

WHBN 04-01

Welsh Health Building Note

Adult in-patient facilities



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Overview

This Welsh Health Building Note (WHBN) provides best practice guidance on the planning and design of in-patient facilities for adults. The accommodation described includes:

- bed and sanitary facilities;
- patient support facilities;
- storage facilities;

- utility facilities;
- administration area and staff facilities.

The space standards for bed areas are applicable to in-patient rooms in any setting, including acute (critical care at levels 1 and 0), day surgery and community facilities.

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Chapter 1 Policy context

Impact of ‘Designed for life: Creating world class health and social care for Wales in the 21st century’ on in-patient accommodation

1.1 ‘Designed for life: Creating world class health and social care for Wales in the 21st century’ (Welsh Assembly Government, 2005) sets out the Welsh Government’s 10-year vision for the provision of healthcare in Wales. It clearly identifies the need to strengthen the care provided at home and in the community and also recognises the crucial role played by hospitals, both in local and acute settings. In-patient accommodation remains largely in acute settings, particularly for complex cases or where major surgery requiring general anaesthesia is required. However, in-patient accommodation may also be provided in community settings for those patients with less complex conditions. Planning teams will need to consider the number of in-patient beds required and where they may be most appropriately located.

Patient expectations and choice

1.2 Patients have high expectations of the environment in which they are to be treated.

1.3 A key element that should be addressed in all patient accommodation is that of privacy and dignity. ‘Fundamentals of care: Guidance for Health and Social Care Staff – Improving the quality of fundamental aspects of health and social care for adults’ (Welsh Assembly Government 2003) states that the principle of basic human rights to dignity, privacy and informed choice must be protected at all times, and the care provided must take account of the individual’s needs, abilities and wishes. The document identifies 12 specific practice indicators and gives a number of practical examples.

1.4 The Department of Health document ‘The Essence of Care’ (DH 2010), although not applicable in

Wales, also identifies several benchmarks of good practice, focusing on the issue of respect for the individual.

Privacy and dignity: Same-sex accommodation

1.4 The need to deliver the highest standards of privacy and dignity applies equally to all areas of a hospital. Accordingly, the design of these facilities should take into account the Welsh Government’s commitment to abolish mixed-sex ward accommodation through the adoption of the following principles:

- All new hospital developments will be built to ensure single-sex accommodation to safeguard the safety, privacy and dignity of patients.
- To ensure the safety, privacy and dignity of patients, hospital/units will seek to ensure that patients are cared for in single-sex accommodation through:
 - (i) single-sex wards (ie the whole ward is occupied by men or women, but not both) with single-sex toilet and washing facilities preferably within or adjacent to the ward;
 - (ii) single rooms preferably with en-suite facilities or adjacent¹ single-sex toilet and washing facilities;
 - (iii) single-sex accommodation in ward (ie bays² or rooms which accommodate either men or

1 ‘Adjacent’ is defined as where bath/shower room and toilets are not provided as en-suite facilities. These should be located as close to the bay or room as possible and clearly designated as either male or female facilities. Patients should not have to walk through areas occupied by the opposite sex to reach the facilities.

2 ‘Bay’ is defined as a single or multiple-bedded sleeping area which is fully enclosed on three sides with solid walls or partitions. The fourth side may be open or partially closed.

women, but not both) with gender-specific bathing and toilet areas preferably within or adjacent to the bay or room.

- Access to single-sex facilities should be via a single-sex route. Separate communal areas for men and women and separate communal areas for both sexes should be set aside.

1.5 This policy is underpinned by the recommendation contained in the report ‘Free to lead, free to care’ (Welsh Assembly Government, 2009), which requires that all new hospitals have single-sex wards, and that existing hospitals with mixed-gender wards are required to divide those wards and provide separate bathroom facilities.

Policy exceptions

1.6 The Empowering Ward Sisters/Charge Nurse Ministerial Task and Finish Group took forward

the implementation of this recommendation and specified that “The ward sister/charge nurse should have the authority to decide on the placing of patients on the ward. Any ward that is mixed gender should be divided geographically and separate bathing/toilet facilities provided. The mixing of men and women in bays should not happen with the exception of:

- paediatric wards
- all intensive care units
- coronary care units
- high dependency units
- theatre recovery units.”

Chapter 2 Scale of provision

2.1 The number of patients admitted to hospital each year depends on local workload patterns. The number of bed spaces required will be calculated from factors such as:

- data on number of admissions, number of refused admissions, number of premature discharges, bed occupancy and length of stay;
- local admissions policy;
- future developments influencing demand for acute services, for example increasing day case surgery rates, improved chronic disease management, and the potential for more care at home;
- availability of beds in other settings, for example community hospitals.

Chapter 3 Space requirements for single-bed and multi-bed rooms

3.1 The current space requirements for single-bed and multi-bed rooms are shown in Tables 1 and 2 below.

Area	m ²
Single-bed room, including family and clinical support area	19.0
En-suite shower room	4.5
Total single-bed room	23.5

Table 1 – Space requirements for single-bed rooms

Area	m ²
4-bed room, including clinical support area	64.0
En-suite assisted shower room and WC	6.5
En-suite semi-ambulant WC	2.0
Total 4-bed room	72.5

Table 2 – Space requirements for a multi-bed room

Note

Attention is drawn to the note following [paragraph 4.30](#) regarding the size of en-suite shower rooms shown in WHBN 00-02 'Sanitary spaces'.

Chapter 4 General functional and design considerations

Location and departmental relationships

- 4.1 Historically, in-patient accommodation has been the core of the hospital. Although current trends in the delivery of health services have eliminated in-patient care for some patients who previously would have been admitted, in-patient accommodation still accounts for a significant proportion of space in a hospital.
- 4.2 Patients who are admitted are often acutely ill and in need of observation. One of the primary goals of designers, therefore, is to minimise the distance between patient rooms and staff workstations, and the distances between all patient rooms.
- 4.3 Traditionally, in-patient accommodation has been located either above the diagnostic and treatment floors of a hospital or adjacent to them. Critical care beds are prioritised to be closest to surgical or medical interventions, whereas rehabilitation and long-stay beds can be significantly further away from the core clinical services.
- 4.4 Beds can be organised horizontally over large floor areas or stacked into towers. A recent tendency in the UK has been to put beds into multi-storey wings that are separate from diagnostic and treatment facilities. This allows more consistent planning of in-patient accommodation, increases flexibility in the way that beds can be organised, and enables maintenance and refurbishment to be carried out more easily.
- 4.5 The location of wards needs to ensure privacy, particularly at night. Ground-floor locations should be considered only where the adjacent environment is free of hospital traffic and publicly accessible areas. Views outside, together with access to sunshine or direct daylight, have been shown to benefit a patient's recovery. The orientation and aspect of in-patient accommodation should be prioritised when developing a hospital masterplan.
- 4.6 The ability to isolate components of in-patient accommodation is important for infection control, particularly during outbreaks of infectious illness. It

is also important in the event of a fire or other emergency, when patients will generally be evacuated to a safe space on the same floor.

- 4.7 The ability to combine clusters of beds will allow for different needs over time. Support facilities can be more flexibly located.
- 4.8 Because in-patient accommodation is such a large component of the hospital, its departmental relationships are mostly dependent on the number and location of access points, lifts, and distance from diagnostic and treatment facilities. Small, discrete and specialist wards such as oncology will require direct access to their own specialist diagnostic and treatment centre within the whole hospital or within the same floor.

Functional relationships

- 4.9 A ward may function as a stand-alone unit within which beds are grouped into two or more clusters. Alternatively, depending on the layout of in-patient floors, some bed clusters may be configured to be shared between wards to provide flexibility (see [Figure 1](#)).
- 4.10 Each bed cluster will be serviced by staff and support facilities, therefore access to supplies and means of disposal should ideally be local to each cluster. It is recommended that rooms be serviced by trolley, like hotels, so that staff do not need to walk far from their bed cluster unless they require access to a shared facility, for example the medicine store/preparation room. The preferred option will be to stock each room for linen, clinical consumables and disposable items, and rely on “just-in-time” and “top-up” supplies.
- 4.11 The reception desk, as distinct from the nurse base, will be at the entrance to a ward, together with a waiting area and facilities for visitors. The entrance to accommodation is usually controlled by staff via intercom.

- 4.12 Regeneration kitchens should not be situated centrally within a ward, although the food trolley bay will need to be located between the clusters.
- 4.13 Ward layouts will depend on local conditions and overall bed numbers.

