



## HBN 12 Out-patients department

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## HBN 12 Out-patients department

### **Delivering Same Sex Accommodation – Review of Health Building Note Guidance**

The Department of Health's Delivering Same-Sex Accommodation (DSSA) programme aims to all but eliminate mixed-sex accommodation from hospitals in England by 2010. Although DSSA is primarily an operational issue, the design and layout of healthcare facilities can help support the provision of same-sex accommodation. With this in mind, the Department's Health Building Note (HBN) series of publications has been reviewed against DSSA requirements.

Amendments have been made to this document at **paragraph 1.3**.

This review makes particular reference to the letter (PL/CNO/2009/2) from the Chief Nursing Officer and Director General NHS Finance, Performance and Operations at:

[www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Professionalletters/Chiefnursingofficerletters/DH\\_098894](http://www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Professionalletters/Chiefnursingofficerletters/DH_098894)

Full details of the DSSA programme are at:

[www.dh.gov.uk/en/Healthcare/Samesexaccommodation/index.htm](http://www.dh.gov.uk/en/Healthcare/Samesexaccommodation/index.htm)



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# Executive summary

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Health Building Note (HBN) 12, 'Out-patients department' addresses the planning and design of out-patient accommodation. The guidance is principally for use in connection with departments that are attached to, or form part of, an acute hospital or treatment centre, although the advice will be equally relevant to facilities provided elsewhere.

This guidance is primarily intended for:

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

It will also be of interest to:

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

The out-patients department (OPD) is the "shop-window" of the hospital. It is one of the departments everyone is likely to visit at least once, and the initial impression, of both the building and its organisation, is likely to remain. A sense of dignity, based on respect for privacy and concern, should be maintained throughout the patient's visit.

The organisation of large numbers of people attending an OPD in an acute hospital is a complex operational and logistical challenge. A priority in this guidance is how best to address this, while ensuring an accessible, high-quality, patient-centred environment.

This HBN contains guidance on the planning and design of an OPD providing accommodation suitable for a variety of clinical uses. The standard accommodation can be used for some specialty clinics; these include orthopaedic clinics catering for patients with fractures who require access to a plaster facility, which is also

described in the HBN. The principles and many of the requirements for a general OPD apply equally to a number of specialty clinics, and consequently dedicated accommodation should be kept to a minimum. A standard consulting/examination (C/E) room in a general-purpose OPD may be used for specialty clinic purposes by:

- a. the use of the room as it is;
- b. bringing special equipment into the room for the period of a clinic. A nearby store will be required for such equipment;
- c. fixing equipment, provided that the room can still be used for other specialty clinics.

Standard rooms used by as many people as possible will result in a compact and economical department. Wherever possible, specialty clinics should be integrated with general out-patients facilities to form a comprehensive OPD.

In this HBN, the combined consulting and examination room is used as the basis for determining the size of the OPD. A method for calculating the number of consulting and examination rooms likely to be required, together with a worked example, is given in the Appendix.

An OPD may offer sessions that extend to half a day or longer. It may also offer special evening or weekend clinics, which may be more convenient for some patients and which may provide better utilisation of capital stock. These are important considerations, as they may affect the size of the accommodation required. Special attention will also need to be given to the availability of support services and facilities, and to the need for cleaning and maintenance.

Schedules of accommodation are provided in the HBN for three sizes of department, that is, having 6, 12 and 18 C/E rooms with a full range of supporting accommodation.

# Significant changes since the previous edition of this guidance

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Since the previous edition of this guidance (HBN 12, 1990), the following changes have been made:

1. 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.
2. 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.
3. Reference to central changing facilities has been removed, as staff changing facilities are now localised within specific areas.
4. Schedules of accommodation have been updated to reflect any changes in the guidance.
5. The engineering chapter has been updated.
6. The information on environmental and other topics (Chapter 5 in HBN 12, 1990) has been removed, as this is general information not specific to out-patient services.

# Acknowledgements

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**Professor Roy Pounder**, Clinical Vice President, Royal College of Physicians; Professor of Medicine, Centre for Gastroenterology, Royal Free Hospital

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*We would like to thank the Royal Bournemouth Hospital for permission to use images of their Out-patients department*





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# 1 Scope of Health Building Note 12

## INTRODUCTION

**1.1** This Health Building Note (HBN) addresses the planning and design of out-patient accommodation. The guidance is principally for use in connection with departments that are attached to, or form part of, an acute hospital or treatment centre, although the advice will be equally relevant to facilities provided elsewhere.

**1.2** Chapter 1 sets out the scope of the services provided in a general out-patients department (OPD). Specific considerations, such as service planning, the characteristics and needs of those attending an OPD, and the size of department, are identified in [Chapter 2](#). [Chapter 3](#) covers general functional and design guidance. Descriptions of specific activity spaces and design guidance are given in [Chapter 4](#). Engineering services are described in [Chapter 5](#). Schedules of accommodation are provided in [Chapter 6](#).

**1.3** The OPD is the “shop-window” of the hospital. It is one of the departments everyone is likely to visit at least once, and the initial impression, of both the building and its organisation, is likely to remain. A sense of dignity, based on respect for privacy and concern, should be maintained throughout the patient’s visit. Planning decisions should take account of patient culture and preferences in terms of privacy, modesty and same-sex accommodation.

**1.4** The organisation of large numbers of people attending an OPD in an acute hospital is a complex operational and logistical challenge. A priority in this guidance is how best to address this, while ensuring an accessible, high-quality, patient-centred environment.

**1.5** OPDs contain general surgical, medical and specialist consultancy clinics. See [paragraph 2.1](#) for the main functions of an OPD.

## INCLUSIONS

**1.6** This HBN contains guidance on the planning and design of an OPD providing accommodation suitable for a variety of clinical uses. The standard accommodation can be used for some specialty clinics; these include orthopaedic clinics catering for patients with fractures who require access to a plaster facility, which is also described in this HBN.

**1.7** For specific guidance on the following dedicated facilities, please refer to the relevant publications:

- a. children – HBN 23, ‘Hospital accommodation for children and young people’;
- b. specialist dental purposes – HBN 12 Supplement 2, ‘Oral surgery, orthodontics and restorative dentistry’;
- c. ophthalmic clinics – HBN 12 Supplement 4, ‘Ophthalmology’;
- d. people with acute mental illness – HBN 35, ‘Accommodation for people with acute mental illness’). It is for the particular NHS trust and mental health service commissioner to decide whether the out-patient accommodation for acutely mentally ill people should be part of the general OPD of the acute hospital, or elsewhere;
- e. expectant mothers and mothers and their babies – HBN 21, ‘Facilities for maternity care’;
- f. ear, nose and throat services – HBN 12 Supplement 3, ‘ENT and audiology; hearing aid centre’;
- h. genito-urinary medicine clinics – HBN 12 Supplement 1, ‘Genito-urinary medicine clinic’;
- j. acutely disturbed children and adolescents – HBN 43, ‘Facilities for child and adolescent mental health services’;
- k. cardiac facilities – HBN 28, ‘Facilities for cardiac care (adults)’ and HBN 30, ‘Cardiac facilities for children and young people’;
- m. cancer facilities – HBN 54, ‘Facilities for cancer care’;
- n. renal facilities – HBN 53, ‘Facilities for renal services’.

**1.8** Clinic facilities included as part of the general OPD should not be duplicated when the accommodation in a–k above is being planned. Project teams should ensure that they are aware of all relevant guidance.

## INTENDED READERSHIP

**1.9** This guidance is primarily intended for:

- a. project and design teams;

b. estates directors and their staff;

c. PFI consortia.

**1.10** It may also be of interest to:

a. executive directors and senior managers of acute trusts and primary care trusts (PCTs);

b. clinicians from every profession working in, or in partnership with, out-patient services;

c. information management and technology (IM&T) staff;

d. others involved in the provision of out-patient services;

e. NHS Foundation Trusts (for information only).

## 2 General service considerations

### SERVICE PROVIDED AND MAJOR FUNCTIONS

**2.1** The main functions of an OPD are:

- a. specialist consultation and examination;
- b. treatment of patients who do not require the facilities of either an acute day patient or in-patient ward;
- c. screening for the selection of patients for day case treatment, day surgery or in-patient procedures;
- d. pre-operative assessment;
- e. following up and monitoring the condition of patients after day case treatment, day surgery or in-patient procedures;
- f. discharging patients from the care of the hospital, with referral if necessary to other health service providers.

Additionally, the OPD may provide an assessment and treatment facility in the event of a major disaster.

**2.2** The layout of the department and the interior design should create a friendly and reassuring environment for patients, escorts and staff.

**2.3** The total needs for out-patient services in a local health economy will be assessed as part of the strategic planning process. In determining the size and functions of an OPD, the provision available in the locality should be considered.

**2.4** The location of out-patient services is of critical importance, and careful thought is required in connection with the distribution of facilities within a local health economy. The size and distribution of the out-patient population, convenience to patients and staff, and the need for support services, are some of the factors to be taken into account.

**2.5** Centralised accommodation has the following advantages:

- a. avoids duplication of services;
- b. provides a readily accessible range of expertise;
- c. support services are close at hand.

### FACTORS AFFECTING SIZE OF DEPARTMENT

**2.6** In this HBN, the combined consulting and examination room is used as the basis for determining the size of the OPD. A method for calculating the number of consulting and examination rooms likely to be required, together with a worked example, is given in the Appendix.

**2.7** The factors that should be taken into account when assessing need include:

- a. the population profile (characteristics, morbidity etc) from which to derive needs by specialties;
- b. estimated number of new and return patient attendances that can be dealt with in each clinic session;
- c. number of specialties;
- d. number of clinic staff to be accommodated (including doctors, nurses and other professional and technical staff);
- e. number of rooms required for each clinic, based upon the working methods of the staff concerned;
- f. timetabled use of consulting/examination rooms (C/E rooms), and possible sharing of rooms between specialties, where appropriate, to maximise utilisation (see [paragraph 3.8](#));
- g. availability of staff to conduct and support clinics.

**2.8** An OPD may offer clinical sessions that extend to half a day or longer. It may also offer special evening or weekend clinics, which may be more convenient for some patients and which may provide better utilisation of the facility. These are important considerations, as they may affect the size of the accommodation required. Special attention will also need to be given to the availability of support services and facilities, and to the need for cleaning and maintenance.

**2.9** Schedules of accommodation are provided in [Chapter 6](#) for three sizes of department, that is, having 6, 12 and 18 C/E rooms with a full range of supporting accommodation.

## APPOINTMENTS SYSTEM, RECEPTION AND WAITING

**2.10** An effective appointments system is essential to the operation of an efficient OPD. A well-managed system will facilitate the functions of the department and will be an important factor in determining the number of patients for whom waiting space should be provided. Project teams should take account of initiatives from the Modernisation Agency and National IT Programme (<http://www.dh.gov.uk/PolicyAndGuidance/InformationTechnology/NationalITProgramme/fs/en>), for example centralised booking systems.

**2.11** This HBN is based on an OPD where out-patient reception, registration and waiting are located within each clinic suite, so that:

- a. patient waiting time and unnecessary queuing can be minimised. Excessive waiting time has been a major cause of criticism for many years and may detract from an otherwise excellent service;
- b. patients can receive better individual attention while at the clinic;
- c. any repetition of administrative work concerning patients and their notes is avoided.

**2.12** This HBN, therefore, describes the provision of clinic reception desks and associated clinic waiting spaces decentralised within the department. However, project teams may also wish to consider the provision of a central reception and waiting area, with sub-waiting areas for each clinic suite. Provision of separate waiting areas may help to reduce cross-infection, for example, where a chest clinic is provided.

