level, and good working relationships between healthcare services, social services and voluntary organisations.

This guidance adopts a modular approach to planning which describes facilities for separate elements of a general rehabilitation service that can be put together as circumstances dictate.

Recognition is given to the importance of decisions to be made locally, as close to the patient as possible. The involvement of service users and their representatives in the planning and design process is encouraged.

Schedules of accommodation are included, with approximate areas to enable designers to make an assessment of the sizes involved, but it is emphasised that the areas published do not represent recommended sizes, nor are they to be regarded in any way as specific individual entitlements.

Significant changes since the previous edition of this guidance

Since the previous edition of this guidance (HBN 8, 2000), the following changes have been made:

All references have been updated. Where necessary (for example in the case of superseded British Standards), relevant changes have been made to ensure that the guidance reflects the new standards. References that are no longer relevant have been deleted.

The text has been updated with respect to the Disability Discrimination Act 1995 (Building Regulations 2000: Approved document M: access to and use of buildings, and BS 8300: 2001 'Design of buildings and their approaches to meet the needs of disabled people. Code of practice').

Reference to central changing facilities has been removed, as staff changing facilities are now localised within specific areas.

Schedules of accommodation have been updated to reflect any changes in the guidance.

The engineering chapter has been updated.

Some information on general functional and design requirements (Chapter 4 in HBN 8, 2000) has been removed, as this is general information not specific to rehabilitation services.

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1 Introduction

WHAT IS REHABILITATION?

1.1 Rehabilitation means different things to different people. It can be interpreted in the following ways:

- a process of active change by which a person who has become disabled acquires the knowledge and skills needed for optimum physical, psychological and social function;
- the application of all measures aimed at reducing the impact of disabling and handicapping conditions, and enabling disabled and handicapped people to achieve social integration.

1.2 In reality, the term “rehabilitation” is used in a way that encompasses both of the above definitions. Rehabilitation can thus be defined as a process that aims to restore personal autonomy in those aspects of daily living most relevant to service users and their families. Rehabilitation services should focus on the rights of individuals to control their own lives and make informed choices.

1.3 Rehabilitation involves the use of appropriate and available medical treatments, therapies, prosthetics, social and environmental supports, and is likely to require the collaboration of health, social services and other public agencies.

1.4 It is not limited to the role of the recognised rehabilitation professionals (physiotherapists, occupational therapists and speech and language therapists), and should involve users and carers in the planning and development process.

1.5 There is a consensus that “rehabilitation” is a continual process which encompasses acute interventions, where the aim is to cure, and long-term care, with its emphasis on maintenance.

1.6 Rehabilitation services can to be provided in a variety of settings:

- on a day-care basis in primary healthcare centres, local healthcare resource centres and local authority day centres – together with other community-based settings;



Photo: Tim Hetherington, NHS Photo Library

- on either a day-care, out-patient or in-patient basis in acute general hospitals and specialist rehabilitation units;
- community hospitals may provide primary or secondary care services;
- primary/community care services should also be available to individuals in their own homes.

1.7 For the users of services, rehabilitation may mean:

- reducing disability and impairment;
- acquiring new skills through which the impact of the impairment, disability or handicap could be minimised; and/or

- altering the environment, including the behaviour of non-disabled people, so that the impairment and disability no longer result in handicap.

1.8 Recent central policy and organisational changes have put greater emphasis on community-based services that focus on both the user and carer. Rehabilitation services are now seen as an integral part of health service provision and should be included in the care plans for individuals. The aim is to help restore the function and role of individuals, thereby enabling them to achieve independence and maintain self-esteem.

1.9 Rehabilitation services can help in the prevention of ill health through advice on healthy lifestyle and activity programmes. Rehabilitation services also offer opportunities for reducing unnecessary and inappropriate residential home and nursing home placements.

1.10 Co-ordination and co-operation in the development of rehabilitation services is encouraged at all levels, including:

- at national and regional levels for policy development;
- at regional and local levels for service planning and development, including specialist facilities;
- locally across traditional service boundaries, including the voluntary and private sectors, to create a user-friendly, seamless service.

SCOPE OF THE DOCUMENT

1.11 This document gives guidance on the planning and design of facilities to meet the needs of people who require a wide range of rehabilitation services. These services may be provided in a variety of locations, for example acute general hospital or community-based, according to local planning and provision. They will be provided by a multidisciplinary team, often with multi-agency co-operation. Community-based services range from those provided within a community hospital to a simple administrative base for outreach workers.

1.12 The intention of this document is to provide ideas and guidance for separate elements of the service which, by a process of mixing and matching, can be put together to achieve good management and value for money in capital and revenue terms. [Chapter 5](#)

discusses in detail facilities for separate elements of the service. These elements may vary according to local needs. [Appendix 1](#) gives a range of innovative models for rehabilitation services.

FURTHER GUIDANCE

1.13 For further guidance on rehabilitation services provided within local healthcare resource centres and primary healthcare centres, see <http://www.primarycare.nhsestates.gov.uk>.

1.14 Other guidance about rehabilitation services is contained in HBN 35 – ‘Accommodation for people with mental illness’.

EXCLUSIONS

1.15 This document does not include specific guidance concerning the accommodation for rehabilitation services provided at:

- local authority day centres;
- schools for children with special needs;
- centres providing artificial limbs and wheelchair services – Disablement Service Centres.

INTENDED READERSHIP

1.16 This guidance is primarily intended for:

- project and design teams;
- estates directors and their staff;
- PFI consortia.

1.17 It may also be of interest to:

- executive directors and senior managers of acute and primary care trusts (PCTs);
- clinicians from every profession working in, or in partnership with, rehabilitation services;
- information management and technology (IM&T) staff;
- others involved in the provision of rehabilitation services;
- NHS Foundation Trusts (for information only).

2 General service considerations

ORGANISATION OF THE SERVICE

2.1 Rehabilitation is not an isolated process. It begins at diagnosis and assessment, and continues through treatment/acute care, respite care and continuing care. Thus the service should be organised in such a way as to create partnerships between service providers that cross traditional boundaries of care.

2.2 The multidisciplinary and multi-agency nature of the rehabilitation function, and the flexibility needed to support care plans tailored to individual needs, do not lend themselves to tightly defined management structures. Service providers need to identify appropriate management structures and assess the clinical effectiveness and cost-effectiveness of each.

2.3 Services can be organised at three levels:

- primary care/community-based services provided by all the members of the care team including the voluntary and private sectors. Local health authorities commission long-term service agreements that rely on multi-agency co-operation;
- secondary care – units in acute general hospitals and community hospitals. The multidisciplinary care team provides a range of services – including physiotherapy, occupational therapy, speech and language therapy – on a day- or out-patient basis. Some patients will be in-patients. These units also serve as a base for outreach and community service workers;
- tertiary care – specialist units based in hospitals or stand-alone units within planned regional and supra-regional services. These units tend to concentrate on particular conditions and provide expertise for patients with recognised specialist needs, for example the Spinal Injuries Centre at Stoke Mandeville Hospital, and the Stroke Unit at Northwick Park Hospital.

2.4 There should be a balance between the development of centralised services on acute hospital sites, where economies of scale can be achieved, and local community-based services which provide easier access for users. Specialist units need to be developed to maintain the necessary skills and expertise, which

may mean that they are not so readily accessible to users.

SERVICE PROVIDERS

2.5 Although the NHS is likely to continue as the main provider of rehabilitation services, many others will play a crucial role. The voluntary and private sectors are developing a wide range of services for people with disabilities:

- by acting as pressure groups they are helping to articulate the needs of users and involve them in planning and developments;
- by increasing the variety of settings from which services are provided. These services have not always been well co-ordinated but rather have developed from a perceived gap in statutory provision. They often focus on specific conditions (for example Headway <http://www.headway.org.uk/>), specialist skills and equipment (for example Epilepsy Action <http://www.epilepsy.org.uk/>) and the needs of carers (for example Care for the Carers <http://www.cftc.org.uk/>);
- voluntary organisations, particularly in the residential home and nursing home sector, are developing services for non-residents in the local community; for example, physiotherapy services for young disabled people at a Sue Ryder Care home (see <http://www.suerydercare.org/>) in a rural area are also available to non-residents wishing to purchase them.

2.6 All providers of services will need to co-operate and agree on goals and strategies in order to create a cost-effective, seamless clinical service. This requires good communications and working relationships within and across all levels of care – from NHS acute general hospitals and specialist in-patient units to local authorities in day-care provision and education. Open access to care plans is needed to enable support programmes to be developed for use at home and in the community.

2.7 Mapping of facilities in the locality will provide a picture of what is available and identify gaps and overlaps which need to be addressed when creating new facilities or upgrading current ones. Inevitably, there

will be some degree of overlap between general and specialist services.

ASSESSMENT OF REQUIREMENTS

2.8 Patients' needs change as they progress through their treatment programme – from acute/specialist rehabilitation to the ultimate goal of achieving total (or some degree of) independence – and these changing needs should be catered for. [Appendix 2](#) gives a patient's perspective on receiving rehabilitation treatment.

2.9 Assessment of patients' abilities and setting goals for their rehabilitation, based on a holistic approach, will help identify the range of services needed. Rehabilitation is a continuous process and includes:

- assessing physical and cognitive abilities and any perceived impairment;
- support for independent living, including physical changes to the environment and aids to daily living;
- psychological support and counselling.

2.10 A co-ordinated programme of rehabilitation will include psychological, social and environmental dimensions. Re-assessment will be necessary as and when an individual patient's needs change.

2.11 Rehabilitation is best undertaken in a similar environment to that in which the new skills or knowledge will normally be used. Activities of daily living can be developed in a variety of settings, from a specialist occupational therapy unit, to an in-patient unit, to a community clinic or the individual's home. However, actual home, work and public areas continue to be preferred to "artificial" settings in many cases.

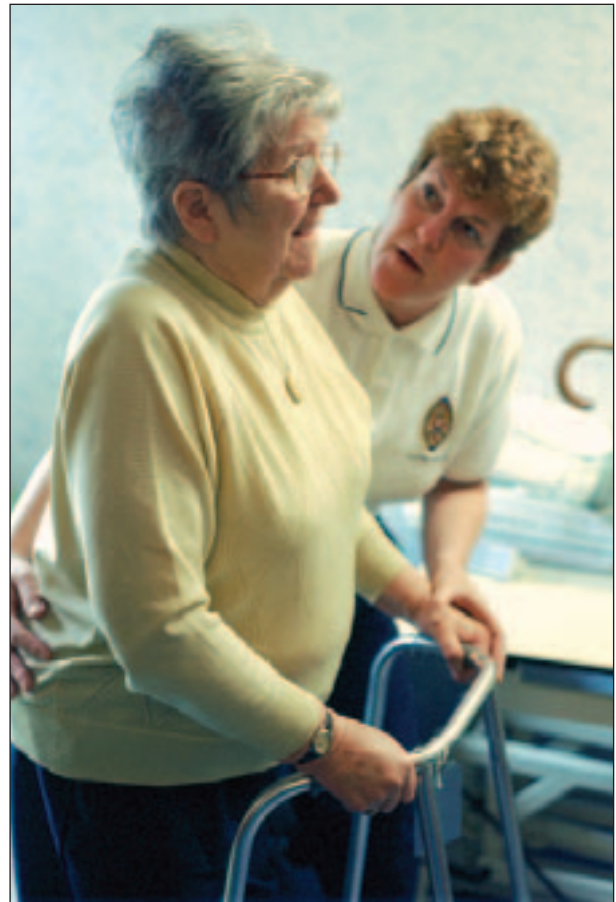


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2.12 A wide spectrum of services can be provided on an out-patient or day-care basis. Outreach teams operating from acute general hospitals, community hospitals or healthcare resource centres will be able to meet some of the needs in the community. Drop-in centres can also be particularly valuable as a community resource.

3 Environment and design

THE RIGHT ENVIRONMENT

Achieving better designs for healthcare facilities

3.1 NHS Estates' website <http://www.nhsestates.gov.uk> provides a source of information that helps to address the following:

- Why bother with good design?
- What are the principles of good design?
- What are the key elements of good design?
- How can we commission high-quality buildings?
- How can we produce buildings that work?
- How can we incorporate art?

3.2 New facilities should:

- be fit for function;
- create a positive, supportive environment;
- improve the locality;
- aid rapid recovery;
- support motivate staff;
- minimise running costs;
- take into account the requirements of sustainable development and environmental issues.

3.3 Project teams and planners should be aware of the requirements of the Environmental Protection Act 1990, other associated legislation and regulations, and the increasing emphasis placed through European protocols and Directives on taking sustainable development and environmental issues on board at the earliest stage in any design process. Operational policies (see [Chapter 4](#)) should also reflect these needs. For further information on sustainable development see http://www.nhsestates.gov.uk/sustainable_development/index.asp.

SPECIFIC DESIGN CONSIDERATIONS

People with disabilities

3.4 It is essential to ensure that suitable access exists to every type of health building for people who have

mobility or orientation problems or other special needs. This category includes people who are wheelchair-bound, those who for any reason have difficulty walking, people with a sensory disability such as visual or hearing impairment, people with learning difficulties, and those whose first language is not English. Project teams are reminded of the need to comply with the provisions of:

- a. the Chronically Sick and Disabled Persons Act 1970;
- b. the Chronically Sick and Disabled Persons (Amendment) Act 1976;
- c. the Disabled Persons Act 1981;
- d. the Disabled Persons (Services, Consultation and Representation) Act 1986;



Photo: Tim Hetherington, NHS Photo Library

e. the Building Regulations 2000: Approved document M: Access to and use of buildings;

f. the Disability Discrimination Act 1995.

3.5 It should be recognised that people with disabilities may be patients, visitors, staff or volunteers.

3.6 Attention is drawn to BS 8300: 2001 'Design of buildings and their approaches to meet the needs of disabled people'.

3.7 'Disabled People Using Hospitals' (Royal College of Physicians, 1998) includes guidelines on the design of hospital buildings that meet the needs of disabled people. It also describes how a hospital's provision for disabled people – including the physical environment – might be audited.

3.8 It is recommended that project teams consult local representatives of disabled people, or the Centre for Accessible Environments (<http://www.cae.org.uk>), with regard to the planning of spaces used by clients and visitors.

3.9 In locations where public telephones are provided, the need for access to a telephone by people in wheelchairs should be considered, and a telephone should be mounted at a suitable height. Fitting the handset with an inductive coupler will assist anyone using a hearing aid. A text-phone should be provided for deaf people, and staff should know how to operate it. Organisations should be registered with Typetalk to enable hearing people to communicate with text-phone users through an operator. All telephones should be clearly signposted.

3.10 It may be necessary to make specific adaptations to the accommodation for a person with a disability. However, if that person's support needs change and they need to move, the specially adapted accommodation may be less suitable for another person. A more flexible solution might be to offer a person in their own home varying levels of support according to their needs – from occasional monitoring visits to full 24-hour crisis care.

3.11 Where residential accommodation is being provided for a person with a disability, any modifications to the building will be specific to the needs of that person. In this situation there is a distinct advantage in the use of flexible support to the person in their own accommodation rather than the person being required to move each time their support needs change.

3.12 As well as patients and staff, the needs of carers should be taken into account when designing new healthcare buildings or refurbishing existing ones. Architects and service providers are advised to consult The Carers (Recognition and Services) Act 1995 in respect of this matter.

Natural and artificial lighting

3.13 Sunlight enhances colour and shape, and helps to make a room bright and cheerful. Wherever possible, spaces to be occupied by patients, visitors or staff should have natural daylight with an outside view. Bay windows that allow seating in comfort may be suitable. Consideration should be given, however, to the need for privacy.

3.14 The harmful effects of solar glare and heat gain can be dealt with by architectural detailing of window shape and depth of reveals, as well as by installing external and internal blinds and curtains. Treatment to the glass such as coatings may also reduce the effects of overheating and glare, although it should be noted that coatings may affect daylighting and patient pallor.

3.15 Artificial lighting, as well as providing levels of illumination to suit particular activities, can make an important contribution to interior design. Designers should develop a lighting scheme that will help to promote a high-quality image of the service being offered and a non-clinical, soft environment in as many spaces as possible. Levels of artificial light can be varied easily by the use of dimmer switches.

3.16 Artificial light should minimise glare and shadow to allow facial expressions to be seen more easily and to aid communication, particularly lip-reading.

3.17 Fixed luminaires should not be sited immediately above positions where people lie in bed or on a couch. This applies to residential areas and all spaces where patients are examined or treated.

Internal rooms

3.18 The use of internal rooms, other than for en-suite facilities and storage areas, should be avoided if possible. Lack of natural light over prolonged periods is detrimental to physical and mental health.

3.19 "Racetrack" corridors where a central core of support rooms is surrounded by a continuous corridor should be avoided, as this can hinder staff observation of patients.

Ventilation

3.20 Natural ventilation is preferred unless there are internal spaces or clinical reasons that call for mechanical ventilation or comfort-cooling systems.

3.21 Mechanical ventilation and comfort-cooling systems are expensive in terms of capital and running costs; planning solutions should be sought which take maximum advantage of natural ventilation. Mechanical ventilation costs can be minimised by ensuring that, wherever practical, core areas are reserved for rooms whose function requires mechanical ventilation

irrespective of whether their location is internal or peripheral, for example sanitary facilities. See also paragraphs 6.49–6.55.

Noise and sound attenuation

3.22 Any unwanted sound is a noise and may disturb patients and staff. Noise-sensitive areas should be located as remotely as possible from internal and external sources of unavoidable noise. Consideration should be given to the provision of an induction loop system to enable those users with a hearing aid to listen to sound sources, such as a television or public address system, without background noise or distance from the source being a problem. The Royal National Institute for the Deaf (<http://www.rnid.org.uk/>) provides “loop” stickers to indicate that an induction loop is available.

3.23 Speech privacy is essential in spaces where personal and confidential discussions are held, such as patient bedrooms, interview rooms and consulting/examination/treatment spaces. It should not be possible to overhear any discussions taking place in adjoining spaces when the conversation is at a normal volume. Particular care should be taken to avoid conversations being overheard where the adjoining spaces are waiting or quiet sitting areas.

3.24 Sound transmission can be reduced by the use of sound-attenuating partitions and doors. The use of soft floor-coverings, provision of curtains, and acoustic treatment of walls and ceilings (where aesthetically and hygienically acceptable) will improve sound absorption in

a space. See also HTM 2045 – ‘Acoustics: Design considerations’.

Art in health buildings

3.25 Works of art can make a significant contribution to the environment. Specialist advice should be sought regarding the effect of different types of art on the emotional state; for example, landscapes and seascapes are generally considered to be relaxing, while close-up views of animals looking directly at the observer are thought to increase stress. The view of those in a seated position should be considered when determining the height at which works of art are displayed.

3.26 When installing art in health premises, especially residential premises, it is always advisable to consult with users of the facility to increase the level of acceptance. Display of art created by the users themselves should be encouraged.

3.27 Advice should be sought from experts on:

- a. obtaining grants. In some cases, regional arts boards or charitable trusts with a local interest may offer grants to add money within a capital scheme which is set aside for art or craft works. The Royal Society of Arts offers bursaries for collaborations between architects and artists. The King’s Fund “Art in Hospitals” programme may be a valuable resource;



Detail from wall hanging, *Trust Arts Project, Lambeth*

b. obtaining sponsorship. Local industries may be prepared to support an arts project. Links with local art colleges could result in low-cost commissions.

3.28 Paintings in Hospitals <http://www.paintingsinhospitals.cwc.net/> is a registered charity providing works of art on loan to hospitals, hospices and other healthcare facilities to enhance the healing environment for the benefit of patients, staff and visitors. A further source of information is the National Network for the Arts in Health (<http://nnaah.org.uk>). See also 'Improving the patient experience – The art of good health: A practical handbook' (NHS Estates, 2002); 'Improving the patient experience – The art of good health: Using visual arts in healthcare' (NHS Estates, 2002); 'Exploring the patient environment: an NHS Estates workshop' (NHS Estates, 2003); and 'Enhancing the healing environment: a guide for NHS trusts' (King's Fund, 2004).

Colour

3.29 Decor colours should be light and pleasant, with sufficient contrast to help partially-sighted people distinguish obstacles. "Warm" colours are preferable. Some colours are considered to be relaxing and others stimulating, so clinical advice should be taken as to the appropriate use of colour. See also 'Lighting and colour for hospital design' (Dalke et al, 2004).

Finishes

3.30 Finishes should be capable of being patch repaired in the event of damage. Guidance on the selection of finishes is given in the relevant Health Technical Memoranda (see [Appendix 3](#)).

Floors

3.31 Floor-coverings and skirtings should contribute to the provision of a non-clinical environment and be hard-wearing. HTM 61 – 'Flooring' should be consulted for advice on user requirements and performance selection.

Doors and frames

3.32 Except in sanitary facilities there may be a requirement for all doors to areas occupied by patients to have vision panels. In the interests of privacy and safety, panels should be capable of being obscured.

3.33 In sanitary accommodation, changing cubicles and other areas where patients are unattended, doors should be hung so that they can be opened outwards in an emergency.

3.34 Where necessary, doors should be capable of being fastened in the open position, subject to fire safety restraints. Magnetic door retainers should not restrict the movement of traffic. Refer to HTM 58 – 'Internal door sets'.

Windows

3.35 In addition to the various statutory requirements the following aspects require consideration: natural lighting and ventilation; insulation against noise; user comfort; energy conservation; the prevention of glare; and the provision of a link with the outside world. Windows should have a pleasant outlook if possible. The use of low window sills enables views from the window even when seated. Any windows that staff/patients/visitors are allowed to open should be designed such that this can be done easily, including from a seated position.

3.36 The specification of all windows and internal glazing, including vision panels, light fittings, pictures and mirrors, should consider safety. The minimum standard for any glazing is given in BS 6262 – 'Code of practice for glazing in buildings' (1982) and its subsequent revisions, but higher specifications should be considered because of the nature of the risks.

3.37 In certain circumstances windows need restricted opening, as there have been a number of incidents involving people falling from windows. See HTM 55 'Windows'.

3.38 The design should ensure that it is possible for window cleaners to have safe access to windows in compliance with the Construction (Design and Management) Regulations. General guidance on windows is available in HTM 55 – 'Windows'.

Maintenance and cleaning

3.39 Materials and finishes should be selected to minimise maintenance and to be compatible with their intended function. Finishes, fittings and fixtures should be attractive and sufficiently robust to withstand heavy use and abuse.

3.40 Maintenance will generally be undertaken as part of a planned maintenance routine. However, some repairs may need to be carried out promptly on an "as-needed" basis, as there is evidence to suggest that leaving vandalism or damage unrepaired leads to further degradation of the environment.

3.41 Building elements that require frequent redecoration or are difficult to clean should be avoided, but a compromise is sometimes necessary between items that have a low acquisition cost but are expensive to maintain and those with a high acquisition cost which are nevertheless relatively inexpensive to maintain. The life-cycle cost of the building elements, in these instances, should be analysed and used to assist the project team in their decision-making process when there is a choice of product available.

3.42 Special consideration should be given to corners, partitions, counters and other elements that may be subject to heavy use. Wall coverings, whilst selected on the basis of quality and colour, should also be chosen with cleaning in mind. Guidance on these aspects is given in HTM 58 – ‘Internal doorsets’, HTM 61 – ‘Flooring’ and HTM 69 – ‘Protection’.

ACTIVITY DATABASE

3.43 The Activity DataBase (ADB) data and software assists project teams with the briefing and design of the healthcare environment.

3.44 Room data sheets provide an activity-based approach to building design and include data on personnel, planning relationships, environmental considerations, design character, space requirements

and graphical layouts. Schedules of equipment/ components are included for each room, which may be grouped into ergonomically arranged assemblies.

3.45 Schedules of equipment can also be obtained at department and project level.

3.46 Fully loaded drawings may be produced from the database.

3.47 Reference data is supplied with ADB which may be adapted and modified to suit the users’ project-specific needs.

3.48 For further information refer to the ADB section available from a link on NHS Estates website (<http://www.nhsestates.gov.uk>).

4 Operational policies

4.1 This chapter outlines general operational policies for hospitals and other healthcare premises.

HEALTH AND SAFETY

4.2 Normal health and safety risk assessments should be made. Some units may choose to relax controls in the “activities of daily living” (ADL) flat to create a more domestic environment. For example:

- hot water temperatures – hot water in patient areas in hospitals is controlled to prevent scalding. This is significantly lower than the hot water temperature in most domestic households (see also HGN – “Safe hot water and surface temperatures”);
- catering hygiene – hygiene standards in hospital kitchens are higher than would be expected in a normal household.

See Chapter 5 (paragraphs 5.113–5.123) for further details on ADL flats.