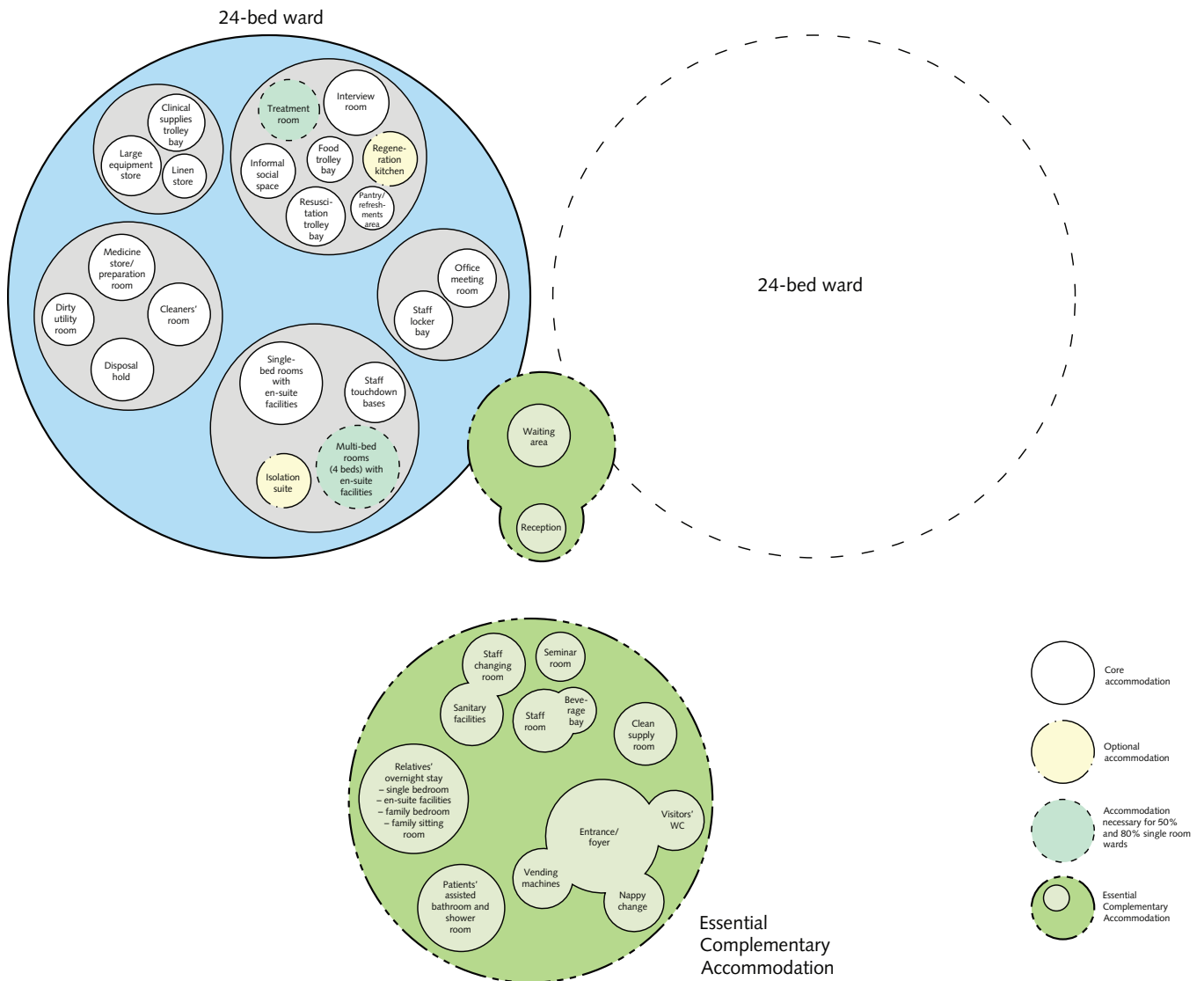


Figure 1 Functional relationships

Ward size

- 4.14 The schedules of accommodation for adult in-patient facilities are based on 24 beds.
- 4.15 The 24-bed ward has been selected as an example only, chiefly because this size is common throughout NHS hospitals.
- 4.16 It also supports the assumption that an eight-bed cohort is the preferred workforce planning unit,

with one clinician and one support worker caring for each cohort, although this may vary according to the dependency level of patients in a cohort. Wards may be larger or smaller than the 24-bed example.

- 4.17 The number of beds in each ward should be determined locally.

Key features of a desirable environment

4.18 Studies (such as ‘Lighting and colour for hospital design’ (DH, 2004) and ‘Hospital interior architecture: creating healing environments for special patient populations’. Malkin, Jain. Van Nostrand Reinhold, New York, 1992) have shown that the following features are necessary to provide a desirable in-patient environment:

4.19 Space for:

- a. clinical activity at the bedside
- b. clinical activity elsewhere
- c. storage/display of patients’ possessions
- d. storage of bulky equipment
- e. staff support and training
- f. social support of patient

4.20 Suitability of:

- a. services and supplies at the bedside for clinical activity
- b. access to and within area for physically and sensory impaired people
- c. services to enable personal communication by patient
- d. services to enable direct admin/clinical communication from the bedside
- e. a reassuring, stress reducing, environment
- f. a safe and hazard free facility

4.21 Privacy:

- a. between patient and staff
- b. during clinical treatment
- c. during clerking and clinical discussions
- d. for bodily functions and personal care
- e. for personal discussions and telephone calls
- f. for staff communications
- g. for staff rest and beverage breaks

4.22 Choice, control, comfort:

- a. to be alone or in company, including visitors
- b. of temperature, ventilation, lighting and sound
- c. of diversion, outlook, entertainment
- d. with access to beverages for patients and relatives

- e. with local storage of personal belongings of staff
- f. with access to the outside world.

4.23 Scientific evidence also indicates that daylight has beneficial effects on patients (see ‘Natural lighting’ under ‘Functional design issues’ in Welsh Health Building Note (WHBN) 00-01 – ‘General design principles’). Therefore, all bed areas should receive natural daylight.

Space requirements

4.24 The provision of sufficient space in clinical areas, particularly for each bed space, is one of the most important considerations in the planning and design of in-patient accommodation. Ergonomic studies have established that most activities carried out at the bedside can be accommodated within the dimensions 3600 mm (width) × 3700 mm (depth). This represents the clear bed space and does not include space for fixed storage, preparation and worktops.

Sanitary facilities

4.25 For infection control purposes, in-patients, clinical staff and visitors should be provided with separate sanitary facilities, which should be clearly labelled.

4.26 Facilities for visitors and non-clinical staff should be located close to the ward reception and waiting area.

4.27 Sanitary facilities for clinical staff may be provided in association with staff changing and rest room areas. Where staff changing and rest rooms are located away from the ward, a designated WC for clinical staff should be provided.

4.28 All single-bed rooms and multi-bed rooms should have en-suite sanitary facilities. The increasing acuity of illness of in-patients means that a great proportion of patients may require assistance during their hospital stay. For greatest flexibility of use, all sanitary facilities in in-patient areas should be accessible and manageable by people with physical or sensory disabilities with or without assistance.

4.29 The Department of Health commissioned research into the size and layout of en-suite shower rooms to identify a space-efficient design that would, as far as possible, meet the needs of the majority of patients. It was acknowledged during the research that some aspects of ambulant/semi-ambulant/independent wheelchair access and assisted use are

not compatible. For example, the provision of a hand-rinse basin next to the WC for independent wheelchair users would have conflicted with access for patients requiring assistance.

- 4.30 As the number of patients requiring assistance is likely to be greater than the number of independent wheelchair users in in-patient accommodation, the primary concern should be to provide space and facilities for people requiring assistance. Certain limitations on independent access are therefore considered acceptable within a healthcare setting. See [paragraph 5.2, 'Bed and sanitary facilities'](#).

Note

WHBN 00-02 'Sanitary spaces' includes layouts of en-suite shower rooms arising from the Department of Health research referred to in paragraph 4.29 above. Attention is drawn to WHBN 00-02 paragraphs 4.28, 4.29, 4.40 and 4.41 which set out concerns associated with these layouts. In summary, the layouts rely on outward opening doors from the en-suite into the bedroom which encroach on the clinical space around the bed. Furthermore, the proximity of the bed to the doors requires that, on occasion, these be kept in an open position, particularly when assistance is required. This could compromise the principles of privacy and dignity. This solution also relies on the use of bi-folding doors which should be designed in such a way as to avoid health and safety risks. Recent projects such as Ysbyty Ystrad Fawr, Ystrad Mynach and Ysbyty Aneurin Bevan, Ebbw Vale, include larger en-suite facilities than the ones shown in this manual, in order to allow for the provision of inward opening doors.

- 4.31 There should also be access to a fully assisted bathroom or shower room where shower trolleys may be used. This could be shared between wards.

Hand hygiene

- 4.32 Antibacterial hand-rub dispensers should be provided at the ward entrance.
- 4.33 Each single-bed room should contain a clinical wash-hand basin. The basin should be located to be highly visible to staff entering and leaving the room and convenient for them to use.
- 4.34 Multi-bed rooms should contain two clinical wash-hand basins, one close to the entrance to the room and the other placed in a convenient position for staff working at the other end of the room.
- 4.35 The use of sensor taps may be appropriate to reduce the risk of infection. See [paragraph 5.2, 'Bed and sanitary facilities'](#).

Isolation facilities

- 4.36 Single-bed rooms provide an effective facility for isolating patients with a variety of infections, such as MRSA. However, in some circumstances it may be necessary to provide a higher level of isolation, particularly for those patients with airborne diseases or for immuno-suppressed patients who may be at risk of infection from others. In these cases, an isolation suite – which includes an entrance lobby, bedroom and en-suite sanitary facilities – will be required.
- 4.37 The need for and number of isolation suites should be decided locally. Reference should be made to the latest Welsh Government policy and the guidance provided in WHBN 04-01 Supplement 1 – 'Isolation facilities for infectious patients in acute settings'.

Cleaning services

- 4.38 Recent research ('An integrated approach to hospital cleaning: Microfibre cloth and steam cleaning technology', DH 2008) indicates that a microfibre system for day-to-day cleaning in combination with periodic steam cleaning is an effective approach to cleaning in-patient facilities. The guidance in this WHBN is based on this approach. If other cleaning systems are to be adopted, design teams should give careful consideration to the facilities required in each case.
- 4.39 In terms of facilities, a microfibre system requires:
- space for storing the microfibre cleaning trolley and clean microfibre cloths and mops (i.e. a cleaners' room);
 - space for holding dirty microfibre cloths (i.e. a disposal hold);
 - laundry facilities for washing and drying used microfibre cloths.
- 4.40 The laundering of microfibre cloths and mops requires special conditions and dedicated facilities. The laundry process should be carefully managed. Project teams should decide locally whether laundry facilities are provided in-house or contracted out. More information on the laundering of microfibre cloths is contained in the research report.

- 4.41 A supply of disposable cleaning materials should also be stored for clinical staff to use when cleaning staff are not available. These may be held separately in the dirty utility room.
- 4.42 This WHBN assumes that steam cleaning equipment for periodic deep cleaning will be stored centrally and brought to the ward as required. Storage space for this equipment on the ward is not required.

Observation and communication

- 4.43 Clinical staff should be able to observe and communicate easily with patients. Some clinicians may feel that single-bed rooms make observation more difficult, whereas others find that engagement with patients improves in a single-room environment because they are able to complete a whole episode of care privately without being disturbed by others.
- 4.44 Careful design can support good observation. For example, glazed walls or very large windows between rooms and corridors will enable staff to observe patients and, equally importantly, patients

to see staff. Views into busy internal spaces such as circulation areas can provide a distraction for patients and are just as important as views of the outside world. Patients should have the means to obscure windows if required. For example, integral Venetian blinds can be lowered and closed to provide privacy (see Figure 2).

