

Health Building Note 11-01: Facilities for primary and community care services



Primary and community care
Health Building Note 11-01:
**Facilities for primary and community
care services**

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Preface

About Health Building Notes

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

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

The Health Building Note suite

Healthcare delivery is constantly changing, and so too are the boundaries between primary, secondary and tertiary care. The focus now is on delivering healthcare closer to people’s homes.

The Health Building Note framework (shown below) is based on the patient’s experience across the spectrum of care from home to healthcare setting and back, using the national service frameworks (NSFs) as a model.

Health Building Note structure

The Health Building Notes have been organised into a suite of 17 core subjects.

Care-group-based Health Building Notes provide information about a specific care group or pathway but cross-refer to Health Building Notes on **generic (clinical) activities** or **support systems** as appropriate.

Core subjects are subdivided into specific topics and classified by a two-digit suffix (-01, -02 etc), and may be further subdivided into Supplements A, B etc.

All Health Building Notes are supported by the overarching Health Building Note 00 in which the key areas of design and building are dealt with.

Example

The Health Building Note on accommodation for adult in-patients is represented as follows:

“Health Building Note 04-01: Adult in-patient facilities”

The supplement to Health Building Note 04-01 on isolation facilities is represented as follows:

“Health Building Note 04-01: Supplement 1 – Isolation facilities for infectious patients in acute settings”

Health Building Note number and series title	Type of Health Building Note
Health Building Note 00 – Core elements	Support-system-based
Health Building Note 01 – Cardiac care	Care-group-based
Health Building Note 02 – Cancer care	Care-group-based
Health Building Note 03 – Mental health	Care-group-based
Health Building Note 04 – In-patient care	Generic-activity-based
Health Building Note 05 – Older people	Care-group-based
Health Building Note 06 – Diagnostics	Generic-activity-based
Health Building Note 07 – Renal care	Care-group-based
Health Building Note 08 – Long-term conditions/long-stay care	Care-group-based
Health Building Note 09 – Children, young people and maternity services	Care-group-based
Health Building Note 10 – Surgery	Generic-activity-based
Health Building Note 11 – Community care	Generic-activity-based
Health Building Note 12 – Out-patient care	Generic-activity-based
Health Building Note 13 – Decontamination	Support-system-based
Health Building Note 14 – Medicines management	Support-system-based
Health Building Note 15 – Emergency care	Care-group-based
Health Building Note 16 – Pathology	Support-system-based

Other resources in the DH Estates and Facilities knowledge series

Health Technical Memoranda

Health Technical Memoranda give comprehensive advice and guidance on the design, installation and operation of specialised building and engineering technology used in the delivery of healthcare (for example medical gas pipeline systems, and ventilation systems).

They are applicable to new and existing sites, and are for use at various stages during the inception, design, construction, refurbishment and maintenance of a building.

All Health Building Notes should be read in conjunction with the relevant parts of the Health Technical Memorandum series.

Activity DataBase (ADB)

The Activity DataBase (ADB) data and software assists project teams with the briefing and design of the healthcare environment. Data is based on guidance given in the Health Building Notes, Health Technical Memoranda and Health Technical Memorandum Building Component series.

1. 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.
2. Schedules of equipment/components are included for each room, which may be grouped into ergonomically arranged assemblies.
3. Schedules of equipment can also be obtained at department and project level.
4. Fully loaded drawings may be produced from the database.
5. Reference data is supplied with ADB that may be adapted and modified to suit the users' project-specific needs.

Note

The sequence of numbering within each subject area does not necessarily indicate the order in which the Health Building Notes were or will be published/printed. However, the overall structure/number format will be maintained as described.

Executive summary

This document provides best practice guidance on the selection and zoning of facilities for delivering primary and community care services.

The guidance is applicable to the following building types:

- GP premises;
- Health centres;
- Primary care centres;
- Resource centres;
- Urgent care centres (including walk-in centres and minor injuries units);
- Community hospitals (also known as intermediate care hospitals).

It describes the following:

- the range of services that may be delivered from primary and community care buildings;

- the types of space needed to deliver these services (many of which are generic);
- the way to quantify these spaces for briefing purposes;
- the way spaces can be organised into zones to create efficient, flexible, user-friendly environments.