**2.13** Anxiety of patients and their escorts when having to wait can be reduced if the department's design

achieves a quiet and restful atmosphere (see paragraph 3.31 on the internal environment). Good organisation is also important, which includes ensuring that patients are kept fully and continuously informed of reasons for any delay. This information may be both verbal and visual, for example by the use of video systems. These could also be used to provide information about health education and services available through organisations such as Community Health Councils.

**2.14** Ambulance transport arrangements should be coordinated with the appointments system to ensure a smooth flow of patients to and from the clinic sessions and avoid overcrowding in waiting areas. It should not be necessary for patients to return to the clinic waiting area following an appointment.

## PATHOLOGY TESTS

**2.15** Specimens for pathology testing such as urine, biopsy samples, blood etc are taken in the OPD. They are transported to the Pathology department either manually or via a pneumatic tube system. Project teams will need to consider appropriate locations and security for the tube system (see paragraph 5.56). Larger departments may benefit from the provision of separate specimen reception facilities for either a manual or pneumatic tube system; however, this will be a local decision.

**2.16** This HBN assumes that venepuncture will usually take place in the OPD rather than in the pathology department. This system obviates the need for patients to leave the OPD and reduces the need for public access to the pathology department. The decision on this, however, is for the project team (see HBN 15, 'Facilities for pathology services').

## 3 General functional and design guidance

### INTRODUCTION

**3.1** This chapter provides guidance based on the service objectives outlined in [Chapter 2](#) and includes information on a range of topics that should be taken into account when designing an OPD.

### LOCATION AND RELATIONSHIPS

**3.2** Patients may arrive by ambulance, by car, by public transport, or on foot, and will often have an escort. Adequate car parking space is essential. This should not impede ambulance unloading. There should be separate setting-down points close to the OPD entrance for patients arriving by ambulance and by car.

**3.3** This HBN is based on the OPD being situated close to, and accessed via, the main entrance of an acute hospital. Sometimes, however, the OPD will be located so that it has its own entrance (see ‘Welcoming entrances and reception areas’, NHS Estates, 2003).



Main OPD entrance (Lisa Payne Photography)

**3.4** A large number of patients and escorts will attend the OPD. Many patients will have mobility problems, for example physical, auditory or visual impairment. For this reason, the OPD should be located on the ground floor. Parking areas for disabled people and wheelchairs should be provided close to the main entrance. If, unavoidably, any part of it is not on the ground floor, easy access by lift and stairs must be provided.

**3.5** Access and circulation routes to and within the OPD should be sufficiently direct and clearly signposted to prevent patients losing their way within the hospital. See ‘Wayfinding’ (NHS Estates, 2004).

**3.6** Departments that have a link with the OPD should be readily accessible from it, but project teams will need to determine how far this can be achieved. The departments concerned are:

#### a. Accident and Emergency department (A&E)

The hospital's major incident plan will make provision for the overflow of emergency services from the A&E department. This may include the OPD.

#### b. Imaging department

Out-patients may attend the Imaging department during the course of an out-patient session. A large proportion of patients will be referred, some of whom will have difficulty in walking or be on trolleys or in wheelchairs. If an orthopaedic clinic is to be operated within the OPD, it should be conveniently located to the imaging department.

#### c. Pharmacy department

If local policy is that out-patients attend the hospital pharmacy to have their prescriptions dispensed, facilities for this will need to be conveniently located.

#### d. Health records department (HRD)

To assist the constant movement of health records between the HRD and the OPD, the departments should be readily accessible to each other, although they need not be adjacent, particularly with the advent of the electronic patient record (EPR).



### e. Rehabilitation department

Out-patients will be referred from orthopaedic and other clinics.

Other services having links with the OPD may include day case facilities, physiological measurement services, ultrasound, nuclear medicine, social work, and dietetics. A combined C/E room may be used for these purposes, using portable equipment as necessary. A shared office for visiting staff should be provided.

### GENERAL DESIGN PRINCIPLES

**3.7** The aim of the design should be to achieve a quiet, relaxed atmosphere, bearing in mind that there is a constant flow of patients between the entrance, clinic reception and waiting areas, and the consulting rooms (see [paragraph 3.26](#)). Characteristics of a good OPD are:

#### a. For patients:

- i. a well-designed clinic reception;
- ii. clear and simple directions and circulation routes;
- iii. a well-organised and efficient appointments system;
- iv. privacy and dignity are ensured at all times;
- v. uninterrupted consultation with the doctor;
- vi. easy access to treatment facilities and WCs;
- vii. easy access to telephone facilities.

#### b. For doctors:

- i. patients ready for consultation, with their case notes immediately available;
- ii. accommodation that will enable consultation and examination to take place in privacy;
- iii. access to diagnostic and treatment facilities;
- iv. sufficient storage for equipment.

#### c. For other staff:

- i. good visual contact with waiting patients;
- ii. controlled handling of patients' records to maintain confidentiality;
- iii. a high-quality, safe and secure working environment (see [paragraphs 3.31 and 3.20–3.22](#)).

### SPECIALTY CLINICS

**3.8** The principles and many of the requirements for a general OPD apply equally to a number of specialty clinics, and consequently dedicated accommodation should be kept to a minimum. A standard C/E room in a general purpose OPD may be used for specialty clinic purposes by:

- a. the use of the room as it is;
- b. bringing special equipment into the room for the period of a clinic; a nearby store will be required for such equipment;
- c. fixing equipment, provided that the room can still be used for other specialty clinics.

Standard rooms used by as many people as possible will result in a compact and economical department. Wherever possible, specialty clinics should be integrated with general out-patients facilities to form a comprehensive OPD.

**3.9** Orthopaedic clinics need to accommodate patients and their escorts; many of these patients will be on crutches, or in wheelchairs, or on trolleys. Waiting spaces should reflect these factors. Easy access to plaster facilities is essential.

**3.10** Guidance for a chiropody room is provided in this HBN (see [paragraphs 4.36–4.38](#)). If other special rooms are required (eg for dentistry), refer to the relevant HBN (see [paragraph 1.7](#)).



Podiatry (chiropody) room (Lisa Payne Photography)

## ACCESSIBILITY

**3.11** It is essential to ensure that suitable access and facilities are provided for all users regardless of physical ability. This includes people who use a wheelchair, those who have difficulty in walking, and those with a visual or hearing impairment. Trusts are reminded of the need to comply with the provisions of the Disability Discrimination Act 1995, the Building Regulations Approved Document M: 'Access to facilities and buildings (Office of the Deputy Prime Minister, 2004) and BS 8300:2001.

**3.12** It is recommended that project teams consult local representatives of disabled people, such as the trust access group, with regard to the planning of the OPD. Project teams should also refer to HBN 40, 'Common activity spaces' Volume 4: 'Circulation areas' and HFN 14, 'Disability access'.

**3.13** Telephone equipment hand-sets should be fitted with an inductive coupler to assist people using a hearing aid.

## CHILD-FRIENDLY ENVIRONMENT

**3.14** As children may accompany adults to an OPD, waiting areas should have suitable play and recreational equipment (see [paragraph 4.5](#)). Mothers should have access to infant/baby feeding and parents to nappy-changing facilities. If children will be attending for appointments, clinical areas should be designed appropriately for the age groups. See also 'Friendly healthcare environments for children and young people' (NHS Estates, 2003) and HBN 23, 'Hospital accommodation for children and young people'.

## WAYFINDING

**3.15** The OPD should be clearly signposted from the entrance(s) to the hospital site, from the car park, and from the main entrance to the hospital. All signs should be at a level that will prevent them from being obscured by cars and other vehicles, and should be illuminated after dark.



Signage for an OPD (Lisa Payne Photography)

**3.16** Directional signs should be provided identifying all routes that patients and escorts may need to follow both within the department and to other departments.

**3.17** All signposting should be clear, as simple as possible, easily understood and self-explanatory. Most patients should be able to find their way without having to ask for directions. See 'Wayfinding' (NHS Estates, 2004).

## STAFF FACILITIES

**3.18** The provision of suitable staff facilities is an important feature in the efficient functioning of an OPD. Because of the continuous pressure of work, it is essential to provide adequate rest and sanitary facilities. To afford adequate privacy for staff, the rest facilities should be sited away from the patient and waiting areas. Changing facilities should be provided locally (see [paragraphs 4.43–4.50](#)).

**3.19** Office accommodation for the OPD manager and for the nurse manager is required (see [paragraphs 4.44 and 4.45](#)).

## SAFETY AND SECURITY

**3.20** Assaults on hospital staff and theft of NHS property are recognised problems. The project team should discuss security with the police crime prevention officer and the local security officer or adviser at an early stage in the design of the building. Fire and security officers should be consulted concurrently because the demands of security and fire safety may sometimes conflict.

**3.21** Where violent incidents are foreseeable, employers have a duty under the Health and Safety at Work etc Act 1974 to identify the nature and extent of the risk and to devise measures that would provide a safe workplace and a safe system of work. See also 'Violence and aggression to staff in health services: guidance on assessment and management' (Health Services Advisory Committee and Health and Safety Commission, 1997).

**3.22** Careful attention should be given to:

- a. the design of reception points and waiting areas;
- b. access to pay-phones;
- c. ease of visual contact with colleagues;
- d. personal alarms and the location of panic buttons.

## MATERIALS HANDLING

**3.23** Supply, storage and disposal should be thought of as an entity. Supplies should enter the department, be stored, consumed or employed and thereafter removed



for disposal (or, in some cases, recycling). Operational policies and building design are closely linked and project teams should carefully consider the following issues:

- a. whole-hospital materials handling policies and control procedures, bearing in mind the range of stores in the department;
- b. the several kinds of items supplied, for example sterile supplies, office supplies and clean laundry;
- c. the delivery point(s);
- d. the location and volume of storage spaces (see HTM 71, 'Materials management modular storage');
- e. specialised storage requirements, for example pharmaceutical supplies, especially controlled drugs;
- f. arrangements for disposal, which should ensure that materials awaiting collection do not overspill into corridors.

See 'The safe disposal of clinical waste' (Health Services Advisory Committee and Health and Safety Commission, 1999).

## COMMUNICATIONS

**3.24** The provision of an effective communications system is necessary for the efficient management of an OPD. Communications requirements can be considered in four main categories: telephones; intercommunications; patient/staff call; and alarms.

### Telephone services

**3.25** Prompt internal communication between the general enquiry desk, the clinic reception desks and the HRD will be required.

**3.26** Project teams may wish to consider the possibility of providing direct dialling in (DDI) for out-patients appointments. All provision for telephones should be in accordance with local whole-hospital communications policy.

### Data transmission

**3.27** Project teams will need to consider the provision of data links in accordance with the whole-hospital data transmission and handling policy and initiatives within the National IT Programme: <http://www.dh.gov.uk/PolicyAndGuidance/InformationTechnology/NationalITProgramme/fs/en>.

### Next patient call systems

**3.28** Patients in the clinic waiting area should preferably be called by name by the nurse, receptionist or consultant. If there are issues around patient

confidentiality, alternative systems may include numbering and patient paging. However, impersonal systems should generally be avoided. Special consideration needs to be given to calling patients with an auditory or visual impairment (see also paragraph 5.108).

### Patient/staff and staff/staff call systems

**3.29** Provision will be needed for patient-to-staff calls from patient WCs, and staff-to-staff calls from patient WCs and from treatment areas (see paragraphs 5.88–5.91). In addition, the staff location system employed in the hospital should be extended to give adequate cover to this department.

### Controlled Drugs cupboard and alarm

**3.30** If a Controlled Drugs cupboard is required, it should be located in the clean utility or other lockable room and provided with alarms that comply with the requirements of BS 2881 (1989). See paragraph 5.10 and HTM 63, 'Fitted storage system'.