4.3 Where it is felt that there would be some advantage in departing from current guidance in order to prepare a person for more independent living, the extent of any such relaxation should be based on a thorough risk assessment and agreed by all members of the multi-agency team. Each of the enforcement agencies should be satisfied that the action is within the limits of discretion allowed by the relevant legislation. Under no circumstances is it acceptable to lower fire standards. It is suggested that the ADL flat should be fitted with emergency call facilities. See also paragraphs 6.13–6.18.

Fire safety

4.4 It is essential that project teams familiarise themselves with the guidance contained in the Firecode suite of documents, which contain the Department of Health’s policy and technical guidance on fire precautions in hospitals and other NHS premises. In particular, the need for structural fire precautions and means of escape from the whole accommodation should be taken into account at the earliest possible planning stage. In areas which cannot be adequately staffed (for example toilets and lifts), fire alarms should have visual facilities as well as audible signals to cater

for the needs of deaf people (see also paragraphs 6.20–6.22).

Control of Substances Hazardous to Health (COSHH)

4.5 As well as the normal risk assessment of each potentially harmful substance, it is important that the risk associated with particular patients having access to them is assessed. Supervision may be required. See also paragraph 6.19.

Personal safety

4.6 All users of a facility – including patients, carers, visitors and staff – may be vulnerable to violence, and may need to be protected not only from violent patients in the facility but also from the risk of violence and attack from people in the wider community.

4.7 Project teams are reminded that where there is a potential for violent incidents, employers have a duty under Section 2 of the Health and Safety at Work etc Act 1974 to identify the nature and extent of the risk, and to devise measures which would provide a safe workplace and a safe system of work. Such measures should reflect the guidance given in the Health Services Advisory Committee report ‘Violence and aggression to staff in health services’, issued in 1997.

4.8 Although violence is not as prevalent as some public perceptions suggest, operational policies should minimise the risk of violence and security problems by allowing for:

- good observation – direct and unimpaired visual contact with colleagues is important;
- good communication systems taking account of the perception of staff towards their own levels of security. Consideration should be given to alarm call systems for use by clients and staff. Alarm call points should be situated so that they can be operated if the door or exit is blocked.

4.9 As well as operational policies, the design of the building will play an important role in reducing the risk of violence and security problems. Consideration should be given to the creation of a pleasant environment (see Chapter 3 on the importance of good design for

healthcare buildings) as well as the need to allow for good observation. See also paragraphs 6.86–6.91.

Security

4.10 Theft of property, including personal property of patients, carers, visitors, volunteers and staff, is a major and increasing concern. Vandalism is also a problem that needs addressing in the planning of any premises. Reference should be made to the NHS Security Manual.

4.11 Consideration should be given to how the security of the building will interact with the therapeutic atmosphere.

4.12 Security may be achieved by temporarily locking doors. Care should be taken to ensure that such arrangements do not contravene safety requirements such as fire regulations.

4.13 The project team should discuss security with the officer-in-charge of the local crime prevention department and the trust's security officer or advisor at an early stage in the design of the building. Fire and security officers should be consulted concurrently, as the demands of fire safety and security are sometimes in conflict.

MATERIALS HANDLING: SUPPLY, STORAGE AND DISPOSAL

4.14 Project teams should give careful consideration to supply, storage and disposal systems. The quantity and distribution of storage space can only be specified in terms of known policies. Space will be required for various types of waste, allowing for proper segregation procedures as outlined in HTM 2065 – 'Healthcare waste management – segregation of waste streams in clinical areas'. It will be necessary to have dedicated secure storage if clinical waste is created.

4.15 Project teams need to consider the frequency of deliveries, whether supplies are bought from local shops or ordered through a central system. The amount and type of storage space required is directly related to the frequency and size of deliveries. Consideration should be given to the use of materials that are made from, or rely on, resources that are renewable. For example, timber should be procured from sustainable sources.

4.16 Consideration should be given to the types of delivery, the delivery point, and whether vehicular access is required.

4.17 Some items, for example pharmaceuticals, have specialised storage requirements.

4.18 Control of stock, which even in small premises may require computer support, increases efficiency and can effect appreciable or even substantial reductions in

costs. The value of a stores management system will be enhanced if it can be linked to an existing service-wide handling system.

4.19 Organising an efficient and economical system for supply, storage and disposal across a range of disparate and dispersed premises is demanding and complex. Systems and timetables for ordering supplies, delivery and disposal should be devised and agreed with the managers of the relevant service elements, including any central services. Good working relationships and communications with other parts of the service are of fundamental importance.

4.20 Any waste generated in any of the premises should only be held temporarily before being taken to the appropriate hold area to await collection.

4.21 Healthcare premises should adopt the three principles of waste management – reduce, re-use and recycle – in order to minimise disposal costs and the environmental impact.

4.22 Disposal of pressurised containers requires special attention. Specially constructed containers (see BS 7320) should be used for "sharps", particularly needles. The use of sharps containers minimises the risk of injury to staff, especially those involved in their disposal.

DOMESTIC SERVICES

4.23 The domestic cleaning arrangements are likely to be different according to the type of premises involved. For those that are based on a hospital site or not open 24 hours a day, it is probable that a domestic services or facilities manager will be responsible for organising the cleaning services. In these situations most of the work will be carried out by domestic services staff regularly attached to, or based in, the premises. Less frequent major cleaning work will probably involve staff of contract services brought in for the purpose, and may involve equipment not normally held on the premises.

CATERING FACILITIES

4.24 The more independent service users will prepare their own meals, and many premises will have facilities for teaching people to prepare their own meals, or at least prepare snacks. However, in some facilities people will need to have their meals prepared for them. These could be prepared on the premises from basic ingredients, but as this tends to be expensive in terms of labour costs it is assumed that in most of these cases meals will be prepared elsewhere and bought in.

4.25 The method of delivery and arrangements for ensuring that meals are served at the correct temperature will depend on local policy. The more common systems are either heated meals delivered in insulated heated trolleys or "cook-chill" meals delivered

in cold insulated containers and regenerated in regeneration kitchens or delivered in regeneration trolleys.

4.26 Whatever the chosen system it is important that patients have a choice of meal and that any specific dietary needs, including cultural or religious requirements, are catered for.

4.27 Local policy will need to determine the arrangements for washing pots, cutlery and crockery. If this is to be done locally, dishwashers will be required.

4.28 Further guidance on catering is contained in HBN 10 – ‘Catering department’.

EDUCATION AND TRAINING

4.29 Staff education and training is a vital ongoing activity. In cases where it is not practical to provide full training facilities, for example in small premises, staff should at least have access to seminar and library facilities located elsewhere. See also [paragraph 5.145](#).

HEALTH RECORDS SERVICE

4.30 There needs to be a clear operational policy on the storage of, and access to, health records. Records may be stored by the healthcare provider, electronically or on hard copy, or held by the patient. See also [paragraph 5.34](#).

INFORMATION MANAGEMENT AND TECHNOLOGY

4.31 Information management and technology (IM&T) is fundamental to the successful operation of a comprehensive rehabilitation service. The system selected should offer a wide range of facilities, and be consistent with local and NHS IM&T strategies. See <http://www.dh.gov.uk>.

5 Facilities for general rehabilitation services

INTRODUCTION

5.1 People who use rehabilitation services are not a homogeneous group; they have widely differing needs and require a range of services in a variety of settings. Getting the balance of provision right is a difficult task given the number of different agencies involved and the variations in resource availability. Facilities may range from a simple administrative base for an outreach team to wider-ranging facilities provided within acute general hospitals and community hospitals.

5.2 This chapter describes facilities for separate elements of a general rehabilitation service that can be put together as circumstances dictate. For specific reference to rehabilitation services within primary healthcare centres and local healthcare resource centres see <http://www.primarycare.nhsestates.gov.uk>. A range of models for rehabilitation services is given in [Appendix 1](#).

5.3 Facilities for rehabilitation will vary depending on the medical conditions being treated. It is essential that architects consult with the appropriate professionals and users to determine the necessary range of facilities.

GENERAL PLANNING ISSUES

5.4 Two particular space planning and functional issues require special mention: the flexibility of functional spaces, and accessibility for those people requiring rehabilitation. These issues apply to rehabilitation services provided within community settings and acute general hospitals. As well as accessibility into and around any healthcare premises, consideration should be given to transport options for patients, visitors and staff to and from the facility. Healthcare providers should contact their local authority transport service to discuss the level and type of service it is able to provide.

Flexibility

5.5 The need to create flexible healthcare environments has never been greater, and it is particularly important in rehabilitation facilities as there is a continuing and growing need for these services.

5.6 Many space utilisation and functional suitability studies have reviewed rehabilitation “departments” and

found them to be under-used or over-sized and, frequently, very expensive to adapt for alternative uses.

5.7 The revenue costs of owning, operating and staffing these facilities are considerable, and increase in direct proportion to the quantity of floor space provided. It is therefore incumbent on the planners and designers of rehabilitation services and facilities to ensure that they are as flexible and as fully used as is practicable.

5.8 It should be remembered that many general multi-purpose spaces may be suitable for providing rehabilitation functions with little or no modification. This approach meets requirements of sustainable construction, saves money from expensive redevelopments, and maintains service provision. Similarly, specialist rehabilitation facilities should be designed to maximise the opportunities for the flexible use of those areas for alternative functions at different times.

5.9 Flexibility can be increased by using:

- “open-plan” construction systems;
- proprietary demountable partition systems;
- standard-sized consulting and examination rooms, interview and counselling rooms, seminar/training rooms etc;
- locations which have space to grow laterally (either internally or externally) – for example, located next to “soft areas” which can be easily moved elsewhere;
- locations which have hardstandings adjacent for “mobile” facilities.

5.10 Just-in-time (JIT) stock systems can also be employed to alleviate floor space pressures and to unlock seemingly inaccessible and inflexible spaces.

5.11 The need for flexibility should be balanced with the need for patient privacy and confidentiality, as well as practical issues such as storage space for equipment.

Accessibility

5.12 The Disability Discrimination Act 1995 states that disabled people should not be discriminated against by additions and adaptations to the built environment.

Much guidance has been produced by many agencies (see [Appendix 3](#)) to clarify what is required to fulfil these obligations, and planners of rehabilitation facilities should clearly follow these requirements. However, the special nature of rehabilitation facilities means that there is an even greater obligation to ensure accessibility into and around these spaces. For example:

- simple wheelchair accessibility is not sufficient. Many people using rehabilitation services will have specially extended and adapted wheelchairs. These should be able to negotiate the corridors, lifts and doorways, and turn within the facility;
- similarly, rehabilitation facilities frequently feature mechanical lifting hoist and tracks so that, for example, a patient may be transported from a bed to a bathroom/WC. Such requirements will affect the room dimensions, internal layout and ceiling specifications;
- a significant amount of space is required for storing equipment. Space will often be required for equipment whilst it is in use, and for its storage elsewhere when not in use. Equipment which is used in an inappropriate space or stored inappropriately rapidly becomes viewed as an accessibility issue and has health and safety implications;
- if ramps cannot be avoided, they should be constructed to a gradient suitable for people in self-propelling wheelchairs, with hard-standing, non-slip surfaces, and wide enough for the accompanying carer. Handrails should be provided on both sides of a ramped access;
- if lifts are to be installed they will need to be spacious enough to accommodate large mobile hoists or a wheelchair user and carer, and be able to be operated by sitting users or those with sensory impairments. Lifts should be fitted with visual, as well as audible, alerting systems in the case of fires or other emergencies. Systems need to be in place to inform a deaf person, when pressing a lift alarm, that help is coming;
- arrangements may have to be considered to enable dogs (whether guide dogs for the visually impaired or hearing dogs for those with hearing impairments) to attend with the patient. A canine relief facility should be introduced at a location close to the entrance and waiting area.

5.13 Further guidance on access is given in [Chapter 3](#). See also BS 8300: 2001 and the Building Regulations 2000: Approved document M: Access to and use of buildings.

5.14 As well as ensuring that the built environment is easily accessible to people with disabilities, it is essential

that clear signposting allows those with both physical and sensory disabilities to find their way around the facility. For further information see the NHS Estates publication 'Wayfinding – guidance for healthcare facilities'.

5.15 The facilities required for general rehabilitation can be broken down into a series of spaces as follows (paragraphs 5.16–5.166).

PARKING SPACES

5.16 Dedicated parking spaces for people with disabilities should be as near as possible to the entrance and wide enough to enable an independent wheelchair transfer. Such spaces should be clearly identified by adequate signage. Consideration should be given to controlling the misuse of these facilities. Additional space may be required for driving assessment equipment. The distance between the car parking area for people with disabilities and the entrance should be level or sloped, of sufficient width, and of an appropriate surface.

ENTRANCE, RECEPTION AND WAITING SPACES

Entrance

5.17 Ideally, the entrance should be with level access, wide, electronically-operated, automatic doors. Depending on the size of the building, the entrance may include an entrance canopy, a draught lobby, a foyer and a reception desk. Whatever its size, the entrance should be well signposted and fully accessible to people with disabilities, including people on trolleys.

5.18 There should be a two-way communication system at the entrance door for carers and patients to call for assistance as necessary. Communication systems should be accessible to people in wheelchairs, and those with cognitive learning difficulties, sensory impairments (including deaf people, for whom a voice transfer system will be inappropriate) and reduced manual dexterity.

Reception desk

5.19 The reception desk should be clearly signed and adequately illuminated and should provide a low, open, friendly facility that does not give any sense of a physical or organisational barrier. One section of the desk should be low enough for children and people in wheelchairs. Where security considerations dictate the use of window grilles (see [paragraphs 4.6–4.9](#) on personal safety) or where the reception area is noisy, consideration should be given to the use of an induction loop and/or voice transfer system. Such systems should be clearly advertised and staff should know how to operate them.

5.20 This is the control point for access to the facility, and its position by the entrance facilitates the greeting of each patient on arrival. It should overlook the entrance lobby and the waiting area. Systems to alert patients that it is their turn to be seen should take account of those with sensory disabilities. Consideration should be given to visual, as well as audible, systems.

Waiting area

5.21 This area will cater for patients who need to wait with escorts prior to changing or proceeding to treatment areas. Patients may require walking aids or may be in wheelchairs. The area should contain a bay for the safe and secure parking of wheelchairs used for the internal transport of patients. It should also contain a selection of chairs of varying heights and types suitable for patients with varying disabilities. There should be spaces available within seating areas for wheelchair users who might otherwise feel isolated. Consideration should be given to providing a selection of payphones (see [paragraph 3.9](#)) that are suitable for patients with varying disabilities.

5.22 The waiting area is a useful place to display information leaflets for people to take away and study. Any written material should take account of the needs of blind and partially-sighted patients. See also 'Improving the patient experience: Welcoming entrances and reception areas' (NHS Estates, 2004).

WCs

5.23 WC facilities should be provided for staff, patients and visitors. Their location should be clearly signed, to spare people the need to ask directions. They should be accessible for disabled people, and the route to them should be easy to navigate. Consideration should be given to providing left- and right-handed access WCs that will allow patients to practise transfers on each type. Consideration should also be given to providing automatic WCs which allow people to attend to their own hygiene needs. Because of the patient population, it may be prudent to provide more than the usual number of accessible WCs. These should be large enough to accommodate a mobile hoist, plus at least one nurse or therapist. Foot-operated waste bins are inappropriate in accessible WCs. Separate baby-changing facilities may need to be considered.

5.24 Maintaining privacy is important. Individual toilets should be designated as single-sex, and users should be spared the need to go through or near to opposite-gender areas when they are wearing nightwear or theatre gowns or are otherwise exposed. This may mean that each department needs its own WCs, although dependent upon layout it may be possible for facilities to be shared (for instance between different

therapy areas). It is not usually necessary to provide separate staff WCs, except in staff changing areas.

Cloakroom

5.25 A cloakroom where patients and visitors can leave hats, coats etc may be provided. Coat hooks should be positioned so that people in wheelchairs can reach them.

ADMINISTRATION SPACES

5.26 Office accommodation should be planned to be as flexible as possible. It may not be necessary to have a separate staff office for each discipline; in fact, sharing office space can improve communication and facilitate multidisciplinary team working. Open-plan offices with demountable partitions to create cellular offices are much more flexible than traditional cross-wall constructed offices. Consideration should be given to employees with physical and/or sensory disabilities to enable them to access their workstations without risk to their health. This will apply to all areas.

Office (single person)

5.27 A single-person office should accommodate a workstation with VDU and keyboard, seating for up to three other people, and storage for books and files.

Office (multi-person)

5.28 A multi-person office with office workstations is required for a variety of staff. The number of workstations will need to be determined locally.

5.29 Activities include the exchange of information by telephone and through a computer system, together with the written work associated with patient care and treatment. Care plans and assessment work can generate vast amounts of paper, so plenty of storage space for files will be required. Project teams will need to consider local arrangements for IM&T.

5.30 If the office also functions as a reception, it should be located so that staff in the office can see patients coming and going through the front door. This is particularly important in residential accommodation with an "open door" policy, when the main entrance is not locked and residents are free to come and go.

5.31 Community healthcare staff – for example community physiotherapists – who work mainly in the local community may need an office base where they can carry out administrative and clerical duties and communicate with colleagues. Consideration should therefore be given to the provision of a few "hot desks". The number of hot desks required will vary depending on individual working situations.

Case conference room

5.32 A large room is required for staff meetings, case conferences etc. Furniture and equipment may include semi-easy chairs, upright stacking chairs, bookcases, a wall-mounted whiteboard and display panel, and facilities for storing various items. Consideration should be given to the provision of an induction loop and/or voice transfer system.

5.33 Project teams should consider the options for using this room as flexibly as possible. Case conferences are likely to be limited to office hours. With judicious choice of furniture, floorings and lockable storage, the space may be useful for general meetings, seminars, one-to-one interviews, counselling and evening group activities.

Records store

5.34 The need for a records store will depend on the local operational policy for storing and accessing health records. The size of the store will be determined by the method of storage and the number of records to be kept, which in turn is dependent on the number of patients in contact with the service. The schedules of accommodation in [Chapter 7](#) list the records store as optional, as records may either be held by the patient or stored electronically.

CLINICAL AND THERAPEUTIC SPACES

Sub-waiting space

5.35 A small sub-waiting space may be required for patients who need to wait for treatment, or for any other purpose. Staff should be able to observe waiting patients.

Consultation/examination room(s)

5.36 A consultation/examination room(s) may be used for procedures of a clinical nature, as well as for pre-admission assessment clerking and examination of patients on admission. An office workstation that includes space for a VDU and keyboard should be provided in all consultation/examination rooms. Requirements for resuscitation equipment will vary depending on the nature of the facility.

Assessment/interview room(s)

5.37 A room is required in which patients who require privacy can be assessed and treated. Treatments include psychological assessment, perceptual training and the use of a personal computer. The room should also be used for general interviewing purposes and study. It should be carpeted.

Physiotherapy spaces

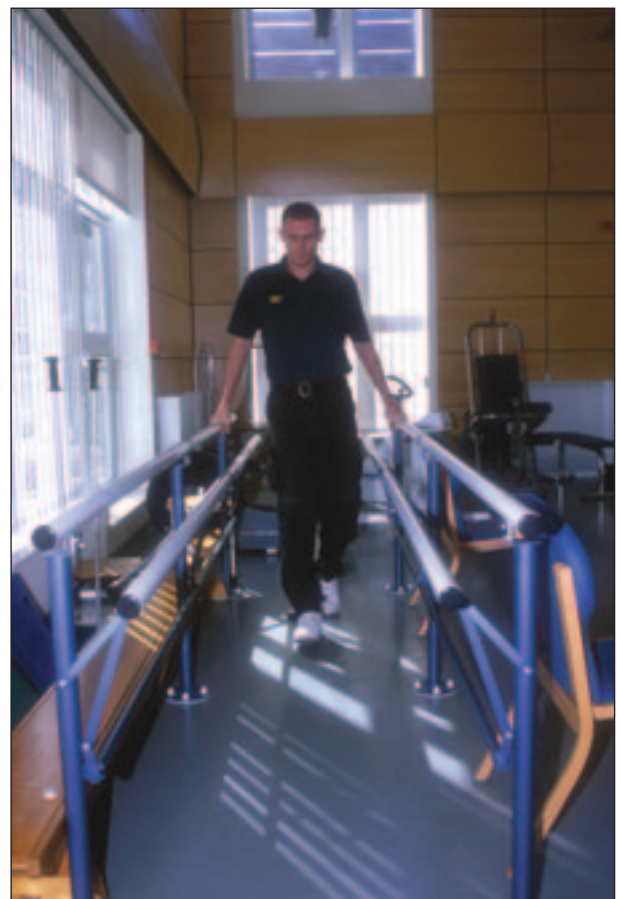
Patients' changing facilities

5.38 Some patients will need to change for treatment. They will require the privacy of changing accommodation. The needs of disabled people should be taken into account in changing cubicles. Suitable storage should be provided for patients' clothes. During treatment patients may need to move from one area to another. Adequate circulation space is also needed for the movement of patients in wheelchairs or using walking aids. A WC should be provided that is suitable for use by disabled people.

Activity areas

5.39 Active treatment of patients will be undertaken in the activity area, with individual patients or groups of patients whose treatment does not usually require privacy. The activities taking place generally need more space than is available in individual treatment cubicles.

5.40 The treatment may involve using equipment that needs an ample amount of space. Some items of equipment are free-standing, others are fixed. Some equipment will need all-round space, for example exercise tables, benches, parallel bars, weight systems and exercise ergometers. In addition to the space for



free-standing equipment there should be room for patients to participate in group exercises, including activities using and throwing balls.

5.41 The overall space will need to accommodate a hand-wash basin, some chairs and a small desk/table for use by therapists. In planning the whole area, account should be taken of the diverse needs of patients using the facilities.

5.42 Two distinct activity areas may be required, described in this document as the “large” and “small” activity areas. Each area requires a direct entrance from the circulation corridor. In a small department a sliding folding partition between the “large” and “small” activity areas may provide flexibility of use. Equipment storage space may be common if the areas are adjacent.

5.43 The planning of both areas should take into account:

- the need for supervision by therapists, from every point in the room;
- the grouping of the equipment in relation to the open area;
- the avoidance of patient/staff cross-traffic;
- the possibility of the two spaces communicating with each other;

- the need to have access to an outdoor space to enable patients to take exercise in the open air.

5.44 The main requirements for the layout of the equipment are for sufficient wall space, and enough floor space around apparatus for patients to be assisted by therapists from two, three or four sides depending on the piece of equipment being used. It is important to ensure free wheelchair circulation space between items of equipment. The space around equipment should be clearly identifiable by suitable visual, tactile and audible contrast.

5.45 As the overall space is likely to be relatively large, a minimum ceiling height of about 3200 mm is recommended so as to prevent the space becoming oppressive, and to provide sufficient height for some activities. At least some part of the “large” activity area will require a minimum ceiling height of 4500 mm to allow patients to practise “over-shoulder” activities and to be accommodated on the top of practice stairs and exercise steps.

5.46 The walls and floors need to be strong enough to take the load from equipment. As there will be a lot of movement, a hard, smooth, non-slip floor finish should be provided. The ceiling needs to have acoustic absorbent properties, and windows should be placed mainly at a high level, although some floor-to-ceiling glazing judiciously placed will improve the area visually.



Photo: Tim Hetherington, NHS Photo Library

Lighting should be protected and recessed where necessary. In the “small” area, some carpeting may be needed to enable patients to practise mobility on different surfaces.

5.47 Clinical teams should consider whether piped medical oxygen and vacuum should be provided in “large” and “small” activity areas.

5.48 The activity area should be easily accessible from the sub-waiting area, the staff base, physiotherapists’ office and the patients’ changing accommodation. It should be adjacent to the individual cubicle area.

Treatment cubicles

5.49 Treatment in the cubicles may include traction and electrotherapy. This area should be easily accessible from the staff base, physiotherapists’ office and the patients’ changing accommodation. There should be access to hand-washing facilities and water for treatments in the cubicles.

5.50 The cubicles will be formed by washable curtains hung from ceiling tracks, and require adequate space for a couch, chair, mobile equipment and a shelf for small equipment. Provision is required for the hanging of outer clothes. Some cubicles may need to be larger to enable traction apparatus or larger electrotherapy equipment to be used. A welded steel mesh may be required above, behind and/or alongside some of the treatment couches to provide a means of attaching pulleys or other equipment.

5.51 Adequate space is needed within the area to enable wheelchairs and trolleys to pass between the cubicles when the curtains are closed. Where necessary, mechanical ventilation should be provided, and interior designers should consider the need for ventilation when planning and specifying curtain tracks. If the location of the curtains is likely to affect the ventilation, the curtains should be provided with net headings.

Individual treatment room(s)

5.52 An individual treatment room or rooms will be needed for extra privacy, and for some treatments such as ultra-violet light, laser irradiation and respiratory therapy. Good ventilation, blackout, and hand-washing facilities are necessary. An oxygen supply and medical vacuum will be required for respiratory therapy. These may be provided by either portable apparatus or by terminal outlets from the hospital medical gases installations if the latter are located nearby.