- 4.45 Use of a two-way speech facility as part of the help call system can be reassuring for patients and can reduce journey times for staff.
- 4.46 Two-way speech facilities can be made significantly more effective by including an option to enable staff to key in and out of rooms (staff presence). Smart technology allows such systems to be automated so that each member of staff wears a radio frequency identification (RFID) tag that remotely indicates their presence. This function allows staff to locate, and communicate with, each other more effectively. These facilities are particularly relevant in wards with a high percentage of single rooms.
- 4.47 Call systems should operate on a “follow the light” principle whereby over-door lights and discrete



Figure 2 An example of good observation into a single-bed room

indicator units mounted at strategic positions (staff rest rooms, etc.) guide staff to the call origin. In addition this can be supplemented by the use of Wi-Fi/IP technology, which can be interfaced with other site communication facilities, for example, single staff handset, which combines phone, pager, cardiac and help call facilities.

Clinical administration

4.48 Advances in IT are enabling clinicians to move away from traditional paper-based patient records towards more flexible computer-based systems. Electronic patient records (EPR) and picture archiving and communication systems (PACS) mean that a significant amount of direct clinical administration can now take place at the bedside using a computer.

4.49 Wireless and infra-red technologies provide an alternative to networked computers in fixed locations. They enable EPRs to be accessed from laptops and other mobile and hand-held devices that can move with staff between clinical spaces. Where computers are fixed in bed areas, design teams should ensure that patients will not be disturbed by the light from VDUs or by staff entering data at night-time.

4.50 This WHBN describes two locations for clinical administration close to the patient:

- in bedrooms: a clinical support zone with space for recording clinical data. In multi-bed rooms, one clinical support zone serving all four beds is sufficient;
- touchdown base: a workstation located close to patients but not within single rooms or multi-bed rooms. This is where EPRs can be accessed and updated. The touchdown base is at standing height with a perching stool (see Figure 3).

4.51 There should be a number of touchdown bases throughout the ward, which may be located in a variety of ways:

- a dedicated touchdown base immediately outside each bedroom; or
- a touchdown base shared between a pair of bedrooms; or
- a touchdown base serving a small cluster of bedrooms.

4.52 This WHBN assumes that there is no central staff base, as staff will be working locally throughout the ward unit. It is recognised, however, that this is only one design solution and that planning teams may wish to include a central staff base.

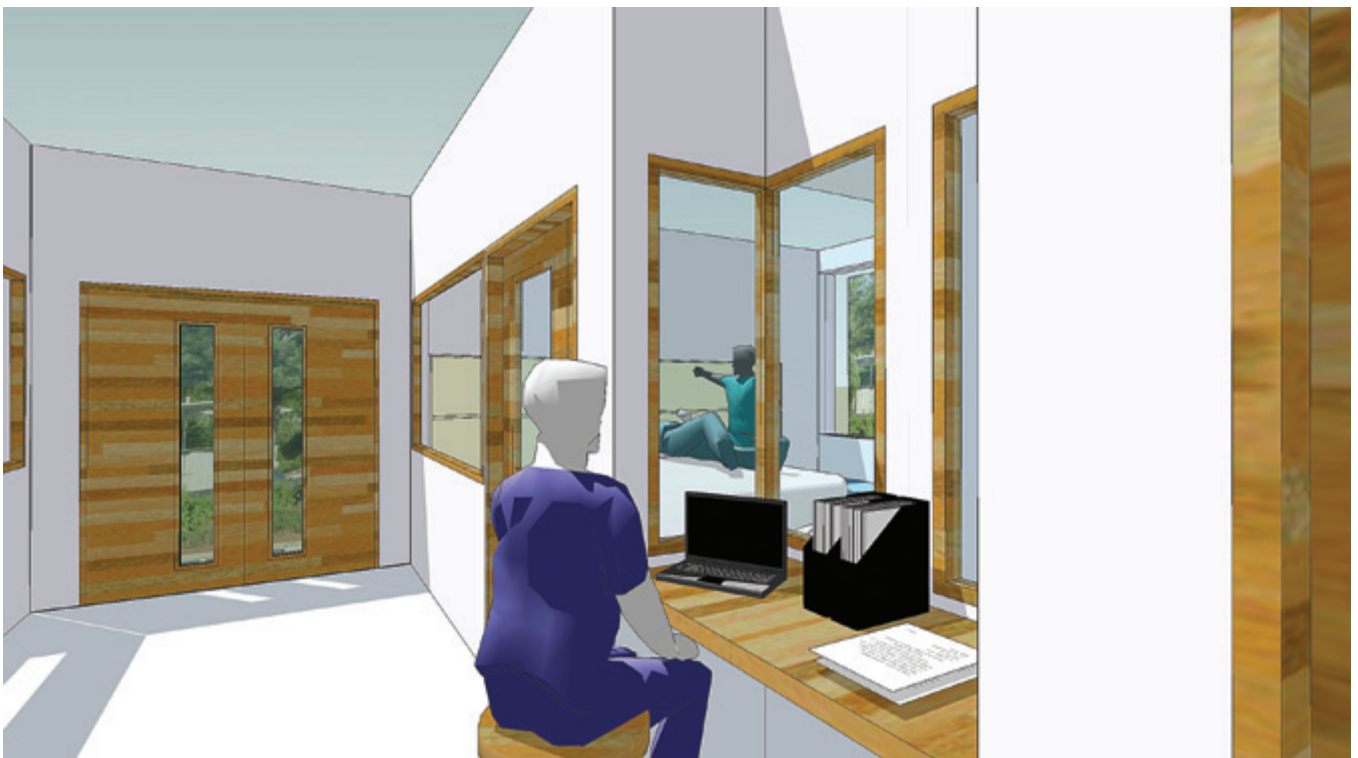


Figure 3 Working at a touchdown base

- 4.53 The greeting of patients and visitors, and general administration, will be carried out at the ward reception desk by clerical staff. Depending on the layout of wards, the reception desk could be shared between two or more wards.
- 4.54 Pre-admission and post-discharge correspondence, private telephone calls and patient handover meetings may take place in the office/meeting room. See ‘Staff communication base’ in Welsh Health Building Note (WHBN) 00-03 – ‘Clinical and clinical support spaces’.

Moving and handling patients

- 4.55 Patient moving/handling tasks are associated with the greatest proportion of musculoskeletal disorders in the health services (see ‘Moving and handling in health and social care’, HSE). One way of avoiding such injury is to move patients by use of a hoist, which requires sufficient space around the bed for staff to perform these tasks.
- 4.56 If mobile hoists are to be used, design teams should ensure that there is sufficient space within the ward to store them. Other devices for transferring patients will also need to be stored.
- 4.57 If ceiling-mounted hoists are preferred, design teams will need to consider the potential conflict with medical service units and patient entertainment systems. Consideration should also be given to the “parking” of the hoist sling when not in use. Where ceiling-mounted hoists are installed, there will still be a need for some mobile hoists, for example for lifting patients who may have fallen beyond the reach of the ceiling track.
- 4.58 The use of ceiling-mounted hoists in isolation suites requires careful consideration (see [paragraph 5.15 ‘Isolation suites’](#)).
- 4.59 In multi-bed rooms, the hoisting of patients around the bed space may compromise their privacy and dignity. The use of hoists should be restricted to bed-to-chair/trolley/wheelchair transfers only.
- 4.60 The decision on the extent of lifting equipment provided will depend on several factors including the patient profile, and should be decided locally.
- 4.61 Further guidance on the space required for moving and handling patients is contained in [paragraph 4.24, ‘Space requirements’](#). See also ‘Ward layouts with single rooms and space for flexibility’ (DH, 2005).

Separate treatment room

- 4.62 In a ward of 100% single-bed rooms the provision of a separate treatment room is optional, as procedures that cannot be undertaken at the patient’s bedside will take place in the appropriate departments. Wards with a combination of single-bed rooms and multi-bed rooms will require a separate treatment room. See ‘Treatment room: double-sided couch access’ in WHBN 00-03 – ‘Clinical and clinical support spaces’.

Supplies, storage and disposal

- 4.63 Supplies, storage and disposal are whole-hospital issues. An increasing number of UK hospitals have adopted a “just-in-time” supplies system, which involves a large centralised store on each site where all non-specialised clinical supplies are kept for regular distribution on a “top-up” basis to the different departments when required. Local policy will influence how much storage space is needed within acute wards.
- 4.64 Two options for delivering and storing clean supplies and consumables are:
 - Option 1.
Each ward contains a clean utility room, which is restocked regularly from the hospital’s central stores and pharmacy. Clinical supplies for individual bedrooms are held on supplies trolleys, which are topped up in the clean utility room and then parked in the clinical support area of each bedroom. Medicines are stored and prepared in the clean utility room.
 - Option 2.
Clinical supplies are stored in a clean supply room serving a number of wards. Clinical supplies trolleys are restocked here and then returned to patient bedrooms where they are parked in the clinical support area. Medicines are stored and prepared separately in the ward’s medicine store/preparation room.
- 4.65 The schedules of accommodation for adult in-patient facilities are based on Option 2 above.
- 4.66 Items for disposal will be placed in the disposal hold. Some items will be held temporarily in the dirty utility room before being transferred to the disposal room.
- 4.67 Design teams should ensure that supplies policies and storage systems are agreed early in the design

process, as they can have a significant impact on planning and room areas. See [Figures 4 and 5](#). See also ‘Clean utility room’, ‘Clean supply room’ and ‘Medicine store/preparation room’ in WHBN 00-03 – ‘Clinical and clinical support spaces’.

Dirty utility room

4.68 Ideally, a dirty utility room should serve no more than 16 beds. This reduces travel distances for staff, making better use of nursing time and reducing the risk of spillages and cross-contamination. A second dirty utility room on a ward is also helpful during outbreaks of illness or infectious diseases. The schedules of accommodation include two dirty utility rooms per 24-bed ward. See ‘Dirty utility room for bedpan processing’ in WHBN 00-03 – ‘Clinical and clinical support spaces’.

Education and training facilities

4.69 Education is important in acute wards, and appropriate facilities should be provided. Trainee clinical staff will form a proportion of staff working in acute areas. While some teaching takes place in the clinical area on a one-to-one basis or in small groups, the teaching of large groups can be an imposition on the function of the area. A seminar room, which may be shared with other wards, should be provided as essential complementary accommodation. See [paragraph 5.50](#), ‘Seminar room’.

Views from windows

4.70 Wherever possible, beds should be positioned to enable patients to have a view of the outside world, which might include landscaped gardens or a courtyard with good-quality natural planting. Sill heights of windows should be low enough to allow seated people to see outside. Views out over flat roofs and roof-top plantrooms should be avoided.