## INTERNAL ENVIRONMENT

**3.31** The internal environment of an OPD should reflect the needs of patients, their escorts and staff. Waiting spaces should be welcoming, well-illuminated and relaxing, and should have as much natural light and ventilation as possible. An excessively clinical appearance should be avoided. Colours, wallpapers and furniture should be carefully chosen. Views to outside areas are essential. See also:

- a. 'Evaluation of the King's Fund's Enhancing the Healing Environment Programme' (NHS Estates, 2004);
- b. 'The Art of Good Health – A Practical Handbook' (IPE; NHS Estates, 2003);
- c. 'The Art of Good Health – Using Visual Arts in Healthcare' (IPE; NHS Estates, 2003);
- d. the Patient Environment section of the NHS Estates website: [http://www.nhsestates.gov.uk/patient\\_environment/index.asp](http://www.nhsestates.gov.uk/patient_environment/index.asp).

## NATURAL AND ARTIFICIAL LIGHTING

**3.32** A light and attractive interior is required, with an adequate level of illumination that can be varied to suit functional activities. Because natural lighting is variable in quality and quantity, the provision of a comprehensive artificial lighting installation in examination and treatment areas is essential. See 'Lighting and colour for hospital design – a report on an NHS Estates-funded research project' (Dalke et al, NHS Estates, 2004).

**3.33** The orientation of accommodation is an important consideration in any building scheme. Sunlight within a building enhances colour and shape and helps to make a room bright and cheerful. Glare should be minimised and may be controlled by curtains and blinds. Solar gain can be mitigated by external screens or by architectural detailing of the shape of windows and depth of reveals (see HTM 55, 'Windows'). Solar control glass may affect the analysis of skin colour/tones.

**3.34** Artificial lighting should be capable of providing the required levels of illumination at all times. It also has an important contribution to make to the aesthetic appeal of the interior. The design should provide task lighting of the required intensity, with low-contrast glare-free background illumination. Clinical areas will require the use of approved colour rendering light sources.

### NOISE AND SOUND ATTENUATION

**3.35** Any unwanted sound is a noise. Rooms where consultations, diagnostic and clinical procedures take place should be sited so that they are not unduly affected by external or internal noise. This will apply particularly to consulting, examination and treatment rooms, interview rooms and offices. Provision should be in accordance with HTM 2045, 'Acoustics: Design considerations'. Advice on acoustic considerations should be sought from a specialist consultant if required.

**3.36** Many confidential and personal interviews take place in an OPD, including in reception areas. Careful attention should be paid to sound attenuation of partitions in rooms where these will be held, to ensure that the privacy and dignity of patients is maintained.

**3.37** Noise-sensitive areas should be located as remotely as possible from the sources of unavoidable noise. Where necessary, sound transmission may be reduced by provision of sound-insulating or sound-attenuating partitions and doors.

**3.38** Noise reduction in a space can be assisted by the use of soft floor coverings, curtains and acoustic treatment of walls and ceilings, where this is hygienically acceptable. See [paragraphs 5.23–5.24](#).

### WINDOWS

**3.39** Clear glazing, providing an outlook for patients and staff, should be provided in as many spaces as possible, but privacy in C/E rooms, and in treatment rooms, should be maintained. Windows should be easy to clean, both on the inside and on the outside. Other aspects that need to be considered are illumination and ventilation, thermal loss or solar gain, energy conservation, the prevention of glare, and the provision of a visual link with the outside. See also paragraph 3.33. Guidance on types of window and on safety aspects is given in HTM 55, 'Windows'.

### ACTIVITY DATABASE

**3.40** The Activity DataBase data and software assists project teams with the briefing and design of the healthcare environment:

- a. 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;
- b. schedules of equipment/components are included for each room, which may be grouped into ergonomically arranged assemblies;
- c. schedules of equipment can also be obtained at department and project level;
- d. fully-loaded drawings may be produced from the database;
- e. reference data is supplied with ADB that may be adapted and modified to suit the users' project-specific needs.

**3.41** For further information please refer to the ADB section available from a link from NHS Estates website home page: <http://www.nhsestates.gov.uk>.

# 4 Specific functional and design guidance

## INTRODUCTION

**4.1** This chapter provides guidance on the functional and design implications for each of the activity spaces in the OPD. Reference should also be made to the relevant HTMs covering Component Data.

## DESCRIPTION OF ACCOMMODATION

**4.2** The guidance in the following paragraphs is based upon the flow pattern shown in Diagram 1.

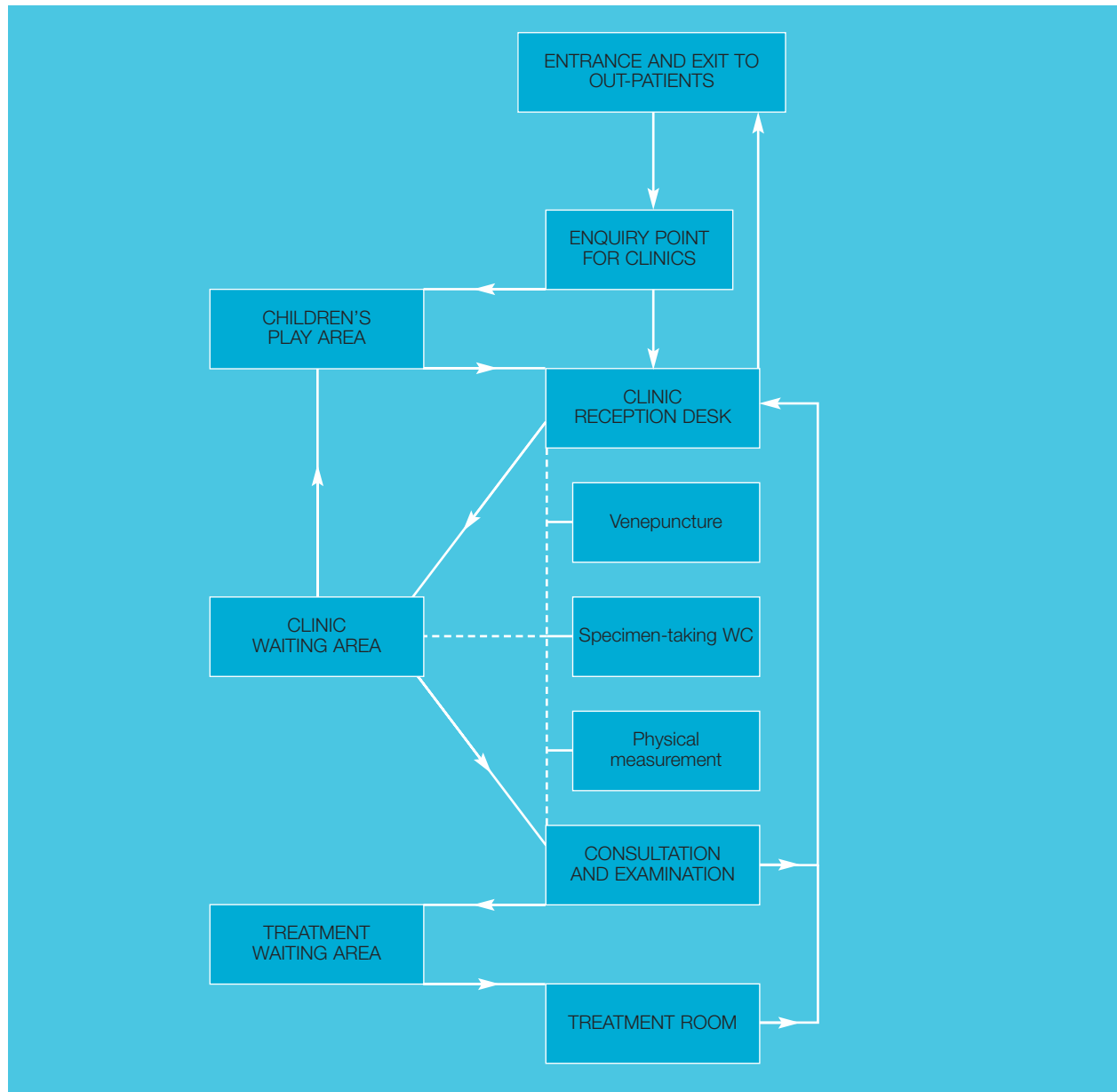


Diagram 1 Patient flow pattern in Out-patients department

## Enquiry point inside OPD

**4.3** An enquiry point should be located immediately at the entrance to the department. Depending upon the size of the department, it will need to be staffed by one, or two, people, whose main functions will be dealing with general enquiries from patients (both in person and on the telephone) and appointments. Space will be required for computer terminals. Staff based at the desk may need to discuss personal details with the patients, and the design should achieve a satisfactory level of privacy and meet DDA requirements.

**4.4** A signboard at this point indicating locations of current clinic sessions, including specialties, names of doctors, starting times and identity of clinic suites, will be helpful to patients and will reduce the number of enquiries (see ‘Wayfinding’, NHS Estates, 2004).

**4.5** If not conveniently located elsewhere, the following facilities should be provided in the OPD within easy access of all the clinic suites:

- a. WCs** (see [paragraph 4.56](#));
- b. telephones;**
- c. refreshment facilities;**
- d. patient lockers;**



Enquiry point (Lisa Payne Photography)

## e. children's play area

A secure play area for children accompanying adult patients should be provided. Young children should be able to play or read in safety without disturbing adult patients. The location of the play area should facilitate easy and constant observation. If possible, there should be access to a suitable outside play area. Playground equipment and surfacing should comply with BS EN 1176-3 and 1176-4:1998 and BS EN 1177:1998;

## f. nappy changing facilities;

## g. baby/infant feeding facilities;

## h. buggy/push-chair parking.

See also ‘Friendly healthcare environments for children and young people’ (NHS Estates, 2003) and HBN 23, ‘Hospital accommodation for children and young people’.

## Clinic suites

**4.6** For the purposes of this HBN, a clinic suite is defined as a number of combined consultation/examination (C/E) rooms (see [paragraphs 4.19–4.23](#)) that can be operated singly, or together, in conjunction



Children's play area (Lisa Payne Photography)

with an associated clinic reception desk (see paragraph 4.10) and clinic waiting area (see paragraph 4.12–4.17) and support spaces.

**4.7** It is helpful to both patients and staff if the entrances to clinic suites are visible from the entrance to the department; in accommodation where this is not possible, the means of access should be clearly signposted. Clinic suites to be used for patients with disabilities (for example those attending eye and orthopaedic clinics) should generally be accommodated as near as possible to the entrance.

**4.8** The number of C/E rooms used in a clinic session varies with the specialty and the method of working. A doctor may consult alone, using only a single room, or two or three doctors may run a clinic and need five or six rooms. The layout of clinic suites should permit the use of C/E rooms under different working arrangements.

**4.9** C/E rooms will normally be served by one receptionist and one clinic waiting area. It is possible that in large clinics, two reception points may be necessary.

#### Clinic reception desk

**4.10** A reception desk should be provided for each clinic suite. It should be located with the clinic waiting area and be adjacent to consulting and examination rooms. The receptionist should easily be able to see patients



*Clinic reception (Lisa Payne Photography)*

waiting, and should have oversight of as many C/E rooms as possible.

**4.11** Space will be needed for the following activities, some of which will need to be carried out in privacy:

- receiving and registering of patients upon arrival;
- making re-appointments and appointments with other clinics;
- temporary storage of health records, usually on a trolley, for the duration of the clinic session;
- use of telephones and computer terminals.