Wax treatment and ice preparation

5.53 The use of paraffin wax and ice will require the provision of a room adjacent to treatment cubicles, and

with easy access to the activity areas. This should have a washable non-slip floor from which wax, ice and water can be easily cleared. The area may need to be mechanically ventilated.

5.54 The ice-making machine will require appropriate plumbing. Storage space for wax, treatment towels and packs is essential, together with arrangements for drying towels. A sink which will also allow the safe filling of a foot bath and draining board are required. Facilities for the washing of patients’ hands and feet are also needed.

Splint preparation

5.55 The splint preparation room is required for the construction of made-to-measure splints. The room should be large enough to accommodate a patient on a trolley, and should ensure privacy for patients being measured and fitted with splints. Mechanical extract ventilation will be required because of the heat and dust. Adequate space for the storage of equipment and materials is required. If plaster is used, a sink with a drainage filter should be installed. A workstation for making wheelchair-pushing gloves or pressure garments for patients may be needed.

5.56 The facilities will be used by both physiotherapists and occupational therapists, and should be easily accessible from the physiotherapy and occupational therapy treatment areas. They may therefore be located within the occupational therapy spaces rather than here within the physiotherapy spaces.

Storage

5.57 In addition to the general store, secure storage is required for the various items of equipment likely to be used in the activity areas, including mobile equipment and walking aids. This space should be sited adjacent to or within the activity areas; it should be possible to move apparatus easily into and out of the storage space and to withdraw or replace individual items without disturbing other items. Secure storage is also required in the treatment cubicles area for small items of equipment such as portable electrotherapy appliances.

Hydrotherapy spaces

5.58 Hydrotherapy should take place in water heated to a temperature of between 34°C and 40°C. The suite should be a self-contained operational unit so that it can be closed for maintenance or other reasons without affecting the rest of the physiotherapy facilities.

Entrance

5.59 The entrance consists of: a staff base; a bay for parking wheelchairs, stretchers, trolleys etc; and a sub-waiting area for transferring patients from ward

stretchers to pool trolleys. The staff base should provide facilities for the storage of patient records, and administrative activities related to patient and pool management. It should have easy access to the whole of the hydrotherapy suite, with an overview of the pool entrance and rest area. Resuscitation equipment should be centrally located and immediately accessible. Consideration may be given to sharing the entrance facilities with other spaces.

The pool

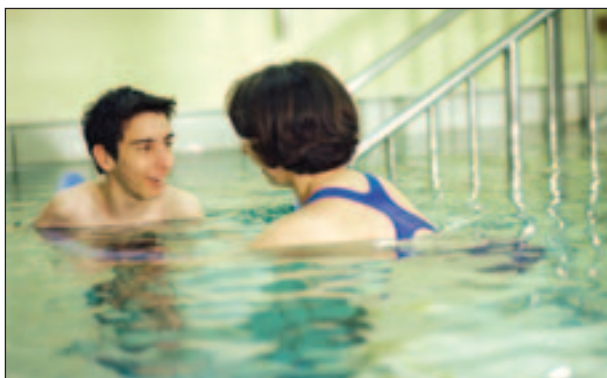


Photo: Tim Hetherington, NHS Photo Library

5.60 There is no single design of pool that will cater for the needs of all categories of patient with entire satisfaction. Consideration should be given to a wide range of available options of size, shape and depth at the planning stage. The requirements of prime users should be identified and met.

5.61 The pool arrangement is usually classified according to whether it is constructed above floor level with the water contained behind a parapet, or sunk below floor level.

5.62 A parapet pool needs a “freeboard” of at least 100–150 mm to prevent water escaping when the level is displaced by persons entering the pool. Scum channels should be positioned at this level to control the water depth and remove pool surface contaminants. A similar arrangement of scum channels should be provided in a sunken pool where the water level is below the surrounding floor level.

5.63 An alternative arrangement can be considered for a sunken pool whereby horizontal gratings above channels are provided at the surround level so that the water surface is literally at floor (or “deck”) level. The surround would have drainage cross-falls to the gratings. The channels of a deck-level pool are wider than the conventional scum channels and have to be connected to an appropriately-sized balancing tank, usually installed under the pool surround, to cater for water displacement when persons enter the pool.

5.64 Access to and exit from a deck-level pool is often easier for patients with disabilities and in an emergency evacuation, but eye-level surveillance of patients in the water may be better in a parapet pool. It is possible to consider a deck-level pool which has a sunken staff access along one side only to provide supervision at parapet level. Occasionally the inherent geological or geophysical features of a particular site will inhibit the practicability of constructing a pool below existing ground levels.

5.65 Hydrotherapy pools generally need to be between 1000 mm and 1200 mm deep, but no single pool depth can meet the optimum requirements for the treatment needs of all patients. Two different depths can be provided in one pool by constructing a “stepped” bottom, but it will be necessary to define clearly these different areas by means of contrasting pool floor and wall colours. No attempt should be made to lower the normal water level of a pool to accommodate different treatment depths, as this will negate the function of the scum or deck-level channels. It will impede the water recirculation and treatment system from maintaining water quality, including the removal of surface-borne contaminants.

5.66 Figure 1 illustrates a pool design which is considered to cover an acceptable range of potential usage by a variety of patients, including those who will need to enter and exit the water by means of an appropriately operated adjustable hoist. The use of rails and well-defined nosing to steps will improve access to the pool for patients not requiring a hoist.

5.67 The structure forming the hydrotherapy pool tank is usually reinforced concrete, but other forms of construction have been used for parapet-type pools. The cost allowances assume a reinforced concrete tank construction, finished with ceramic tiles using water- and chlorine-resistant adhesive and grouting. Tile finishes should be matte, and tiles for the floor should contrast with the walls.

Pool services

5.68 Continuous filtration and disinfection of the hydrotherapy pool water is essential to control water quality within acceptable limits. See paragraphs 6.104–6.148 for guidance on the chemical and microbiological aspects of the health risks to patients and staff, and for the engineering plant and chemical dosing equipment required.

5.69 Further guidance on the microbiological aspects of the health risks and the advantages and disadvantages of the various options for chemical dosing treatments is given in ‘Hygiene for Hydrotherapy Pools’ (Health Protection Agency, 1999).

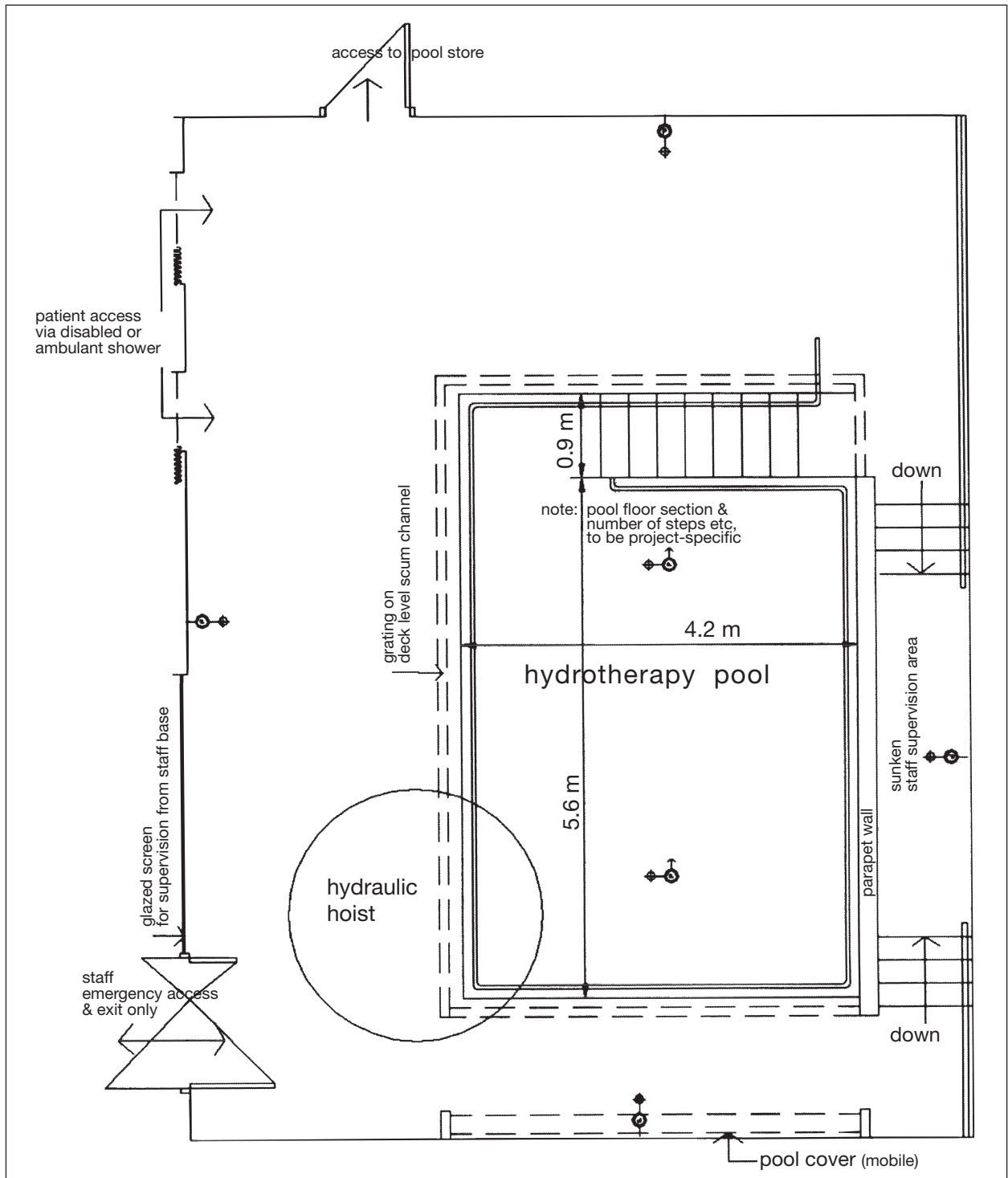


Figure 1 Hydrotherapy pool

5.70 The hydrotherapy suite air environment will be demanding because evaporation from the pool will produce an excessive chemically-aggressive humidity at a high ambient temperature. This will require appropriate ventilation and heating systems, for which detailed engineering design guidance is given in paragraphs 6.104–6.148, and should also be taken into account in the design and choice of building materials and components.

5.71 The pool hall floor and all surrounding areas including changing facilities and toilets should be covered in non-slip, easy-to-clean materials. The area surrounding the pool should be free of obstructions, allowing access to the poolside by a crash team with a resuscitation trolley to attend a patient who is having a cardiac arrest. Cardio-pulmonary resuscitation will begin at the poolside, but patients should be transferred to an adjacent dry area with a trolley (for example a changing room) before defibrillation is carried out.

5.72 Natural lighting of the hydrotherapy pool hall is desirable, but privacy and safety should be considered. Double-glazing of windows will minimise condensation. However, care should be taken to ensure that sunlight does not reflect off the water's surface, causing distraction or glare. Similar considerations apply to artificial lighting, which should be installed so that replacement of lamps and fittings is not unduly difficult. Detailed engineering design guidance for the pool lighting installation is given in [paragraphs 6.104–6.148](#).

5.73 An emergency alarm call system should be provided, and pull cords to activate it, both from within the pool and from the surrounding area, need to be sited within reach of the therapist. Guidance on alarm call systems is given in more detail in [paragraphs 6.89–6.93](#).

5.74 Essential features for the economical operation of a hydrotherapy pool are the provision of energy recovery plant for the pool hall ventilation system and a thermally insulated, floating cover which should be in position at all times when the pool is not in use. This cover should be stored on a manually operated floor or wall-mounted roller – usually located at the pool end remote from the access steps to avoid obstruction.

5.75 The cost allowance (see [Chapter 7](#)) is for a flexible floating pool cover constructed from a high-density closed-cell core bonded to a woven covering, and a heat pump unit integrated into the pool hall ventilation plant for energy recovery.

5.76 The diffusion of high air temperature and humidity from the pool hall into the changing accommodation and patients' rest area should be mitigated as far as reasonably practicable. Precise control will be physically impossible, but acceptable conditions can be achieved by appropriate design of the ventilation systems (see [paragraphs 6.104–6.148](#) for details) in conjunction with restricting the number of access points into the pool hall. These should be limited to standard door height openings, respectively positioned in the walk-through showers and in the partition separating the staff base from the pool. If the latter opening does not give adequate supervisory overview, the separating partition should be glazed.

5.77 It is anticipated that the pool hall will generally be of substantially greater internal height than the adjacent ancillary accommodation in the hydrotherapy suite. This will provide a natural “canopy” above the pool, which will greatly assist the desired air movement control.

Pool counter-current unit (optional facility)

5.78 Some patients may benefit from a treatment programme that includes sustained “swimming”. This is not normally practicable within the relatively small

dimensions of a hydrotherapy pool. However, counter-current generating units are available which permit “swimming” to be undertaken without lateral or forward motion. These consist of a local pumping assembly which sucks water from the pool and then returns it to just below pool water level via a nozzle which can be regulated to give varying strengths of discharge jet. These units should be securely fixed at the side of the pool and are usually supplied with appropriate base plates and/or strands suitable for bolting to the pool surround. They also require a permanent electrical supply and controls that comply with safety requirements (see [paragraphs 6.104–6.148](#)). An optional cost allowance is provided for this facility.

Patients' changing

5.79 An area in which patients can change in privacy, with nearby lockers to securely store their clothing and valuables, is required. It should be adjacent to the showers. Changing cubicles should be provided for use by ambulant patients who need little or no assistance. It is assumed that men and women will be treated in different sessions – this is the most economic solution for the provision of single-sex changing space.

5.80 Patients who require help in dressing and undressing may change in one of the larger cubicles provided in the adjacent recovery area, or in the trolley access shower area. Appropriate space will be required for the reception and transfer of these patients, and for parking their bed or trolley during treatment. Staff may use this area if alternative suitable facilities are not conveniently located.

Patients' rest area

5.81 An area where patients can lie down, rest and rehydrate on couches after treatment is necessary. The area should be adjacent to the patients' changing accommodation and may be combined with the changing area if this is a practical option. Couches should be provided in curtained cubicles, some of which should be large enough to accommodate a patient on a trolley. These cubicles would also be used by such patients for changing.

5.82 A drinking-water point and beverage station should be provided in this area in accordance with whole-hospital policies. Such facilities should be accessible to people with disabilities, including those with reduced manual dexterity.

Showers

5.83 Shower facilities are required for all users before entering and on leaving the pool. Consideration should be given to the provision of a range of showers to suit patients with varying disabilities (see also paragraph

5.119). Overhead tracking for the use of hoists may be necessary.

5.84 Adequate WC accommodation is required to maintain patients' privacy within this facility. See paragraphs 5.23–5.24.

Storage

5.85 Space is required for rinsed hydrotherapy equipment to be dried and stored while not in use. Storage space is also required for hydrotherapy suite cleaning materials and equipment, and the water testing materials and apparatus.

Laundry/utility room

5.86 Space and facilities are required for clothing to be rinsed and dried after use. Space is required for storage of fresh towels and towels in use, gowns, swimwear, pillows and linen required in the rest area, and also the storage of dirty linen items pending collection.

Plantrooms

5.87 Plantrooms will need to house the equipment for pool water treatment and ventilation. Detailed information is provided in paragraphs 6.104–6.148.

Occupational therapy spaces

Activity areas

5.88 In small-sized accommodation it may be unnecessary to provide both light and heavy activity areas, and one large area may fulfil both functions. It is important that the layout of the room allow for heavy/noisy activities (see paragraphs 5.97–5.102) to be at one end of the room, leaving the other available for cleaner, more clerical-orientated activities, as identified in paragraph 5.91. Project teams should consider at an early stage whether it is acceptable to mix heavy/noisy activities with clean/clerical. The room may also be used for group activities, when its overall space availability will be important.

5.89 The safety of patients and the need to comply with all statutory regulations and protection requirements should be taken into account in the layout and design. It should be possible to switch off all electrically-operated therapy equipment in an emergency. All such equipment should be guarded and maintained in accordance with health and safety requirements.

Light activities area

5.90 The light activities area requires desk and table space, some of which will need to be at varying heights. Patients will sit or stand and can undertake:

- clerical and office tasks, for example writing;

- copying, typing, guillotining;
- educational work, for example mathematics;
- remedial games;
- various creative activities;
- light assembly work;
- work with a personal computer.

5.91 The activities detailed in paragraph 5.90 can be divided into those requiring space for:

- work tables for writing, playing board games and undertaking small assembly tasks. Sufficient space will be needed to allow a therapist to sit on one side of the table with the patient sitting opposite, as well as tables with space on either side of the patient;
- work tables with equipment requiring space on either side of the patient to undertake tasks, for example using a computer for therapeutic purposes;
- free-standing equipment;
- positioned activities, for example wall games.

5.92 The overall layout needs to take into account the space requirements of different activities such as printing press, driving assessment and so on. If a printing press is installed, an overhead mesh will be required.

5.93 Changing philosophies relating to treatment of patients, for example early discharge from hospital and/or treatment, may affect the amount and choice of equipment required in the occupational therapy heavy and light activities areas.

5.94 The area contains equipment and apparatus that will assist patients to regain motor, cognitive and sensory skills. Some of the activities may be used to stimulate interest and concentration. Acoustic treatment of surfaces, screening and skilful illumination should be used by the designer to reduce distraction.

5.95 Adequate space will be required for attendance on patients by staff, for wheelchair access, and for flexibility in positioning patients and equipment.

5.96 The area requires ready access to stores and needs to be easily supervised. An open, rectangular plan rather than an L-shape or long and narrow plan should be adopted. A hard and smooth floor finish is required. Walls should be washable and capable of taking adjustable wall fixings. Many of the activities will be intricate and will require a good standard of natural and artificial light as well as a pleasant external aspect to allow eyes to rest after a period of concentration.

Adequate storage is necessary for equipment, materials and ongoing work.

Heavy activities area (optional)

5.97 Heavy activities can include, and may require space for:

- sawing, hammering, drilling, sanding, light metal work;
- painting and varnishing;
- the use of hand or electromechanical equipment.

5.98 Benches and equipment may need to be at varying heights to accommodate wheelchair users and patients who may be sitting or standing.

5.99 The general layout should take account of the varying space and environmental requirements (see also [paragraph 6.19](#)) of different activities. In addition, external access is desirable to enable direct delivery of materials to the heavy activity storage area.

5.100 The layout of machines, benches and storage cupboards will be determined on individual merit depending on the shape of the room, position of entrance, position of windows and work to be undertaken. The spacing of equipment items should be such as to enable ease of supervision, arrangement and removal of benches, ease of servicing machines, the easy supply of materials, and ease of movement of patients in wheelchairs.

5.101 Floor finishes should be non-slip, hard, and impervious to oil spillages. The ceiling should be acoustically absorbent to reduce noise levels. A good standard of natural and artificial lighting is necessary. The latter should be well balanced between task and background lighting. Washing facilities are required within the area for washing and brush cleaning. Secure storage in cupboards will be necessary for small tools and items of equipment.

5.102 The safety of patients and the need to comply with all statutory regulations and protection requirements should be taken into account in the layout and design. It should be possible to switch off all electrically-operated therapy equipment in an emergency. All such equipment should be guarded and maintained in accordance with health and safety requirements.

IT therapy room

5.103 Access to IT systems has been found to have several benefits. It:

- develops new skills which can be used to obtain employment or for numerous leisure purposes;

- provides a source of education and information;
- aids communication with other people in similar circumstances;
- provides a welcome source of recreation;
- supports creative activities;
- frees up specialist staff and carers' time.

5.104 The IT therapy room will include one (or more) computer bays which are accessible to patients in wheelchairs. A braille keyboard and/or keyboard with large function keys should be available for blind/partially-sighted patients, as well as speech facilities for those with reduced manual dexterity. The room could be adjacent to or part of a library/information centre.

Storage

5.105 Designers should consider the possibility of combining activity areas and associated storage spaces where it is appropriate to do so, particularly in small-sized accommodation. Long lengths of timber, mostly mopstick handrail and large sheets of ply, will need to be stored. These can sometimes be accommodated down the long wall of the heavy end of the activity area, provided there is proper racking both to prevent warping and for safety reasons.

5.106 For small departments, the timber and metal store and material and equipment store can probably be combined with additional storage space for loan wheelchairs. These are used by in-patients awaiting the arrival of their own chair, and are not used for assessment. Attention should be paid to the storage of flammable items, to ensure compliance with statutory requirements. Security should also be adequate to minimise the risk of unauthorised entry and pilfering.

5.107 A dry, ventilated room with racks and shelves is required for the secure storage of timber and metal (of varying lengths up to 5000 mm) used in the heavy activity area. Direct or easy external access for the delivery of such materials is essential, but it is equally important for the store to be sited so that materials can be manoeuvred easily to their point of use. Some room shapes and dimensions may preclude the buying of economical sizes of timber.

5.108 Space is required in which to store patients' ongoing work. Racking and shelving will be required. Easy access to both light and heavy activity areas is necessary.

5.109 Secure storage is required for materials and equipment issued for use in patients' treatments. Some equipment may also be loaned to patients. Some racking and shelving will be needed.

5.110 Secure storage will be needed for equipment belonging to community services (usually social services departments) which can be issued to patients before discharge (raised toilet seats, walking frames, eating aids, dressing aids etc). If located outside the rehabilitation department, the store should be easily accessible and sufficiently secure to ensure appropriate access only.

5.111 Space will be required for unpacking and sorting. It is assumed that records of these items will be maintained in the occupational therapy department. Returned equipment will need to be cleaned prior to storage. If this is done on-site, adequate cleaning facilities will be required.

5.112 Storage is required for a range of wheelchairs and accessories used for assessment purposes and for associated equipment and attachments. Space is required within the storage area to manoeuvre wheelchairs. Consideration should be given to security to ensure that wheelchairs are not moved away from the department and used for other purposes. This space needs to be associated with the light activities area and to be accessible to physiotherapists.

Activities of daily living

5.113 Wherever possible, patients should re-learn and practise procedures of daily living in their own homes or in the real environment. Ideally, purpose-built facilities for “activities of daily living” (ADL) should only be used for more complicated tasks with specific equipment requirements.

5.114 These purpose-built facilities should aim, as far as possible, to simulate domestic environments. This will not be possible in the bathroom, where additional space is required for comprehensive assessments using equipment with which patients will need to practise. The kitchen will also need to be larger overall, but the design should allow the space to be divided into two areas – one housing an electric cooker, the other a gas cooker – which will reduce the workspace to more domestic dimensions.

5.115 ADL flats tend to be under-utilised. To prevent this happening, consideration should be given to designing the ADL flat as a multi-function space which may also be used at agreed times for meetings, counselling, evening classes etc. Care should also be taken at the planning stage to avoid duplicating facilities already available locally.

Bed sitting room

5.116 One room containing appropriate bedroom furniture is required to undertake the assessment and training of patients in dressing and undressing, grooming, bed-making and the use of bedroom

furniture. Sufficient space should be allowed for patients to practise using a variety of chairs. Training and advice will be necessary in some cases in the use of lifting poles and manual or electric hoists. An electric hoist should be positioned in order to lift a patient – from sitting or lying position – over and into a bed. Two bedrooms may be required in the largest units due to the number of patients and the time taken to practise dressing and undressing. It is not necessary to equip the second bedroom with an electric hoist. A carpet floor finish is appropriate for the bedroom.

Bathroom

5.117 Some patients will need to learn new methods of bathing, washing and using the WC while therapists assess patients’ requirements with appropriate equipment. Space is required to enable patients with walking aids or in wheelchairs to approach the equipment in a similar manner as they would in their own homes. This space will also allow patients to practise with different pieces of equipment. Consideration should be given to the use of variable height hand-wash basins to suit both ambulant and wheelchair patients.

5.118 The bathroom should accommodate the use of a mobile hoist by providing space beneath the bath. Practice with this type of equipment will be necessary for both patient safety and the instruction of relatives. A fixed hoist should also be provided. It should be positioned in order to lift a patient – from sitting position – into the bath or over the WC.

5.119 In view of the fact that many patients find it difficult to have a bath, it is recommended that a shower is also incorporated. This should have level access for wheelchair users, and a thermostatically-controlled water inlet. The shower controls should be within the shower but accessible from outside the shower area and positioned at a height appropriate for a wheelchair user. Controls should be easy to identify and operate. The WC should be accessible by wheelchair from either side, but otherwise should be of normal domestic type.