This document does not provide detailed design guidance on specific rooms and spaces. Planning and design teams should refer to the following publications for guidance on generic rooms and spaces:

- Health Building Note 00-02 – ‘Sanitary spaces’;
- Health Building Note 00-03 – ‘Clinical and clinical support spaces’;
- Health Building Note 00-04 – ‘Circulation and communication spaces’.

The need to refer to other Health Building Notes for guidance on specialist spaces will depend on the range of services to be delivered.

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Wayne Ashton

Healthcare planner
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Max Finch

Head of digital communications infrastructure
Connecting for Health

Susan Francis

Special advisor for health
CABE

Adam Harridence

Knowledge manager
Partnerships For Health Ltd

Sue Lees

Chief executive, Barking and Havering LIFTCo
Barking and Havering LIFT (Holdings) Ltd

Alan Miller

National premises lead
Primary Care Contracting

Dr Roy Macgregor

James Wigg Practice

Dr Jacques Mizan

Royal College of GPs

Stephen Naylor

Head of estates
NHS South of Tyne and Wear

Chris Potter

PHS Architects

Helen Tucker

Community Hospitals Association

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Executive summary

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1 Introduction

Scope of guidance

1.1 This document provides best practice guidance on the selection and zoning of facilities for delivering primary and community care services.

1.2 The guidance is applicable to the following building types:

- GP premises;
- Health centres;
- Primary care centres;
- Resource centres;
- Urgent care centres (including walk-in centres and minor injuries units);
- Community hospitals (also known as intermediate care hospitals).

1.3 It describes the following:

- the range of services that may be delivered from primary and community care buildings;
- the types of space needed to deliver these services (many of which are generic);
- the way to quantify these spaces for briefing purposes;
- the way spaces can be organised into zones to create efficient, flexible, user-friendly environments.

1.4 This guide has been written with the provision of new-build facilities in mind. The principles described apply equally to the refurbishment and extension of existing buildings.

How to use this document

Supporting Health Building Notes

1.5 This document does not provide detailed design guidance on specific rooms and spaces. Planning and design teams should refer to the following publications for guidance on generic rooms and spaces:

- Health Building Note 00-02 – ‘Sanitary spaces’;
- Health Building Note 00-03 – ‘Clinical and clinical support spaces’;
- Health Building Note 00-04 – ‘Circulation and communication spaces’.

1.6 The need to refer to other Health Building Notes for guidance on specialist spaces will depend on the range of services to be delivered.

Exclusions

1.7 This document does not provide design guidance on general in-patient wards. This information is provided in Health Building Note 04-01 – ‘Adult in-patient facilities’. However, it does recognise the need for community and therapy spaces on community wards. See Appendix 1 for details.

1.8 Certain specialist services may be delivered from stand-alone units in acute or community settings (for example midwife-led birthing units). This document does not provide design guidance on such stand-alone units. The following Health Building Notes cover some of the specialist clinical services that may be provided as stand-alone units:

- Health Building Note 07-01 – ‘Satellite dialysis unit’;
- Health Building Note 09-02 – ‘Maternity care facilities’ (for information on midwife-led units);
- Health Building Note 10-02 – ‘Day surgery facilities’;
- Health Building Note 12-01 Supplement A – ‘Sexual and reproductive health clinics’;
- Health Building Note 52 Volume 2 – ‘Endoscopy unit’;
- Health Building Note 52 Volume 3 – ‘Medical investigation and treatment unit’;
- Health Building Note 54 – ‘Facilities for cancer services’ (for information on chemotherapy facilities).

1.9 The example briefing schedules include a large unit with community beds and separate day surgery, renal satellite dialysis and midwife-led birthing units.

Case studies supplement

1.10 A number of case studies have been written that support the service delivery and design principles outlined in this document. These are contained in Health Building Note 11-01: 'Facilities for primary and community care services', Supplement A: 'Case studies'.