#### Clinic waiting area

**4.12** The clinic waiting area should be close to the clinic reception desk and be within easy distance of the C/E rooms. It should have a relaxing atmosphere and a variety of seating. There should be no seating immediately outside a C/E room. A variety of reading material should be available. Adequate space is needed for wheelchair patients.

**4.13** The size of the clinic waiting area is a function of:

- the number of patients attending the clinics;
- the number of escorts and where they wait;
- the number of patients in wheelchairs.

An efficient appointments system in should be assumed when planning the size of the waiting area.

**4.14** A clinic waiting area should not be oversized merely to cope with the occasional build-up of patients. Locating two clinic waiting areas adjacent to each other may facilitate overspill arrangements by allowing shared use. A large space may be broken down into small units by the skilful arrangement of seating and by indoor planting.

**4.15** In areas to be used for orthopaedic clinics, most patients are likely to be physically disabled, using crutches, and fitted with splints etc. Care should be taken to allow for this in planning the size of the clinic waiting area.

**4.16** Where children attend for appointments side-by-side with adults, project teams should consider the need for separating off adults' and children's waiting areas – for example through the use of screens or plants.

**4.17** Project teams may wish to consider the provision of low-level background music and/or a video system. This may help patients to relax, and mask confidential discussions.





*Clinic waiting area (Lisa Payne Photography) (above); Out-patients waiting area (courtesy of NHS Photolibrary) (below)*



*Physical measurement facilities (Lisa Payne Photography)*

### Physical measurement

**4.18** It is often necessary for out-patients to be weighed and measured. This is usually carried out prior to the consultation/examination, and a space is required where this can take place in privacy, and the results recorded. The facility should be provided close to groups of C/E rooms and the related waiting area. Provision should be made for a mobile weighing chair so that some patients can be weighed in the privacy of the C/E if necessary.

### Combined consulting and examination rooms

**4.19** This HBN is based on combined consulting and examination rooms, although this is a matter for local decision. The combined room facilitates unbroken consultation and examination and, if there is only one door, greater acoustic privacy is achieved. It has greater flexibility in use, as it may be used for either consultation, or examination, or both. The provision of combined rooms also simplifies the present and future allocation of rooms to doctors for particular clinics.

**4.20** A standard C/E room should be large enough to enable a minimum of two clinicians to move freely around the examination couch/trolley and be able to examine and treat the patient from either side. There should be sufficient space for an escort with children, and also a buggy or push-chair and/or wheelchair. C/E rooms may be used for teaching purposes, so there should also be space for 1–2 observers.

**4.21** The room will be used for consultation, examination, taking and recording of blood pressure, and for minor diagnostic and treatment procedures. Space is needed for a desk with computer facilities, chairs, and an examination couch, screened by curtains. The layout should avoid creating a situation of interviewing across a desk. There should be sufficient space within the curtained area for a patient to undress/dress in privacy, with assistance when required. The examination couch should be accessible from both sides. A ceiling-mounted examination lamp is recommended. Clinical hand-washing facilities are required. Storage facilities for small items of equipment and small quantities of supplies may be required.

**4.22** The layout of the room should ensure maximum privacy, especially when the door is opened. Although communication doors between adjacent consulting and examination rooms may facilitate the movement of staff, their use intrudes upon both the patient's privacy and the consultation, so they should be avoided. If they are provided, such rooms should not be used as a general traffic route.

**4.23** Standard C/E rooms can be used by a wide range of specialties. They should not be used routinely as offices, although they can be allocated, for example, as a base for a social worker for the period of a clinic.



Consulting/examination room (Lisa Payne Photography)

#### Consulting rooms with separate examination rooms

**4.24** Consulting rooms with adjacent examination rooms may be justified for some clinics, but do not provide the flexibility of combined C/E rooms because each is

permanently committed to a single purpose. They also limit the number of clinics that can be undertaken in the same overall area.

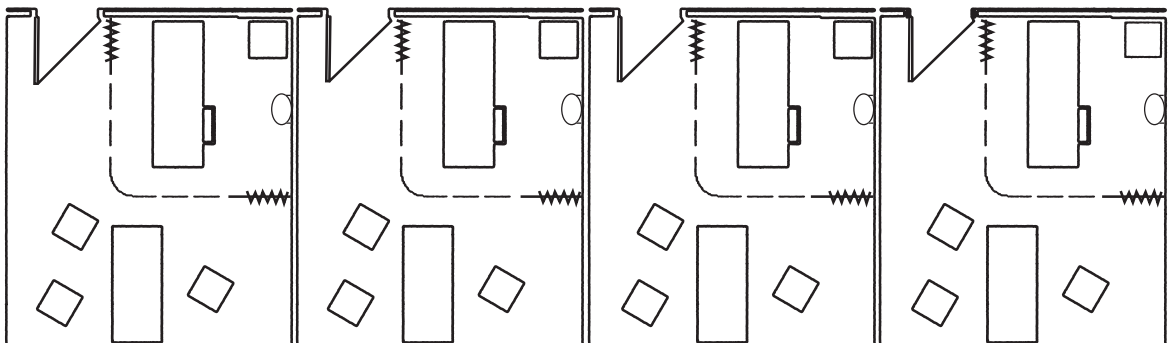
**4.25** Diagram 2 illustrates the comparative space utilisation in the choice of provision of either combined C/E rooms, or consulting rooms with adjacent separate examination rooms.

#### Support services

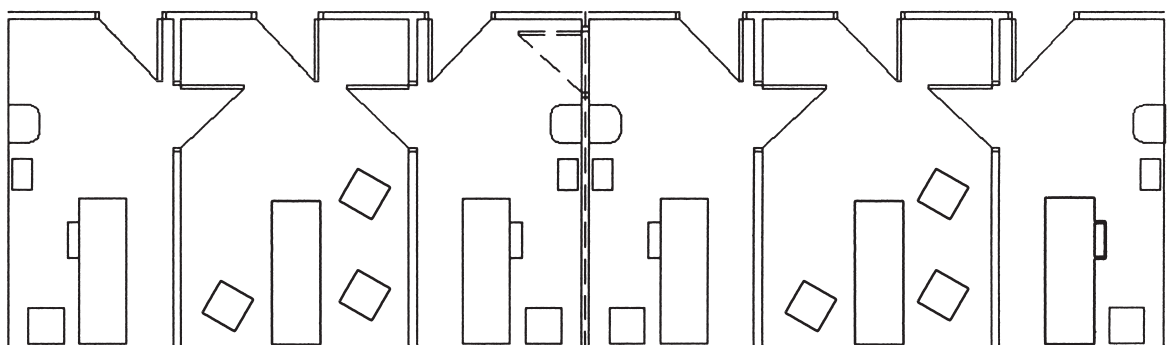
**4.26** Various services are routinely required within an OPD in support of the activities of consultation and examination, and the accommodation needs for these are described below.

#### Treatment waiting area

**4.27** A small waiting area for up to 10 people will be required in the vicinity of the treatment facility.



Example A: 4 consulting and examination rooms  
Range of use: 1–4 doctors  
1–4 clinic sessions



Example B: 2 consulting and 4 examination rooms  
Range of use: 1–2 doctors  
1–2 clinic sessions

Diagram 2 Examples showing comparative space utilisation in choice of provision of consulting/examination rooms

### **Treatment facility**

**4.28** Investigations and treatments that are not appropriate to the C/E rooms, and that do not require use of the acute day patient accommodation, will be carried out in the treatment facility in the OPD. This facility will be used during clinics as required, and the level of provision will depend upon the size of the department and the local practice for conducting clinical investigations and treatments. To ensure visual and auditory privacy, separate treatment rooms should be provided rather than cubicled areas.

**4.29** The treatment facility is intended to be used by most clinical specialties, and for a variety of routine clinical procedures and treatment. These will be carried out in the rooms with the patient lying on an examination couch or trolley, or sitting in a chair. Access to the patient is required from all sides, and space is needed in each room for parking a dressing trolley and a wheelchair. A ceiling-mounted examination lamp is recommended. Each room will require clinical hand-washing facilities.

**4.30** Project teams should establish the medical gas requirements for the treatment facility, in particular nitrous oxide, medical air and gas scavenging – see HTM 2022, 'Medical gas pipeline systems'. Certain specialist procedures may generate or release toxic products, and specialist advice should be sought. If laser procedures are to be undertaken, project teams should seek advice on the specific requirements – see Health Notice HN (84)16, BS IEC 60825-8:1999, and DB 9602 'Guidance on the safe use of lasers in medical and dental practice' (MHRA, 2003).

**4.31** A preparation area is required where sterile packs, lotions and drugs for immediate use are stored, and where trolleys are prepared. In larger units, this will be separate from the treatment room, whereas in smaller units it will be part of the treatment room. A work surface is required.

**4.32** The treatment facility should be positioned close to the clean and dirty utility rooms.

#### **Clean utility room**

**4.33** A clean utility room should be located adjacent to the treatment preparation area. Project teams may wish to consider the need for direct access for staff from the preparation area. Provision is required for the preparation and storage of all drugs, medicines and lotions, and for a working supply of clean and sterile supplies, and the preparation of trolleys for the clinics. The Controlled Drugs cupboard may be located here. A clinical hand-wash basin is required.



*Treatment rooms (Lisa Payne Photography)*

#### **Dirty utility room**

**4.34** A dirty utility room should be located in close proximity to the treatment area. Project teams may wish to consider the need for direct access for staff from the preparation area. Specimens may be passed through a hatch from the adjacent WC. Facilities are required for testing specimens of urine and recording results, and for the disposal of liquid waste. Provision is needed for the cleaning of dressing trolleys and other items of equipment, and for the temporary holding of items requiring reprocessing or disposal. A combined disposal unit with separate worktop will be needed. Clinical hand-wash facilities are required. Access from the clinic suites is required. If large numbers of patients are



referred from GPs, a location close to the entrance to the OPD will be preferable.

### Chiropody

#### Chiropody waiting area

**4.35** Shared use of the treatment waiting area may be the most appropriate solution. However, a larger unit may require a separate sub-waiting area in the vicinity of the chiropody room.

#### Chiropody room

**4.36** A room is normally required for chiropody, except in small units. It should be large enough to accommodate a chiropodist, a chiropody aide and a patient who may be in a wheelchair. Mechanical ventilation should be provided to control the diffusion of odours.

**4.37** Space is needed for an electro-hydraulic reclining chair, and for the parking of a chiropody treatment unit and other equipment. Space is required to hold in-use fluids, instruments and clean and sterile supplies. A work surface is needed. There should be an adjustable examination lamp. A desk, chair and small filing cabinet are required. Clinical hand-wash facilities should be provided.

**4.38** A curtained area should be provided to enable patients to undress and dress in privacy. The cubicle should be fitted with grab-rails.



Podiatry (chiropody) room (Lisa Payne Photography)

### Chiropody store

**4.39** A lockable store will be required for small instruments and supply items.

### Venepuncture

**4.40** This HBN is based on facilities being provided in the OPD for the taking and testing of blood specimens. The location of these facilities may, however, be a matter for local decision. Ease of access from the clinic suite is required. If large numbers of patients are referred from GPs, a location close to the entrance to the OPD will be preferable.

#### Venepuncture waiting area

**4.41** A larger unit may require a dedicated waiting area and small reception point, but the clinician may fetch the patient from the waiting area him or herself, or a numbered ticket apparatus may be used to call patients.

#### Venepuncture cubicles

**4.42** Blood specimens will be taken in cubicles by trained phlebotomists. A group of three cubicles will usually be adequate for most sizes of OPD, but the number of cubicles will be determined by project teams in the light of the number of referrals by GPs. Each cubicle will accommodate one sitting patient and a phlebotomist. Clinical hand-washing facilities are required in each cubicle. One cubicle should be suitable for a patient in a wheelchair, and one should contain an



Venepuncture cubicle (Lisa Payne Photography)

examination couch in case it is necessary for a patient to lie down. Space will be needed for portable analytical equipment, as some analyses will take place there. Storage facilities for sterile items etc. are required.