Kitchen

5.120 The kitchen will provide the area in which therapists assess and rehabilitate patients in the preparation and cooking of food, the serving and eating of meals, and washing-up. Patients will be assessed in their use of eating utensils and their need for the prescription of appropriate equipment. Space should be provided to display the many items currently available. Storage is required for food, cooking utensils and disability equipment. Mechanical extract ventilation should be provided.

5.121 A gas cooker, an electric cooker, a microwave oven and a fridge-freezer should be provided. The two main cookers should be placed at opposite sides of the room to each other, allowing the room to be divided. This will reduce the actual workspace of each “kitchen” to more domestic dimensions. Controls to cookers and other kitchen appliances may have adhesive markings to assist those with poor vision.

5.122 A variable-height sink for use by areas that can accommodate both seated and standing users is recommended. This will maximise the assessment opportunity for therapists needing to recommend optimum sink heights for individual patients. Worktops, shelves and cupboards should be suitable for both ambulant and wheelchair patients. The front edge of worktops should enable equipment to be clamped onto them. A section of the worktop should have a lip to reduce the potential of spilled liquids falling on the floor. There should be the provision of local lighting on the worktops to increase the visibility of objects. There should be a space for a normal-height table suitable for at least four patients to eat meals.

Utility/laundry room (optional)

5.123 If a utility/laundry room is considered necessary, it should contain a domestic automatic washing machine, a tumble dryer and a domestic ironing board. All should be fully operational. Within this space, therapists will assess and rehabilitate patients in undertaking washing and ironing of personal clothing. Adequate space is required to enable ambulant patients, with or without walking aids, and wheelchair users to move around the space with the therapist.

Speech and language therapy spaces

Individual treatment room

5.124 This room should be large enough to accommodate a therapist and patient (who may be in a wheelchair) plus a family member and/or an assistant speech and language therapist. The room should have natural light. It may need to be mechanically ventilated and acoustically treated, making it suitable for recording and sound-sensitive equipment. There should be storage for files, clinical materials and small assessment items.

5.125 Clinical hand-washing facilities and a full-length mirror, either fixed or free-standing, are also required. A large speech and language therapy section may require more than one individual treatment room. In large units it is good practice to separate office from clinical space. Where the therapist is single-handed, a combined office/treatment room may make more efficient use of space. For further information on acoustically treated

rooms please refer to HTM 2045 – ‘Acoustics – Design considerations’.

Group treatment room

5.126 The group treatment room should be sufficiently large to accommodate up to ten patients (some of whom may be in wheelchairs) plus a therapist and two assistants. As groups of patients may attend for several hours, beverage-making and hand-washing facilities should be provided.

Viewing facilities

5.127 In order to demonstrate treatment programmes to partners/carers and also for student teaching purposes, CCTV/video facilities should be installed in one of the treatment rooms. Alternatively, a one-way viewing window and wiring for sound may be used. This can be between the group and the individual treatment rooms or, to avoid putting one of the treatment rooms out of action, a small viewing room may be installed between the two rooms. Many therapists will also use the video/TV screen for reviewing videofluoroscopy films.

Storage

5.128 It is important that communication aids and other expensive micro-electronic equipment are securely stored and that there is adequate space for this storage.

Podiatry spaces

Patients’ changing facilities

5.129 Patients may share changing facilities with physiotherapy patients. Alternatively, the treatment room should include a curtained-off area to allow patients to change in privacy. The area should be large enough to accommodate a patient in a wheelchair and contain a chair for ambulant patients and a hook for coats.

Treatment room

5.130 The overall space will need to accommodate a hand-wash basin, a range of equipment (see paragraph 5.132) and a small desk/table for use by the podiatrist. It should be fully accessible to a patient in a wheelchair or a patient with physical and/or sensory disabilities. A height-adjustable chair/trolley that can recline into a horizontal position will be required for patients being treated. The podiatrist will be seated in a height-adjustable chair on castors and will require a good-quality adjustable light.

5.131 The room should be well ventilated and have vinyl flooring. Consideration should be given to a multi-purpose treatment room that is shared with other therapists.

5.132 The following equipment will be required:

- vacuum cleaner;
- nail drill;
- trolley for transporting and storing equipment;
- bin for the safe temporary disposal of sharps (see [paragraph 4.21](#)).

Splint preparation

5.133 A splint preparation room may be required for the construction of made-to-measure splints (see [paragraphs 5.55–5.56](#)). This will usually be located within the physiotherapy or occupational therapy spaces and ideally should be adjacent to the podiatry spaces.

Garden/outdoor spaces

5.134 A garden or outdoor space is particularly useful for occupational therapy and physiotherapy. It should accommodate the needs of patients with sensory deficits as well as wheelchair users and the ambulant, and be sited close to the occupational therapy and physiotherapy spaces. Shared areas for occupational therapy and physiotherapy mobility assessments would ideally be sited here.

5.135 The construction of steps and stairs with handrails, as well as areas with a variety of surfaces, may be incorporated into the landscape. Consideration should be given to the safety of users, for example by use of toughened glass in the spacious greenhouse or conservatory, wheelchair accessibility, and variable-height work surfaces for potting and storage indoors and planting outdoors.

Complementary therapy spaces

5.136 Space may be required for the provision of complementary medicines, for example acupuncture, aromatherapy and osteopathy. These services are likely to share treatment rooms with other therapies.

IN-PATIENT ACCOMMODATION

5.137 In some hospitals, patients requiring rehabilitation are cared for in specialist rehabilitation wards. Standard design and building guidance will apply (see HBN 04 – ‘In-patient accommodation: options for choice’); however, rehabilitation wards do have some specific needs. In particular, it may be necessary to provide some or all of the following satellite facilities:

- a larger-than-usual treatment room;
- overhead tracking for hoists etc;
- a modest gymnasium;

- ADL assessment facilities (see [paragraphs 5.113–5.123](#));
- a sound-attenuated room for speech and language therapy assessment;
- easy, level access to garden/outdoor spaces (see [paragraphs 5.134–5.135](#));
- a larger-than-usual bed space to support patients learning wheelchair skills and undergoing physiotherapy within the bedspace;
- storage facilities to accommodate a larger-than-usual number of wheelchairs and free-standing hoists;
- battery-charging facilities for electrically-powered wheelchairs;
- accessible toilet and bathroom facilities which allow easy transfer from wheelchairs with or without assistance.

5.138 Specific requirements are heavily dependent on the needs of the patient population; it is essential that local professionals and service users are consulted from an early stage.

STAFF ACCOMMODATION

Rest room

5.139 A staff rest room is required where staff can relax and consume snacks and beverages. The rest room should have windows with a pleasant outlook, be comfortably furnished and include a telephone.

5.140 The rest room may include a beverage bay (see [paragraph 5.146](#)).

Staff changing

5.141 Staff changing facilities should be provided.

5.142 Provision should be made for the secure storage of outdoor clothing and personal items and for the temporary storage of damp clothes.

5.143 The accommodation should comprise:

- full-length lockers for the storage of clothing, uniforms and personal items;
- space for changing and a curtained cubicle for those requiring privacy;
- provision for the temporary (secure) change of wet clothes;
- a shower;
- hand-wash basins.

WC

5.144 WCs and hand-wash basins should be associated with the staff changing accommodation. At least one WC should be accessible to disabled staff.

Training/seminar room

5.145 Access to a seminar room will be needed for informal conferences, discussions and tutorials. This room can also be used as appropriate for instruction to, or discussion with, groups of patients. This may be dedicated to the department or, with careful planning, might be a shared facility with an adjacent department.

Optional accommodation

Beverage bay

5.146 The rest room may include a beverage bay with facilities for preparing snacks and beverages, for washing and storing crockery and cutlery, for storing a limited quantity of dry goods, and for storing milk etc in a refrigerator. Equipment should include a stainless steel sink and drainer, an electric water boiler, a microwave cooker, a worktop with cupboards, and a hand-wash basin. The need for a dishwasher will depend on whether staff will be using crockery or disposable cups.

Library/information resources

Library/information centre

5.147 The need for rehabilitation can bring with it significant worries and stresses. Many patients find that these new concerns can be better managed if they have access to a broad base of information, which starts to answer their questions. Information should be provided in formats that are suitable for blind and visually-impaired patients. Any video material should be subtitled.

5.148 A rehabilitation facility will therefore be improved by the addition of a modest library/information centre.

5.149 The library could provide information on:

- equipment;
- welfare benefits;
- employment;
- health and social services;
- voluntary organisations;
- transport and access;
- holidays and leisure.

The space might be part of a larger room or circulation space, or a separate room.

5.150 The floor area required will depend on the number and type of users, the range of information, types of source, whether it is staffed or unstaffed, whether the space is a room or an alcove, and so on.

5.151 The library could use a simple wall racking or shelving system, island units, tables, chairs and various modern technologies. Whatever furniture is provided, space will need to be allowed for wheelchair access. The space should be well illuminated and clearly signed.

SUPPORT SPACES

Clean utility room

5.152 A clean utility room will be required for storing medicines and lotions, and for holding a working supply of clean and sterile supplies. The clean utility should be convenient to all treatment room/therapy areas. Clinical hand-wash facilities are required. The floor should have an impervious finish.

Dirty utility

5.153 A dirty utility room should be provided, where items of equipment may be cleaned and for the disposal of liquid and solid waste. If a disposal room is not provided, the dirty utility should be large enough to temporarily hold materials for disposal and those items that need to be reprocessed.

5.154 The room should be fitted with a sluice sink, a sink-unit with drainer, a hand-wash basin, a work surface, cupboards and shelves. Bed-pan disposal facilities may be required. Space should be available to park trolleys and for temporarily holding bags of soiled linen etc. Pedal-operated sack-stands are also required. The floor should have an impervious finish.

Disposal hold/bay

5.155 A secure collection area for clinical waste and non-clinical waste should be provided, located close to the service entrance.

5.157 This room is the temporary storage point for all supplies and equipment that need to be disposed of, for example dirty linen, waste and sharps. The room should allow for cleaning of any spillage from the clinical waste bags. The floor should have an impervious finish.

5.158 Where wheelie bins are used, the disposal hold should be able to store wheelie bins between 360 and 1100 litres in capacity.

Domestic services/cleaners' room

5.159 The domestic services/cleaners' room is the base from which domestic service staff provide the immediate day-to-day cleaning service. A clinical hand-wash basin and bucket sink should be provided. Project teams

should also consider whether a stainless steel sink and drainer should be included. It should include storage for cleaning materials and equipment in daily use, and facilities for the routine servicing and cleaning of equipment. The room should be well lit and ventilated; mechanical ventilation may be required. Bulky equipment has to be moved out of the room, and this should be taken into account in its location.

Storage

5.160 Adequate space should be provided for storage.

5.161 Adequate space should be provided for linen storage.

OPTIONAL SPECIALIST AREAS

Rehabilitation engineering

5.162 This discipline centres on workshops which provide engineering solutions to alleviate the problems of disability alongside rehabilitation therapies.

5.163 Rehabilitation engineering produces one-off devices – “bent metal sections”:

- electronic engineering (similar to medical physics devices);
- special seating (similar to wheelchairs);

- various miscellaneous “imaginative” components;
- plastic mouldings.

5.164 Workshops should be able to design and fabricate engineering devices and could be within either the NHS or private companies. They should comply with the Factories Act 1961 and the Health and Safety at Work etc Act 1974.

Orthotics workshop

5.165 Orthotic devices can be defined as body-worn devices which aid mobility. Various types of boot, shoe and calliper fall into this category.

5.166 Many of these devices are manufactured and supplied by commercial companies, but they frequently use NHS premises to facilitate measurement and fitting, commonly in the physiotherapy department. However, fitting may involve multiple minor adjustments, which in turn require a small workshop. Adaptations to wheelchairs and seating may also be undertaken in the workshop. Thus some trusts make a small workshop available (which should comply with the Factories Act 1961 and the Health and Safety at Work etc Act 1974). The workshop should be suitable for simple metalwork, plastic moulding etc. It may be combined with the splint preparation room.

6 Engineering

GENERAL ENGINEERING CONSIDERATIONS

6.1 This section provides general engineering guidance for healthcare facilities. Some aspects will be applicable to all facilities, while others will only be applicable to certain departments. For specific guidance on hydrotherapy pools see paragraphs 6.104–6.148. Designers should ensure they read this document as a whole, since further engineering requirements are outlined in other chapters.

Introduction

6.2 Engineering services account for a significant proportion of the capital cost and a continuing charge on revenue budgets. The project design engineer should ensure economy in provision, whilst achieving functional requirements and maintaining clinical standards.

6.3 Lifetime costs should be identified as part of the cost-benefit analysis.

6.4 Energy usage has a major impact on the environment. Heating, ventilation, cooling and lighting should be automatically controlled when not in use (for example at night or weekends).

6.5 Engineering installations should provide an organised and systematic arrangement that can be modified to facilitate changes in service requirements. This should be achieved by distributed systems with vertical or horizontal services ducts. These should be readily accessible so they can be remodelled and maintained with minimal disruption to the facility.

Model specifications

6.6 The National Health Service Model Engineering Specifications are sufficiently flexible to reflect local needs. The cost allowance is based on the quality of material and workmanship described in the relevant parts of the specifications. In addition, the reader is directed towards the range of Health Technical Memoranda (HTMs) relevant to this facility.

Energy conservation and sustainability

6.7 The commitment of the NHS to sustainable development is encapsulated in the document ‘Sustainable development in the NHS’. Whilst this

document considers a wide range of sustainability issues, one area identified as having a major impact on the environment is the use of energy. The minimising of environmental impact by ensuring that energy is only used necessarily and efficiently is considered in this section with regard to:

- a. natural daylighting;
- b. natural ventilation;
- c. night set-back;
- d. building regulations;
- e. heat recovery.

6.8 Efforts should be made to maximise the use of natural lighting. Passive solar design (PSD) should be employed to ensure, insofar as it is possible, that areas such as patient and staff areas are located where they can benefit from natural daylight whilst other areas, for example stores, toilets and utility rooms, are located towards the core of the facility.

6.9 Areas where glare may be a problem, for example rooms where VDUs are routinely used, should similarly be located away from direct natural daylight.

6.10 Natural ventilation of rooms should be employed wherever this is appropriate. The design should incorporate measures for minimising solar heat gains, which, if uncontrolled, will precipitate a need for mechanical ventilation. Measures to minimise the need for cooling should include locating temperature-sensitive accommodation away from south-facing fascias, shading windows with brise soleil, and using solar-reflecting glass where this is cost-effective.

6.11 Energy-using systems including heating, ventilation, cooling and lighting should be controlled to reduce energy input to the facility, or sections of it, when it is not in use, for example at night or weekends.

6.12 Energy recovery systems should be considered for air-conditioning and ventilation systems.

Design for safety

6.13 Health and safety legislation imposes a statutory duty on all persons who design, manufacture, import,

supply, install or erect “articles for use at work” through a range of co-ordinated health and safety regulations enacted under the Health and Safety at Work etc Act 1974.

6.14 Key Safety Regulations relating to healthcare premises and equipment are:

- a. the Construction (Design and Management) Regulations 1994;
- b. the Management of Health and Safety at Work Regulations 1999;
- c. the Workplace (Health, Safety and Welfare) Regulations 1992;
- d. the Provision and Use of Work Equipment Regulations 1998;
- e. the Health and Safety (Safety Signs and Signals) Regulations 1996;
- f. the Noise at Work Regulations 1989;
- g. the Pressure Systems Safety Regulations 2000;
- h. the Pressure Equipment Regulations 1999;
- j. the Gas Safety (Installation and Use) Regulations 1994.
- k. the Control of Substances Hazardous to Health (COSHH) Regulations 2002.

6.15 The vulnerability of patients in healthcare premises, where many engineering systems impact on patient safety, introduces additional risks and calls for an increased awareness of the importance of engineering system integrity. Engineering systems should be designed to be especially robust to ensure that a failure in the quality or continuity of an essential engineering service cannot compromise patient safety.

6.16 Designers should be particularly aware of the role of engineering design in the control of infection, particularly in respect of water services (see HTMs 2027 and 2040) and ventilation systems (see HTM 2025).

6.17 Clearly identified devices for the control and isolation of primary engineering services should be located in areas where they can be protected against unauthorised interference, ideally in plantrooms, engineering service spaces, or circulation areas.

6.18 The need to employ formal “Permit to Work” and “Permit to Use” procedures should be noted, particularly in respect of electrical systems (see HTMs 2020 and 2021) and medical gas systems (see HTM 2022).

Ventilation (substances hazardous to health)

6.19 Local exhaust ventilation will be required where exposure by inhalation of substances hazardous to health cannot be controlled by other means. The Health and Safety Executive publication EH40, ‘Occupational Exposure Limits’, updated annually, sets limits that form part of the Control of Substances Hazardous to Health Regulations 2002 (COSHH).

Fire safety

6.20 The policy in respect of fire safety is set out in the Firecode series of documents. Additionally, the Fire Practice Notes series provides further guidance on specialist aspects of fire precautions. The trust should satisfy itself that the design meets the objectives of Firecode by either compliance with HTM 81 or a fire-engineered solution that achieves similar objectives.

6.21 It is important to establish during the design stage those aspects of fire strategy that may affect the planning of a project. At appropriate stages of the design process, the architect and engineer should discuss and verify their proposals with the relevant Building Control/Approved Inspector, and ensure that the project team and all other planning staff are fully acquainted with the fire safety strategy for the design. This will include operational aspects (staff responsibilities etc), equipment provision, and building and engineering layouts. HTMs 57–60 provide detailed information for the selection of fire-resistant building components and materials.

Fire detection and alarm systems

6.22 A fire detection and alarm system complying with HTM 82 should be installed throughout the facility.

Noise

6.23 Excessive noise and vibration from engineering services – whether generated internally or externally and transmitted to individual areas – or noise from other sources, for example speech, which can be transmitted by the ventilation system, can adversely affect the operational efficiency of the department and cause discomfort to patients and staff. The limits and means of control advocated in HTM 2045, ‘Acoustics’ should provide an acceptable acoustic environment.

6.24 In addition to designing for control of noise levels, there may also be a need to ensure speech privacy, so that confidential conversations are unintelligible in adjoining rooms or spaces.

Space requirements for services and plant

6.25 A high level of availability of engineering plant and services is critical to the ability of the facility to function

safely and efficiently. It is therefore essential that building design should incorporate adequate space for the installation and maintenance of plant, ductwork, pipework and cabling.

6.26 Space for plant and services should provide:

- a. easy and safe means of access;
- b. secure accommodation protected from unauthorised access;
- c. adequate space around plant and services to permit inspection and maintenance;
- d. sufficient space to permit redundant plant to be removed without the need to dismantle other major plant.

6.27 Recommended spatial requirements for engineering plant and services are contained in HTM 2023. Further useful information regarding the provision of space for plant is contained in BSRIA Technical Note TN 9/92, and for building services distribution systems in BSRIA Technical Note TN 10/92.

6.28 Space should be allowed within walls and above ceilings to facilitate the concealment of electrical and mechanical services where possible. Securable demountable panels should be provided to allow access to control and isolation valves as well as any equipment that is necessarily concealed within the spaces. Each panel should be clearly, but discreetly, marked to identify the controls or equipment to be found behind the panel.

6.29 In general, but with the exception of drainage and, when appropriate, heating pipework, engineering services should not be brought from the above-ceiling space of a floor below. Service distribution to a particular area should be contained in service spaces on that floor.

6.30 Wherever possible, access to plant and services should be from plantrooms or maintenance areas. Where this is not possible, every endeavour should be made to effect access from general circulation areas and not from operational spaces.

6.31 In areas where wall-mounted heat emitters are installed, they should be contained within a 200 mm-wide perimeter zone. The 200 mm zone, together with the space for minor engineering ducts required to service the emitter, is included in the building circulation allowance. The amount of space required for wall-mounted emitters can be limited by the use of ceiling emitters as an alternative.

6.32 Care should be taken to ensure that noise and structure-borne vibration cannot be transmitted from plant to areas external to the plantroom.

Engineering commissioning

6.33 The engineering services should be commissioned in accordance with the validation and verification methods identified in the latest HTMs. Engineering services for which a specific HTM is not currently available should be commissioned in accordance with 'Guidance to engineering commissioning' (IHEEM, 1995). Flow measurement and proportional balancing of air and water systems require adequate test facilities to be incorporated at the design stage. Guidance is also contained in a series of commissioning codes published by the Chartered Institute of Building Services Engineers.

Maximum demands

6.34 The estimated maximum demand and storage requirements, where appropriate, for each engineering service will need to be assessed individually to take account of the size, shape, geographical location, operational policies and intensity of use of the facility.

Engineering services (mechanical)

General

6.35 For the purposes of this document, the installation is deemed to include each system from the point of entry to the department to the final connection to service outlets or specific equipment.

Heating systems

6.36 General space heating requirements can be met either by wall-mounted low-pressure hot water radiators or ceiling-located low-pressure hot water emitters. A Building Management System (BMS) should control the heating system to ensure that it is automatically set back or turned off when the department, or zones within the department, is/are not in use. Heating throughout the building should be controlled to a minimum "set-back" temperature of 12–15°C during "out of use" hours.

6.37 Where radiators are used, the designer should consider the use of low surface temperature type, and surface temperature should not exceed 43°C. Exposed heating pipework, accessible to touch, should be encased or insulated. Further information is given in Health Guidance Note (HGN) "Safe hot water and surface temperatures".

6.38 Radiators should normally be located under windows or against exposed walls, with sufficient clear space between the top of the radiator and the window sill to prevent curtains reducing heat output. There should be sufficient space under a radiator to allow cleaning machinery to be used. Where a radiator is located on an external wall, back insulation should be

provided to prevent excessive heat transmission through the building fabric.

6.39 All radiators should be fitted with thermostatic valves of robust construction, selected to match the pressure and temperature characteristics of the system. The thermostatic valve, fitted with a tamper-proof facility for pre-setting the maximum room temperature, should be controlled via a sensor located integrally or remotely as appropriate. To provide frost protection at its minimum setting, the valve should not remain closed below a defined temperature.

6.40 Where appropriate, heating controls should be provided to modulate heating circuit flow temperatures in accordance with external temperature.

6.41 Radiators may also be used to offset building fabric heat losses in mechanically ventilated spaces. The system should be designed to ensure that the heating and ventilation systems operate in a co-ordinated manner and do not cause the space to overheat.

6.42 Ceiling heating panels operate at higher surface temperatures than 43°C as long as the surface is not readily accessible. Heating panels should preferably run around the perimeter of the building. Panels should not be located over beds, patient trolley positions or in other locations where they might radiate directly down on a patient or member of staff for a prolonged period.

6.43 Ceiling panels should be selected to aesthetically match the adjacent ceiling and should be sealed to the adjacent ceiling by means of a gasket or similar.

6.44 Heating loops of ceiling panels should be controlled by automatic valves located above the ceiling and actuated from room thermostats. In large spaces, several loops should be provided, each controlled from its own thermostat, to serve separate zones within the space.

Hot and cold water systems

6.45 Hot and cold water storage and distribution systems should be designed in accordance with the requirements of HTM 2027 and HTM 2040.

6.46 Whilst cold-water storage at high level will be the norm, care should be taken to ensure that all equipment proposed for the facility is capable of operation from the available static head. Where the static head is insufficient, a pressurisation set incorporating dual pumps should be installed.

6.47 All cold-water pipework, valves and fittings should be insulated and vapour-sealed to protect against frost, condensation and heat gain.

6.48 The domestic hot water supply should be taken from the calorifiers installation at a minimum outflow temperature of 60°C ± 2.5°C and distributed to all outlets in a manner that ensures a return temperature to the calorifiers of at least 50°C. Exposed hot water pipework, accessible to touch, should be encased or insulated. See also HGN ‘“Safe” hot water and surface temperatures’.

Ventilation (general)

6.49 Wherever possible, individual spaces should be naturally ventilated. Deep-planned spaces may need mechanical ventilation. Planning should therefore seek to minimise the need for mechanical ventilation by ensuring that, wherever practicable, core areas are reserved for:

- a. spaces that require mechanical ventilation for clinical or functional reasons, irrespective of whether their location is internal or peripheral, for example sanitary facilities, dirty utility and beverage preparation areas;
- b. spaces that have only transient occupation and therefore require little or no mechanical ventilation, for example circulation and some storage areas.

6.50 Air movement induced by mechanical ventilation should be from clean to dirty areas. The design should allow for adequate flow of air into any space having only mechanical extract ventilation, via transfer grilles in doors or walls. Such arrangements, however, should avoid the introduction of untempered air and should not prejudice the requirements of Firecode and privacy.

6.51 Mechanical ventilation should ensure that both supply and extract systems are in balance, and take account of infiltration as appropriate.

6.52 Fresh air should be introduced via a low-velocity system and should be tempered and filtered before being distributed via high-level outlets. Diffusers and grilles should be located to achieve uniform air distribution within the space without causing discomfort to patients.