Guiding principles

1.11 Primary and community care buildings should be:

- driven by strategic service and estate planning by PCTs, as informed clients, to avoid over-capacity and under-utilisation;
- informed by consultations with clinicians, stakeholders, the public and relevant statutory bodies during the planning and design process;
- underpinned by the use of generic spaces, as far as possible, to support multi-functional use;
- able to explore the separation of patient/client areas from practitioner admin requirements;
- adaptable to changing service needs and pathways;
- safe, secure, physically accessible and welcoming to the communities they serve;
- supportive of staff development, with an emphasis on appropriate training and learning facilities;
- simply laid out to aid patient/client journeys, minimise staff movements and allow for efficient maintenance;
- designed to deliver appropriate levels of emergency preparedness and resilience.

Strategic design issues

Design quality

- 1.12 The NHS places great importance on design quality, and a conscious effort has been made in recent years to raise the standards of primary and community care buildings.
- 1.13 Currently NHS Design Reviews are available for all schemes with an outturn cost above £15m. The

criteria for carrying out design reviews should be used on all schemes, regardless of size, as they provide a useful checklist of design quality requirements.

- 1.14 A design champion should be identified for every trust to ensure design vision is not lost as design work unfolds. For details of this and the design review mentioned above, go to www.dh.gov.uk/en/Managingyourorganisation/Estatesandfacilitiesmanagement/Designandcosting/DH_4122758.

Master planning

- 1.15 Schemes must respond to their local environment if they are to be adopted by local communities. This can be achieved by ensuring that the mix of services delivered reflects local needs, and the building demonstrates appropriate levels of urban design and civic presence.
- 1.16 Successful design solutions will stem from a full consultation with statutory authorities and a detailed site analysis (existing patterns of built heritage, topography, sun paths, flood risk, noise etc). From this a clear site strategy should emerge, defining access, building location and mass, orientation, car parking and landscape design. The resulting design should be coherent and legible, allowing users of the building to understand how it is put together and organised as they approach it.

Quality of place

- 1.17 Successful schemes have a clear design vision, reflecting the model of care and site strategy while adding an element of delight and striking a chord with the communities that they serve. Routes to and through buildings are important, as are issues of privacy, dignity and the nature of the healing environment.
- 1.18 The design of most spaces within primary and community care buildings will be driven mainly by functional considerations. In the public zone and the external expression of the building, however, there are opportunities to create special places through the careful use of scale, materials, colour, sound, scents and lighting.

Art and integrated design

- 1.19 Art within primary and community care sites should work with the building and landscape design to create a positive experience for users.



James Wigg Practice
CELBS Breast Screening
Community Dental Department
InHealth Diagnostic Services

1.20 On larger projects it may be beneficial to appoint an arts co-ordinator at an early stage to ensure that a comprehensive arts strategy is established and that artwork is properly integrated into the building fabric. The possibility of involving the local community in the production of artwork should be explored.

1.21 The following documents provide useful guidance on the use of art in healthcare premises:

- ‘A prospectus for arts and health’, DH/Arts Council England 2007;
- ‘Arts and community engagement in LIFT’, Community Health Partnerships 2007;
- ‘The art of good health: a practical handbook’ and ‘The art of good health: using visual arts in healthcare’, both NHS Estates 2002.

The Arts Council may be approached for advice on funding. For further details go to www.artscouncil.org.uk.

Sustainability

1.22 All buildings providing services to the public have an obligation to incorporate principles of sustainable development. Health Technical Memorandum 07-07 addresses sustainable development within health and community care facilities by looking at the main issues that should be addressed throughout a building’s life. It also explores the reuse of existing buildings and provides advice on possibilities for sustainable refurbishment.

1.23 Healthcare schemes are now required to use the BREEAM Healthcare methodology to demonstrate that healthcare projects are built with sustainability in mind. The threshold for capital projects requiring BREEAM certification can be found at www.bream.org.



1.24 Health Technical Memorandum 07-07 makes extensive references to BREEAM Healthcare and offers guidance on how to comply with its criteria. See www.dh.gov.uk/en/Managingyourorganisation/Estatesandfacilitiesmanagement/Sustainabledevelopment/DH_4119587 and www.bream.org/health for an overview of the BREEAM Healthcare methodology.¹

1.25 Strategies for ensuring primary and community care buildings are flexible and adaptable are explored in Chapter 3.

1.26 The use of natural cross-ventilation (reliant on window openings on opposing sides of the building) is in line with reducing carbon footprints but may conflict with requirements for acoustic privacy. Project teams should consider this issue on an individual scheme basis, balancing specific privacy requirements against the capital and revenue cost benefits, as well as the improved sustainability profile, that a naturally ventilated solution can offer.