### **Staff facilities**

**4.43** The staff facilities required in the OPD are described in paragraphs 4.44–4.50.

#### ***OPD manager's office***

**4.44** An office is required within the department for the OPD manager.

#### ***Nurse manager's office***

**4.45** An office, similar to that for the OPD manager, is required within the department for routine office work, for interviewing, and for discussion with staff.

#### ***Appliance clerk's office***

**4.46** An office for routine office work, interviewing and discussions is required. In a department with a high surgical appliance workload, an office for two or three staff may be needed. The office should be located as close as possible to the C/E room that the visiting appliance fitter will use. For information on the appliance clerk's store, see [paragraph 4.55](#).

#### ***Interview room***

**4.47** A room should be provided where patients and relatives can be interviewed in a relaxed environment that ensures that their privacy and dignity are maintained. This room should be in a quiet location within the department. It may also be used as a quiet room by patients and relatives. Acoustic privacy is important (see HTM 2045, 'Acoustics: Design considerations'). Semi-easy chairs and a desk space for one person are required.

#### ***Office for visiting staff***

**4.48** A standard office should be provided for multi-purpose use by visiting staff. It should not be allocated to a particular person or discipline but made available as required on a sessional basis to a wide range of staff, such as community psychiatric nurses (see HBN 35, 'Accommodation for people with acute mental illness'), social workers, dieticians, and health visitors.

#### ***Staff rest room***

**4.49** A room is needed where staff can sit and relax during breaks. Semi-easy chairs are required. Beverage-making and washing-up facilities are needed, with storage for a small amount of crockery. Lockers should be provided for the storage of small items of personal belongings. Hand-washing facilities are required.

### ***Staff changing***

**4.50** Provision should be made for the secure storage of outdoor clothing and personal items and for the temporary storage of damp clothes. The accommodation should comprise:

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

### **Storage**

#### ***General supplies store***

**4.51** A back-up store specifically for sterile supplies, such as bulk dressing packs, syringes and needles, will be required to supplement supplies held in the clean utility room and working supplies held in individual spaces within the department. This should be located within easy access of the C/E rooms, utility rooms and treatment rooms. Suitable storage for bulk items should be provided. A linen exchange trolley can be stored here, and a general purpose trolley and spare wheelchairs may be parked here.

#### ***General equipment store***

**4.52** An equipment store located within easy access of the C/E rooms, utility rooms and treatment rooms is required for the storage of mobile and loose items of medical equipment. Floor space where mobile equipment can be parked, and shelving for storage, are required. Project teams may wish to consider the need for provision of storage space for specific items of mobile equipment such as mobile X-ray, resuscitation trolley and telemedicine equipment. A bay for the resuscitation trolley is likely to be required.

#### ***Clinic stores***

**4.53** Local storage for small supply items and equipment is required within each clinic suite, located close to the C/E rooms and physical measurement rooms.

#### ***Stationery store***

**4.54** A store is required for items of stationery, located close to the staff offices, enquiry point and clinic reception.

### ***Surgical appliance store***

**4.55** Space is required for the storage of surgical appliances delivered to the department and awaiting a fitting session. The store should be lockable. Ideally, this store should be located close to the appliance clerk's office and the C/E rooms used by the appliance fitter.

### **WCs**

#### ***Patients, escorts and staff***

**4.56** WC facilities should be easily accessible from each clinic waiting area. Each WC should have hand-washing facilities. At least one WC should be dedicated for staff and one should be fully accessible – in small departments this may also serve as the patient specimen WC.

#### ***WC (specimen)***

**4.57** Two WCs should be provided with hatches, for specimen collecting in the dirty utility room. One of these WCs may be the one designed for wheelchair access and patients requiring assistance. They should be easily accessible from at least one of the clinic waiting areas and conveniently located for all the others.

#### ***Nappy changing facilities***

**4.58** Nappy changing facilities are required near to the children's play area (see [paragraph 4.5](#)).

### **Ancillary accommodation**

#### ***Housekeeper's room***

**4.59** Domestic services staff provide the immediate day-to-day cleaning service from this room. It should provide storage for cleaning materials and equipment in daily use, and facilities for the various activities undertaken. Hand-washing facilities are required.

#### ***Disposal hold***

**4.60** This locked room should be provided at the entrance to the department, close to the dirty utility and accessible from the main hospital street. Collections may then be made without the need for porters to enter the main circulation space of the department. Bagged refuse and soiled linen are held here safely and securely whilst awaiting collection, in line with whole-hospital policy. The size of the disposal hold should be determined by the amount of refuse generated and the frequency of collection.

#### ***Switchroom or cupboard***

**4.61** The departmental electrical supply will be to a switchroom or cupboard suitably identified and located within the department. The switchroom or cupboard should house the main isolators, distribution equipment

etc and be designed to permit ease of operation and maintenance, and be capable of being locked to prevent unauthorised interference. It may be recessed from the circulation routes to prevent open doors causing an obstruction.

### **Plaster facilities**

**4.62** Orthopaedic clinics will normally use the standard clinic reception and waiting facilities and combined C/E rooms in the OPD on a sessional basis. The special facilities required for plaster application and removal are:

#### **a. Plaster room waiting area**

As only a small number of patients will need to wait for the plaster room, patients may wait in an adjacent clinic waiting area, for example the one also used by patients attending orthopaedic clinics;

#### **b. Plaster room**

This should be located near, but not directly off, the main hospital street, as some patients will arrive on beds from the wards. The room should contain two curtained cubicle areas, each with a couch. One should have a ceiling suspension position. Space to work all round the couch is required.

Sufficient space is needed for manoeuvring a bed within the room and for a patient to be transferred from a bed onto an examination couch. Each cubicle should have space for a plaster application trolley, a wall-mounted X-ray viewer, stools and sack stands, and one wall-mounted long mirror. A plaster sink, work surface and storage for tools may be shared between the two spaces. One clinical hand-wash basin is required. Mechanical ventilation should be provided to control odours and plaster dust. Project teams may need to consider the space implications for EPRs, if used;

#### **c. Plaster room stores**

Storage space is required separate to, but directly accessible from, the plaster room for plaster of paris



*Plaster room (Lisa Payne Photography)*

and other compounds (for example fibreglass) used for making splints, and for bandages, theatre-type boots, equipment and instruments. Provision of two stores would facilitate segregation of items. Temperature control may be necessary in one of the stores if heat-sensitive materials are in use.

**d. Walking aids store**

Provision is required for the storage of walking aids such as crutches and splints.

**e. Office (plaster room)**

A small en-suite office is required for plaster room staff where clerical activities and confidential discussions can take place. Telephone facilities will be required.

# 5 Engineering services

## GENERAL ENGINEERING CONSIDERATIONS

**5.1** 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 an OPD, see paragraphs 5.102–5.108. Designers should ensure they read this document as a whole, since further engineering requirements are outlined in other chapters.

### Introduction

**5.2** 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.

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

**5.4** 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).

**5.5** 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

**5.6** 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

**5.7** 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.

**5.8** 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.

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

**5.10** 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.

**5.11** 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.

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

### Design for safety

**5.13** 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.

**5.14** 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.

**5.15** 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.

**5.16** 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).

**5.17** 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.

**5.18** 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)

**5.19** 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

**5.20** 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.

**5.21** 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

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

## Noise

**5.23** 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.

**5.24** 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

**5.25** 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.

**5.26** 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.

**5.27** 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.

**5.28** 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.

**5.29** 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.

**5.30** 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.

**5.31** 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.

**5.32** 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

**5.33** 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 (CIBSE).

## Maximum demands

**5.34** 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

**5.35** 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

**5.36** 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.

**5.37** 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 the Health Guidance Note (HGN), "Safe" hot water and surface temperatures'.

**5.38** 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.

**5.39** 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.

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

**5.41** 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.

**5.42** 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.

**5.43** 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.

**5.44** 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***

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

**5.46** 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.

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

**5.48** 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)***

**5.49** 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.

**5.50** 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.

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

**5.52** 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.

**5.53** 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.

**5.54** 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.

**5.55** Further detailed guidance is contained in HTM 2025.



### ***Pneumatic tube systems***

**5.56** A pneumatic tube system may be required for the transfer of specimens to and from other departments to stations within the facility. The system should be designed in accordance with HTM 2009, 'Pneumatic air tube transport systems'.

### ***Building management systems***

**5.57** 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***

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

## **Engineering services (electrical)**

### ***General***

**5.59** 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.

**5.60** 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***

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

**5.62** 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***

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

**5.64** 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.

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

**5.66** 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.

**5.67** 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.

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

**5.69** 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***

**5.70** 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.

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

### ***Lighting (general)***

**5.72** 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.

**5.73** 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.

**5.74** 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).

**5.75** 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.

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

**5.77** 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 or LV lamps or tungsten lamps may be used. Where necessary, general lighting should be supplemented with dedicated task lighting.

**5.78** 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.

**5.79** 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’.

### ***Controlled Drugs (DDA) cupboard***

**5.80** 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.

**5.81** 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.

**5.82** 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***

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

**5.84** 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***

**5.85** 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***

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

**5.87** 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.

**5.88** 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.

**5.89** 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***

**5.90** 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.

**5.91** 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.

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

**5.93** 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**

**5.94** 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**

**5.95** Conduits for television/video and background music system outlets should be provided in the main waiting area, and in other areas as required.

#### **Internal drainage**

**5.96** 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.

**5.97** 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.

**5.98** 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 CONSIDERATIONS FOR AN OPD**

### **Ventilation**

**5.99** Mechanical ventilation should be provided in the treatment facility, the chiropody room, the plaster room, and all internal waiting areas in this department. In addition, in the treatment facility, a purpose-installed exhaust pipe (typically 25 mm diameter with a suitable push-in connector and permanent identifying label) should be provided for use in specialist procedures (see [paragraph 4.30](#)).

### **Examination lighting in treatment rooms and consulting/examination rooms**

**5.100** To permit access to both sides of the couch, a ceiling-mounted examination lamp should be provided in each C/E room, and in the treatment rooms. These lamps should operate at extra low voltage, be totally enclosed, and should be equipped with a heat filter. The temperature of external surfaces must be such as to avoid injury to patients and staff. These luminaires should comply with BS EN 60598-2-25:1995, IEC 60598-2-25:1994.

### **X-ray equipment**

**5.101** If mains-operated mobile X-ray equipment is to be used in this department, project teams should investigate the appropriate engineering and radiation protection requirements.

### **Call systems (general)**

**5.102** A visual and audible indication of operation should be provided to give patient re-assurance and responding staff unambiguous identification of the call type and source. This should be in a suitable location such as a clinic reception desk or other location where a member of staff will be present. The audible signal initiated by patients should operate for one second at ten-second intervals until cancelled. The audible alarm signal initiated by staff should operate intermittently at half-second intervals. Hospital policy may also require a staff/staff emergency alarm to be transferred to a centrally staffed point either immediately or if it has not been cancelled after a predetermined period.

**5.103** Local visual indication of room source to supplement that provided at the selected staff base may be required in circulation spaces. If this facility is provided, staff/staff alarm calls should be readily distinguishable from patient/staff calls.

**5.104** All call systems should operate at extra-low voltage. Further general guidance is given in HTM 2020 Volumes 1 and 2.