4.71 The means for patients to control curtains or blinds for privacy should be included (motorised curtains are an option for non-ambulant patients). For further guidance refer to Welsh Health Building Note (WHBN) 00-10 Part D – ‘Windows and associated hardware’.

Courtyards

4.72 Well-proportioned courtyards enable rooms to receive natural daylight and ventilation in addition to providing a stimulating outlook from bedrooms, day spaces and staff areas. Layout and planting can help to preserve privacy in surrounding rooms. Courtyards may also provide a suitable location for artwork.

4.73 It is desirable to provide access to courtyards wherever possible, and thresholds should be designed to facilitate access. Short lengths of handrail should be provided at strategic points around the courtyard for patients who need support. Seating should also be provided. Access for maintenance and cleaning should be sited so that patients and staff are not disturbed. Adequate water points, power points and lighting, if necessary, should be provided in all courtyards.

Environmental control

4.74 As noise is such a significant issue for patients, design that separates busy activity areas and patient bed spaces and the use of sound-absorbing materials should be adopted. Partitions between areas for confidential discussions should also be sufficient to prevent overhearing.

Telephone, TV and radio facilities

4.75 It is beneficial for patients to have convenient access to telephone, TV and radio facilities. Planning teams should identify suitable systems to meet local requirements.

Security

4.76 The local security lead will be able to identify security risks and offer advice on measures that can be implemented to reduce them.

4.77 Where entryphone/intercom systems and CCTV are installed, they should be linked to the reception desk and appropriate touchdown bases to control access through the main entrance. The security lead should be consulted on the installation of all access control systems.

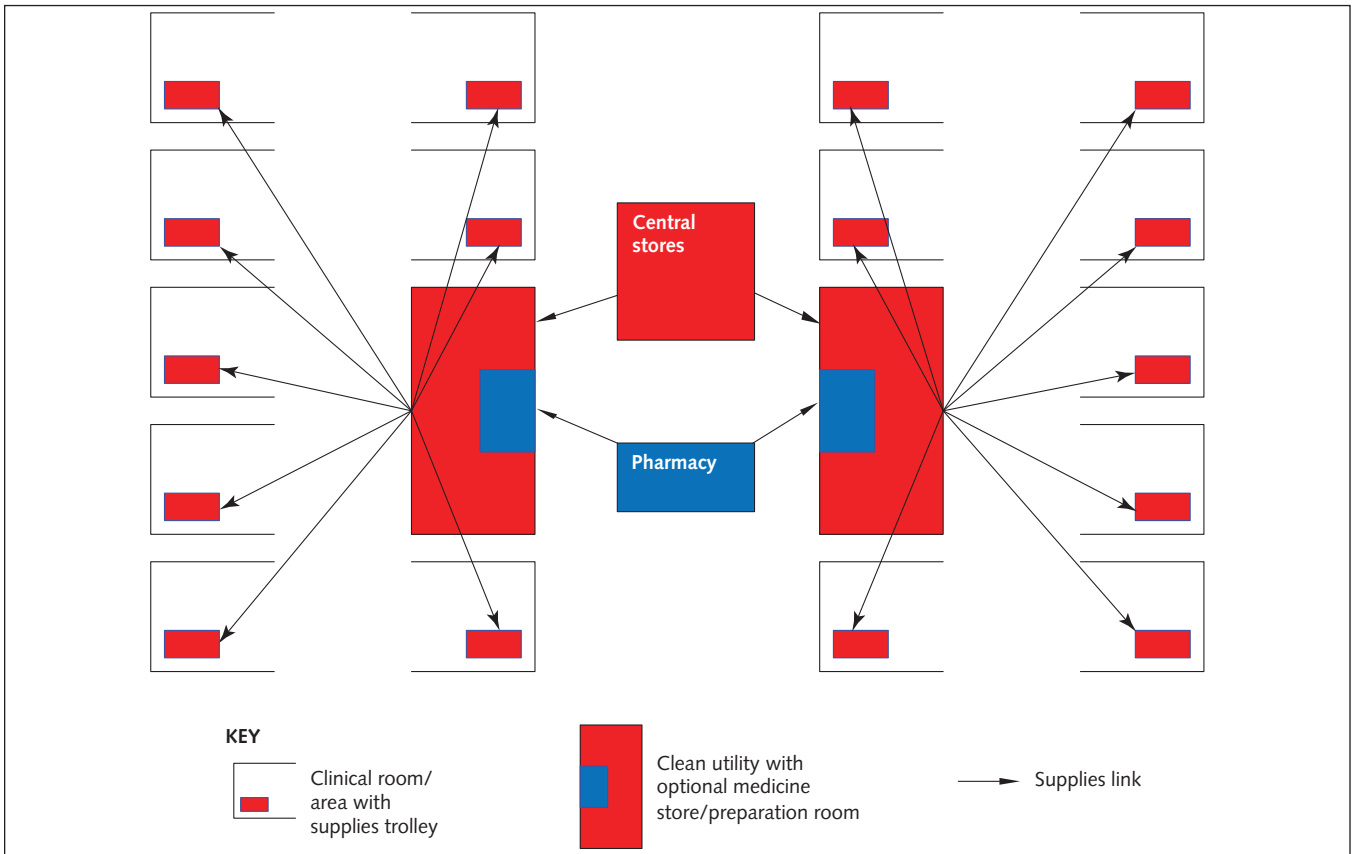


Figure 4 Central store and clean utility room

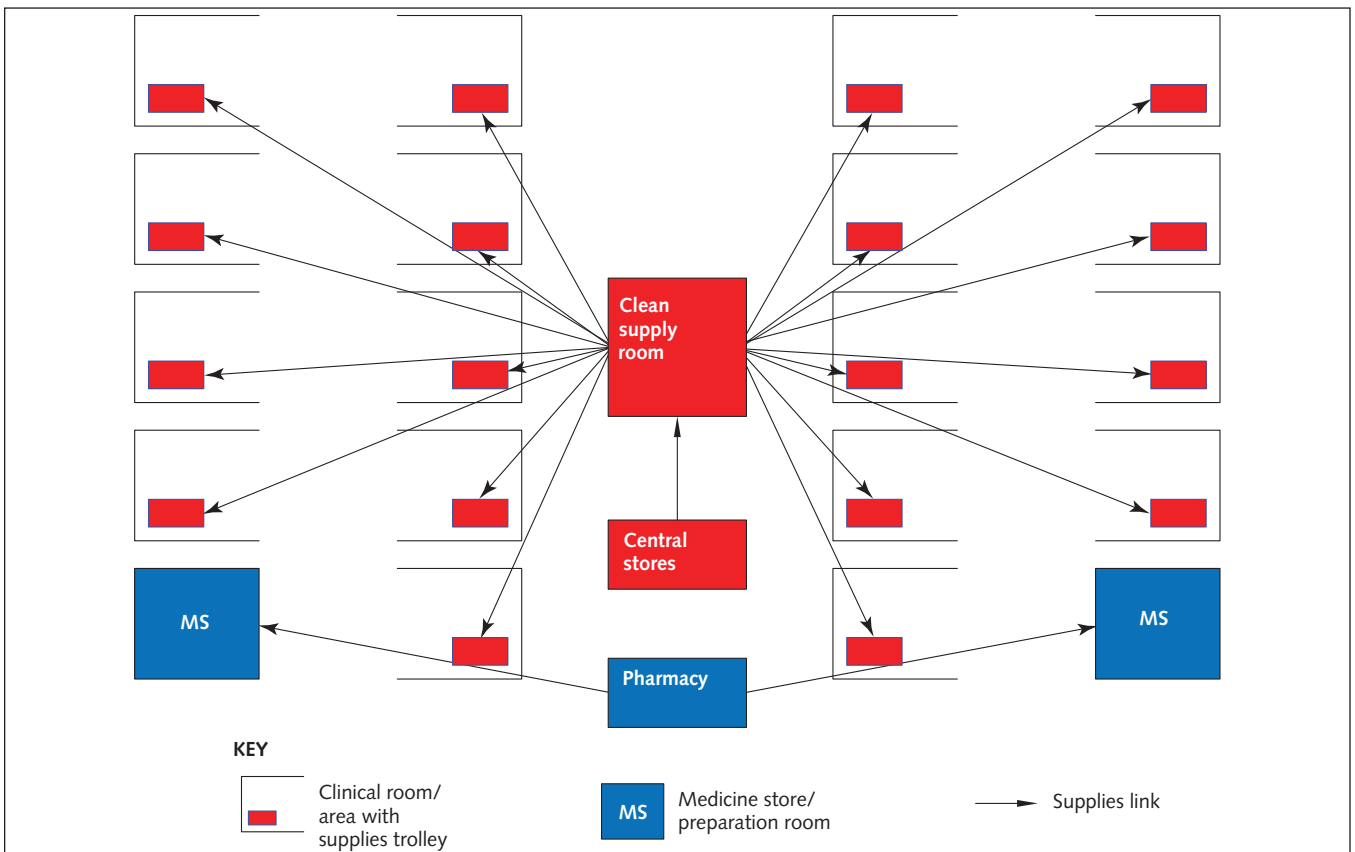


Figure 5 Clean supply room and medicine store/preparation room

Chapter 5 Spaces

Bed and sanitary facilities

Bed spaces

- 5.1 The number of activities taking place at the bedside is increasing. The period that a patient spends in hospital is shortening, and is limited to active interventions for diagnosis, treatment and immediate recovery.
- 5.2 The level of acuity and dependence of patients once interventions begin until discharge is relatively high; movement by staff around the patient may be considerable, and there is likely to be an increasing but intermittent use of equipment and aids at the bedside.

- 5.3 The activities and the patient's response to interventions are recorded, increasingly on computer-held databases.
- 5.4 Relatives and visitors are encouraged to be more involved in patient care and support.
- 5.5 See 'Single-bed room' and 'Multi-bed room' in WHBN 00-03 – 'Clinical and clinical support spaces'.

En-suite sanitary facilities

En-suite shower room to single-bed room

- 5.6 Each single-bed room should have an en-suite shower room (with WC, shower and wash-hand basin).