6.53 A separate extract system will be required for “dirty” areas, for example toilet facilities and dirty utilities. It should operate throughout working hours. A dual motor fan unit with an automatic changeover facility should be provided.

6.54 External discharge arrangements for extract systems should be protected against back pressure from adverse wind effects and should be located to avoid reintroduction of exhausted air into this or adjacent buildings through air intakes and windows.

6.55 Further detailed guidance is contained in HTM 2025.

Building management systems

6.56 All engineering plant and equipment associated with providing the internal environment should be monitored and regulated by a BMS in accordance with the provisions of HTM 2005. The BMS should also monitor, measure and record energy consumption for the facility.

Piped medical gases and vacuum

6.57 Guidance on piped medical gas systems, anaesthetic gas scavenging and gas storage is contained in HTM 2022.

Engineering services (electrical)**General**

6.58 Electrical installations should comply with BS 7671 (IEE Regulations, 16th edition) together with BS 7671 Guidance Note 7 (Special Locations), and HTMs 2007, 2011, 2020 and 2021.

6.59 Care should be taken to avoid mains-borne interference and electrical radio frequency interference affecting diagnostic and monitoring equipment, computers or other sensitive electronic equipment. Guidance on the avoidance and abatement of electrical interference is given in HTM 2014.

Emergency electrical supplies

6.60 Emergency electrical provision should comply with the requirements of HTM 2011.

6.61 If an existing generator is to be used, the ability to provide 100% emergency coverage will be dependent on the spare capacity available. If this minimum requirement cannot be met, it will be necessary to replace the existing generator with a larger set, provide an additional generator that can be run in parallel, or provide an additional generator dedicated to the facility.

6.62 Equipment and systems that cannot tolerate the delay inherent in bringing an emergency generator supply on line should be further protected against generator start-up delays by the provision of uninterruptible power supplies.

6.63 In the event of a main supply or local final circuit failure, escape routes should be illuminated by self-contained, battery-powered luminaires charged continuously from the main supply and capable of providing illumination for a period of three hours.

Small power distribution systems

6.64 In medical locations, particular note should be taken of guidance given in section 10 of the IEE Guidance Note 'Special Locations'.

6.65 In non-medical locations, 13-amp switched and shuttered socket-outlets in accordance with the normal requirements of BS 7671 and the room data sheet specifications should be provided.

6.66 Wherever possible, cables and cable containment systems should be concealed behind walls and ceilings.

6.67 Where equipment is permanently installed or where there is a possibility of equipment theft, for example televisions in staff rest rooms, switched double-pole 13-amp spur outlets should be used in preference to socket-outlets. The spur outlet should incorporate a red neon lamp indicating when the supply to the equipment is live.

6.68 Adequate provision should be made in circulation areas, for example corridors and lobbies, to permit the use of domestic cleaning equipment having flexible cords up to 9 m long.

6.69 Isolation switches should be provided immediately adjacent to all engineering plant and equipment, clearly labelled to identify the equipment that they relate to.

6.70 Heating appliances and automatic equipment should be provided with red neon lamps indicating when they are energised. The neon lamps should be incorporated in the control panel of the equipment, in the control switch, or in the socket-outlet or spur unit from which the equipment derives its supply.

Lightning protection

6.71 A risk assessment should be carried out for the building in accordance with BS 6651. A lightning protection system should be provided that links all roof-mounted equipment and structural steel. Where possible, the building structure should be used for the main lightning protection conductors.

6.72 Transient over-voltage protection should be provided on the main low voltage (LV) switchboards and on distribution boards supplying sensitive equipment.

Lighting (general)

6.73 To achieve energy efficiency, lighting systems should be designed to:

- a. maximise natural daylight;
- b. avoid unnecessarily high levels of illumination;
- c. incorporate efficient luminaires, control gear and lamps;
- d. incorporate effective controls.

See the CIBSE Guide 'Energy Efficiency in Buildings' for further information.

6.74 For detail regarding illumination levels, designers should consult the CIBSE Lighting Guide LG2, 'Hospitals and Health Care Buildings', BS EN 60598-2-25:1995, and IEC 60598-2-25: 1994.

6.75 Lighting within the facility should be co-ordinated with architectural design. In particular, there should be collaboration to ensure that decorative finishes are compatible with the colour-rendering properties of lamps and that the spectral distribution of the light source is not adversely affected. See also 'Lighting and colour for hospital design – a report on an NHS-funded research project' (Dalke et al, NHS Estates, 2004).

6.76 Lighting switches should be provided in easily-accessible positions within each area, and at appropriate locations in corridors and general circulation areas. In areas with multiple luminaires, switching should permit the selection of luminaires appropriate only to that area requiring illumination.

6.77 Where local circumstances permit, the provision of time switches or occupancy controls using infrared, acoustic or ultrasonic detectors should be considered.

6.78 Generally, luminaires should be fitted with fluorescent lamps equipped with low-loss or high-frequency control gear. Where luminaires are infrequently used, or where the design intent of the architect in respect of ambience dictates, compact fluorescent, LV or tungsten lamps may be used. Where necessary, general lighting should be supplemented with dedicated task lighting.

6.79 In areas where visual display terminals are in use, lighting should be designed to avoid any bright reflections from the screen. Generally, the lighting in such circumstances should comply with the guidance given in CIBSE Lighting Guide LG3.

6.80 Safety escape lighting should be provided on primary escape routes in accordance with the provisions of HTM 2011 and the CIBSE Lighting Guide LG2, 'Hospitals and Health Care Buildings'.

Lighting consultation/examination and treatment rooms

6.81 An examination luminaire should be provided over the treatment chair/table. It should be adjustable in pitch and rotation to allow the beam to be directed locally, and should provide reasonably shadow-free illumination with minimum heat gain to avoid injury to patients and staff. The examination luminaires should be manufactured and tested in accordance with the requirements specified in BS EN 60598-2-25.

Controlled Drugs (DDA) cupboard

6.82 Drugs cupboards should be provided to BS 2881 'Specification for cupboards for the storage of medicines in healthcare premises'. The controlling pharmacist should confirm the position, type and size. Further information is also provided in HTM 63.

6.83 Each Controlled Drugs cupboard should be fitted with a red lamp indicating when the cupboard is unlocked. A repeater lamp should be sited outside the doorway of the room in which the cupboard is located. If appropriate, a secondary repeater should be taken to a permanently staffed station.

6.84 The normal supply for each cupboard should be backed up by a battery to cover the short period between mains failure and the essential standby supply becoming available.

Security systems

6.85 The entrance(s) to the facility should be protected by one of the variety of electronic access control systems available.

6.86 Rooms in which members of staff are likely to be alone with adult members of the public, for example relatives, should be equipped with panic alarm buttons that can signal difficulty to a location that is permanently staffed whilst the department is in use.

Personal alarm transmitters

6.87 Local security policies should determine at the planning stage whether or not staff are to be issued with personal alarm transmitters. If personal alarm transmitters are not "self-contained", conduits and accommodation for transmitting/receiving equipment and propagating devices, such as induction loops and/or aerials, will be required to suit the selected system.

Patient/staff and staff/staff call systems

6.88 The patient/staff and staff/staff call systems may be hard-wired or radio systems. Further guidance is contained in HTM 2015.

6.89 Patient/staff call points should be provided in all spaces where patients may be left alone temporarily, such as consultation/examination/treatment rooms and patient WCs. Each call unit should comprise a push button or pull cord, reassurance lamp and reset unit. The audible alarm signal initiated by patients should operate for one second at ten-second intervals, with corresponding lamps lit continuously until cancelled.

6.90 Staff/staff call points should be provided in all spaces where staff consult, examine and treat patients. Call units should generally comprise a switch (pull to

call, push to reset) and reassurance lamp. The audible alarm signal initiated by the staff should operate intermittently at half-second intervals, with corresponding lamps flashing on and off at the same rate.

6.91 A visual and audible indication of the operation of each system should be provided at a suitable staff base to give responding staff unambiguous identification of the call source, with a repeater unit in the staff rest room. Further guidance is contained in HTM 2015.

Communications systems

6.92 It may be beneficial to integrate voice cabling with the structured wiring system for IT if provided. Where a cabling system supporting voice/data is not available, the existing hospital block wiring should be extended to serve telephones within the department.

6.93 The approach to provision of IT and telephone infrastructure within the facility may be conditioned by existing systems within the hospital. However, where possible, a structured wiring system as described in the HGN ‘Structured cabling for IT systems’ should be provided. This will permit a unified approach to the provision of cabling.

6.94 The telephone system should be capable of use as an intercommunication system between the various areas within the facility using abbreviated dialling code techniques.

6.95 Coin- and/or card-operated payphones should be provided in the reception area for waiting relatives and visitors. Payphones should incorporate acoustic hoods to facilitate privacy. The payphone should be positioned to facilitate use by disabled people.

Clocks

6.96 Clocks may be of impulse, synchronous or battery/quartz type, except in any critical care areas, where they should display “real time”, “elapsed time” and have a sweep seconds hand.

Music and television

6.97 Conduits for television/video and background music system outlets should be provided in the main waiting area, and other areas as required, for example patient bedhead services.

Internal drainage

6.98 A system of soil and waste drainage including anti-siphon and ventilation pipework should be provided in accordance with BS EN 12056. Where plastic pipework materials are used, suitable intumescent collars should be fitted when breaching fire compartments, and

acoustic wrapping should be applied where drainage runs above wards and other sensitive areas.

6.99 The gradient of branch drains should be uniform and adequate to convey the maximum discharge to the stack without blockage. Practical considerations such as available angles of bends, junctions and their assembly, as well as space constraints, will normally limit the gradient to about 1:50 (20 mm/m). For larger pipes, for example 100 mm in diameter, the gradient may be less, but this will require high-quality workmanship if an adequate self-cleaning flow is to be maintained.

6.100 Bedpan washers or macerators should discharge with a short branch to a vertical stack or horizontal drain. The waste pipe should not be installed above or close to heating or hot water mains. If a bedpan washer or macerator discharges to a 100 mm drain, frequently-used large-volume appliances should be situated upstream of its connection to provide additional flushing.

6.101 Provision for inspection, rodding and maintenance should ensure “full bore” access and be located outside user accommodation. The location of manholes within the building should be avoided.

SPECIFIC ENGINEERING SERVICES FOR HYDROTHERAPY POOLS

Mechanical services

6.102 The mechanical services in the hydrotherapy suite cost allowance (see Chapter 7) include providing the following:

- a. supply and extract ventilation systems and air handling plant, including integral heat pump for energy recovery;
- b. pool water circulation system, including pumps, pipework, strainer, filter with back-wash control valve and heating calorifier;
- c. pool accessories, including pool cover, skimmer units, inlets, outlets and drain connections, water “make-up” system;
- d. pool water treatment equipment and associated control systems.

Heating

6.103 Because of the chemically aggressive high humidity levels that are a persistent and inherent feature of the hydrotherapy pool hall, it is recommended that radiators or low-pressure hot water radiant panel heaters should be avoided. The fabric losses for this space should be dealt with by the ventilation system.

Ventilation of hydrotherapy suite

6.104 The hydrotherapy pool hall should have a supply and extract ventilation system dedicated to this accommodation. The relatively high ventilation rates and air temperatures necessary within the pool hall justify the provision of equipment to recover some of the heat energy that would otherwise be discharged by this system.

6.105 The diffusion of high air temperature from the pool hall into the ancillary changing and recovery accommodation should be achieved by creating a positive air movement from the ancillary accommodation into the pool hall.

6.106 In order to reduce condensation on the building fabric (especially windows), the supply air to the hydrotherapy pool hall should be introduced at high level and directed to circulate down the windows and wall structure of the hall. With this arrangement, the extracts would be positioned directly over the pool.

6.107 The supply air rate for a hydrotherapy pool should be based upon the total wetted surface area of the pool plus 10%. Project teams should take account of water vapour evaporation from the surface of a hydrotherapy pool, which will be greater than that from a conventional swimming pool due to the comparatively higher pool water temperature. It is recommended that approximately 20% of air supplied to the pool should be fresh air.

6.108 The materials selected for the supply and extract ductwork and accessories for the hydrotherapy pool ventilation system should be suitable to endure the humid and chemically aggressive environmental conditions.

Controls for hydrotherapy suite ventilation system

6.109 The supply and extract ventilation fans to the hydrotherapy pool hall should be interlocked so that the supply fan will not operate unless an air flow is established within the extract system.

6.110 The supply and extract ventilation for the hydrotherapy suite should be time-clock controlled to relate to the normal hours of the operations of the suite. A local override switch may be provided to permit staff to reactivate the plant on an extended day basis as required.

6.111 Outside the normal hours of operation of the hydrotherapy suite, when the pool cover will be in place, the rate of evaporation from the pool surface will be greatly diminished but not completely eliminated. In order to prevent excessive condensation on the building fabric, especially glazing, the pool hall ventilation system should be provided with both a night set-back

temperature control and a high humidity control. Either of these should override the time-clock control and automatically operate the system for such periods as are necessary to restore the desired set-back conditions. The actual set-back levels will need to be ascertained by experiment to suit local site conditions, but settings within a temperature range of 21–25°C and a relative humidity range of 60–75% are likely to be suitable.

6.112 In order to assist the users with the day-to-day monitoring of the pool temperature and environmental conditions, consideration should be given to providing a remote indication panel, located in the pool hall, giving visual display of the pool water temperature and the pool hall air temperature and relative humidity.

Plantrooms

6.113 It is recommended that the pool water treatment and circulation plant be segregated in a separate enclosure from the pool hall ventilation equipment. These plantrooms can be located adjacent to each other or be a sub-division of a larger space, but it is not necessary for them to be located at the same level. External access to these plantrooms is required for servicing and maintenance.

6.114 It is normally preferable for the pool water plantroom to be at ground or semi-basement level. The shape and relative height of the pool hall may permit the ventilation plant to be installed within a roof level plant or enclosure adjacent to the pool hall, and such an arrangement could minimise the length of the ductwork routes to and from the pool hall and associated changing areas.

6.115 Special provision should be made within the pool water plantroom for the chemicals used for pool water treatment. Only chemicals for immediate use should be kept here. Separate banded areas sited as far apart as possible should be provided for each of the chemicals so that they may be effectively segregated, retained and used in a safe manner. This is particularly important when sodium hypochlorite and acid reagents are used, as they react together to produce chlorine gas. To comply with health and safety recommendations, an emergency “walk under” drench shower with eye-wash provision should be provided within this plantroom.

6.116 Ventilation to the pool water treatment plantroom will be required to relieve both the atmospheric contamination associated with the dispensing and/or possible accidental spillage of water treatment chemicals, and excess temperature/high humidity which will arise from the plant operating conditions. Any local mechanical extract discharge arrangement should be located to avoid re-introduction of exhausted air into the building through air intakes and windows.

6.117 A wash-down and hose point should be provided for the dispersal of any chemical spillage and for general cleaning. This should be installed to comply with local water regulations, including the provision of suitable anti-contamination fittings.

Hydrotherapy pool water circulation system

6.118 The pool water circulation system should ensure an even distribution of water through the pool and minimise any “dead” zones.

6.119 A single in-line strainer unit should be provided immediately prior to duplicate circulating pumps. The pump performance characteristic should be compatible with the requirement for back-washing the filter as well as the circulation duty when the filter is offering maximum resistance immediately prior to back-washing.

6.120 A filtration system should be provided with vent, pressure gauges for measuring inlet and outlet pressures, inlet and outlet water sampling points, and a flow-rate indicator. It should also include an appropriately sized pipework assembly so that back-washing utilises pool water to ensure disinfection of the filter media.

6.121 The heat exchanger should be capable of maintaining the pool temperature at a selected operating point within the range 34°C–40°C, and to a control tolerance of +1°C. When bringing the pool up to operating conditions after a cold fill, the rate of temperature rise should be restricted to a maximum of 1.5°C per hour to avoid condensation. A manually operated regulating by-pass valve will be required to set the correct flow rate through the heat exchanger, and a flow rate indicator should be provided for this purpose.

6.122 A break tank should be provided for pool water make-up and should include an automatic self-levelling and make-up system.

6.123 A separate outlet should be provided below normal water level, at a suitable position in the pool wall, connected via a manually-operated shut-off valve to the strainer unit. This will permit portable fittings to be plugged in for suction cleaning of the underwater surfaces of the pool.

Hydrotherapy pool water treatment plant

6.124 Continuous disinfection of the hydrotherapy pool water is essential to control water quality within acceptable limits. Detailed guidance on the microbiological aspects of the health risks and the advantages and disadvantages of the various options for chemical dosing treatments are given in ‘Hygiene for Hydrotherapy Pools’ (Public Health Laboratory Service, 1999).

6.125 The injection pumps should be automatically controlled, preferably using an electronic control system which responds to the free chlorine level in the pool. The controls should continuously monitor and display the pH and total chlorine level and should also incorporate features to vary the required set-point and compensate for variation in pool water temperature. In addition, the injection pumps should be interlocked with the pool water circulation to prevent the continuation of dosing should there be a cessation or substantial reduction of flow. This interlocking system should be designed to “fail safe”.

6.126 The sampling chambers should be of a construction suitable for operating at the elevated pool water temperature and have removable sampling bowls. The outlets from the sampling chambers should be valved and may be returned to the remote balancing tank if this is provided or, alternatively, run to a drain.

6.127 In addition to the above fixed equipment, a pool water test kit should be provided which is suitable for manually sampling and testing the pool water for residual free chlorine, pH level, alkalinity and hardness.

Patient hoist for hydrotherapy pool

6.128 A power-operated patient hoist, traversing over the pool, will be required. The hoist should give smooth lifting, lowering and automatic braking action and have upper and lower limit safety stops. The upper limit stop should ensure the safety of sitting patients. The lifting speed should not exceed 50 mm per second. The power unit and control gear should be totally enclosed and suitable for long periods of trouble-free operation in the humid, corrosive pool atmosphere. All moving parts of the hoisting unit should be protected from the reach of the patient.

6.129 The hoist may be electrically or hydraulically operated and may either be suspended and operate along an overhead beam or be floor-mounted.

6.130 The track, trolley, slings, spreader bars, harness and other parts of the hoisting assembly should be designed for a long, trouble-free life, and particular care should be taken in the design and construction of the stitchings and fastening of those parts of the assembly which will be subject to immersion in the pool. All nuts should be fitted with either lock nuts or lock washers, or corrosion-resistant self-locking nuts may be used.

6.131 If the hoist is electrically operated, special precautions are required to protect the patient and operating staff against the danger of electric shock.

6.132 Any transformer or earth-proving units should preferably be located outside the pool hall.

6.133 The patient hoist controls should comply with the relevant IEE Regulations for Electrical Installations.

6.134 An independent emergency stop control should be provided. It should be located in a position convenient to the operator and should be cord-operated and distinctly coloured and marked. Hand re-setting will be necessary.

Electrical services

Introduction

6.135 In practice the electrical switchroom for the hydrotherapy suite will usually be adjacent to the hydrotherapy pool plantrooms.

Electrical installations

6.1376 Special attention should be given to guidance contained in IEE Special Locations, Guidance Note 7, Amendment 2002, Chapter 2 with regard to pool areas.

6.137 Within the hydrotherapy pool area and associated water treatment plantroom, any exposed services should be of PVC or similar finish to avoid corrosion by humid and chemically aggressive atmospheric conditions. Mineral-insulated PVC sheathed cables may be used providing cable glands are fully shrouded.

Lighting

6.138 In the hydrotherapy pool area, the general lighting luminaires should be splash-proof (IP54 degree or protection as classified in BS EN 60529:1992) and made from a non-corrosive material. Consideration should be given to maintenance with, ideally, no luminaires positioned immediately over the pool itself. With a high ceiling level in the pool hall, wall-mounted luminaires are one option, but care should be taken to avoid problems with glare. This could be alleviated by uplighting but, to achieve the required illumination levels, this may involve having to use floodlights as uplighters.

6.139 Any luminaires (other than those operated at safety extra low voltage (SELV)) that are installed above the pool or the area within 2000 mm of the pool, should be installed at a height greater than 2500 mm above the floor/access level.

6.140 Any luminaires installed over the area between 2000 mm and 3500 mm from the pool should either be class II or should be installed at a height greater than 2000 mm above the floor/access level.

6.141 Within the physiotherapy activity area with high ceilings, consideration again should be given to using wall-mounted luminaires to provide convenient access for maintenance. These luminaires should be manufactured from materials having good resistance to impact damage.

6.142 Within the occupational therapy activity areas fluorescent lighting should generally be provided, and be circuited to avoid stroboscopic effects where rotating machinery is used. Ceiling-mounted luminaires positioned above work-benches and equipment are preferable to portable lamps for task lighting. When maximum flexibility of use is required, such as in the light activities area, it may be advantageous to install ceiling-mounted power track. This will allow task lighting and power supplies for portable therapy equipment to be directly accessible without the hazard of trailing cables, and has the potential for changing lighting patterns to suit other group activities.

Socket-outlets and floor-cleaning equipment in the hydrotherapy pool hall

6.143 Socket-outlets will usually be required within the hydrotherapy pool hall for floor-cleaning machines. These should be sited at least 2000 mm, and preferably 3500 mm, away from the edges of the pool water surface and should be industrial-type sockets, as classified in BS EN 60309-2. They should be connected via an integral or adjacent residual current protective device complying with BS 4293, having a residual operating current not exceeding 30 mA.

6.144 As a further safety precaution, all 230 V floor-cleaning equipment should be fitted with a restraining lanyard, sliding along a secure wire fixed to the pool structure, of a length permitting operation of the equipment but short enough to prevent it falling into the pool.

Power connection for pool counter-current unit (optional facility)

6.145 If a counter-current unit is to be provided (see [paragraph 5.78](#)) it should be connected via an appropriately rated residual current protective device having a residual operating current not exceeding 30 mA. The electrical controls, which may be incorporated within the unit assembly, should be of a type which provides at least IP44 degree of protection, as classified in BS EN 60529:1992, and also protects the operating staff against the danger of electric shock. The controls may be pneumatically operated or electrically operated at a safety extra low voltage (SELV) not exceeding 12 V (RMS) using an earth-free source and circuits which comply with the relevant IEE Regulations for Electrical Installations.

Internal drainage

Design parameters

6.146 Depending on local circumstances, special consideration may have to be given to the size of the drainage connection from the hydrotherapy pool to deal with the flow rates associated with filter back-washing and pool emptying.

7 Cost information

INTRODUCTION

7.1 For all types of health building, it is important that building costs and revenue expenditure are best value and consistent with acceptable standards. In applying the guidance in this document to determine a detailed design, the need for economy should always be of prime concern, and the activities should be carefully considered so that, where appropriate, space can be shared for similar activities which are programmed to take place at different times. The solution should not be detrimental to the proper functioning of the spaces involved, nor to the needs of the users. Within this general context, this series of documents provides a synopsis of accommodation for health buildings which the Department of Health recommends for the provision of a given service.

DEPARTMENTAL COST ALLOWANCE GUIDES

7.2 Departmental Cost Allowance Guides (DCAGs) related to this HBN are officially notified in *Quarterly Briefing*, published by NHS Estates. A full listing of all DCAGs is published in the Healthcare Capital Investment document – a copy of which can be obtained from NHS Estates (<http://www.nhsestates.gov.uk>).

7.3 The attention of the project team is drawn to guidance given in the Capital Investment Manual (Business Case Guide) published by The Stationery Office. This process is intended to reduce unnecessary and often expensive planning work that may subsequently prove to be abortive, and emphasises the necessity for a sound business case in support of both the capital and the revenue expenditure involved. The Capital Investment Manual also states that the capital works estimate of the intended scheme should be based, wherever applicable, on industry norms such as the DCAGs plus a percentage to cover for on-costs.

7.4 The DCAGs for this HBN reflect the total building and engineering requirements and accommodation that the rehabilitation department will require when incorporated into an acute general hospital where the common use of services will be available. Costs are based on a typical two-storey new-build unit, on a greenfield site with no planning constraints.

7.5 DCAGs are exclusive of VAT, Building and Planning Fees and all Local Authority charges, and are based on a Location Factor of 1.

ON-COSTS

7.6 It is important to bear in mind that an allowance for on-costs should be added to the DCAGs for all units, this element being for external works, external engineering services and abnormalities etc. The abnormalities will largely be determined by the characteristics of the site, such as an inner-city location or poor ground conditions, or the condition and type of the existing building if refurbishment is the only option.

7.7 A rehabilitation department may have a unique range of on-cost requirements additional to those normally expected for a department within an acute general hospital. These are predominantly associated with the outdoor activity needs of physiotherapy and occupational therapy patients. Examples of possible requirements are as follows:

- paths with varying slopes, varying grass slopes, areas containing gravel, tarmac and concrete – all for walking practice;
- steps – also for walking practice;
- an area for outdoor manual work, for example digging or sawing;
- raised flower beds of varying height;
- containers for growing plants – placed on the ground or pavement area;
- a small greenhouse;
- a paved area for wheelchair practice, other mobility, and sitting.