1.27 Building orientation and design and the use of designed-in background noise can be used to mitigate against the potentially adverse effects of natural cross-ventilation.

1.28 Natural ventilation should not be considered where it could jeopardise control of infection issues.

1.29 Further useful sustainability websites:

- www.sdu.nhs.uk
- www.carbontrust.co.uk.

NHS identity

1.30 Information on NHS branding can be found at www.nhsidentity.nhs.uk. Final decisions on branding should be made locally, in conjunction with all project stakeholders.

Functional design issues

Accessibility

1.31 For information on accessibility see the following:

- Disability Discrimination Act 1995 et seq;
- The Building Regulations 2000;
- Approved Document M. Access to and use of buildings;

¹ BREEAM Healthcare also encourages the use of art in healthcare buildings, security of premises and the sharing of facilities through its credit-based system.

- FAQs on Approved Document M under the “Professional User” section of the Planning Portal at www.planningportal.gov.uk;
- BS 8300: 2009.

Infection control

- 1.32 The Health and Social Care Act 2008: Code of Practice for the NHS on the prevention and control of healthcare associated infections and related guidance has been introduced for NHS organisations. PCT advice should be sought on whether the code applies.
- 1.33 Infection control teams should be consulted from the outset of any new build/refurbishment project and should form part of the planning team. See ‘Infection control in the built environment’ (DH) for guidance on the role of the infection control team. This document should be the first point of reference for planning teams.

Wayfinding

- 1.34 See ‘Wayfinding’ (NHS Estates 2005) and Health Building Note 00-04 – ‘Circulation and communication spaces’.

Security

- 1.35 All schemes should be considered against the criteria set down by the Secure by Design initiative (www.securedbydesign.com). An individual should have responsibility for decisions on security matters. On small schemes it may be sufficient to

follow the principles of this guidance. For larger schemes a formal application should be made and sign-off achieved. The Secure by Design initiative covers the public realm in and around the building (see www.securedbydesign.com). Advice should also be sought from stakeholders and service providers relating to personal safety and protection of property.

Emergency preparedness

- 1.36 Primary and community care buildings may be designated as emergency centres for dealing with large-scale emergencies, mass casualties and pandemics, particularly outside major conurbations.
- 1.37 Such centres need to be resilient in terms of their engineering services, stock levels of consumables/emergency supplies and accessibility. They also require the capacity to manage high volumes of people.
- 1.38 The levels of resilience and capacity required will depend on the category of emergency centre, which may change over time and ranges from high to low resilience designations.
- 1.39 Emergency centres should be sited above flood plains in locations with multiple access roads. They may require extended car parks or easy access to adjacent public/commercial parking.
- 1.40 For further information, see Health Building Note 00-07 – ‘Resilience planning for the healthcare estate’.

2 Scope and organisation of services

Primary and community care services

2.1 A wide range of services falls under the heading of primary and community care. They include services delivered by the following practitioners:

- GPs;
- nurse practitioners;
- practice nurses;
- district nurses;
- school nurses;
- health visitors;
- community midwives;
- social workers;
- home care advisors;
- generic support workers;
- allied health professionals;
- pharmacists;
- general, personal and community dentists;
- mental health professionals;
- specialist consultants (on an outreach basis).

2.2 They may include the following specialist services:

- audiology;
- chemotherapy;
- child development/assessment;
- CAMHS;
- day surgery;
- diabetes management;
- endoscopy;
- ENT;
- eye care;
- in-patient care (step-up, step-down, rehabilitation, assessment);
- maternity;

- renal dialysis;
- rheumatology;
- sexual and reproductive health;
- medical investigations.

2.3 The mix of primary and community care services should be determined by local need and strategic service planning.

How do primary and community care services differ from acute clinical services?

2.4 Acute hospitals deliver specialist healthcare services to a large population. It is more cost-effective and safer to centralise specialist staff and equipment in acute settings, which most patients access less frequently. Acute hospitals are generally made up of a number of specialist departments, each tailored to deliver a specific service from dedicated accommodation.