Ysbyty Aneurin Bevan, Ebbw Vale (Courtesy of Aneurin Bevan University Health Board. Photographer: Charlotte Wood Photography)



Ysbyty Ystrad Fawr, Ystrad Mynach (Courtesy of Aneurin Bevan University Health Board. Photographer: Charlotte Wood Photography)



Touch down base, Ysbyty Aneurin Bevan, Ebbw Vale (Courtesy of Aneurin Bevan University Health Board. Photographer: NWSSP-FS)



Ysbyty Cwm Rhondda, Llwynypia (Courtesy of Cwm Taf University Hospital. Photographer: Stewart Brooks, NWSSP-FS)

- 5.7 The location of the en-suite can have a significant impact on the bedroom in terms of floor area, views to and from the bed, and support facilities such as the touchdown base.
- 5.8 Four layouts, each showing a different location for the en-suite, have been included for illustrative purposes (see [Figure 6](#)).

Multi-bed room sanitary facilities

- 5.9 A multi-bed room should have en-suite sanitary facilities, which can be accessed by patients without the need for them to travel or cross circulation routes.
- 5.10 It is convenient to provide an assisted shower room (with WC, shower and wash-hand basin) and a separate semi-ambulant WC (with hand-rinse basin), both en-suite to the bed area. Thus one person showering does not prevent others from using the WC.
- 5.11 Privacy and dignity should be ensured by the provision of appropriate security devices, locks, etc. En-suite doors should not open directly onto immediate bed areas.

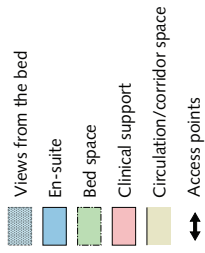
- 5.12 See ‘Shower room: en-suite: chamfered’, ‘Shower room: assisted’, and ‘WC: independent wheelchair/semi-ambulant’ in WHBN 00-03 – ‘Sanitary spaces’.

Assisted bathroom or shower room

- 5.13 In addition to en-suite facilities, an assisted bathroom or shower room is required, although this may be shared with other wards.
- 5.14 See ‘Bathroom: assisted’ and ‘Shower room: assisted’ in WHBN 00-03 – ‘Sanitary spaces’.

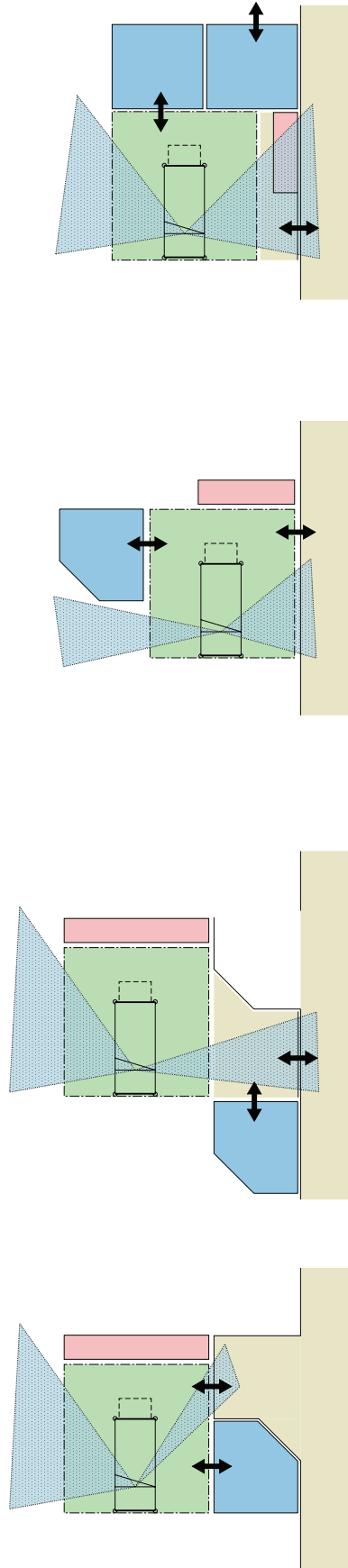
Isolation suite

- 5.15 An isolation suite comprises a single-bed room, en-suite shower room and a ventilated lobby.
- 5.16 If it is proposed to install a ceiling hoist track system between an isolation room and en-suite shower room, the design should not compromise the airflow pattern between the two rooms.
- 5.17 The design of the isolation suite works on the principle of supplying air from the lobby at high level to the bedroom and removing it at low level via a transfer grille in the en-suite door. This



The location of the en-suite has a major influence on the subject room in terms of:

- Access points
- Support facilities including the nurse "touchdown" base
- Views to and from the bed
- Privacy
- Floor area



Internal en-suite

- Access to en-suite and to the room are on the same side and this determines the minimum width of the room.
- Views of the bed from the corridor are restricted.
- External views are maximised.
- Privacy for the patient is maximised especially for views into the en-suite.
- There are two options for support services: external wall or partition wall.
- Bed turning can be accommodated adjacent to the bedroom, which increases the circulation space but minimises corridor width.
- The door position can be optimised to increase or decrease space within the room.
- A nurse "touchdown" base can be accommodated adjacent to the bedroom door.

Internal adjacent en-suite

- Access to en-suite and to the room are on the same side and this determines the minimum width of the room.
- Views of the bed from the corridor are improved in comparison to the inboard option.
- External views are maximised.
- Privacy for the patient is reduced. Entry to the en-suite can be seen from the corridor.
- There are two options for support services: external wall or partition wall.
- To accommodate bed turning, either the corridor or the bedroom doors will need to be wider.
- The bedroom door position is fixed.
- Accommodating the nurse "touchdown" base is difficult without adding additional width to the corridor.

External en-suite

- Access to room and en-suite are on opposite sides, which is less restrictive on room width.
- View of the bed from the corridor is maximised.
- External views are minimised.
- Privacy for the patient is minimised and entry into the en-suite can be observed from the corridor.
- There are three options for support services: part external wall, part corridor partitions and room partitions.
- To accommodate bed turning, either the corridor or the bedroom doors will need to be wider.
- The bedroom doors can be located flexibly on the corridor wall.
- A nurse "touchdown base" can be accommodated adjacent to the bedroom door.

In-between en-suite

- Interlocking en-suites increases overall width and depth of the room.
- Views of the bed from the corridor are maximised.
- External views are maximised.
- Privacy for the patient is minimised and entry into the en-suite can be observed from the corridor.
- There are two options for clinical support services: external wall or corridor partitions. This will be influenced by whether the en-suite is "nested" on the external or internal wall.
- To accommodate bed turning, either the corridor or the bedroom doors will need to be wider.
- The bedroom doors can be located flexibly on the corridor wall.
- A nurse "touchdown" base can be accommodated adjacent to the bedroom door.

Figure 6 Four exemplar locations for en-suites

ensures good mixing of the air in the bedroom, with a consequent dilution of possible contaminants.

- 5.18 The wall area above the outward-opening door that is penetrated by the track and suspension system should not therefore allow unrestricted airflow between the bedroom and en-suite at high level.
- 5.19 Suitably profiled filler boards and the use of brush seals will ensure an adequate resistance to flow and prevent short-circuiting.

Touchdown bases

- 5.20 In addition to workstations in bedrooms, space is required close to patients, but not within bedrooms, for clinical administration. The touchdown base provides a place for accessing and updating Electronic Patient Records (EPRs) and other computer work. See 'Touchdown base' in WHBN 00-03 – 'Clinical and clinical support spaces'.

Patient support facilities

Treatment room

- 5.21 In wards with multi-bed bays, a treatment room will be required where clinical procedures can be carried out in private. In wards with 100% single rooms, the provision of a treatment room is optional.
- 5.22 Patients using the treatment room may be ambulant, in a wheelchair, on a trolley or on a bed; the door width should be sufficient to permit their passage. See 'Treatment room: double-sided couch access' in WHBN 00-03 – 'Clinical and clinical support spaces'.

Interview room

- 5.23 Discussions with patients and relatives may be carried out in an interview room. The room may also be used by staff for staff interviews, appraisal and counselling. See 'Interview room: 4 places' and 'Interview room: 7 places' in WHBN 00-03 – 'Clinical and clinical support spaces'.

Informal social space

- 5.24 Open, yet intimate, areas recognisably intended for casual meeting and talking (i.e. breakout spaces) may be all that is required to enable patients to socialise without the provision of dedicated day rooms.

- 5.25 Planning decisions should take account of patient culture and preferences in terms of privacy, modesty and same-sex accommodation.
- 5.26 Where day rooms are provided they should be as inviting as possible, with hotel style or domestic furnishing. It should be possible for patients to control environmental features such as lighting. A generic interview room may be adapted for use as a day room. See 'Breakout space' in WHBN 00-03 – 'Clinical and clinical support spaces'.

Ward pantry

- 5.27 A ward pantry is required for the preparation of beverages and light snacks on the ward. A ward pantry is an enlarged pantry/refreshment room, which includes a larger fridge, ice-making machine and additional storage. See 'Pantry/refreshment room' in WHBN 00-03 – 'Clinical and clinical support spaces'.

Regeneration kitchen

- 5.28 A regeneration kitchen will be required where the local catering policy requires food to be delivered to a department for regeneration and then distributed to a number of wards. The design of the regeneration kitchen should be determined by the catering contractor.

Parking bay: food trolley

- 5.29 A bay is required for parking the food trolley while meals are distributed to patients. See 'Parking bay' in WHBN 00-03 – 'Clinical and clinical support spaces'.

Linens store

- 5.30 For infection control purposes, clean linen should be kept in a closed store rather than on open trolleys. Local policy will determine whether linen is stored in single-bed rooms or in a central store.

Storage spaces

General stores

- 5.31 Store rooms are a costly means of providing storage, as they require internal circulation space. Storage in relatively shallow cupboards or doored alcoves opening directly from circulation areas may be more convenient and cheaper. The latter is particularly useful for goods for which stocks are maintained by an exchange trolley service. Cupboards in corridors may need to be recessed so

that the doors, when open, do not obstruct movement in the corridor.

Clean supply room

5.32 This room provides storage for sterile supplies and consumables for a number of wards. Supplies trolleys are brought here for restocking. See ‘Clean supply room’ in WHBN 00-03 – ‘Clinical and clinical support spaces’.