7.8 It is important that project teams should assess at the earliest opportunity all the likely on-cost implications of individual sites and schemes.

LOCATIONAL FACTORS

7.9 Locational factor adjustments may be applied to the Works Costs (that is, the total of the DCAGs plus established on-costs) to take into account the local

market conditions. For further information regarding these, please refer to the latest Regional Location factors in *Quarterly Briefing*, published by NHS Estates.

FUNCTIONAL UNITS

7.10 The schedules of accommodation listed at the end of this chapter have adopted a modular approach to the planning of appropriate units to enable project teams to “pick and mix” those facilities that are required.

7.11 Using this modular approach, examples have been built up for both a small and a large theoretical hospital department. The areas given are for guide purposes only and will alter depending on the design solution. DCAGs have been calculated using the example units as a cost base.

7.12 It is not expected that any of the main rehabilitation departments, with the exception of the hydrotherapy suite, will be built as stand-alone units, but that they will form a comprehensive service at each location. However, the possibility of building less than a full service has not been eliminated. The hydrotherapy suite may be built as an addition to an existing department.

DIMENSIONS AND AREAS

7.13 In determining spatial requirements, the essential factor is not the total area provided but the critical dimensions, that is, those dimensions critical to the efficient functioning of the activities which are to be carried out. To assist project teams in preparing detailed design solutions for the rooms and spaces, studies have been carried out to establish dimensional requirements in the form of critical dimensions. The results of these studies appear as ergonomic diagrams in Health Building Note 40 Volumes 1–4.

7.14 For development planning and at the earliest stage of a design, it may be convenient for designers to have data available which will enable them to make an approximate assessment of the sizes involved. For this reason, the areas prepared for the purpose of establishing the cost allowances are listed in the schedules of accommodation found at the end of this chapter.

7.15 It is emphasised that the areas published do not represent recommended sizes, nor are they to be regarded in any way as specific individual entitlements.

7.16 Planning of the building efficiently may also necessitate variation of areas, for instance, in the refurbishment or conversion of older property:

a. rooms tend to be larger than the recommended area;

b. some rooms may be too small or in the wrong location for efficient use;

c. circulation space tends to form a larger-than-normal proportion of the total area.

CIRCULATION

7.17 Space for circulation, that is, all internal corridors, small vertical ducts and spaces occupied by partitions and walls, is included at 23% for all units except the hydrotherapy suite, which is included at 10%.

7.18 Provision is also made for a 5% planning zone and a 3% addition for an engineering zone adjacent to the external walls. These areas are all included and therefore costed in the DCAGs.

7.19 It is also important to remember that the circulation figures included in the DCAGs for this type of accommodation are those anticipated for new purpose-built premises with no constraints. Where constraints are encountered, for example in refurbishment or conversion of older types of property, this circulation figure would be likely to increase accordingly, and therefore some adjustment may be necessary to the circulation figure.

COMMUNICATIONS

7.20 Staircases and lifts are not included in the DCAGs relevant to this department. Costs related to these elements, along with a suitable space allowance, should be included in the on-costs.

LAND COSTS

7.21 As is the norm for DCAGs, costs are exclusive of all land costs and associated fees. However, the project team's attention is drawn to the fact that costs associated with these should be included in the Business Case submission, all as detailed in the Capital Investment Manual, and could therefore be an important part of the overall cost viability of the scheme.

ENGINEERING SERVICES

7.22 The following engineering services, as described in Chapter 6, are included in the cost allowances. Primary engineering services are assumed to be conveniently available at the boundary of the department.

Mechanical services

7.23 Heating: low-pressure hot water heating system with thermostatic radiator control, maximum touch temperature 43°C.

7.24 Ventilation: mechanical supply and extract to meet the clinical and functional requirements.

7.25 Cold water service: centrally supplied to service points including drinking water and hose reels. Storage tanks are not included.

7.26 Hot water service: supplied from a central storage system with thermostatic mixing valves at outlets. Storage is not included.

7.27 Medical gases: piped supplies of oxygen and medical vacuum to treatment room.

Electrical services

7.28 Departmental distribution switchboard.

7.29 Building management system.

7.30 Lighting system: general lighting as required by tasks. Fluorescent, tungsten-halogen, safety and emergency luminaires as appropriate.

7.31 Power system: socket-outlets and other power outlets for fixed and portable equipment. Supplementary equipotential earth bonding connections. Standby and safety installations from the main hospital supplies.

7.32 Alarm systems: fire, security, medical gases and drug cupboard.

7.33 Clocks.

7.34 Staff location: extension from hospital system.

7.35 Staff/staff and patient/staff call system.

7.36 Telephone: conduits, cabling and outlets, but excluding instruments (handsets, payphones etc).

7.37 Data transmission: conduits only.

7.38 Television and background music: conduits to and outlets in main waiting area.

7.39 Departmental building management system.

Equipment (Group 1)

7.40 X-ray viewers in consultation/examination and treatment rooms.

7.41 Controlled Drugs cupboard.

7.42 Water boiler.

7.43 Dishwasher.

SCHEDULES OF ACCOMMODATION

7.44 The schedules are split into three distinct elements.

The schedule of room/space types

7.45 This lists all room/space types and major options covered by the document giving a range of provision,

when appropriate, together with a nominal area. These are grouped by the functional use of the spaces.

The schedule of suites/modules

7.46 This lists functional groupings of spaces. These form complete suites/modules of accommodation and can be provided either separately or as grouped accommodation with shared supporting accommodation. SUITES/MODULES are functional associations and not physical groupings.

7.47 Accommodation solely related to any suite/module is listed under the **Core Requirement** for that suite/module whilst accommodation that can either be provided for a particular suite/module or shared between two or more suites/modules is listed under **Essential Complementary/Shared Accommodation (ECA)**. The area allowance given may form part of a larger activity area. Where there is an option to include accommodation within a suite/module or a major option on how that accommodation is provided it is listed under **Optional Accommodation**.

7.48 These schedules include the appropriate nominal area taken from the schedule of room/space types above together with a suggestion for the number of spaces required.

7.49 Percentage allowances covering planning, engineering and circulation are also included in the totals.

7.50 These percentage increases to the nominal areas are included in ECA and Optional gross area allowances.

7.51 The functional groups used for this document are as follows:

- Entrance and Reception facilities
- Visitors' and patients' sanitary facilities
- Administration facilities
- Clinical/therapy facilities
- Physiotherapy facilities
- Hydrotherapy facilities
- Occupational therapy facilities
- Activities of daily living (ADL) facilities
- Speech and language therapy facilities
- Podiatry facilities
- Complementary therapy facilities (Optional)
- In-patient accommodation facilities

- Staff accommodation facilities
- Patient library/Information facilities
- Support facilities
- Rehabilitation engineering facilities
- Orthotics facilities: Repair/Adjustment
- Orthotics facilities: Supply and fitting

Examples

7.52 These schedules show example notional whole unit accommodation to highlight the scope for sharing accommodation.

7.53 The examples are not to be taken as ideal provision for any particular project.

7.54 The examples included are as follows:

- **Example 1:** Unit with all therapy disciplines excluding rehabilitation engineering and Orthotics facilities;
- **Example 2:** Larger unit with all therapy disciplines including rehabilitation engineering and Orthotics facilities.

NOTE: The schedules of accommodation in this document are up-to-date at the time of publication; however, they are now available and updated on the Knowledge Information Portal (KIP). To ensure that you are using the most recent information possible, please check the information on KIP.

Access to KIP is by password only.

If you do not already have a password for access to KIP, please contact:

Erica.Ricks@dh.gsi.gov.uk

HBN 8 – FACILITIES FOR REHABILITATION SERVICES: ROOM/SPACE TYPE SCHEDULE

Activity space	Area	Para ref	Notes
Entrance & reception facilities			
Entrance canopy area	–	Para 5.17	–
Entrance draught lobby	11.0	Para 5.17	–
Public telephone facility	1.5	Para 5.21	–
Public telephone facility (wheelchair accessible)	2.0	Para 3.9, 5.21	–
Wheelchair parking bay: 3 wheelchairs	2.0	Para 5.21	–
Reception: 2 position	10.0	Para 5.19	–
Reception: 3 position	13.0	Para 5.19	–
Cloakroom: 24 places	7.0	Para 5.25	–
Cloakroom: 36 places	10.0	Para 5.25	–
Waiting facilities			
Waiting area: 3 places, incl. 1 wheelchair place	6.0	Para 5.35, 5.59	–
Waiting area: 10 places, incl. 3 wheelchair places	19.5	Para 5.21	–
Waiting area: 15 places, incl. 5 wheelchair places	30.0	Para 5.21	–
Children's waiting play area: 3 places	8.0	–	–
Counselling, interview & consulting/examination facilities			
Consulting/examination room: dual sided couch access	16.5	Para 5.36, 5.136	–
Rehabilitation clinical/therapy facilities			
Rehabilitation interview, assessment & treatment room	10.0	Para 5.37, 5.136	–
Splint preparation & treatment room	19.0	Para 5.55, 5.133	–
Physiotherapy facilities			
Physiotherapy activity area: 5 places	50.0	Para 5.39	–
Physiotherapy activity area: 10 places	80.0	Para 5.39	–
Physiotherapy activity area: 15 places (incl. gym accommodation)	100.0	Para 5.39	–
Physiotherapy activity area: 20 places (incl. gym accommodation)	120.0	Para 5.39	–
Physiotherapy ward therapy area (incl. gym accommodation)	15.0	Para 5.137	–
Physiotherapy individual treatment room	12.0	Para 5.52	–
Physiotherapy individual UVL treatment room	12.0	Para 5.52	–
Physiotherapy multi-treatment area: 10 places	100.0	Para 5.49	–
Physiotherapy multi-treatment area: 15 places	150.0	Para 5.49	–
Wax treatment & ice preparation room	16.0	Para 5.53	–
Physiotherapy activity area equipment store	6.0	Para 5.57	–
Physiotherapy activity area equipment store	9.0	Para 5.57	–
Physiotherapy activity area equipment store	12.0	Para 5.57	–
Physiotherapy treatment cubicle equipment store	6.0	Para 5.57	–
Hydrotherapy facilities			
Staff base incl. resuscitation trolley: 2 places	6.0	Para 5.59	–
Patient transfer area	6.0	Para 5.59	–
Patient trolley/wheelchair parking bay: 2 trolleys & 4 wheelchairs	5.0	Para 5.59	–
Hydrotherapy pool ambulant user access shower	2.5	Para 5.83	–
Hydrotherapy pool trolley user access shower	10.0	Para 5.83	–
Hydrotherapy pool area	92.5	Para 5.60	–
Hydrotherapy pool equipment store	7.0	Para 5.85	–
Hydrotherapy pool laundry/utility room	10.0	Para 5.86	–
Hydrotherapy pool water treatment & circulation plantroom	18.0	Para 5.87	–
Hydrotherapy pool ventilation plantroom	20.0	Para 5.87	–
Patient recovery/rest area: 4 places	25.0	Para 5.81	Includes beverage & drinking water facilities

Activity space	Area	Para ref	Notes
Occupational therapy facilities			
Occupational therapy light activities area: 10 places	70.0	Para 5.90	–
Occupational therapy light activities area: 15 places	110.0	Para 5.90	–
Occupational therapy heavy activities area: 5 places	50.0	Para 5.97	–
Occupational therapy heavy activities area: 10 places	90.0	Para 5.97	–
Occupational therapy ward therapy area	15.0	Para 5.137	–
Occupational IT therapy room: 2 places	10.0	Para 5.103	–
Occupational IT therapy room: 3 places	15.0	Para 5.103	–
Occupational therapy on-going work store	7.0	Para 5.108	–
Occupational therapy on-going work store	14.0	Para 5.108	–
Occupational therapy materials & equipment store	20.0	Para 5.109	–
Occupational therapy timber & metal store	20.0	Para 5.107	–
Community disability equipment store	20.0	Para 5.110	–
Assessment wheelchair store: 10 wheelchairs	15.0	Para 5.112	–
Activities of daily living (ADL) facilities			
ADL bedroom with living assessment	18.0	Para 5.116	–
ADL bedroom	15.0	Para 5.116	–
ADL bathroom & shower	13.0	Para 5.117	–
ADL kitchen	22.0	Para 5.120	–
ADL utility & laundry	11.0	Para 5.123	–
Speech & language therapy facilities			
Individual speech therapy room	15.0	Para 5.124	–
Group speech therapy room: 10 places	24.5	Para 5.126	–
Speech therapy treatment viewing room	5.0	Para 5.127	–
Speech therapy equipment store	6.0	Para 5.128	–
Podiatry facilities			
Podiatry treatment room with patient changing	15.0	Para 5.129, 5.130	–
Rehabilitation engineering facilities			
Wheelchair assessment area	40.0	Para 5.162	–
Wheelchair workshop	40.0	Para 5.162	–
Wheelchair assessment area store	60.0	Para 5.162	–
Wheelchair workshop store	20.0	Para 5.162	–
Orthotics repair/adjustment facilities			
Orthotics repair & adjustment workshop	24.0	Para 5.165	–
Orthotics workshop store	7.0	Para 5.165	–
Orthotics supply & fitting facilities			
Orthotics consulting/examination/fitting room	14.0	Para 5.165	–
Orthotics supply store	25.0	Para 5.165	–
Clinical support facilities			
Clean utility	9.0	Para 5.152	–
Dirty utility	9.0	Para 5.153	–
Patient library/information facilities			
Patients' education room/information centre: 2 workstations	15.0	Para 5.147	–
Visitors' & patients' support facilities: Sanitary/changing			
Visitors' & patients' dual access wheelchair accessible WC	5.5	Para 5.23, 5.84	–
Visitors' & patients' WC	2.5	Para 5.23	–
Nappy change room	4.0	Para 5.23	–
Patients' changing room incl. shower: 10 places	15.5	Para 5.38	–
Patients' & staff changing room: 8 places	16.0	Para 5.79	–
Visitors' & patients' support facilities: Catering			
Drinking water dispenser facility	0.5	–	–
Refreshment vending machine bay	3.0	–	–

Activity space	Area	Para ref	Notes
Staff support facilities: Offices			
Administration office	10.5	Para 5.27	–
Administration office: 2 places	13.0	Para 5.165	–
Administration office: 4 places	24.0	Para 5.28	–
Physiotherapy office	10.5	Para 5.27	–
Physiotherapy office: 6 places	27.5	Para 5.28	–
Physiotherapy office: 10 places	43.5	Para 5.28	–
Occupational therapy office	10.5	Para 5.27	–
Occupational therapy office: 6 places	27.5	Para 5.28	–
Occupational therapy office: 10 places	43.5	Para 5.28	–
Engineers' office: 3 places	18.0	Para 5.162	–
Case conference room	20.0	Para 5.32	–
Staff support facilities: Sanitary/changing			
Staff changing/locker room: 10 places	14.0	Para 5.142	–
Staff changing/locker room: 20 places	18.0	Para 5.142	–
Staff changing/locker room: 30 places	20.0	Para 5.142	–
Staff wheelchair accessible WC	4.5	Para 5.144	–
Staff WC	2.0	Para 5.144	–
Staff shower	2.5	Para 5.143	–
Staff support facilities: Rest and recreation			
Staff rest room: 10 places	16.0	Para 5.139	–
Staff rest room: 15 places	21.0	Para 5.139	–
Staff rest room with beverage bay: 10 places	18.0	Para 5.139, 5.140	–
Staff rest room with beverage bay: 15 places	23.0	Para 5.139, 5.140	–
Beverage preparation bay	6.0	Para 5.146	–
Staff support facilities: Education and training			
Seminar/training room: 20 places	37.5	Para 5.145	–
Support facilities: Holding/storage			
Shopping & pushchair bay	6.0	–	–
Shopping & pushchair bay	12.0	–	–
Resuscitation trolley parking bay	1.0	Para 5.36	–
Wheelchair parking bay with battery charging facility: 6 wheelchairs	6.0	Para 5.137	–
General store	6.0	Para 5.160	–
General store	12.0	Para 5.160	–
Linen store	3.0	Para 5.161	–
Records store	4.0	Para 5.34	–
Records store	6.0	Para 5.34	–
Support facilities: Miscellaneous			
Housekeeping room (Cleaner)	7.0	Para 5.159	–
Disposal hold	6.0	Para 5.155	–
Support facilities: Engineering/Plant			
Switchgear cupboard	2.0	Para 6.39	–
External facilities: Miscellaneous			
Designated vehicle drop-off point	–	–	External allowance
Car parking spaces	–	Para 5.16	External allowance
Dedicated car parking spaces for people with disabilities	–	Para 5.16	External allowance
Garden therapy area	–	Para 5.134	–

HBN 8 – FACILITIES FOR REHABILITATION SERVICES: SUITE/MODULE TYPE SCHEDULE

Entrance and Reception facilities

Activity space	Qty	Area	Total area	Para ref	Notes
Designated vehicle drop-off point	1	–	–	–	External allowance
Car parking spaces	–	–	–	Para 5.16	Project specific
Dedicated car parking spaces for people with disabilities	–	–	–	Para 5.16	External allowance
Public telephone facility	1	1.5	1.5	Para 5.21	–
Public telephone facility (wheelchair accessible)	1	2.0	2.0	Para 3.9, 5.21	–
Wheelchair parking bay: 3 wheelchairs	1	2.0	2.0	Para 5.21	–
Reception: 2 position	1	10.0	10.0	Para 5.19	–
Waiting area: 10 places, incl. 3 wheelchair places	1	19.5	19.5	Para 5.21	–
Drinking water dispenser facility	1	0.5	0.5	–	–
Refreshment vending machine bay	1	3.0	3.0	–	–
Net Allowance			38.5		
5% Planning Allowance			2.0		
Total			40.5		
3% Engineering Allowance			1.0		
23% Circulation Allowance			9.5		
Total Allowance			51.0		

Optional accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Waiting area: 15 places, incl. 5 wheelchair places	1	30.0	40.5	Para 5.21	Optional size provision
Children's waiting play area: 3 places	1	8.0	11.0	–	–
Reception: 3 position	1	13.0	17.5	Para 5.19	Optional size provision
Entrance canopy area	–	–	–	Para 5.17	–
Entrance draught lobby	1	11.0	15.0	Para 5.17	–
Cloakroom: 24 places	1	7.0	9.5	Para 5.25	–
Cloakroom: 36 places	1	10.0	13.5	Para 5.25	Optional size provision
Shopping & pushchair bay	1	6.0	8.0	–	–
Shopping & pushchair bay	1	12.0	16.0	–	–

Visitors' & patients' sanitary facilities

Essential complementary/shared accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Visitors' & patients' dual access wheelchair accessible WC	1	5.5	7.5	Para 5.23	Project-specific See Examples
Visitors' & patients' WC	1	2.5	3.5	Para 5.23	Project-specific See Examples
Nappy change room	1	4.0	5.5	Para 5.23	–

Administration facilities

Activity space	Qty	Area	Total area	Para ref	Notes
Administration office	1	10.5	10.5	Para 5.27	–
Administration office: 4 places	1	24.0	24.0	Para 5.28	–
Case conference room	1	20.0	20.0	Para 5.32	–
Net Allowance			54.5		
5% Planning Allowance			2.5		
Total			57.0		
3% Engineering Allowance			1.5		
23% Circulation Allowance			13.0		
Total Allowance			71.5		

Optional accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Records store	1	4.0	5.5	Para 5.34	–
Records store	1	6.0	8.0	Para 5.34	Optional size provision

Clinical/therapy facilities

Note: Support facilities, for example staff accommodation; See separate modules

Activity space	Qty	Area	Total area	Para ref	Notes
Rehabilitation interview, assessment & treatment room	1	10.0	10.0	Para 5.37	–
Consulting/examination room: dual-sided couch access	1	16.5	16.5	Para 5.36	–
Net Allowance			26.5		
5% Planning Allowance			1.5		
Total			28.0		
3% Engineering Allowance			1.0		
23% Circulation Allowance			6.5		
Total Allowance			35.5		

Essential complementary/shared accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Splint preparation & treatment room	1	19.0	25.5	Para 5.55	–

Optional accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Patient sub-waiting area: 3 places, incl. 1 wheelchair place	1	6.0	8.0	Para 5.35	–
Consulting/examination room: dual-sided couch access	1	16.5	22.5	Para 5.36	Additional provision

Physiotherapy facilities

Note: Support facilities, for example staff accommodation; See separate modules

Activity space	Qty	Area	Total area	Para ref	Notes
Physiotherapy activity area: 5 places	1	50.0	50.0	Para 5.39	–
Physiotherapy activity area: 15 places (incl. gym accommodation)	1	100.0	100.0	Para 5.39	–
Physiotherapy individual treatment room	1	12.0	12.0	Para 5.52	–
Physiotherapy individual UVL treatment room	1	12.0	12.0	Para 5.52	–
Physiotherapy multi-treatment area: 10 places	1	100.0	100.0	Para 5.49	–
Wax treatment & ice preparation room	1	16.0	16.0	Para 5.53	–
Female patients changing room incl. shower: 10 places	1	15.5	15.5	Para 5.38	–
Male patients changing room incl. shower: 10 places	1	15.5	15.5	Para 5.38	–
Physiotherapy activity area equipment store	1	6.0	6.0	Para 5.57	–
Physiotherapy activity area equipment store	1	9.0	9.0	Para 5.57	–
Physiotherapy treatment cubicle equipment store	1	6.0	6.0	Para 5.57	–
Physiotherapy office	1	10.5	10.5	Para 5.27	–
Physiotherapy office: 6 places	1	27.5	27.5	Para 5.28	–
Net Allowance			380.0		
5% Planning Allowance			19.0		
Total			399.0		
3% Engineering Allowance			12.0		
23% Circulation Allowance			91.5		
Total Allowance			502.5		

Essential complementary/shared accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Splint preparation & treatment room	1	19.0	25.5	Para 5.55	–
Garden therapy area	–	–	–	Para 5.134	–

Optional accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Physiotherapy activity area: 10 places	1	80.0	108.0	Para 5.39	Optional size provision
Physiotherapy activity area: 20 places (incl. gym accommodation)	1	120.0	162.0	Para 5.39	Optional size provision
Physiotherapy multi-treatment area: 15 places	1	150.0	202.5	Para 5.49	Optional size provision
Physiotherapy activity area equipment store	1	12.0	16.0	Para 5.57	–
Physiotherapy office: 10 places	1	43.5	58.5	Para 5.28	Optional size provision

Hydrotherapy facilities

Note: Support facilities, for example staff accommodation; See separate modules

Activity space	Qty	Area	Total area	Para ref	Notes
Staff base incl. resuscitation trolley: 2 places	1	6.0	6.0	Para 5.59	–
Waiting area: 3 places, incl. 1 wheelchair place	1	6.0	6.0	Para 5.59	–
Patient transfer area	1	6.0	6.0	Para 5.59	–
Patient trolley/wheelchair parking bay: 2 trolleys & 4 wheelchairs	1	5.0	5.0	Para 5.59	–
Patients' & staff changing room: 8 places	1	16.0	16.0	Para 5.79	–
Patients' dual-access wheelchair-accessible WC	1	5.5	5.5	Para 5.84	–
Hydrotherapy pool ambulant user access shower	1	2.5	2.5	Para 5.83	–
Hydrotherapy pool trolley user access shower	1	10.0	10.0	Para 5.83	–
Hydrotherapy pool area	1	92.5	92.5	Para 5.60	–
Patient recovery/rest area: 4 places	1	25.0	25.0	Para 5.81	–
Hydrotherapy pool equipment store	1	7.0	7.0	Para 5.85	–
Hydrotherapy pool laundry/utility room	1	10.0	10.0	Para 5.86	–
Hydrotherapy pool water treatment & circulation plantroom	1	18.0	18.0	Para 5.87	–
Hydrotherapy pool ventilation plantroom	1	20.0	20.0	Para 5.87	–
Net Allowance			229.5		
5% Planning Allowance			11.5		
Total			241.0		
3% Engineering Allowance			7.0		
10% Circulation Allowance			24.0		
Total Allowance			272.0		

Occupational therapy facilities

Note: Support facilities, for example staff accommodation; See separate modules

Activity space	Qty	Area	Total area	Para ref	Notes
Occupational therapy light activities area: 10 places	1	70.0	70.0	Para 5.90	–
Occupational IT therapy room: 2 places	1	10.0	10.0	Para 5.103	–
Occupational therapy on-going work store	1	7.0	7.0	Para 5.108	–
Occupational therapy materials & equipment store	1	20.0	20.0	Para 5.109	–
Assessment wheelchair store: 10 wheelchairs	1	15.0	15.0	Para 5.112	–
Occupational therapy office	1	10.5	10.5	Para 5.27	–
Occupational therapy office: 6 places	1	27.5	27.5	Para 5.28	–
Net Allowance			160.0		
5% Planning Allowance			8.0		
Total			168.0		
3% Engineering Allowance			5.0		
23% Circulation Allowance			38.5		
Total Allowance			211.5		