2.5 Primary and community care buildings may deliver a wide range of frequently accessed, less specialised, primary and community care services. Many of these services can be delivered from shared generic accommodation. Such shared use of space is central to the successful design and operation of primary and community care buildings.

2.6 The range of services delivered from primary and community care buildings is likely to change more frequently than those delivered from acute hospitals (to reflect prevailing needs, policy and technology). The buildings that house them should be flexible enough to accommodate these changes, including where decisions are taken to deliver hospital services in primary and community care settings.

Non-NHS community, voluntary and commercial sector services

2.7 The following are examples of non-NHS community care services that can also be incorporated into the scope of the building:

- libraries;

- swimming pools;
- informal adult education;
- Sure Start nurseries;
- housing offices;
- benefits advice offices;
- Citizens Advice Bureaux;
- training kitchens (teaching cooking skills and nutrition);
- computer training rooms;

- gyms;
- crèches;
- dance studios;
- retail pharmacies;
- cafés;
- convenience stores.

2.8 For further information on such co-located services, see [Appendix 2](#). Any costs associated with co-locating services should be addressed at strategic planning stage.

3 Strategies to maximise flexibility and adaptability

Introduction

3.1 As described in [Chapter 2](#), because the mix and range of services to be delivered from primary and community care buildings can change over time, it is important that the accommodation is flexible and adaptable. Strategies to promote flexibility and adaptability include:

- use generic patient/client contact spaces;
- limit the number of specialist spaces;
- standardise room sizes and position of built-in equipment;
- consider future engineering service requirements at the outset;
- consider flexible and adaptable forms of construction;
- develop a modular approach to planning and construction;
- provide space for future expansion, if relevant.

3.2 Most primary and community care services involve one or more of the following activities:

- counselling;
- consultation;
- examination;
- diagnosis;
- treatment;
- physical therapy.

3.3 These activities may occur on a planned basis (for example specialist outreach consulting), unplanned basis (for example urgent care or walk-in services) or a combination of the two (for example GP consultation). This affects the way services are managed rather than the facilities required.

3.4 Most activities involve a practitioner and an individual patient/client, although certain forms of physical therapy and counselling may take place in groups.

3.5 Most activities can be delivered from the following generic patient/client contact spaces:

- interview room;
- consulting/examination room;
- treatment room (that is, with mechanical ventilation);
- examination/physical therapy room;
- group room.

3.6 This is illustrated in [Figure 1](#), the primary and community care room directory, which matches services to room type based on an understanding of the activities involved.

3.7 Generic patient/client contact spaces should be shared on a timetabled basis to maximise their use unless required on a dedicated basis for full-time use.

3.8 For further information on the generic spaces listed above, see Health Building Note 00-03.

3.9 Treatment activity requires special consideration. Treatments given in primary and community care settings fall under a number of categories, and can occur in different room types.

3.10 Non-invasive and minimally invasive treatments may take place in a consulting/examination room, treatment room or examination/physical therapy room, depending on space requirements. (A non-invasive procedure is one that does not break the skin, for example changing a dressing. A minimally invasive procedure is one that breaks or punctures the skin, for example injections and taking blood.)

3.11 An invasive procedure is one that cuts the superficial layers of the skin, for example removal of moles, warts or corns, biopsies or any endoscopic procedure accessing any body orifice. A local anaesthetic or sedation may be required with an invasive procedure. Most invasive procedures and certain procedures using rigid endoscopes can take place in a generic treatment room. In addition,