Clinical supplies trolley

5.33 Clean and sterile goods for daily use will be held on trolleys, at the point of use in bedrooms.

Large equipment store

5.34 This store is required for bulky items of equipment, bed accessories and therapy aids. Open shelving, hanging rails and hooks as well as free-standing space for heavy equipment such as hoists and weighing machines is required. Sockets may be useful for equipment that needs charging. Disposable items delivered in bulk packages to the clinical area will require storage.

5.35 Design teams may decide that more than one large equipment store is required. A number of local stores adjacent to single-bed rooms or multi-bed rooms might be more efficient.

Utilities

Medicine store/preparation room

5.36 The medicine store/preparation room is required for the storage and preparation of all the medicines to be used on the ward. This will include controlled drugs, medicines requiring refrigeration, and consumables such as syringes and needles. Rechargeable syringe drivers and infusers may be stored here. See ‘Medicine store/preparation room’ in WHBN 00-03 – ‘Clinical and clinical support spaces’.

Dirty utility room

5.37 A dirty utility room with bedpan processing is required. One dirty utility room should serve no more than 15 beds. See ‘Dirty utility room for bedpan processing’ in WHBN 00-03 – ‘Clinical and clinical support spaces’.



Ysbyty Alltwn, Porthmadog (Courtesy of Betsi Cadwaladr University Health Board. Photographer: Nick Short Photography)

Cleaners' room

- 5.38 The cleaners' room is the base from which domestic service staff provide the immediate day-to-day cleaning service. See 'Cleaners' room' in WHBN 00-03 – 'Clinical and clinical support spaces'.

Disposal hold

- 5.39 The disposal hold is the temporary storage point for all items of supplies and equipment which have to be removed for cleaning, reprocessing or destruction, for example clinical and non-clinical waste and sterile services department items. See 'Disposal hold: 3000 litres' in WHBN 00-03 – 'Clinical and clinical support spaces'.

Administration areas and staff facilities

Reception desk

- 5.40 The reception desk should be in a prominent position at the entrance to the ward. The counter needs to be stepped so that a person in a wheelchair can see and speak easily to the receptionist. The desk requires sufficient working space for a receptionist and one other who will welcome patients, relatives and staff, and undertake the local clerical and administrative duties. The reception desk and waiting area may be shared between wards. See 'Reception desk' in WHBN 00-03 – 'Clinical and clinical support spaces'.

Waiting area

- 5.41 The waiting area should be adjacent to the reception desk. It may also serve as additional informal day space for patients. See 'Waiting area' in WHBN 00-03 – 'Clinical and clinical support spaces'.

Office/meeting room

- 5.42 This office is a multi-purpose office, but is likely to be used principally by clinical staff to complete notes on discharged patients, hold patient handover meetings, undertake telephone calls and for staff discussions.
- 5.43 It should be located close to bed areas and sized to accommodate two computer workstations, a table and eight to ten people. A cupboard or shelves for storing a limited amount of stationery should be provided.
- 5.44 There is no separate medical staff or ward manager's office. See 'Office/meeting room' in

WHBN 00-03 – 'Clinical and clinical support spaces'.

Staff locker bay

- 5.45 Staff will require local lockers to hold small personal belongings while on duty. It may be convenient to locate lockers within or adjacent to the staff room/beverage bay where provided.
- 5.46 In wards that contain the staff changing facilities, staff will have easy access to the lockers in the changing rooms and a separate locker bay will not be necessary.

Staff WC

- 5.47 A WC is required for clinical staff working on the ward. In wards that contain the staff changing facilities, staff will have easy access to sanitary facilities and a separate WC will not be necessary. See 'WCs' in Welsh Health Building Note (WHBN) 00-02 – 'Sanitary spaces'.

Staff changing room

- 5.48 Facilities are required for staff changing, clothes storage, showers and sanitary facilities. These facilities may be shared between several wards. Estimates of the amount of changing space and locker provision should take into account the numbers of full-time and part-time staff, including trainees and students. See 'Changing area: staff', 'Changing room: semi-ambulant', 'Shower room: ambulant' and 'Uniform exchange area in WHBN 00-02 – 'Sanitary spaces'.

Staff rest room

- 5.49 Rest room facilities are required where staff can relax and take beverages. These may be shared between several wards. See 'Rest room with mini kitchen' in WHBN 00-03 – 'Clinical and clinical support spaces'.

Seminar room

- 5.50 It is assumed that a designated education centre with conference facilities for multi-disciplinary use will be available on site. See 'Seminar room' in WHBN 00-03 – 'Clinical and clinical support spaces'.

Chapter 6 Engineering considerations

General engineering considerations

- 6.1 WHTMs are the main source of specific engineering healthcare-related guidance. They give comprehensive advice and guidance on the design, installation and operation of specialised building and engineering technology used in the delivery of healthcare.
- 6.2 All WHTMs are supported by WHTM 00 – ‘Policies and principles of healthcare engineering’, the aim of which is to ensure that everyone concerned with the managing, design, procurement and use of the healthcare facility understands the requirements (including regulatory) of the specialist, critical building and engineering technology involved.
- 6.3 In light of paragraphs 6.1 and 6.2 above, the content of this WHBN should be read in

conjunction with WHTM 00 and the topic-specific WHTMs referred to within it.

Engineering considerations specific to adult in-patient facilities

Internal drainage

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

Chapter 7 Cost information and schedules of accommodation

Introduction

- 7.1 For all types of health building, it is important that building costs and revenue expenditure are best value and consistent with acceptable standards. In applying this guidance, the need for economy should always be of prime concern. Where appropriate, space should be shared between similar activities taking place at different times. However, this solution should not be detrimental to the proper functioning of the spaces involved, nor to the needs of users.
- 7.2 The Costing Methodology for Strategic Outline Case (SOC) and Outline Business Case (OBC) stages in Wales remain based upon Departmental Cost Allowances (DCA) updated by Welsh Health Estates Notification (WHEN) 10/14 – ‘Measures to Update 2002/2003 DCAG’s for Changes in Specification (i.e. changes not covered by MIPS), to 8th July 2010’. Updating of Departmental Cost Allowances Guides (DCAGs) for inflation is by BIS PUBSEC. The BIS PUBSEC indices are available from the BCIS (there is a subscription charge for this service). The indices, reporting level and location factor are advised quarterly by NHS Wales Shared Services Partnership – Facilities Services (NWSSP-FS), to NHS Wales Trusts and Health Boards and their Framework Cost Advisors. This quarterly advice is based upon the quarterly NHS Capital Planning Newsletter issued by the RICS to user group members (Health Service Index Focus Group).
- 7.3 The DCAGs for this WHBN reflect the total building, engineering and accommodation requirements for adult in-patient facilities located on an acute hospital site, where common services are shared. Costs are based on a typical two-storey new-build unit on a greenfield site with no planning constraints.
- 7.4 DCAGs are exclusive of VAT, building and planning fees and all local authority charges, and are based on a location factor of 1.00.

On-costs

- 7.5 An allowance for on-costs (such as communication space, external works, external engineering services and abnormalities) should be added to the DCAGs.
- 7.6 Project teams should assess all likely on-cost implications of individual sites and schemes at the earliest opportunity.

Location factors

- 7.7 Location factor adjustments should be applied to works costs (that is, DCAGs plus established on-costs) to take account of local market conditions. It should be noted that the Location Factor to be used in Wales may vary from the BIS Location Factor for Wales. If so, the rationale will be explained in the monthly advice from NWSSP-FS to Health Boards, Trusts and Framework Cost Advisors.

Schedules of Accommodation

- 7.8 The schedules of accommodation show a notional whole department, which highlights the scope for sharing accommodation. The examples are not to be taken as ideal provision for any particular project.
- 7.9 The examples are as follows:
- Example 1: 24-bed ward, 50% single-bed rooms;
 - Example 2: 24-bed ward, 83% single-bed rooms;
 - Example 3: 24-bed ward, 100% single-bed rooms.
- 7.10 Costing by DCAG and on-costs may not be appropriate on works of alteration or refurbishment, or to works which are not adequately covered by WHBNs. The best process for costing should then be discussed with NWSSP-FS. Providing sufficient information is available to the Cost Advisors, it is recommended that costs produced using DCAGs and on-costs are supported

by separate elemental estimates and an analysis made of any cost difference prior to submission of costs for funding approval.

Dimensions and areas

- 7.11 The critical dimensions of an area are determined by the spatial requirements of any activities to be carried out within it. Space requirements for various generic activities appear in WHBN 00-02 – ‘Sanitary spaces’, WHBN 00-03 – ‘Clinical and clinical support spaces’ and WHBN 00-04 – ‘Circulation and communication spaces’.
- 7.12 Planning teams should have data available at the earliest stages of a project to enable the approximate assessment of sizes involved. Areas used for the purpose of establishing cost allowances are listed in the schedules of accommodation. These areas do not represent recommended sizes and should not be regarded as specific individual entitlements.
- 7.13 The efficient planning of a building may necessitate a variation to the areas given. For example, in the refurbishment/conversion of older property:
- Rooms tend to be larger than the areas given;
 - Some rooms may be too small or in the wrong location for efficient use;
 - Circulation space tends to form a larger than normal proportion of the total area.

Circulation spaces

- 7.14 All internal corridors, small vertical ducts, spaces occupied by partitions/walls and other space for circulation, are costed in the DCAGs. Provision is also made for 5% planning zone and 3% engineering zone adjacent to the external walls.
- 7.15 Circulation figures included in the DCAGs are those anticipated for new-build facilities. Where constraints are encountered, for example in refurbishment/conversion of older types of property, this figure may increase.

Communication spaces

- 7.16 Hospital “streets”, staircases and lifts (linking spaces) are not included in the DCAGs. Costs related to these elements, along with a suitable space allowance, should be made in the on-costs.

Land costs

- 7.17 DCAGs are exclusive of all land costs and associated fees. However, costs associated with land costs should be included in business case submissions, and may therefore have an important impact on the overall cost viability of a scheme.

Engineering services

- 7.18 Engineering services listed below are included in the cost allowances (see [Chapter 4](#) and Activity DataBase for further information). Primary engineering services are assumed to be conveniently available at the boundary of the department.

Mechanical services

- 7.19 The following mechanical services are included in DCAGs:
- Heating – low-pressure hot water system;
 - Ventilation – mechanical supply to, and extraction from, clinical areas, and other areas requiring mechanical ventilation such as WCs and showers (excludes ventilation plant, such as air handling units or extract fans);
 - Cold water – central supply to service points including drinking water (excludes storage tanks);
 - Hot water – supply from a central system (excludes storage and generation);
 - Piped medical gases – oxygen, nitrous oxide and medical air (400 kPa).