Essential complementary/shared accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Community disability equipment store	1	20.0	27.0	Para 5.110	–
Splint preparation & treatment room	1	19.0	25.5	Para 5.55	–
Garden therapy area	–	–	–	Para 5.134	–

Optional accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Occupational therapy light activities area: 15 places	1	110.0	148.5	Para 5.90	Optional size provision
Occupational IT therapy room: 3 places	1	15.0	20.5	Para 5.103	Optional size provision
Occupational therapy on-going work store	1	14.0	19.0	Para 5.108	Optional size provision
Occupational therapy heavy activities area: 5 places	1	50.0	67.5	Para 5.97	–
Occupational therapy heavy activities area: 10 places	1	90.0	121.5	Para 5.97	Optional size provision
Occupational therapy timber & metal store	1	20.0	27.0	Para 5.107	–
Occupational therapy office: 10 places	1	43.5	58.5	Para 5.28	Optional size provision

Activities of daily living (ADL) facilities

Note: Support facilities, for example staff accommodation; See separate modules

Activity space	Qty	Area	Total area	Para ref	Notes
ADL bedroom with living assessment	1	18.0	18.0	Para 5.116	–
ADL bathroom & shower	1	13.0	13.0	Para 5.117	–
ADL kitchen	1	22.0	22.0	Para 5.120	–
Net Allowance			53.0		
5% Planning Allowance			2.5		
Total			55.5		
3% Engineering Allowance			1.5		
23% Circulation Allowance			13.0		
Total Allowance			70.0		

Optional accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
ADL bedroom	1	15.0	20.5	Para 5.116	–
ADL utility & laundry	1	11.0	15.0	Para 5.123	–

Speech & language therapy facilities

Note: Support facilities, for example staff accommodation; See separate modules

Activity space	Qty	Area	Total area	Para ref	Notes
Individual speech therapy room	1	15.0	15.0	Para 5.124	–
Group speech therapy room: 10 places	1	24.5	24.5	Para 5.126	–
Speech therapy treatment viewing room	1	5.0	5.0	Para 5.127	–
Speech therapy equipment store	1	6.0	6.0	Para 5.128	–
Net Allowance			50.5		
5% Planning Allowance			2.5		
Total			53.0		
3% Engineering Allowance			1.5		
23% Circulation Allowance			12.0		
Total Allowance			66.5		

Optional accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Individual speech therapy room	1	15.0	20.5	Para 5.124	Additional provision
Group speech therapy room: 10 places	1	24.5	33.0	Para 5.126	Additional provision

Podiatry facilities

Note: Support facilities, for example staff accommodation; See separate modules

Activity space	Qty	Area	Total area	Para ref	Notes
Podiatry treatment room with patient changing	1	15.0	15.0	Para 5.129, 5.130	–
Net Allowance			15.0		
5% Planning Allowance			1.0		
Total			16.0		
3% Engineering Allowance			0.5		
23% Circulation Allowance			3.5		
Total Allowance			20.0		

Essential complementary/shared accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Splint preparation & treatment room	1	19.0	25.5	Para 5.133	–

Complementary therapy facilities (Optional)

Activity space	Qty	Area	Total area	Para ref	Notes
Consulting/examination room: dual-sided couch access	1	16.5	16.5	Para 5.136	–
Net Allowance			16.5		
5% Planning Allowance			1.0		
Total			17.5		
3% Engineering Allowance			0.5		
23% Circulation Allowance			4.0		
Total Allowance			22.0		

In-patient accommodation facilities**Essential complementary/shared accommodation**

Activity space	Qty	Area	Gross area	Para ref	Notes
8 bed cluster, all single rooms	–	–	–	Para 5.137	See HBN 4
8 bed cluster, 50% single rooms	–	–	–	Para 5.137	See HBN 4
ADL assessment areas	–	–	–	Para 5.137	See appropriate module
Speech/language room	–	–	–	Para 5.137	See appropriate module
Wheelchair parking bay with battery charging facility: 6 wheelchairs	1	6.0	8.0	Para 5.137	–
Occupational therapy ward therapy area	1	15.0	20.5	Para 5.137	–
Physiotherapy ward therapy area (incl. gym accommodation)	1	15.0	20.5	Para 5.137	–

Staff accommodation facilities

Activity space	Qty	Area	Total area	Para ref	Notes
Staff rest room with beverage bay: 10 places	1	18.0	18.0	Para 5.139, 5.140	–
Male staff changing/locker room: 10 places	1	14.0	14.0	Para 5.142	–
Female staff changing/locker room: 20 places	1	18.0	18.0	Para 5.142	–
Staff wheelchair-accessible WC	1	4.5	4.5	Para 5.144	–
Male staff WC	1	2.0	2.0	Para 5.144	–
Female staff WC	2	2.0	4.0	Para 5.144	–
Staff shower	2	2.5	5.0	Para 5.143	–
Net Allowance			65.5		
5% Planning Allowance			3.5		
Total			69.0		
3% Engineering Allowance			2.0		
23% Circulation Allowance			16.0		
Total Allowance			87.0		

Essential complementary/shared accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Seminar/training room: 20 places	1	37.5	50.5	Para 5.145	–

Optional accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Staff rest room: 10 places	1	16.0	21.5	Para 5.139	–
Staff rest room: 15 places	1	21.0	28.5	Para 5.139	–
Beverage preparation bay	1	6.0	8.0	Para 5.146	–
Staff rest room with beverage bay: 15 places	1	23.0	31.0	Para 5.139, 5.140	–
Staff changing/locker room: 30 places	1	20.0	27.0	Para 5.142	–

Patient library/Information facilities

Activity space	Qty	Area	Total area	Para ref	Notes
Patients' education room/information centre: 2 workstations	1	15.0	15.0	Para 5.147	–
Net Allowance			15.0		
5% Planning Allowance			1.0		
Total			16.0		
3% Engineering Allowance			0.5		
23% Circulation Allowance			3.5		
Total Allowance			20.0		

Support facilities

Activity space	Qty	Area	Total area	Para ref	Notes
Resuscitation trolley parking bay	1	1.0	1.0	Para 5.36	–
Clean utility	1	9.0	9.0	Para 5.152	–
Dirty utility	1	9.0	9.0	Para 5.153	–
General store	1	6.0	6.0	Para 5.160	–
Housekeeping room (Cleaner)	1	7.0	7.0	Para 5.159	–
Disposal hold	1	6.0	6.0	Para 5.155	–
Switchgear cupboard	1	2.0	2.0	Para 6.39	–
Net Allowance			40.0		
5% Planning Allowance			2.0		
Total			42.0		
3% Engineering Allowance			1.5		
23% Circulation Allowance			9.5		
Total Allowance			53.0		

Optional accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Linen store	1	3.0	4.0	Para 5.161	–
General store	1	12.0	16.0	Para 5.160	Optional size provision

Rehabilitation engineering facilities

Note: Support facilities required will depend on integration with main accommodation of the rehabilitation unit, for example staff accommodation; See separate modules

Activity space	Qty	Area	Total area	Para ref	Notes
Wheelchair assessment area	1	40.0	40.0	Para 5.162	–
Wheelchair workshop	1	40.0	40.0	Para 5.162	–
Wheelchair assessment area store	1	60.0	60.0	Para 5.162	–
Wheelchair workshop store	1	20.0	20.0	Para 5.162	–
Engineers office: 3 places	1	18.0	18.0	Para 5.162	–
Net Allowance			178.0		
5% Planning Allowance			9.0		
Total			187.0		
3% Engineering Allowance			5.5		
23% Circulation Allowance			43.0		
Total Allowance			235.5		

Orthotics facilities: Repair/Adjustment

Note: Support facilities required will depend on integration with main accommodation of the rehabilitation unit, for example staff accommodation; See separate modules

Activity space	Qty	Area	Total area	Para ref	Notes
Orthotics repair & adjustment workshop	1	24.0	24.0	Para 5.165	–
Orthotics workshop store	1	7.0	7.0	Para 5.165	–
Net Allowance			31.0		
5% Planning Allowance			1.5		
Total			32.5		
3% Engineering Allowance			1.0		
23% Circulation Allowance			7.5		
Total Allowance			41.0		

Orthotics facilities: Supply & fitting

Note: Support facilities required will depend on integration with main accommodation of the rehabilitation unit, for example staff accommodation; See separate modules

Activity space	Qty	Area	Total area	Para ref	Notes
Orthotics consulting/examination/fitting room	1	14.0	14.0	Para 5.165	–
Orthotics supply store	1	25.0	25.0	Para 5.165	–
Administration office: 2 places	1	13.0	13.0	Para 5.165	–
Net Allowance			52.0		
5% Planning Allowance			2.5		
Total			54.5		
3% Engineering Allowance			1.5		
23% Circulation Allowance			12.5		
Total Allowance			68.5		

Optional accommodation

Activity space	Qty	Area	Gross area	Para ref	Notes
Orthotics consulting/examination/fitting room	1	14.0	19.0	Para 5.165	Additional provision

HBN 8 – FACILITIES FOR REHABILITATION SERVICES: EXAMPLE SCHEDULES

Example 1: Rehabilitation services unit (small)

Activity space	Qty	Area	Total area	Para ref	Notes
Entrance, reception & waiting facilities					
Designated vehicle drop-off point	1	–	–	–	External allowance
Car parking spaces	–	–	–	Para 5.16	Project-specific External allowance
Dedicated car parking spaces for people with disabilities	–	–	–	Para 5.16	Project-specific External allowance
Entrance canopy area	–	–	–	Para 5.17	–
Entrance draught lobby	1	11.0	11.0	Para 5.17	–
Public telephone facility	2	1.5	3.0	Para 5.21	–
Public telephone facility (wheelchair accessible)	1	2.0	2.0	Para 3.9, 5.21	–
Wheelchair parking bay: 3 wheelchairs	1	2.0	2.0	Para 5.21	–
Reception: 2 position	1	10.0	10.0	Para 5.19	–
Waiting area: 10 places, incl. 3 wheelchair places	1	19.5	19.5	Para 5.21	–
Drinking water dispenser facility	1	0.5	0.5	–	–
Refreshment vending machine bay	1	3.0	3.0	–	–
Cloakroom: 24 places	1	7.0	7.0	Para 5.25	–
Visitors' & patients' support facilities: Sanitary					
Visitors' & patients' dual-access wheelchair-accessible WC	3	5.5	16.5	Para 5.23	Entrance foyer area (1) Near physiotherapy (1) Near speech/occupational therapy/general areas (1)
Visitors' & patients' WC	9	2.5	22.5	Para 5.23	Entrance foyer area (3) Near physiotherapy (3) Near speech/occupational therapy/general areas (3)
Nappy change room	1	4.0	4.0	Para 5.23	–
Administration facilities					
Administration office: 4 places	1	24.0	24.0	Para 5.28	–
Physiotherapy office	1	10.5	10.5	Para 5.27	–
Physiotherapy office: 6 places	1	27.5	27.5	Para 5.28	–
Occupational therapy office	1	10.5	10.5	Para 5.27	–
Occupational office: 6 places	1	27.5	27.5	Para 5.28	–
Case conference room	1	20.0	20.0	Para 5.32	–
Rehabilitation clinical/therapy shared facilities					
Rehabilitation interview, assessment & treatment room	1	10.0	10.0	Para 5.37, 5.136	–
Consulting/examination room: dual-sided couch access	1	16.5	16.5	Para 5.35, 5.136	General & complementary therapy
Splint preparation & treatment room	1	19.0	19.0	Para 5.55, 5.136	–
Garden therapy area	–	–	–	Para 5.134	–
Physiotherapy facilities					
Physiotherapy activity area: 5 places	1	50.0	50.0	Para 5.39	–
Physiotherapy activity area: 15 places (incl. gym accommodation)	1	100.0	100.0	Para 5.39	–
Physiotherapy individual treatment room	1	12.0	12.0	Para 5.52	–
Physiotherapy individual UVL treatment room	1	12.0	12.0	Para 5.52	–
Physiotherapy multi-treatment area: 10 places	1	100.0	100.0	Para 5.49	–
Wax treatment & ice preparation room	1	16.0	16.0	Para 5.53	–
Male patients changing room incl. shower: 10 places	1	15.5	15.5	Para 5.38	–
Female patients changing room incl. shower: 10 places	1	15.5	15.5	Para 5.38	–
Physiotherapy activity area equipment store	1	6.0	6.0	Para 5.57	Activity area (5 places)
Physiotherapy activity area equipment store	1	9.0	9.0	Para 5.57	Activity area (15 places)
Physiotherapy treatment cubicle equipment store	1	6.0	6.0	Para 5.57	–

Activity space	Qty	Area	Total area	Para ref	Notes
Hydrotherapy facilities					
Staff base incl. resuscitation trolley: 2 places	1	6.0	6.0	Para 5.59	–
Waiting area: 3 places, incl. 1 wheelchair place	1	6.0	6.0	Para 5.59	–
Patient transfer area	1	6.0	6.0	Para 5.59	–
Patient trolley/wheelchair parking bay: 2 trolleys & 4 wheelchairs	1	5.0	5.0	Para 5.59	–
Patients' & staff changing room: 8 places	1	16.0	16.0	Para 5.79	–
Patients' dual-access wheelchair-accessible WC	1	5.5	5.5	Para 5.84	–
Hydrotherapy pool ambulant user access shower	1	2.5	2.5	Para 5.83	–
Hydrotherapy pool trolley user access shower	1	10.0	10.0	Para 5.83	–
Hydrotherapy pool area	1	92.5	92.5	Para 5.60	–
Patient recovery/rest area: 4 places	1	25.0	25.0	Para 5.81	–
Hydrotherapy pool equipment store	1	7.0	7.0	Para 5.85	–
Hydrotherapy pool laundry/utility room	1	10.0	10.0	Para 5.86	–
Hydrotherapy pool water treatment & circulation plantroom	1	18.0	18.0	Para 5.87	–
Hydrotherapy pool ventilation plantroom	1	20.0	20.0	Para 5.87	–
Occupational therapy facilities					
Occupational therapy light activities area: 10 places	1	70.0	70.0	Para 5.90	–
Occupational therapy heavy activities area: 5 places	1	50.0	50.0	Para 5.97	–
Occupational IT therapy room: 2 places	1	10.0	10.0	Para 5.103	–
Occupational therapy on-going work store	1	7.0	7.0	Para 5.108	–
Occupational therapy materials & equipment store	1	20.0	20.0	Para 5.109	–
Occupational therapy timber & metal store	1	20.0	20.0	Para 5.107	–
Community disability equipment store	1	20.0	20.0	Para 5.110	–
Assessment wheelchair store: 10 wheelchairs	1	15.0	15.0	Para 5.112	–
Activities of daily living (ADL) facilities					
ADL bedroom with living assessment	1	18.0	18.0	Para 5.116	–
ADL bathroom & shower	1	13.0	13.0	Para 5.117	–
ADL kitchen	1	22.0	22.0	Para 5.120	–
Speech & language therapy facilities					
Individual speech therapy room	1	15.0	15.0	Para 5.124	–
Group speech therapy room: 10 places	1	24.5	24.5	Para 5.126	–
Speech therapy treatment viewing room	1	5.0	5.0	Para 5.127	–
Speech therapy equipment store	1	6.0	6.0	Para 5.128	–
Staff support facilities					
Staff rest room with beverage bay: 10 places	1	18.0	18.0	Para 5.139, 5.140	–
Male staff changing/locker room: 10 places	1	14.0	14.0	Para 5.142	–
Female staff changing/locker room: 20 places	1	18.0	18.0	Para 5.142	–
Staff wheelchair-accessible WC	1	4.5	4.5	Para 5.144	–
Male staff WC	1	2.0	2.0	Para 5.144	–
Female staff WC	2	2.0	4.0	Para 5.144	–
Staff shower	1	2.5	2.5	Para 5.143	–
Patient library/information facilities					
Patients' education room/information centre: 2 workstations	1	15.0	15.0	Para 5.147	–
Support facilities					
Resuscitation trolley parking bay	1	1.0	1.0	Para 5.36	–
Clean utility	1	9.0	9.0	Para 5.152	–
Dirty utility	1	9.0	9.0	Para 5.153	–
General store	1	6.0	6.0	Para 5.160	–
Housekeeping room (Cleaner)	1	7.0	7.0	Para 5.159	–
Disposal hold	1	6.0	6.0	Para 5.155	–
Switchgear cupboard	1	2.0	2.0	Para 6.39	–

Activity space	Qty	Area	Total area	Para ref	Notes
Net Allowance			1271.5		
5% Planning Allowance			63.5		
Total			1335.0		
3% Engineering Allowance			40.0		
21% Circulation Allowance			280.5		
Total Allowance			1655.5		

Example 2: Rehabilitation services unit (large)

Activity space	Qty	Area	Total area	Para ref	Notes
Entrance, reception & waiting facilities					
Designated vehicle drop-off point	1	–	–	–	External allowance
Car parking spaces	–	–	–	Para 5.16	Project-specific External allowance
Dedicated car parking spaces for people with disabilities	–	–	–	Para 5.16	Project-specific External allowance
Entrance canopy area	–	–	–	Para 5.17	–
Entrance draught lobby	1	11.0	11.0	Para 5.17	–
Public telephone facility	2	1.5	3.0	Para 5.21	–
Public telephone facility (wheelchair accessible)	1	2.0	2.0	Para 3.9, 5.21	–
Wheelchair parking bay: 3 wheelchairs	1	2.0	2.0	Para 5.21	–
Reception: 3 position	1	13.0	13.0	Para 5.19	–
Waiting area: 15 places, incl. 5 wheelchair places	1	30.0	30.0	Para 5.21	–
Drinking water dispenser facility	1	0.5	0.5	–	–
Refreshment vending machine bay	1	3.0	3.0	–	–
Cloakroom: 36 places	1	10.0	10.0	Para 5.25	–
Visitors' & patients' support facilities: Sanitary					
Visitors' & patients' dual-access wheelchair-accessible WC	5	5.5	27.5	Para 5.23	Entrance foyer area (2) Near physiotherapy (1) Near speech therapy/ podiatry/general areas (1) Near occupational therapy/ specialist areas (1)
Visitors' & patients' WC	13	2.5	32.5	Para 5.23	Entrance foyer area (5) Near physiotherapy (3) Near speech/podiatry/ general areas (2) Near occupational therapy/ specialist areas (3)
Nappy change room	1	4.0	4.0	Para 5.23	–
Administration facilities					
Administration office	1	10.5	10.5	Para 5.27	–
Administration office: 4 places	1	24.0	24.0	Para 5.28	–
Physiotherapy office	1	10.5	10.5	Para 5.27	–
Physiotherapy office: 10 places	1	43.5	43.5	Para 5.28	–
Occupational therapy office	1	10.5	10.5	Para 5.27	–
Occupational therapy office: 10 places	1	43.5	43.5	Para 5.28	–
Records store	1	6.0	6.0	Para 5.34	–
Case conference room	1	20.0	20.0	Para 5.32	–
Rehabilitation clinical/therapy shared facilities					
Rehabilitation interview, assessment & treatment room	1	10.0	10.0	Para 5.37	–
Consulting/examination room: dual-sided couch access	2	16.5	33.0	Para 5.36	–
Patient sub-waiting area: 3 places, incl. 1 wheelchair place	1	6.0	6.0	Para 5.35	–
Splint preparation & treatment room	1	19.0	19.0	Para 5.55	–
Garden therapy area	–	–	–	Para 5.134	–
Physiotherapy facilities					
Physiotherapy activity area: 10 places	1	80.0	80.0	Para 5.39	–
Physiotherapy activity area: 20 places (incl. gym accommodation)	1	120.0	120.0	Para 5.39	–
Physiotherapy individual treatment room	1	12.0	12.0	Para 5.52	–
Physiotherapy individual UVL treatment room	1	12.0	12.0	Para 5.52	–
Physiotherapy multi-treatment area: 15 places	1	150.0	150.0	Para 5.49	–
Wax treatment & ice preparation room	1	16.0	16.0	Para 5.53	–
Female patients' changing room incl. shower: 10 places	1	15.5	15.5	Para 5.38	–
Male patients' changing room incl. shower: 10 places	1	15.5	15.5	Para 5.38	–
Physiotherapy activity area equipment store	1	6.0	6.0	Para 5.57	Activity area (10 places)
Physiotherapy activity area equipment store	1	12.0	12.0	Para 5.57	Activity area (20 places)
Physiotherapy treatment cubicle equipment store	1	6.0	6.0	Para 5.57	–

Activity space	Qty	Area	Total area	Para ref	Notes
Hydrotherapy facilities					
Staff base incl. resuscitation trolley: 2 places	1	6.0	6.0	Para 5.59	–
Waiting area: 3 places, incl. 1 wheelchair place	1	6.0	6.0	Para 5.59	–
Patient transfer area	1	6.0	6.0	Para 5.59	–
Patient trolley/wheelchair parking bay: 2 trolleys & 4 wheelchairs	1	5.0	5.0	Para 5.59	–
Patients' & staff changing room: 10 places	1	16.0	16.0	Para 5.79	–
Patients' dual-access wheelchair-accessible WC	1	5.5	5.5	Para 5.84	–
Hydrotherapy pool ambulant user access shower	1	2.5	2.5	Para 5.83	–
Hydrotherapy pool trolley user access shower	1	10.0	10.0	Para 5.83	–
Hydrotherapy pool area	1	92.5	92.5	Para 5.60	–
Patient recovery/rest area: 4 places	1	25.0	25.0	Para 5.81	–
Hydrotherapy pool equipment store	1	7.0	7.0	Para 5.85	–
Hydrotherapy pool laundry/utility room	1	10.0	10.0	Para 5.86	–
Hydrotherapy pool water treatment & circulation plantroom	1	18.0	18.0	Para 5.87	–
Hydrotherapy pool ventilation plantroom	1	20.0	20.0	Para 5.87	–
Occupational therapy facilities					
Occupational therapy light activities area: 15 places	1	110.0	110.0	Para 5.90	–
Occupational therapy heavy activities area: 10 places	1	90.0	90.0	Para 5.97	–
Occupational IT therapy room: 3 places	1	15.0	15.0	Para 5.103	–
Occupational therapy on-going work store	1	14.0	14.0	Para 5.108	–
Occupational therapy materials & equipment store	1	20.0	20.0	Para 5.109	–
Occupational therapy timber & metal store	1	20.0	20.0	Para 5.107	–
Community disability equipment store	1	20.0	20.0	Para 5.110	–
Assessment wheelchair store: 10 wheelchairs	1	15.0	15.0	Para 5.112	–
Activities of daily living (ADL) facilities					
ADL bedroom with living assessment	1	18.0	18.0	Para 5.116	–
ADL bedroom	1	15.0	15.0	Para 5.116	–
ADL bathroom & shower	1	13.0	13.0	Para 5.117	–
ADL kitchen	1	22.0	22.0	Para 5.120	–
ADL utility & laundry	1	11.0	11.0	Para 5.123	–
Speech & language therapy facilities					
Individual speech therapy room	2	15.0	30.0	Para 5.124	–
Group speech therapy room: 10 places	1	24.5	24.5	Para 5.126	–
Speech therapy treatment viewing room	1	5.0	5.0	Para 5.127	–
Speech therapy equipment store	1	6.0	6.0	Para 5.128	–
Podiatry facilities					
Podiatry treatment room with patient changing	1	15.0	15.0	Para 5.129, 5.130	–
Staff support facilities					
Staff rest room with beverage bay: 15 places	1	23.0	23.0	Para 5.139, 5.140	–
Seminar/training room: 20 places	1	37.5	37.5	Para 5.145	–
Male staff changing/locker room: 20 places	1	18.0	18.0	Para 5.142	–
Female staff changing/locker room: 30 places	1	20.0	20.0	Para 5.142	–
Staff wheelchair-accessible WC	1	4.5	4.5	Para 5.144	–
Male staff WC	2	2.0	4.0	Para 5.144	–
Female staff WC	3	2.0	6.0	Para 5.144	–
Staff shower	2	2.5	5.0	Para 5.143	–
Patient library/information facilities					
Patients' education room/information centre: 2 workstations	1	15.0	15.0	Para 5.147	–

Activity space	Qty	Area	Total area	Para ref	Notes
Support facilities					
Resuscitation trolley parking bay	1	1.0	1.0	Para 5.36	–
Clean utility	1	9.0	9.0	Para 5.152	–
Dirty utility	1	9.0	9.0	Para 5.153	–
General store	1	12.0	12.0	Para 5.160	–
Housekeeping room (Cleaner)	1	7.0	7.0	Para 5.159	–
Disposal hold	1	6.0	6.0	Para 5.155	–
Switchgear cupboard	1	2.0	2.0	Para 6.39	–
Linen store	1	3.0	3.0	Para 5.161	–
Rehabilitation engineering facilities					
Wheelchair assessment area	1	40.0	40.0	Para 5.162	–
Wheelchair workshop	1	40.0	40.0	Para 5.162	–
Wheelchair assessment area store	1	60.0	60.0	Para 5.162	–
Wheelchair workshop store	1	20.0	20.0	Para 5.162	–
Engineers' office: 3 places	1	18.0	18.0	Para 5.162	–
Orthotics repair/adjustment facilities					
Orthotics repair & adjustment workshop	1	24.0	24.0	Para 5.165	–
Orthotics workshop store	1	7.0	7.0	Para 5.165	–
Orthotics supply & fitting facilities					
Orthotics consulting/examination/fitting room	2	14.0	28.0	Para 5.165	–
Orthotics supply store	1	25.0	25.0	Para 5.165	–
Administration office: 2 places	1	13.0	13.0	Para 5.165	–
Net Allowance			1970.0		
5% Planning Allowance			98.5		
Total			2068.5		
3% Engineering Allowance			62.0		
22% Circulation Allowance			455.0		
Total Allowance			2585.5		

Appendix 1 – Case studies

The first case study has been taken from research by the Medical Architecture and Research Unit (MARU) at South Bank University, London – ‘Innovative environments for rehabilitation’. The aim of the study was to identify innovative models for rehabilitation facilities in community settings. The remaining three have been selected as providing superior examples of both general and specialist rehabilitation services.