Figure 1 Primary and social care room directory

Primary and community care service activity	Minimum recommended room type		
	Generic room (possibly with some specialist equipment or minor modifications)	Specialist room	HBN reference
Acupuncture	Examination/therapy room*		HBN 00-03
ADL assesment: dressing, bedtime skills		ADL bedroom	HBN 8
ADL assesment: kitchen skills		ADL kitchen	HBN 8
ADL assesment: bath and shower skills		ADL bathroom	HBN 8
Aromatherapy	Examination/therapy room*		HBN 00-03
Arts and craft therapy	Group room		HBN 00-03
Baby clinic	Large group room		HBN 00-03
Benefits advice consultation	Interview room		HBN 00-03
CAMHS interview and counselling (individual)	Interview room		HBN 00-03
Chemotherapy treatment	Examination/therapy room*		HBN 00-03
Chiropody/podiatry	Treatment room		HBN 00-03
Citizens advice bureaux consultation	Interview room		HBN 00-03
Consultation and examination	C/E room		HBN 00-03
Continence consultation and treatment	Treatment room		HBN 00-03
Contraceptive advice and dispensing	C/E room		HBN 00-03
Contraceptive advice and fitting	Treatment room		HBN 00-03
Dental recovery	Sitting recovery area or reclining recovery room		HBN 00-03
Dental surgery		Dental treatment room	Not yet available
Diabetes consultation and treatment	C/E room		HBN 00-03
Dietetics consultation (group)	Group room		HBN 00-03
Dietetics consultation (individual)	Interview room		HBN 00-03
Discussion group (up to 8 people)	Group room		HBN 00-03
District nurse treatment	Treatment room		HBN 00-03
ECG	Examination/therapy room*		HBN 00-03
Echocardiography	Treatment room		HBN 00-03
ENT consultation (high volume)		ENT C/E room	HBN 12-01C
ENT consultation (low volume)	C/E room		HBN 00-03
Family planning	C/E room		HBN 00-03
Foot health	Treatment room		HBN 00-03
Free movement exercise (with mats/handheld equipment)	Large group room		HBN 00-03
Surgical consultation and examination	C/E room		HBN 00-03
GP consultation and examination	C/E room		HBN 00-03
GP training (consultation and examination)	C/E room		HBN 00-03
Group activity (up to 8 people)	Group room		HBN 00-03
Health visitor consultation and treatment	C/E room or treatment room**		HBN 00-03
Hearing testing, adult		Adult hearing test room	HBN 12-01C
Hearing testing, child		Paediatric hearing test room	HBN 12-01C
Housing advice consultation	Interview room		HBN 00-03
Immunisation	C/E room		HBN 00-03
Innoculation	C/E room		HBN 00-03
Leg ulcer treatment	Treatment room		HBN 00-03
Marriage guidance consultation	Interview room		HBN 00-03

Health Building Note 11-01 – Facilities for primary and community care services

Primary and community care service activity	Minimum recommended room type		HBN reference
	Generic room (possibly with some specialist equipment or minor modifications)	Specialist room	
Massage	Examination/therapy room*		HBN 00-03
Mental health interview & counselling (individual)	Interview room		HBN 00-03
Midwife consultation	C/E room		HBN 00-03
Musculoskeletal/rehab physiotherapy (individual)	Examination/therapy room*		HBN 00-03
Musculoskeletal/rehab physiotherapy (large equipment)	Large group room		HBN 00-03
Music therapy	Group room		HBN 00-03
Near patient testing (blood gas, etc)	Near patient testing room		HBN 00-03
Nurse practitioner consultation and treatment	C/E room or treatment room**		HBN 00-03
Ophthalmology consultation and examination (high volume)		Ophthalmology C/E room	HBN 12-01D
Ophthalmology consultation and examination (low volume)	C/E room		HBN 00-03
Outpatient consulting and examination	C/E room		HBN 00-03
Pharmaceutical consultation	Interview room or C/E room		HBN 00-03
Phlebotomy	Examination/therapy room*		HBN 00-03
Physical measurement room	Examination/therapy room*		HBN 00-03
Physiotherapy specialist treatment (wax, splint, ice)		Splint room	Not yet available
Physiotherapy treatment (individual)	Examination/therapy room*		HBN 00-03
Plaster treatments (fitting and removing)		Plaster room	HBN 00-03
Practice nurse consultation and examination	C/E room		HBN 00-03
Practice nurse treatment	Treatment room		HBN 00-03
Preparation for parenthood classes	Large group room (minimum 40 sq m)		HBN 00-03
Rehabilitation therapy (individual)	Examination/therapy room*		HBN 00-03
Remembrance group discussion up to 8	Group room		HBN 00-03
School nurse consultation and treatment	C/E room or treatment room**		HBN 00-03
Sexual health consultation and examination	C/E room		HBN 00-03
Sexual health treatment	Treatment room		HBN 00-03
Smoking cessation group, up to 8	Group room		HBN 00-03
Social work interview and counselling session	Interview room		HBN 00-03
Specialist nurse consultation and examination	C/E room		HBN 00-03
Speech and language consultation (group)	Group room		HBN 00-03
Speech and language consultation (individual)	Interview room		HBN 00-03
Spirometry	Examination/therapy room*		
Stroke club	Large group room		HBN 00-03
Toe nail clipping service	Treatment room		HBN 00-03
Ultrasound investigation	Treatment room		HBN 00-03
Urgent care assessment	C/E room		HBN 00-03
Urgent care assessment and treatment	C/E room or treatment room**		HBN 00-03
Venepuncture (see phlebotomy)			
X-rays		X-ray room	