### ***Next patient call systems***

**5.105** Patients should be called personally, but in order to assist patients who are deaf or have some auditory impediment, a simple and unobtrusive “next-patient” call system will be required. This should comprise an illuminated indicator panel and warning buzzer of subdued tone located at the clinic reception desk. Project teams should ensure that the chosen system complies with the DDA and Part M of the Building Regulations.

# 6 Cost information

## INTRODUCTION

**6.1** 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 that 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, NHS Estates guidance 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

**6.2** 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 hard copy of which can be obtained from NHS Estates; copies can also be downloaded from <http://www.nhsestates.gov.uk>. Further information on this can be obtained from NHS Estates; telephone 0113 254 7070.

**6.3** 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 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.

**6.4** The DCAGs for this HBN reflect the total building and engineering requirements and accommodation that an OPD 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.

**6.5** 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

**6.6** 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.

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

## LOCATIONAL FACTORS

**6.8** 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.

## SCHEDULES OF ACCOMMODATION

**6.9** The schedules are split into three distinct elements, as follows.

### Schedule of room/space types

**6.10** 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.

### Schedule of suites/modules

**6.11** 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.

**6.12** 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.

**6.13** 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.

**6.14** Percentage allowances covering planning, engineering and circulation are also included in the totals. These percentage increases to the nominal areas are included in ECA and Optional gross area allowances.

**6.15** The functional groups used for this document are as follows:

- Entrance facilities;
- Clinic consulting/examination suite: 6 rooms;
- Treatment suite;
- Venepuncture suite;
- Chiropody treatment suite;
- Out-patient department plaster facilities;
- Staff support facilities;
- Support facilities: Storage/miscellaneous.

### Examples

**6.16** These schedules show example notional whole-unit accommodation to highlight the scope for sharing accommodation. The examples are not to be taken as ideal provision for any particular project. The examples included are as follows:

- **Example 1:** Out-patients department; 6 C/E rooms (1 suite)
- **Example 2:** Out-patients department; 12 C/E rooms (2 suites)
- **Example 3:** Out-patients department; 18 C/E rooms (4 suites) with plaster facilities.

## DIMENSIONS AND AREAS

**6.17** 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 that are to be carried out. To assist project teams in preparing detailed design solutions for rooms and spaces, studies have been carried out to establish dimensional requirements in the form of critical dimensions.

**6.18** For development planning and at the earliest stage of a design, it may be convenient for designers to have data available that 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 at the end of this chapter.

**6.19** 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.

**6.20** Efficient planning of the building 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

**6.21** Space for circulation, that is, all internal corridors, small vertical ducts and spaces occupied by partitions and walls, is included.

**6.22** 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.

**6.23** 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 adjustments may be necessary to the circulation figure.

## COMMUNICATIONS

**6.24** Staircases and lifts are not included in the DCAGs relevant to the OPD. Costs related to these elements,



along with a suitable space allowance, should be included in the on-costs.

## LAND COSTS

**6.25** 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 SPACES

**6.26** The cost allowances allow for the provision of space for a heating and ventilating zone adjacent to the external walls and for small vertical ducts. This space is included, together with the planning provision, as part of the circulation shown in the schedules of areas for costing.

### Engineering services

**6.27** The following engineering services are included in the cost allowances. Primary engineering services are assumed to be conveniently available at the boundary of the department:

### Mechanical services

- a. heating: low-pressure hot water system;
- b. ventilation: mechanical supply and extract to all clinical areas and areas requiring extract owing to type of room, that is, internal waiting areas, WCs, showers etc. Ventilation plant, that is, air-handling units/extract fans, is not included in the cost allowance;
- c. a share of the ventilation plant and central refrigeration is included in the cost allowance;

d. cold water service: centrally supplied to service points including drinking water. Storage tanks are excluded;

e. hot water service: supplied from a central system; storage and generator are excluded.

### Electrical services

- a. departmental distribution switchboard;
- b. general lighting as required by tasks;
- c. examination lighting (examination lamps);
- d. fluorescent, safety and emergency luminaires, as appropriate.
- e. socket-outlets and other power outlets for fixed and portable equipment;
- f. supplementary equipotential earth bonding connections;
- g. standby and safety installations from the main hospital supplies;
- h. patient/staff and staff/staff call systems;
- j. fire, security and drug cupboard alarm systems;
- k. impulse or battery-operated clocks;
- m. "next patient" call system;
- n. staff location extension to the hospital system;
- p. telephone internal cabling distribution and outlets. Hand-sets excluded;
- q. data wireways only included;
- r. UPS supplies and equipment;
- s. TV/radio wireways only.

## HBN 12, 'OUT-PATIENTS DEPARTMENT': ROOM/SPACE TYPE SCHEDULE

DH Gateway Review, Estates and Facilities Division Schedules of Accommodation Version 3.0 August 2007						
HBN 12 Out-patients department (November 2004)						
E.g. 1: Out-patients department - 6 consulting/examination rooms						
Description	Quantity	Area(m2)	Total Area(m2)	HBN Para.	Notes	ADB Code
<b>Entrance facilities</b>						
Enquiry/information desk: 1 staff	1	4.0	4.0	Para 4.3		J0221
<b>Clinic suite facilities</b>						
Reception: 2 staff	1	10.0	10.0	Para 4.10		J0208
Waiting area: 30 persons including 3 wheelchair users	1	49.5	49.5	Para 4.12	Clinic waiting	J1111
Consulting & examination room: both sides couch access	6	16.5	99.0	Para 4.19		C0201
Physical measurement bay	1	3.5	3.5	Para 4.18		C1401
Interview & counselling room: 5 persons	1	9.0	9.0	Para 4.47	Relatives & patients	M0704
WC & handwash: semi ambulant	2	2.5	5.0	Para 4.56		V1106
WC & handwash: specimen; semi ambulant	1	2.5	2.5	Para 4.57		V1405
WC & handwash: specimen; accessible, wheelchair	1	4.5	4.5	Para 4.57		V1406
<b>Venepuncture facilities</b>						
Venepuncture room: 1 place	1	8.0	8.0	Para 4.42		C1408
<b>Treatment facilities</b>						
Waiting area: 5 persons including 1 wheelchair user	1	9.0	9.0	Para 4.27		J1204
Treatment room with preparation area	1	16.5	16.5	Para 4.28, 4.31		X0112
Clean utility	1	14.0	14.0	Para 4.33		T0505
Dirty utility: urine test	1	12.0	12.0	Para 4.34		Y0411
<b>Staff support facilities</b>						
Rest room with beverage & snack preparation bay: 5 staff	1	11.0	11.0	Para 4.49		D0205
Office: 1 staff	1	10.5	10.5	Para 4.44	OPD manager	M0219
Office: 1 staff	1	10.5	10.5	Para 4.45	Nurse manager	M0219
Office: 1 staff	1	10.5	10.5	Para 4.46	Appliance clerk	M0219
Staff changing room with cubicle & handwash, 5 places	1	8.5	8.5	Para 4.50	Male staff	V0408
Staff changing room with cubicle & handwash, 5 places	1	8.5	8.5	Para 4.50	Female staff	V0408
Shower: ambulant (non patient)	2	2.5	5.0	Para 4.50		V0801
WC & wash: ambulant	2	2.0	4.0	Para 4.56		V1005
<b>Support facilities</b>						
Parking bay: resuscitation trolley	1	1.0	1.0	Para 4.52		G0103
Store: general, sterile supplies & linen	1	9.0	9.0	Para 4.51		W1118
Store: equipment	1	12.0	12.0	Para 4.52		W1531
Store: clinic sundries	1	6.0	6.0	Para 4.53		W1511
Store: stationery	1	3.0	3.0	Para 4.54		W1507
Store: surgical appliances	1	3.0	3.0	Para 4.55		W1515
Cleaners (Housekeeping) room	1	7.0	7.0	Para 4.59		Y1501
Hold: disposal	1	6.0	6.0	Para 4.60		Y0611
Switchgear cupboard	1	2.0	2.0	Para 4.61		K0101A
<b>Net Allowance</b>			364.0			
5% Planning Allowance			18.2			
Total			382.2			
3% Engineering Allowance			11.5			
33% Circulation Allowance			126.1			
<b>Total Allowance</b>			519.8			
<b>Optional accommodation</b>						
Consulting room	6	10.5	63.0			C0103
Examination room	6	9.0	54.0			C0603
External play area	1					G0935
DH Gateway Review, Estates and Facilities Division Schedules of Accommodation Version 3.0 August 2007						
HBN 12 Out-patients department (November 2004)						
E.g. 2: Out-patients department - 12 consulting/examination rooms						
Description	Quantity	Area(m2)	Total Area(m2)	HBN Para.	Notes	ADB Code
<b>Entrance facilities</b>						
Enquiry/information desk: 2 staff	1	6.0	6.0	Para 4.3		J0222
Waiting play area: 5 children	1	13.0	13.0	Para 4.5	ECA	J1403
Public telephone: single booth	1	1.5	1.5	Para 4.5	ECA	G0702
Public telephone: single booth, accessible	1	2.0	2.0	Para 4.5	ECA	G0705
Nappy change room with handwash	1	4.0	4.0	Para 4.5, 4.58	ECA	V1113
Refreshment: vending machine	1	3.0	3.0	Para 4.5	ECA	P0805
Infant feeding room	1	5.5	5.5	Para 4.5	ECA	S0010
Parking bay: shopping, prams & pushchairs	1	6.0	6.0	Para 4.5	ECA	G0108
Locker bay: 12 small lockers	1	1.5	1.5	Para 4.5	Patients belongings ECA	V0627
<b>Clinic suite facilities</b>						
Reception: 2 staff	2	10.0	20.0	Para 4.10		J0208
Waiting area: 30 persons including 3 wheelchair users	2	49.5	99.0	Para 4.12	Clinic waiting	J1111
Consulting & examination room: both sides couch access	12	16.5	198.0	Para 4.19		C0201
Physical measurement bay	2	3.5	7.0	Para 4.18		C1401
Interview & counselling room: 5 persons	1	9.0	9.0	Para 4.47	Relatives & patients	M0704
WC & handwash: semi ambulant	4	2.5	10.0	Para 4.56		V1106
WC & handwash: specimen; semi ambulant	1	2.5	2.5	Para 4.57		V1405
WC & handwash: specimen; accessible, wheelchair	1	4.5	4.5	Para 4.57		V1406
<b>Venepuncture facilities</b>						
Venepuncture room: 2 places	1	16.0	16.0	Para 4.42		C1409
<b>Treatment facilities</b>						
Waiting area: 10 persons including 1 wheelchair user	2	16.5	33.0	Para 4.27		J1201
Treatment room: 1 patient	2	12.0	24.0	Para 4.28		X0120
Preparation room: OPD treatment	1	9.0	9.0	Para 4.31		X0109
Clean utility	1	14.0	14.0	Para 4.33		T0505
Dirty utility: urine test	1	12.0	12.0	Para 4.34		Y0411
<b>Treatment facilities: Chiropody</b>						
Treatment room: chiropody/podiatry, 1 patient	1	15.0	15.0	Para 4.36	Includes patient changing	X0210
Store: chiropody	1	1.5	1.5	Para 4.39		W1533
<b>Staff support facilities</b>						
Rest room with beverage & snack preparation bay: 10 staff	1	18.0	18.0	Para 4.49		D0201
Office: 1 staff	1	10.5	10.5	Para 4.44	OPD manager	M0219
Office: 1 staff	1	10.5	10.5	Para 4.45	Nurse manager	M0219
Office: 1 staff	1	10.5	10.5	Para 4.46	Appliance clerk	M0219
Office: 1 staff	1	9.0	9.0	Para 4.48	Visiting staff	M0507
Staff changing room with cubicle & handwash, 5 places	1	8.5	8.5	Para 4.50	Male staff	V0408
Staff changing room with cubicle & handwash, 10 places	1	14.0	14.0	Para 4.50	Female staff	V0409
Shower: ambulant (non patient)	2	2.5	5.0	Para 4.50		V0801
WC & wash: ambulant	2	2.0	4.0	Para 4.56		V1005