Electrical services

- 7.20 The following electrical services are included in DCAGs:
- Departmental distribution boards;
 - General lighting, as required by task;
 - Examination lighting (examination lamps);
 - Staff location system;
 - Help call system;
 - Emergency luminaires, as appropriate;
 - Socket-outlets and other power outlets for fixed and portable equipment;
 - Supplementary equipotential earth bonding;
 - Uninterruptible power supply (UPS) and equipment;

- Fire, security, and controlled drug cupboard alarm systems;
- TV/radio wireways;
- Telephone internal cabling distribution and outlets (exclude handsets);
- Data wireways;
- Building management system.

Equipment (Group 1)

7.21 The following Group 1 equipment is included in DCAGs:

- Controlled drugs cupboards;
- Dishwasher;
- Impulse clocks.

Schedule of accommodation example 1 – 24-bed ward 50% single-bed rooms					
ADB code	Room name/function	Unit area allowance	Quantity	Total area	Notes
<i>Clinical spaces</i>					
Bedroom and sanitary spaces					
B0305	Single-bed room	19.0	12	228.0	
V1645	Shower room: en-suite – chamfered	4.5	12	54.0	
B0405	Multi-bed room: 4-bed	64.0	3	192.0	
V1121	WC: semi-ambulant – in-patient	2.0	3	6.0	Area reduced from 2.5 as excludes luggage space
V1635	Shower room: assisted – in-patient	6.5	3	19.5	Area reduced from 8 as assisted bathroom provided
V1736	Bathroom: assisted	15.0	1	15.0	
Support facilities					
M0330	Office/meeting room: 10 places (including 2 workstations)	16.0	1	16.0	1 per 24 beds
T0151	Touchdown base	2.0	6	12.0	1 per 4 beds
X0145	Treatment room: double-sided couch access	16.0	1	16.0	1 per 24 beds if multi-bed bays used
M0724	Interview room: 4 places (including 1 wheelchair place)	8.0	1	8.0	1 per 24 beds
M0731	Breakout space: patients	6.0	3	18.0	1 per 8 beds
P0627	Ward pantry	12.0	1	12.0	1 per 24 beds. Larger than pantry/ refreshment area as includes larger fridge, ice-making machine and additional storage.
G0180	Parking bay for resuscitation equipment	2.0	1	2.0	1 per 24 beds
G0180	Parking bay for food trolley	2.0	1	2.0	1 per 24 beds
G0180	Parking bay for mobile hoist	2.0	1	2.0	1 per 24 beds
	Ward storage allowance			18.0	0.75 m ² per bed
T0540	Medicine store/preparation room	8.0	1	8.0	1 per 24 beds
Y0331	Dirty utility room for bedpan processing	12.0	2	24.0	1 per 12 beds
Y1510	Cleaner's room	8.0	1	8.0	1 per 24 beds
<i>Staff spaces</i>					
Staff support					
V0653	Locker bay: 12 small lockers	1.5	2	3.0	1 per 12 beds
V1010	WC: ambulant	2.0	1	2.0	1 per 24 beds
Net internal area				665.5	
	Circulation allowance		25.0%	166.4	
	Communication allowance		10.0%	66.6	
	Engineering spaces allowance		25.0%	166.4	
Gross internal area (GIA)				1064.8	
<i>Essential complementary accommodation</i>					
Entrance and reception					
J0230	Reception (size based on number of places)	5.5	2	11.0	2 places per 24 beds

Schedule of accommodation example 1 – 24-bed ward 50% single-bed rooms					
ADB code	Room name/function	Unit area allowance	Quantity	Total area	Notes
	Waiting area (size based on number of places)	1.7	6	10.2	1 per 4 beds. Allowance includes more than one type of ADB room. For details of unit area allowance see WHBN 00-03
V1121	WC: semi-ambulant	2.5	1	2.5	1 per 24 beds
V0922	WC: independent wheelchair	4.5	0.5	2.3	1 per 48 beds
Additional clinical spaces					
W1475	Clean supply room allowance			8.0	0.34 m ² per bed
Y0642 or Y0646	Disposal hold allowance			6.0	0.25 m ² per bed
Staff support					
D0434	Staff rest and mini kitchen (size based on number of seats)	1.8	3	5.4	3 for 8 staff (maximum staff on shift). Space allowance should be combined with neighbouring wards to create a viable staff rest room. For details of unit area allowance see WHBN 00-03
H1304	Seminar room: 24 places (including 1 wheelchair place)	32	0.4	12.0	1 per 64 beds
	Communal changing area (size based on number of lockers)	1.4	18	25.2	Twice number of lockers as staff on shift plus 10% contingency (rounded). Space allowance should be combined with neighbouring department to create viable male and female changing rooms. Allowance includes more than one type of ADB room. For details of unit area allowance see WHBN 00-03
V1010	WC: ambulant	2.0	1	2.0	1 for up to 20 lockers
Net internal area (NIA)				84.6	
Optional accommodation					
V1131	Nappy changing room	5.0	1	5.0	Optional addition to waiting space
P0808	Vending machine	3.0	1	3.0	Optional addition to waiting space
G0510	Lobby to isolation room	5.0	1	5.0	
B0308	Isolation room	19.0	1	19.0	In lieu of standard single bed-room provision
T0535	Clean utility room	16.0	1	16.0	Alternative to clean supply and medicine store/preparation room
V1635	Shower room: assisted	8.0	1	8.0	Alternative to assisted bathroom in wards with multi-bed bays
M0727	Sitting room: 7 places (including 1 wheelchair place)	12.0	1	12.0	Alternative to patient breakout space
	Regeneration kitchen				Project specific. Requirements by catering specialist

Schedule of accommodation example 1 – 24-bed ward 50% single-bed rooms	
Note 1	<p>Relationship of schedule to ADB room names</p> <p>The ADB room codes listed may not carry a title, in ADB, identical to the room function in the schedules. Use of the appropriate room code will, however, result in the correct room being accessed.</p>
Note 2	<p>Relationship of schedule to ADB for scalable rooms (i.e. those for which a recommended room size in ADB does not exist)</p> <p>ADB room code relates to one example size of this space and does not reflect space requirements of these schedules. Projects will scale up/down according to schedule.</p>
Note 3	<p>Essential complementary accommodation</p> <p>Accommodation to which the department needs access but may be shared with nearby departments.</p>
Note 4	<p>Optional accommodation</p> <p>Accommodation which is not expected in all departments but, dependent on local policy, may be needed in addition to or instead of the rooms listed in the schedule.</p>
Note 5	<p>Circulation allowance</p> <p>The circulation allowance is based upon the study and calculations contained within ‘Ward layouts with single rooms and space for flexibility’ (DH, May 2005).</p>
Note 6	<p>Engineering space allowance</p> <p>For the purposes of calculating the engineering space allowances it has been assumed that each ward is located on an acute (multi-purpose) hospital site with GIA of 25,000 m². For larger or smaller facilities, or where there needs to be largely dedicated engineering services plant space, the engineering space allowance will vary, generally downwards as GIA increases.</p>
Note 7	<p>Status of defined metrics</p> <p>All of the defined metrics (calculations for quantifying spaces) in the Notes column have been included as a reasonable basis for initial briefing. They are not intended as, and should not be considered, requirements.</p>

Schedule of accommodation example 2 – 24-bed ward 83% single-bed rooms					
ADB code	Room name/function	Unit area allowance	Quantity	Total area	Notes
<i>Clinical spaces</i>					
Bedroom and sanitary spaces					
B0305	Single-bed room	19.0	20	380.0	
V1645	Shower room: en-suite – chamfered	4.5	20	90.0	
B0405	Multi-bed room: 4-bed	64.0	1	64.0	
V1121	WC: semi-ambulant – in-patient	2.0	1	2.0	Area reduced from 2.5 as excludes luggage space
V1635	Shower room: assisted – in-patient	6.5	1	6.5	Area reduced from 8 as assisted bathroom provided
V1736	Bathroom: assisted	15.0	1	15.0	
Support facilities					
M0330	Office/meeting room: 10 places (including 2 workstations)	16.0	1	16.0	1 per 24 beds
T0151	Touchdown base	2.0	6	12.0	1 per 4 beds
X0145	Treatment room: double-sided couch access	16.0	1	16.0	1 per 24 beds if multi-bed bays used
M0724	Interview room: 4 places (including 1 wheelchair place)	8.0	1	8.0	1 per 24 beds
M0731	Breakout space: patients	6.0	3	18.0	1 per 8 beds
P0627	Ward pantry	12.0	1	12.0	1 per 24 beds. Larger than pantry/ refreshment area as includes larger fridge, ice-making machine and additional storage
G0180	Parking bay for resuscitation equipment	2.0	1	2.0	1 per 24 beds
G0180	Parking bay for food trolley	2.0	1	2.0	1 per 24 beds
G0180	Parking bay for mobile hoist	2.0	1	2.0	1 per 24 beds
	Ward storage allowance			18.0	0.75 m ² per bed
T0540	Medicine store/preparation room	8.0	1	8.0	1 per 24 beds
Y0331	Dirty utility room for bedpan processing	12.0	2	24.0	1 per 12 beds
Y1510	Cleaner's room	8.0	1	8.0	1 per 24 beds
<i>Staff spaces</i>					
Staff support					
V0653	Locker bay: 12 small lockers	1.5	2	3.0	1 per 12 beds
V1010	WC: ambulant	2.0	1	2.0	1 per 24 beds
Net internal area				665.5	
	Circulation allowance		27.5%	194.8	
	Communication allowance		10.0%	70.9	
	Engineering spaces allowance		27.0%	191.3	
Gross internal area (GIA)				1165.5	
<i>Essential complementary accommodation</i>					
Entrance and reception					
J0230	Reception (size based on number of places)	5.5	2	11.0	2 places per 24 beds