The Westway Centre provides integrated health and social care for people over 65 living in the Royal Borough of Kensington and Chelsea. Rehabilitation services are provided mainly on a day-care/drop-in basis, although some outreach care is delivered to patients in their own homes.

Cannock Chase features a purpose-built rehabilitation facility within a community hospital. Managed by Mid-Staffordshire General Hospitals Trust, the unit provides comprehensive rehabilitation services for both in-patients and out-patients. This type of facility would be equally suited to being attached to an acute general hospital.

Victoria House is a specialist neurological rehabilitation facility within an acute general hospital. The aim of the service is to provide early in-patient rehabilitation for people with complex neurological problems. Some long-term treatments are provided on an out-patient basis. The unit is attached to a multidisciplinary academic rehabilitation research unit at Southampton University.

The Walton Centre is a specialist neurology and neurosurgery trust sharing a site with an acute general hospital, based outside Liverpool. It is largely housed in a new, purpose-built block, but with a Younger Rehabilitation Unit (YRU) occupying an older block on-site. The Trust provides emergency and elective neurology and neurosurgery for a wide catchment area. Rehabilitation takes place within the acute unit and the YRU.

THE WESTWAY CENTRE, LONDON

The Westway Centre offers integrated health and social care for people over 65 years living in the Royal Borough of Kensington and Chelsea, principally in North Kensington, combined with outreach care in the home.

Service

Approach

The centre brings together services offered by local authorities and local health services that were previously provided independently. It is based on the “elderly persons integrated care service” (EPICS) model, a concept pioneered by the Helen Hamlyn Foundation at the Royal College of Art which supported the original project team. The service continues to develop following the principles laid down at the beginning of an integrated health and social care service. Users and carers are involved in the development, policy and management process.

The aim of the centre is to enable as many people as possible to live independently in their own homes by providing a mix of preventive care, intensive rehabilitation and maintenance care.

The service has two elements, a self-referral open access service for health and social care and a more specialised day-care service for referred service users, often combined with outreach therapy and care in the home.

The centre provides a variety of integrated healthcare and social activities, with the aim of translating specific therapies into daily life. These include early morning physical exercise classes with people of similar abilities and/or needs grouped together. Social activities are used as rehabilitation therapies. For example, bingo helps with hand-eye co-ordination.

Health checks are carried out by the centre nurse, enabling early diagnosis for heart disease, diabetes etc. Health promotion group sessions are also led by nurses.

The restaurant and coffee bar facility creates a central core for people to meet and be social. The meals are cooked on-site and paid for at a subsidised rate by all the users. A home meals service can be arranged.

An ordinary bath and shower facility is provided, as this is what most of the users have in their homes. Some may use it independently or with help from their own carer/relative. There is also a same-day laundry service for day-care users, which they are encouraged to do themselves with help from support staff if required.

Care group

The centre is open to people over the age of 65 in the borough, who can register as centre users and can book appointments for any health or social care session directly at the reception desk. The specialised day-care programmes are for older people with assessed high needs, perhaps following an episode of illness. The space can accommodate a maximum of 30 people a day, who arrive in a variety of ways – walking, public transport, dial-a-ride, centre transport.

Range

Provision of health services includes full-time nursing care and part-time physiotherapy and occupational therapy together with regular sessions with the chiropodist, dentist, hygienist, old-age psychiatrist and reflexologist. Health promotion includes continence advice, health checks and health information. As well as dietitians, community nurses and health visitors provide some input. Social care services provide a full-time social work drop-in facility, the restaurant and coffee bar (seven days a week), educational and leisure services, carers’ network, beauty therapy and hairdressing. The educational and leisure services include art classes, dance sessions, chairbics and outings.

Funding

The centre and the outreach services are funded jointly by the Royal Borough of Kensington and Parkside NHS Trust.

Facility

Location

The building is located in North Kensington and occupies three arches under the motorway flyover in Ladbroke Grove. The other arches are occupied by small businesses. Pedestrian access to the centre is possible via an alleyway or from the main road. Parking facilities are limited.

Rehabilitation facilities

Specific physiotherapy and occupational therapy activities occur in the therapy rooms, including an ADL kitchen, consulting room, treatment room, bathroom and laundry, hairdressing and beauty salon. Rehabilitation also takes place in the activities room, the restaurant space and the quiet room. The staff meeting room accommodates a number of drop-in sessions. All spaces are used for varying forms of therapy on a timetabled basis. As there is only one multi-purpose group activity room, the restaurant area is used for other activities such as aerobics, art classes and meetings.

Planning

The building is sited on a tight space under the motorway with limited levels of daylight to the rather deep plan. All therapy and social areas are provided on the ground floor. The office area is limited on the ground floor and the manager's office is situated on the first floor, which is only accessible through a separate entrance from the outside. This first-floor office space is shared with other voluntary and local authority groups.

Design

Although the building is an infill under motorway arches, the entrance is easily recognisable. Ground-floor spaces are interlinked so that areas for public use are easily accessible. The entrance leads into a reception and coffee bar which then leads on one side to the Sally Deacon restaurant and on the other to the activities room. The rest of the ground floor accommodates the specialist rooms. As for internal spaces, the entrance/reception and coffee bar area are spacious and

welcoming, as is the restaurant. The therapy/gym is small and is used for consultation as well as physical therapies.

Comment

The mix of the able and the less able is easily accommodated, and the less able in particular appear to benefit from the mix. The integrated model of care, allowing analysis of individual rehabilitation requirements and then a translation of therapies into daily life, is impressive. The social atmosphere is strong, and the centre is a place where people show a sense of empowerment and ownership. The centre is well used, and user participation contributes to this. The fact that users have to pay for lunches and some other services, such as beauty and hairdressing, engenders an attitude of independence. The building is not extensive, but every space is used as a resource and timetabled for a range of activities.

CANNOCK CHASE HOSPITAL, STAFFORDSHIRE

Cannock Chase Hospital is a community hospital with 198 beds (including 48 mental health beds) and with a purpose-built rehabilitation facility. The hospital is close to the main shopping area of Cannock.

Service

Approach

The aim of the service is to provide comprehensive rehabilitation for both in-patients and out-patients with a variety of conditions. The unit is managed by Mid-Staffordshire General Hospitals Trust, but there are also primary care facilities and mental health in-patient and out-patient facilities on site.

Care groups

The client group is predominantly older adults with a variety of conditions. The average age of those attending for rehabilitation is 55. The commonest conditions are CVA, decreased mobility and muscular disorders.

Patients are referred from any of the Trust's wards on site and from GPs and other health professionals. There are 14 designated rehabilitation beds. Many in-patients have received care at the acute general hospital and are then transferred to Cannock Chase to continue their rehabilitation there.

Range

The rehabilitation centre offers the full range of therapy input including physiotherapy, occupational therapy and speech and language therapy. Patients are usually medically stable.

Funding

Patients are almost exclusively local people. Funding is from South Staffordshire HA, Birmingham HA and



Wolverhampton HA, and local GPs. There is private funding for driving assessments.

Facility

Location

The centre is a purpose-built facility on the ground floor of the hospital. It opened in 1991.

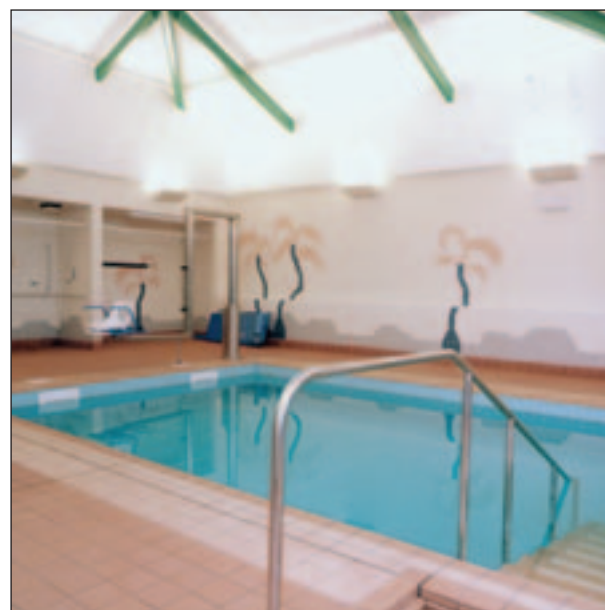
Rehabilitation facilities

Very little rehabilitation takes place on the wards. Patients attend the centre for physiotherapy and occupational therapy, speech and language therapy, multidisciplinary group activities and clinical psychology.

There is a large, airy physiotherapy room with plinths and associated equipment. The room is large enough to use as a demonstration centre for therapy education. There is also a full-height gymnasium. Both receive good natural light, although overlooking is a problem with the physiotherapy room, which has low-level windows that have had to be obscured from the nearby public highway.

There is a deck-level hydrotherapy pool with adjacent changing and shower facilities. The pool has good alarms and a well-honed routine for rapidly removing patients from the pool in case of emergencies. Patients can enter the pool from steps or via a hoist. Local groups use the pool out of normal hours.

There is a large occupational therapy facility that includes both light and heavy workshops, an outdoor area with raised beds and a greenhouse, and a well-equipped area for assessment of activities of daily living. The assessment kitchen has variable-height units, and the assessment bathroom has an adapted bath that can be set up to mimic different home installations. An





assessment bedroom with ceiling hoist doubles as a seminar room. There is equipment for splinting and for minor adjustments of appliances. The unit has an adapted static car for assessment of disabled drivers. It also has access to adapted manual and automatic cars for assessment. The rehabilitation day unit is accommodated within the rehabilitation department, with easy access to the above facilities.

The hospital is close to the local shopping area. Staff use this to help patients re-learn skills of mobility as well as to practise shopping and other outdoor activities. There are both dropped and step kerbs en route.

Planning

The hospital is built on a sloping site with three storeys which take account of the natural contours. There is very little parking space for staff, patients or disabled people. The rehabilitation centre is on the ground floor with true, level access throughout. All corridors are wide, and signage is in large, clear letters. There is good natural light. Floor finishes are non-slip but are very shiny, giving an impression of slipperiness.

Design

The unit is purpose-built. The garden area is easily accessible and well used. Steps have been taken to protect finishes from wheelchair damage. Storage space within the unit is limited – alternative external storage is not used because of problems with damp. The unit provides some equipment for use in patients' homes, hence the need for large storage areas.

Comment

The unit's position in a community hospital has allowed the development of rehabilitation as a specialty rather than as a secondary facility. The spacious, light, airy design is welcoming and attractive. Staff take pains to maximise the use of the centre by encouraging local groups to use facilities out of hours. The district wheelchair service is also located within the rehabilitation department.

VICTORIA HOUSE, SOUTHAMPTON

Victoria House is a specialist neurological rehabilitation facility within an acute general hospital. There are 14 beds, of which 11 are currently funded. The unit is attached to a multidisciplinary academic rehabilitation research unit at Southampton University.

Service

Approach

The aim of the service is to provide early in-patient rehabilitation for people with complex neurological problems. A separate rehabilitation unit at a community hospital some miles away takes patients with more predictable conditions, allowing Victoria House to concentrate on people requiring more intensive support.

The unit is currently managed by the acute trust, but is transferring to community trust management. Its location will be unchanged, but it will operate as an in-reach facility.

A multidisciplinary team headed by a professor of rehabilitation medicine assesses and delivers individualised therapy programmes. Average length of stay is 80 days (ranging from 15 to 200 days), with patients most commonly being discharged home.

Care groups

The client group is predominantly younger adults aged 18–65 with complex neurological problems, often

following road traffic accidents, stroke or neurological surgery. A smaller number of patients have multiple sclerosis, motor neurone disease or other progressive disorders.

Patients are referred from the acute wards in the general hospital, and some particularly complex cases are admitted from other hospitals also. The unit's policy is to admit as soon as possible to commence early rehabilitation. Many patients exhibit challenging behaviours that can be minimised with early referral and admission. One advantage of the unit's position within an acute general hospital is this ability to accept patients who still need the input of acute services, which tends to be high during the first three months of recovery after severe injuries.

Range

The self-contained centre is largely an in-patient facility, although out-patient psychology clinics are held on the premises. Most patients receive the full range of their therapy input within the unit, although some attend the main occupational therapy department, which has a workshop offering a wider range of activities. Some patients with enduring problems continue to attend as out-patients.

Patients frequently have other health needs that require the support of other services such as X-ray. Patients with less complex health needs, whose service can be delivered with less medical backup, are accommodated at a separate unit in a community hospital.



Funding

Capital funding for the refurbishment of the building and revenue funding is via the service contract with the local HA and GPs and (in relation to severe head injuries) with adjacent districts.

Facility

Location

The centre is a self-contained block located at the rear of a large acute general hospital. It was previously a maternity unit.

Rehabilitation facilities

There is one 3-bed bay, one 2-bed bay and nine single rooms (not en-suite). The single rooms are spacious and are much preferred by patients and staff to shared rooms. There is overhead tracking for hoists in some rooms, and a combination of fixed and mobile hoist in bathrooms. There is one wheel-in shower that is heavily over-used.

There is provision for physiotherapy and occupational therapy, although OT space is limited and centres largely on activities of daily living. The treatment room is connected by a sliding wall to the dining/recreation room and is used for social events, which frequently include past patients. There are no workshop facilities, although some patients make use of the main OT workshop on the other side of the hospital site. There are also facilities for clinical psychology and speech and language therapy. Other services such as podiatry, dietetics, wheelchair adaptations and orthoses are provided as for the rest of the hospital. Near the OT workshop there is a separate rehabilitation engineering workshop making non-standard customised equipment and adaptations for in-patients and out-patients.

Much of the rehabilitation activity is built into the patients' day and takes place without excessive reliance on specialist facilities. For instance, there are no stairs within the unit, so patients learn initially on a purpose-built three-step platform. They then practise full flights of stairs elsewhere within the hospital. Staff make good use of the rest of the hospital site for other activities such as shopping practice or road safety.

Many of the patients require supervision, and a number of security measures have been installed. These include a convex mirror to enable views of corridors and external doors, and magnetically-operated security



doors. The garden area has an eight-foot-high fence to ensure that patients can have free access to the outdoors without compromising their safety.

Planning

The building is single-storey, with true, level access throughout. The combined reception/nurses' station is in the centre of the building but is well signed. Additional visual clues include coloured stripes on the floor. The rooms are spacious, but the corridors are rather narrow. Kitchen and storage spaces are limited.

There is a multidisciplinary team room, but otherwise staff facilities are limited. Nursing staff tend not to use the multidisciplinary room as much as therapy and medical staff.

Design

The unit is adapted from a maternity unit. The garden area opens off the main recreation room and is attractive and light. Steps have been taken to protect finishes from wheelchair damage by installing vertical bars at the entrance to all rooms.

Comment

The unit's position separate from, but within, an acute general hospital allows patients to commence early rehabilitation. The links with the University clearly influence the philosophy of care and the extent of multidisciplinary collaboration. Imaginative use of the wider hospital site and the integration of "real-life" scenarios offset the lack of specific facilities within the unit. The provision of single rooms for each patient is highlighted by staff as a major advantage in helping to prevent the emergence of disturbed patterns of behaviour. Delivering most therapy on-site maximises the use of relevant environmental cues, accelerating the progress made in therapy in this patient group.

THE WALTON CENTRE, LIVERPOOL

The Walton Centre is a specialist neurology and neurosurgery trust sharing a site with an acute general hospital. It is largely housed in a new, purpose-built block, but with a Younger Rehabilitation Unit (YRU) occupying an older block on-site.

Service

Approach

The Trust provides emergency and elective neurology and neurosurgery for a wide catchment area. All nervous system disorders are treated, including traumatic brain injury, cerebrovascular disease including subarachnoid haemorrhage, tumours, multiple sclerosis, epilepsy and neuromuscular disorders. Rehabilitation takes place within the acute unit and in a separate YRU.

The Trust's mission is "to maximise the independence and improve the health of people with neurological injury, illness or disability".

Funding

The Trust takes patients from Merseyside, Cheshire, parts of West Lancashire, North Wales and the Isle of Man. Nursing and medical staff are employed by the Walton Trust, but dedicated therapy staff are employed via a service level agreement from Aintree Trust. Some facilities (for example hydrotherapy) are managed by Aintree Trust but used by YRU patients.

Facility

Acute in-patient rehabilitation

The main body of the Trust is housed in a new purpose-built block, which opened in 1998. The building is light and airy, with a spacious main reception area containing a low-level desk and an adjacent space for exhibitions or educational activities. The corridors are wide enough for two wheelchairs to pass one another easily, and lifts have self-levelling mechanisms, low controls and audible and visual floor identification. Lift doors have delayed closure mechanisms, which allow disabled people adequate time to enter.

Attention has been given throughout to patient flow. Within the rehabilitation department, OT and physiotherapy share an open-plan office sited between the physiotherapy gym and OT room. There are windows on either side of the office to allow easy observation of treatment spaces, and a third window overlooks the shared waiting area.

The physiotherapy gym and OT room are light and well equipped, with an assessment kitchen and bathroom. There is good storage. The facility has three consulting rooms, which are available on a first-come-first-served basis. One is an informal-style room for counselling. There is a meeting room that can accommodate case conferences. One criticism from staff is the large number of heavy fire doors, which are difficult to open for people in wheelchairs and have delayed closure mechanisms that operate very rapidly over the last few centimetres.





Attention to patient flow extends beyond the immediate department. Adjacent to it is the planned acute rehabilitation ward and the Assistive Technology Unit. The latter facility designs and builds environmental adaptations for clients from a very wide catchment area. Although not part of the Trust, it has been seamlessly incorporated in the most appropriate location.

Younger Rehabilitation Unit

The YRU is a purpose-built, single-storey facility at the rear of the site and adjacent to Aintree Trust's physiotherapy department. It opened in 1977 and has 16 beds with an average stay of 50 days. Most patients have received their acute care within the Walton Centre Trust. The unit specialises in physical aspects of rehabilitation, and patients with serious behavioural and cognitive problems are referred elsewhere. Patients are medically stable prior to admission to the unit.

The main (automatic) doors open onto a large combined dining and recreation area. There is access from this and from the four-bed bays to a pleasant courtyard garden, although the glass patio doors have had to be adapted to allow wheelchairs to pass the threshold.

There is a combination of four-bed bays and single rooms, with a newly refurbished transitional flat to allow semi-independent living prior to discharge and as an aid to planning home care packages. There is a variety of sanitary facilities including level-access showers and assisted baths, and an automatic WC which incorporates a bidet and drying facility for post-toilet hygiene. There are sliding doors on all sanitary rooms, which provoke a mixed reaction from staff and patients.

There are facilities for physiotherapy and occupational therapy, including an assessment kitchen but no OT workshops. The unit has access to a deck-level hydrotherapy pool with adjacent changing and shower facilities. Speech and language therapists and clinical psychologists use a quiet room within the unit. Space that was originally used for four currently unfunded beds is now a research unit.

Planning

The main hospital block is purpose-built and incorporated input from staff and disabled people's user groups. The clinical facilities are all on the ground or first floors, with administration occupying the second floor. There is true, level access throughout and good use of natural light.

Design

There is a water garden and a quiet room designed in conjunction with students at Salford University. The colour scheme in the main block is strong but restful. Floor finishes are non-slip but very shiny, giving an impression of slipperiness.

Comment

The main block of the Trust offers well-designed surroundings with an emphasis on patient flows. Space has been incorporated for a number of non-trust services to encourage seamless care. The YRU, by contrast, is older and less attractive, although efforts have been made to incorporate the same philosophy.

Appendix 2 – A patient’s perspective

Emma is a midwife. She was diagnosed as having neurofibromatosis in 1986. Since then, she has had numerous neurosurgical operations. All the operations have been completely successful; however, tumour growth has resulted in nerve damage and impaired function of affected limbs.

In 1996 the severity and extent of the growths resulted in profound disability. Surgery to remove them was successful. Since then, her condition has gradually improved and she now works full-time despite some residual weakness in her arms and legs. She uses a stick, especially in windy weather and on moderate walks.

A PATIENT’S STORY

I was in an acute neurosurgery ward for three months. I had been there so often in the past that I felt quite at home. The staff knew me, understood my home situation and treated me like an individual. When I found out I was going to be transferred to the rehabilitation unit I really didn’t want to go. I wasn’t familiar with the surroundings and the staff didn’t know me.

When I got to the rehabilitation unit, I felt I was in the wrong place. I was in a wheelchair, couldn’t stand or transfer myself and could hardly feed myself, yet I couldn’t accept the fact that I was now disabled. I remember telling the staff that I was in the wrong place, that I wasn’t like the other patients and that “I shouldn’t be here” and would “soon walk out”.

Gradually it dawned on me that my disabilities would not go away. I then learned to accept my disabilities.

My main memory of the unit was lack of privacy. I hated those sliding doors, the noise of them being opened and the invasion of my space every time staff/visitors came to see me. Some knocked, some just barged in. I felt I never had time or space to myself. The person in the next-door room had a hearing impairment, so had the TV on really loud all the time. There was never any peace with the combination of noisy sliding doors all along the corridor and noisy television next door.

Going for a bath on the acute unit was a very degrading experience. I was transferred from my room to the bathroom up a corridor on a hoist. Prior to that I had always walked. On the rehabilitation unit I was dressed

in my room and was transferred to the shower or bathroom in a shower chair, with a blanket wrapped around me to protect my modesty. The bath/shower areas were down a corridor. I was well covered up, but felt very exposed and vulnerable. The other patients were in the same situation – they had little or no privacy. Private en-suite bath/shower facilities would have been so much better.

The therapy facilities in the rehabilitation unit were much better than in the acute unit. There was more space and better equipment, and the therapy input was excellent. I hated having to ask for anything, so I pushed myself really hard – I was determined to prove what an exceptional patient I was. A member of staff told me I was working too hard and exhausting myself. I was encouraged to rest at night by having my bedrails put up, so that I had to ask for help. I was very angry at the time, having to ask for help. The anger changed to gratitude as I soon felt the benefit of the rest. I realised then that I had been doing too much.

I believe that the unit now has a transition flat where patients who are about to go home can have a sort of semi-independent trial. This would have helped me a lot. It would have been a sign that I was nearly home.

I was in the rehabilitation unit for three months. For a while I was very depressed, and didn’t acknowledge it. When I did, I turned a major corner in my rehabilitation.

In all, I was off work for a year. I started back at work doing six hours a week and gradually, over a two-year period, reached my goal of full-time. My role in active midwifery has changed due to the disability. I now participate more in parent education and clinical teaching and am a source of support and information for clients with special needs. The trust I work for has supported me in my return to work, and provided me with any equipment which would make my role easier.

I can do most things now. I’ve had to re-learn a lot. I’ve adapted the way I work, and use different muscles to carry out various tasks. On the whole, I manage to lead as normal a life as possible, and would be the first to advocate – there is life beyond disability. I have to have regular body scans to monitor tumour growth. Currently there are no major changes, so I take each day as it comes.

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<http://www.cae.org.uk>

Epilepsy Action

<http://www.epilepsy.org.uk/>

Headway

<http://www.headway.org.uk/>

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<http://nnah.org.uk>

Paintings in Hospitals

<http://www.paintingsinhospitals.cwc.net/>

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