DH Gateway Review, Estates and Facilities Division Schedules of Accommodation Version 3.0 August 2007						
HBN 12 Out-patients department (November 2004)						
E.g. 1: Out-patients department - 6 consulting/examination rooms						
Description	Quantity	Area(m2)	Total Area(m2)	HBN Para.	Notes	ADB Code
<b>Entrance facilities</b>						
Enquiry/information desk: 1 staff	1	4.0	4.0	Para 4.3		J0221
<b>Clinic suite facilities</b>						
Reception: 2 staff	1	10.0	10.0	Para 4.10		J0208
Waiting area: 30 persons including 3 wheelchair users	1	49.5	49.5	Para 4.12	Clinic waiting	J1111
Consulting & examination room: both sides couch access	6	16.5	99.0	Para 4.19		C0201
Physical measurement bay	1	3.5	3.5	Para 4.18		C1401
Interview & counselling room: 5 persons	1	9.0	9.0	Para 4.47	Relatives & patients	M0704
WC & handwash: semi ambulant	2	2.5	5.0	Para 4.56		V1106
WC & handwash: specimen; semi ambulant	1	2.5	2.5	Para 4.57		V1405
WC & handwash: specimen; accessible, wheelchair	1	4.5	4.5	Para 4.57		V1406
<b>Venepuncture facilities</b>						
Venepuncture room: 1 place	1	8.0	8.0	Para 4.42		C1408
<b>Treatment facilities</b>						
Waiting area: 5 persons including 1 wheelchair user	1	9.0	9.0	Para 4.27		J1204
Treatment room with preparation area	1	16.5	16.5	Para 4.28, 4.31		X0112
Clean utility	1	14.0	14.0	Para 4.33		T0505
Dirty utility: urine test	1	12.0	12.0	Para 4.34		Y0411
<b>Staff support facilities</b>						
Rest room with beverage & snack preparation bay: 5 staff	1	11.0	11.0	Para 4.49		D0205
Office: 1 staff	1	10.5	10.5	Para 4.44	OPD manager	M0219
Office: 1 staff	1	10.5	10.5	Para 4.45	Nurse manager	M0219
Office: 1 staff	1	10.5	10.5	Para 4.46	Appliance clerk	M0219
Staff changing room with cubicle & handwash, 5 places	1	8.5	8.5	Para 4.50	Male staff	V0408
Staff changing room with cubicle & handwash, 5 places	1	8.5	8.5	Para 4.50	Female staff	V0408
Shower: ambulant (non patient)	2	2.5	5.0	Para 4.50		V0801
WC & wash: ambulant	2	2.0	4.0	Para 4.56		V1005
<b>Support facilities</b>						
Parking bay: resuscitation trolley	1	1.0	1.0	Para 4.52		G0103
Store: general, sterile supplies & linen	1	9.0	9.0	Para 4.51		W1118
Store: equipment	1	12.0	12.0	Para 4.52		W1531
Store: clinic sundries	1	6.0	6.0	Para 4.53		W1511
Store: stationery	1	3.0	3.0	Para 4.54		W1507
Store: surgical appliances	1	3.0	3.0	Para 4.55		W1515
Cleaners (Housekeeping) room	1	7.0	7.0	Para 4.59		Y1501
Hold: disposal	1	6.0	6.0	Para 4.60		Y0611
Switchgear cupboard	1	2.0	2.0	Para 4.61		K0101A
<b>Net Allowance</b>			364.0			
5% Planning Allowance			18.2			
Total			382.2			
3% Engineering Allowance			11.5			
33% Circulation Allowance			126.1			
<b>Total Allowance</b>			519.8			
<b>Optional accommodation</b>						
Consulting room	6	10.5	63.0			C0103
Examination room	6	9.0	54.0			C0603
External play area	1					G0935
<b>DH Gateway Review, Estates and Facilities Division Schedules of Accommodation Version 3.0 August 2007</b>						
HBN 12 Out-patients department (November 2004)						
E.g. 2: Out-patients department - 12 consulting/examination rooms						
Description	Quantity	Area(m2)	Total Area(m2)	HBN Para.	Notes	ADB Code
<b>Entrance facilities</b>						
Enquiry/information desk: 2 staff	1	6.0	6.0	Para 4.3		J0222
Waiting play area: 5 children	1	13.0	13.0	Para 4.5	ECA	J1403
Public telephone: single booth	1	1.5	1.5	Para 4.5	ECA	G0702
Public telephone: single booth, accessible	1	2.0	2.0	Para 4.5	ECA	G0705
Nappy change room with handwash	1	4.0	4.0	Para 4.5, 4.58	ECA	V1113
Refreshment: vending machine	1	3.0	3.0	Para 4.5	ECA	P0805
Infant feeding room	1	5.5	5.5	Para 4.5	ECA	S0010
Parking bay: shopping, prams & pushchairs	1	6.0	6.0	Para 4.5	ECA	G0108
Locker bay: 12 small lockers	1	1.5	1.5	Para 4.5	Patients belongings ECA	V0627
<b>Clinic suite facilities</b>						
Reception: 2 staff	2	10.0	20.0	Para 4.10		J0208
Waiting area: 30 persons including 3 wheelchair users	2	49.5	99.0	Para 4.12	Clinic waiting	J1111
Consulting & examination room: both sides couch access	12	16.5	198.0	Para 4.19		C0201
Physical measurement bay	2	3.5	7.0	Para 4.18		C1401
Interview & counselling room: 5 persons	1	9.0	9.0	Para 4.47	Relatives & patients	M0704
WC & handwash: semi ambulant	4	2.5	10.0	Para 4.56		V1106
WC & handwash: specimen; semi ambulant	1	2.5	2.5	Para 4.57		V1405
WC & handwash: specimen; accessible, wheelchair	1	4.5	4.5	Para 4.57		V1406
<b>Venepuncture facilities</b>						
Venepuncture room: 2 places	1	16.0	16.0	Para 4.42		C1409
<b>Treatment facilities</b>						
Waiting area: 10 persons including 1 wheelchair user	2	16.5	33.0	Para 4.27		J1201
Treatment room: 1 patient	2	12.0	24.0	Para 4.28		X0120
Preparation room: OPD treatment	1	9.0	9.0	Para 4.31		X0109
Clean utility	1	14.0	14.0	Para 4.33		T0505
Dirty utility: urine test	1	12.0	12.0	Para 4.34		Y0411
<b>Treatment facilities: Chiropody</b>						
Treatment room: chiropody/podiatry, 1 patient	1	15.0	15.0	Para 4.36	Includes patient changing	X0210
Store: chiropody	1	1.5	1.5	Para 4.39		W1533
<b>Staff support facilities</b>						
Rest room with beverage & snack preparation bay: 10 staff	1	18.0	18.0	Para 4.49		D0201
Office: 1 staff	1	10.5	10.5	Para 4.44	OPD manager	M0219
Office: 1 staff	1	10.5	10.5	Para 4.45	Nurse manager	M0219
Office: 1 staff	1	10.5	10.5	Para 4.46	Appliance clerk	M0219
Office: 1 staff	1	9.0	9.0	Para 4.48	Visiting staff	M0507
Staff changing room with cubicle & handwash, 5 places	1	8.5	8.5	Para 4.50	Male staff	V0408
Staff changing room with cubicle & handwash, 10 places	1	14.0	14.0	Para 4.50	Female staff	V0409
Shower: ambulant (non patient)	2	2.5	5.0	Para 4.50		V0801
WC & wash: ambulant	2	2.0	4.0	Para 4.56		V1005

DH Gateway Review, Estates and Facilities Division Schedules of Accommodation Version 3.0 August 2007						
HBN 12 Out-patients department (November 2004)						
E.g. 1: Out-patients department - 6 consulting/examination rooms						
Description	Quantity	Area(m2)	Total Area(m2)	HBN Para.	Notes	ADB Code
<b>Entrance facilities</b>						
Enquiry/information desk: 1 staff	1	4.0	4.0	Para 4.3		J0221
<b>Clinic suite facilities</b>						
Reception: 2 staff	1	10.0	10.0	Para 4.10		J0208
Waiting area: 30 persons including 3 wheelchair users	1	49.5	49.5	Para 4.12	Clinic waiting	J1111
Consulting & examination room: both sides couch access	6	16.5	99.0	Para 4.19		C0201
Physical measurement bay	1	3.5	3.5	Para 4.18		C1401
Interview & counselling room: 5 persons	1	9.0	9.0	Para 4.47	Relatives & patients	M0704
WC & handwash: semi ambulant	2	2.5	5.0	Para 4.56		V1106
WC & handwash: specimen; semi ambulant	1	2.5	2.5	Para 4.57		V1405
WC & handwash: specimen; accessible, wheelchair	1	4.5	4.5	Para 4.57		V1406
<b>Venepuncture facilities</b>						
Venepuncture room: 1 place	1	8.0	8.0	Para 4.42		C1408
<b>Treatment facilities</b>						
Waiting area: 5 persons including 1 wheelchair user	1	9.0	9.0	Para 4.27		J1204
Treatment room with preparation area	1	16.5	16.5	Para 4.28, 4.31		X0112
Clean utility	1	14.0	14.0	Para 4.33		T0505
Dirty utility: urine test	1	12.0	12.0	Para 4.34		Y0411
<b>Staff support facilities</b>						
Rest room with beverage & snack preparation bay: 5 staff	1	11.0	11.0	Para 4.49		D0205
Office: 1 staff	1	10.5	10.5	Para 4.44	OPD manager	M0219
Office: 1 staff	1	10.5	10.5	Para 4.45	Nurse manager	M0219
Office: 1 staff	1	10.5	10.5	Para 4.46	Appliance clerk	M0219
Staff changing room with cubicle & handwash, 5 places	1	8.5	8.5	Para 4.50	Male staff	V0408
Staff changing room with cubicle & handwash, 5 places	1	8.5	8.5	Para 4.50	Female staff	V0408
Shower: ambulant (non patient)	2	2.5	5.0	Para 4.50		V0801
WC & wash: ambulant	2	2.0	4.0	Para 4.56		V1005
<b>Support facilities</b>						
Parking bay: resuscitation trolley	1	1.0	1.0	Para 4.52		G0103
Store: general, sterile supplies & linen	1	9.0	9.0	Para 4.51		W1118
Store: equipment	1	12.0	12.0	Para 4.52		W1531
Store: clinic sundries	1	6.0	6.0	Para 4.53		W1511
Store: stationery	1	3.0	3.0	Para 4.54		W1507
Store: surgical appliances	1	3.0	3.0	Para 4.55		W1515
Cleaners (Housekeeping) room	1	7.0	7.0	Para 4.59		Y1501
Hold: disposal	1	6.0	6.0	Para 4.60		Y0611
Switchgear cupboard	1	2.0	2.0	Para 4.61		K0101A
<b>Net Allowance</b>			364.0			
5% Planning Allowance			18.2			
Total			382.2			
3% Engineering Allowance			11.5			
33% Circulation Allowance			126.1			
<b>Total Allowance</b>			519.8			
<b>Optional accommodation</b>						
Consulting room	6	10.5	63.0			C0103
Examination room	6	9.0	54.0			C0603
External play area	1					G0935
<b>DH Gateway Review, Estates and Facilities Division Schedules of Accommodation Version 3.0 August 2007</b>						
<b>HBN 12 Out-patients department (November 2004)</b>						
<b>E.g. 2: Out-patients department - 12 consulting/examination rooms</b>						
Description	Quantity	Area(m2)	Total Area(m2)	HBN Para.	Notes	ADB Code
<b>Entrance facilities</b>						
Enquiry/information desk: 2 staff	1	6.0	6.0	Para 4.3		J0222
Waiting play area: 5 children	1	13.0	13.0	Para 4.5	ECA	J1403
Public telephone: single booth	1	1.5	1.5	Para 4.5	ECA	G0702
Public telephone: single booth, accessible	1	2.0	2.0	Para 4.5	ECA	G0705
Nappy change room with handwash	1	4.0	4.0	Para 4.5, 4.58	ECA	V1113
Refreshment: vending machine	1	3.0	3.0	Para 4.5	ECA	P0805
Infant feeding room	1	5.5	5.5	Para 4.5	ECA	S0010
Parking bay: shopping, prams & pushchairs	1	6.0	6.0	Para 4.5	ECA	G0108
Locker bay: 12 small lockers	1	1.5	1.5	Para 4.5	Patients belongings ECA	V0627
<b>Clinic suite facilities</b>						
Reception: 2 staff	2	10.0	20.0	Para 4.10		J0208
Waiting area: 30 persons including 3 wheelchair users	2	49.5	99.0	Para 4.12	Clinic waiting	J1111
Consulting & examination room: both sides couch access	12	16.5	198.0	Para 4.19		C0201
Physical measurement bay	2	3.5	7.0	Para 4.18		C1401
Interview & counselling room: 5 persons	1	9.0	9.0	Para 4.47	Relatives & patients	M0704
WC & handwash: semi ambulant	4	2.5	10.0	Para 4.56		V1106
WC & handwash: specimen; semi ambulant	1	2.5	2.5	Para 4.57		V1405
WC & handwash: specimen; accessible, wheelchair	1	4.5	4.5	Para 4.57		V1406
<b>Venepuncture facilities</b>						
Venepuncture room: 2 places	1	16.0	16.0	Para 4.42		C1409
<b>Treatment facilities</b>						
Waiting area: 10 persons including 1 wheelchair user	2	16.5	33.0	Para 4.27		J1201
Treatment room: 1 patient	2	12.0	24.0	Para 4.28		X0120
Preparation room: OPD treatment	1	9.0	9.0	Para 4.31		X0109
Clean utility	1	14.0	14.0	Para 4.33		T0505
Dirty utility: urine test	1	12.0	12.0	Para 4.34		Y0411
<b>Treatment facilities: Chiropody</b>						
Treatment room: chiropody/podiatry, 1 patient	1	15.0	15.0	Para 4.36	Includes patient changing	X0210
Store: chiropody	1	1.5	1.5	Para 4.39		W1533
<b>Staff support facilities</b>						
Rest room with beverage & snack preparation bay: 10 staff	1	18.0	18.0	Para 4.49		D0201
Office: 1 staff	1	10.5	10.5	Para 4.44	OPD manager	M0219
Office: 1 staff	1	10.5	10.5	Para 4.45	Nurse manager	M0219
Office: 1 staff	1	10.5	10.5	Para 4.46	Appliance clerk	M0219
Office: 1 staff	1	9.0	9.0	Para 4.48	Visiting staff	M0507
Staff changing room with cubicle & handwash, 5 places	1	8.5	8.5	Para 4.50	Male staff	V0408
Staff changing room with cubicle & handwash, 10 places	1	14.0	14.0	Para 4.50	Female staff	V0409
Shower: ambulant (non patient)	2	2.5	5.0	Para 4.50		V0801
WC & wash: ambulant	2	2.0	4.0	Para 4.56		V1005