Schedule of accommodation example 2 – 24-bed ward 83% single-bed rooms					
ADB code	Room name/function	Unit area allowance	Quantity	Total area	Notes
	Waiting area (size based on number of places)	1.7	6	10.2	1 per 4 beds. Allowance includes more than one type of ADB room. For details of unit area allowance see WHBN 00-03
V1121	WC: semi-ambulant	2.5	1	2.5	1 per 24 beds
V0922	WC: independent wheelchair	4.5	0.5	2.3	1 per 48 beds
Additional clinical spaces					
W1475	Clean supply room allowance			8.0	0.34 m ² per bed
Y0642 or Y0646	Disposal hold allowance			6.0	0.25 m ² per bed
Staff support					
D0434	Staff rest and mini kitchen (size based on number of seats)	1.8	3	5.4	3 for 8 staff (maximum staff on shift). Space allowance should be combined with neighbouring wards to create a viable staff rest room. For details of unit area allowance see WHBN 00-03
H1304	Seminar room: 24 places (including 1 wheelchair place)	32	0.4	12.0	1 per 64 beds
	Communal changing area (size based on number of lockers)	1.4	18	25.2	Twice number of lockers as staff on shift plus 10% contingency (rounded). Space allowance should be combined with neighbouring department to create viable male and female changing rooms. Allowance includes more than one type of ADB room. For details of unit area allowance see WHBN 00-03
V1010	WC: ambulant	2.0	1	2.0	1 for up to 20 lockers
Net internal area (NIA)				84.6	
Optional accommodation					
V1131	Nappy changing room	5.0	1	5.0	Optional addition to waiting space
P0808	Vending machine	3.0	1	3.0	Optional addition to waiting space
G0510	Lobby to isolation room	5.0	1	5.0	
B0308	Isolation room	19.0	1	19.0	In lieu of standard single bed-room provision
T0535	Clean utility room	16.0	1	16.0	Alternative to clean supply and medicine store/preparation room
V1635	Shower room: assisted	8.0	1	8.0	Alternative to assisted bathroom in wards with multi-bed bays
M0727	Sitting room: 7 places (including 1 wheelchair place)	12.0	1	12.0	Alternative to patient breakout space
	Regeneration kitchen				Project specific. Requirements by catering specialist

Schedule of accommodation example 2 – 24-bed ward 83% single-bed rooms	
Note 1	<p>Relationship of schedule to ADB room names</p> <p>The ADB room codes listed may not carry a title, in ADB, identical to the room function in the schedules. Use of the appropriate room code will, however, result in the correct room being accessed.</p>
Note 2	<p>Relationship of schedule to ADB for scalable rooms (i.e. those for which a recommended room size in ADB does not exist)</p> <p>ADB room code relates to one example size of this space and does not reflect space requirements of these schedules. Projects will scale up/down according to schedule.</p>
Note 3	<p>Essential complementary accommodation</p> <p>Accommodation to which the department needs access but may be shared with nearby departments.</p>
Note 4	<p>Optional accommodation</p> <p>Accommodation which is not expected in all departments but, dependent on local policy, may be needed in addition to or instead of the rooms listed in the schedule.</p>
Note 5	<p>Circulation allowance</p> <p>The circulation allowance is based upon the study and calculations contained within ‘Ward layouts with single rooms and space for flexibility’ (DH, May 2005).</p>
Note 6	<p>Engineering space allowance</p> <p>For the purposes of calculating the engineering space allowances it has been assumed that each ward is located on an acute (multi-purpose) hospital site with GIA of 25,000 m². For larger or smaller facilities, or where there needs to be largely dedicated engineering services plant space, the engineering space allowance will vary, generally downwards as GIA increases.</p>
Note 7	<p>Status of defined metrics</p> <p>All of the defined metrics (calculations for quantifying spaces) in the notes column have been included as a reasonable basis for initial briefing. They are not intended as, and should not be considered, requirements.</p>

Schedule of accommodation example 3 – 24-bed ward 100% single-bed rooms					
ADB code	Room name/function	Unit area allowance	Quantity	Total area	Notes
<i>Clinical spaces</i>					
Bedroom and sanitary spaces					
B0305	Single-bed room	19.0	24	456.0	
V1645	Shower room: en-suite – chamfered	4.5	24	108.0	
B0405	Multi-bed room: 4-bed	64.0	3	192.0	
V1121	WC: semi-ambulant – in-patient				Not applicable
V1635	Shower room: assisted – in-patient				Not applicable
V1736	Bathroom: assisted	15.0	1	15.0	
Support facilities					
M0330	Office/meeting room: 10 places (including 2 workstations)	16.0	1	16.0	1 per 24 beds
T0151	Touchdown base	2.0	6	12.0	1 per 4 beds
X0145	Treatment room: double-sided couch access				Not applicable
M0724	Interview room: 4 places (including 1 wheelchair place)	8.0	1	8.0	1 per 24 beds
M0731	Breakout space: patients	6.0	3	18.0	1 per 8 beds
P0627	Ward pantry	12.0	1	12.0	1 per 24 beds. Larger than pantry/ refreshment area as includes larger fridge, ice-making machine and additional storage
G0180	Parking bay for resuscitation equipment	2.0	1	2.0	1 per 24 beds
G0180	Parking bay for food trolley	2.0	1	2.0	1 per 24 beds
G0180	Parking bay for mobile hoist	2.0	1	2.0	1 per 24 beds
	Ward storage allowance			18.0	0.75 m ² per bed
T0540	Medicine store/preparation room	8.0	1	8.0	1 per 24 beds
Y0331	Dirty utility room for bedpan processing	12.0	2	24.0	1 per 12 beds
Y1510	Cleaner's room	8.0	1	8.0	1 per 24 beds
<i>Staff spaces</i>					
Staff support					
V0653	Locker bay: 12 small lockers	1.5	2	3.0	1 per 12 beds
V1010	WC: ambulant	2.0	1	2.0	1 per 24 beds
Net internal area				665.5	
	Circulation allowance		31.0%	221.3	
	Communication allowance		10.0%	71.4	
	Engineering spaces allowance		28.0%	199.9	
Gross internal area (GIA)				1206.7	
<i>Essential complementary accommodation</i>					
Entrance and reception					
J0230	Reception (size based on number of places)	5.5	2	11.0	2 places per 24 beds
	Waiting area (size based on number of places)	1.7	6	10.2	1 per 4 beds. Allowance includes more than one type of ADB room. For details of unit area allowance see WHBN 00-03

Schedule of accommodation example 3 – 24-bed ward 100% single-bed rooms					
ADB code	Room name/function	Unit area allowance	Quantity	Total area	Notes
V1121	WC: semi-ambulant	2.5	1	2.5	1 per 24 beds
V0922	WC: independent wheelchair	4.5	0.5	2.3	1 per 48 beds
Additional clinical spaces					
W1475	Clean supply room allowance			8.0	0.34 m ² per bed
Y0642 or Y0646	Disposal hold allowance			6.0	0.25 m ² per bed
Staff support					
D0434	Staff rest and mini kitchen (size based on number of seats)	1.8	3	5.4	3 for 8 staff (maximum staff on shift). Space allowance should be combined with neighbouring wards to create a viable staff rest room. For details of unit area allowance see WHBN 00-03
H1304	Seminar room: 24 places (including 1 wheelchair place)	32	0.4	12.0	1 per 64 beds
	Communal changing area (size based on number of lockers)	1.4	18	25.2	Twice number of lockers as staff on shift plus 10% contingency (rounded). Space allowance should be combined with neighbouring department to create viable male and female changing rooms. Allowance includes more than one type of ADB room. For details of unit area allowance see WHBN 00-03
V1010	WC: ambulant	2.0	1	2.0	1 for up to 20 lockers
Net internal area (NIA)				84.6	
Optional accommodation					
V1131	Nappy changing room	5.0	1	5.0	Optional addition to waiting space
P0808	Vending machine	3.0	1	3.0	Optional addition to waiting space
G0510	Lobby to isolation room	5.0	1	5.0	
B0308	Isolation room	19.0	1	19.0	In lieu of standard single bed-room provision
T0535	Clean utility room	16.0	1	16.0	Alternative to clean supply and medicine store/preparation room
V1635	Shower room: assisted	8.0	1	8.0	Alternative to assisted bathroom in wards with multi-bed bays
M0727	Sitting room: 7 places (including 1 wheelchair place)	12.0	1	12.0	Alternative to patient breakout space
	Regeneration kitchen				Project specific. Requirements by catering specialist

Schedule of accommodation example 3 – 24-bed ward 100% single-bed rooms	
Note 1	<p>Relationship of schedule to ADB room names</p> <p>The ADB room codes listed may not carry a title, in ADB, identical to the room function in the schedules. Use of the appropriate room code will, however, result in the correct room being accessed.</p>
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Note 7	<p>Status of defined metrics</p> <p>All of the defined metrics (calculations for quantifying spaces) in the Notes column have been included as a reasonable basis for initial briefing. They are not intended as, and should not be considered, requirements.</p>

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Health and Safety Executive

www.hse.gov.uk

Moving and handling in health and social care

<http://www.hse.gov.uk/healthservices/moving-handling.htm>

NHS Wales Shared Services Partnership – Facilities Services

The publications below are available from the NHS Wales Shared Services Partnership - Facilities Services websites

Intranet: howis.wales.nhs.uk/whe

Internet: www.wales.nhs.uk/whe

Lighting and colour for hospital design, R&D Report B(01)02

Ward layouts with single rooms for space and flexibility

Welsh Health Estates Notification WHEN 10/14

Measures to Update 2002/2003 DCAG's for Changes in Specification (i.e. changes not covered by MIPS), to 8th July 2010

Welsh Health Building Notes (WHBN)

WHBN 00-01 – General design principles

WHBN 00-02 – Sanitary spaces

WHBN 00-03 – Clinical and clinical support spaces

WHBN 00-04 – Circulation and communication spaces

WHBN 00-10 Part D – Windows and associated hardware

WHBN 04-01 – Supplement 1: Isolation facilities for infectious patients in acute settings

Welsh Government

<http://wales.gov.uk/?lang=en>

Designed for life: Creating world class health and social care for Wales in the 21st Century

<http://wales.gov.uk/topics/health/publications/health-strategies/design/?lang=en>

Fundamentals of care: Guidance for Health and Social Care Staff – Improving the quality of fundamental aspects of health and social care for adults

<http://www.wales.nhs.uk/documents/booklet-e.pdf>

Free to lead, free to care

<http://wales.gov.uk/docs/phhs/publications/empowering/090427empoweringen.pdf>

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