# Appendix – Assessment of number of consulting/examination rooms required in an OPD

## INTRODUCTION

1. HBN 12 [paragraph 2.7](#) identifies some of the factors that should be taken into account when assessing the size of an OPD. There is no simple formula, but a method that may be helpful is set out below. The patient and staff data used are for illustrative purposes only; local figures should be substituted.

## DEFINITION OF TERMS

2. The terms used in this Appendix and its Annexes are defined as follows:

- a. **Clinic session** – a notional period of a half day (usually morning or afternoon) when a clinic is held, comprising a preparation period, consultation period, and clear-up period;
- b. **Consultation period** – the total timetabled period that one doctor (or other professional) spends in consultation during a clinic session;
- c. **Room session** – the use of a C/E room by a doctor for a period of a clinic session; the total number of room sessions per week is the product of the number of rooms used and the number of clinic sessions held in each of them;
- d. **Clinic size** – the number of doctors and/or other professionals requiring C/E rooms for a clinic session. More than one room may be needed by each for effective use of the consultation period.

## CURRENT SERVICE PROFILE

3. A profile of the current out-patient service should be prepared. An example, showing two specialties only, is included as [Annex 1](#).

## FUTURE SERVICE PROFILE AND DERIVATION OF SPACE NEEDS

4. A profile of the planned out-patients service should be prepared and should include the following key factors for each specialty:

- a. the projected population on which the required calculations are based;
- b. total planned attendances, taking account of trends;

- c. average number of attendances per patient per annum, following examination of return attendance ratios and frequencies;
- d. average consultation times for new and return appointments;
- e. consultation period;
- f. clinic size.

An example, for two specialties only, is included in [Annex 2](#).

5. When preparing the “planned service” profile, consider:

- a. the current service profile;
- b. the need to consult appropriate clinical and managerial staff in connection with the information called for in paragraphs 2 and 4 above, recognising that this will vary between specialties;
- c. unmet demand. Levels can be assessed by comparing actual waiting times for non-urgent out-patient appointments with local, regional and national target waiting times and, as necessary, make adjustments to the service provision being planned;
- d. proposals for future new clinics.

6. Calculate the number of consultation periods required by each specialty (see [Annex 2](#) for method).

7. Calculate the number of room sessions required for each specialty. Staff who are familiar with each specialty clinic should be involved in assessing the number of combined C/E rooms required for each clinic session, as this will be affected by:

- a. the clinic size;
- b. the method of working (see paragraph 2(d) above);
- c. the time required for patient undressing/dressing.

8. The overall total of room sessions required for delivering the planned OPD service is obtained by adding together the room needs of all the clinics.

9. On the basis that a combined C/E room can be used for nine sessions each week, the number of combined C/E rooms required in an OPD is:

$$\frac{\text{Total number of room sessions per week}}{9}$$

In the example at Annex 3, the number of combined C/E rooms is  $99 \div 9 = 11$ .

### ROOMS FOR SPECIAL PURPOSES

10. For effective use of space, standard combined C/E rooms should be used for as many specialties as possible (see Chapter 3, paragraph 3.8). If rooms for special purposes are essential, project teams should consult the relevant HBN. Special rooms should be used where possible for general clinics when not being used for their particular special purpose, and they should be brought into the calculation of overall room needs.

### LAYOUT AND TIMETABLED ALLOCATION OF COMBINED CONSULTING/EXAMINATION ROOMS

11. Annex 4 illustrates how the clinics listed in Annex 3 might be accommodated in an OPD with 12 combined C/E rooms. In Annex 4, it has been assumed that:

- combined C/E rooms are provided adjacent to each other and used satisfactorily in conjunction with each other for the purpose of conducting a clinic;
- staff and facilities are available to conduct and support clinics at the periods timetabled.

12. When calculating the number of combined C/E rooms required in a particular OPD, it is important to recognise the issues indicated in paragraphs 11(a) and (b) above and, as necessary, to make adjustments to the final estimates of the size of the OPD needed.

### Annex 1

#### Calculation of number of combined consulting/examination (C/E) rooms required

Current service profile	Specialty A	Specialty B	Method of calculation
A Population served	200,000	250,000	Local data
B New attendances per annum	2,419	2,386	Local data (Form KH09)
C Return attendances per annum	9,499	9,652	Local data (Form KH09)
D Total attendances per annum	11,918	12,038	B + C
E Attendances per 1,000 population	59.59	48.15	$(D \div A) \times 1,000$
F Average attendances per patient per annum	4.93	5.05	$D \div B$ *
G Number of sessions per annum	735	309	Local data (Form KH09)
H Average attendances per clinic session	16.21	38.96	$D \div G$ *
J Duration of consultation period (in hours)	3.5	3.5	Local agreement
K Consultation rate – no of patients per hour	4.6	11.1	$H \div J$ *

\* Checks should be made to see whether improvements can be achieved; these should include comparing the values with the performance of other local health economies

**Annex 2**

Future service profile	Specialty A	Specialty B	Method of calculation
A Planning population	250,000	250,000	Local data/ projections
B Planned total attendances	15,000	12,050	Local data, from current profile, unmet demand, need etc
C Planned attendances per 1,000 population	60	48.2	$\frac{B \times 1,000}{A}$
D Planned average attendance per patient per annum	4.75	4.5	Local data – may differ from current figures
E Calculated new attendances per annum	3,158	2,678	$B \div D$
F Calculated return attendances per annum	11,842	9,372	$B - E$
G Average consultation time per new attendance (in minutes)	18	12	Local data – from discussion with clinicians
H Average consultation time per return attendance (in minutes)	10	4	Local data – from discussion with clinicians
J Annual consultation time required (in hours)	2,921	1,160	$\frac{(E \times G) + (F \times H)}{60}$
K Average duration of a consultation period (in hours)	3.5	3.5	Local decision
L Number of consultation periods in week	18	7	$\frac{J \div K}{48}$ (assumes a 48 working week year)
M Average attendances per clinic session	17.36	35.86	$B/L \times 48$
N Consultation rate – number of patients per hour	4.96	10.25	$M \div K$

**Annex 3****Number of room sessions required per week**

Type of	Number of consultation periods		Number of rooms used	
	per week	per clinic session	per consultation period	per clinic session
Diabetic	1	1	5	5
Elderly	3	2 1	2:2 2	4 2
General medicine	12	3 3 1 2 3	2:2:1 2:1:1 2 2:1 2:1:1	5 4 2 3 4
General surgery	9	3 1 3 2	3:2:2 3 2:2:1 3:2	7 3 5 5
Gynaecology	7	2 2 1 2	3:3 3:2 3 2:1	6 5 3 3
Neurology	2	1	2	2
Orthopaedic	8	2 3 1 2	3:3 3:2:2 3 3:3	6 7 3 6
Pain control	1	1	2	2
Dietitian	2	1 1	1 1	1 1
Nurse treatment	3	1 1 1	1 1 1	1 1 1

**Total number of room sessions per week = 99**

**Annex 4****Allocation of clinic sessions**

Day/period		Number of combined consulting and examination rooms in each string *	
		9 *	3 *
Utilisation of C/E rooms			
Monday	am	Diabetic (5) Elderly (4)	General medicine (2) Dietitian (1)
	pm	General medicine (5) Gynaecology (3)	Pain control (2)
Tuesday	am	General surgery (7) Nurse treatment (1)	Orthopaedic (3)
	pm	Orthopaedic (7) Nurse treatment (1)	Neurology (2)
Wednesday	am	Gynaecology (6) Nurse treatment (1)	General medicine (3)
	pm	General surgery (5) General medicine (4)	
Thursday	am	Orthopaedics (6)	Elderly (2) Dietitian (1)
	pm	Gynaecology (5) General medicine (4)	General surgery (3)
Friday	am	Orthopaedic (6)	Gynaecology (3)
	pm	General surgery (5)	Neurology (2)

\* A string of combined consulting and examination rooms is the number which are adjacent to each other and which can be satisfactorily used in conjunction with each other for the purpose of conducting a clinic

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