* Where activity levels do not justify a separate examination/therapy room, a consulting/examination room may be used

** Depending on nature of treatments

procedures that generate heat (for example ultrasound) and/or unpleasant odours (for example tissue viability clinic) should only take place in a treatment room (that is, with mechanical ventilation).

- 3.12 Some invasive procedures may require all-round couch access, including access to the head of the couch.

Limit the number of specialist spaces

- 3.13 Certain activities require specialist spaces, that is, rooms with special environmental characteristics (for example lead shielding for X-ray diagnosis, acoustic protection for hearing tests) or containing fixed specialist equipment (for example dental equipment).
- 3.14 Some specialist spaces can also be used for generic activities. However, they are more expensive to equip and less adaptable, and so should only be specified where absolutely necessary. Reasons for specifying a specialist space should be justified and recorded.
- 3.15 See [Figure 1](#) for a list of specialist spaces that may be required in primary and community care buildings.

Standardise room sizes and position of built-in equipment

- 3.16 Room sizes and dimensions should be standardised wherever possible. This may mean sizing up to some extent, but results in rooms that can be adapted (for alternative use) more easily.
- 3.17 Experience and ergonomic analysis suggests the following room sizes provide a good fit for most generic rooms in primary and community care buildings:
- 8 m²;
 - 12 m²;
 - 16 m²;
 - 32 m².
- 3.18 The ability to standardise the position of built-in equipment (for example clinical wash-hand basin) will further enhance adaptability.
- 3.19 This idea is shown diagrammatically in [Figure 2](#).
- 3.20 The 16 m² consulting/examination room in Health Building Note 00-03 shows access to three sides of the couch. This is not generally required in primary

and community care settings, where the couch can be aligned against one wall, leaving additional space for patients, escorts and mobile equipment. The couch should be correctly handed, however, and the clinical wash-hand basin should remain within the cubicle area. See [Figure 3](#).

- 3.21 The 12 m² consulting/examination room with single-sided couch access identified in Health Building Note 00-03 is not recommended for use in primary and community care buildings as it offers less space for equipment and patients/escorts than the 16 m² room.

Consider future engineering service requirements at the outset

- 3.22 At the beginning of the design process consideration should be given to which room functions are likely to change over time and the impact this will have on engineering service requirements. Two broad approaches are possible:
- install sufficient engineering services at the outset to accommodate future uses of the room;
 - provide adequate infrastructure capacity, plantroom and containment space to upgrade engineering services at a later date.
- 3.23 Decisions over which approach to employ will be influenced by the ability to predict future changes in use, economic constraints, and the need to satisfy any emergency preparedness provisions, which may require rapid conversion from one room type to another.
- 3.24 Where it is decided to install engineering services at the outset to accommodate future use, controls can be used to set ventilation, temperature control and lighting systems at the appropriate levels.
- 3.25 Where it is decided to provide sufficient space to accommodate the necessary additional engineering services at a later date, suitable local connection and access points should be arranged to minimise future disruption to the normal operation of the premises.
- 3.26 Clinical wash-hand basins may be included in interview or group rooms to increase their flexibility and adaptability. This must be balanced on a project basis against the more “clinical” character required by the inclusion of a basin, for example, by necessitating vinyl flooring.
- 3.27 An alternative solution is to provide some or all rooms with the capacity to easily retrofit a basin.

Figure 2 Modular sizing concept

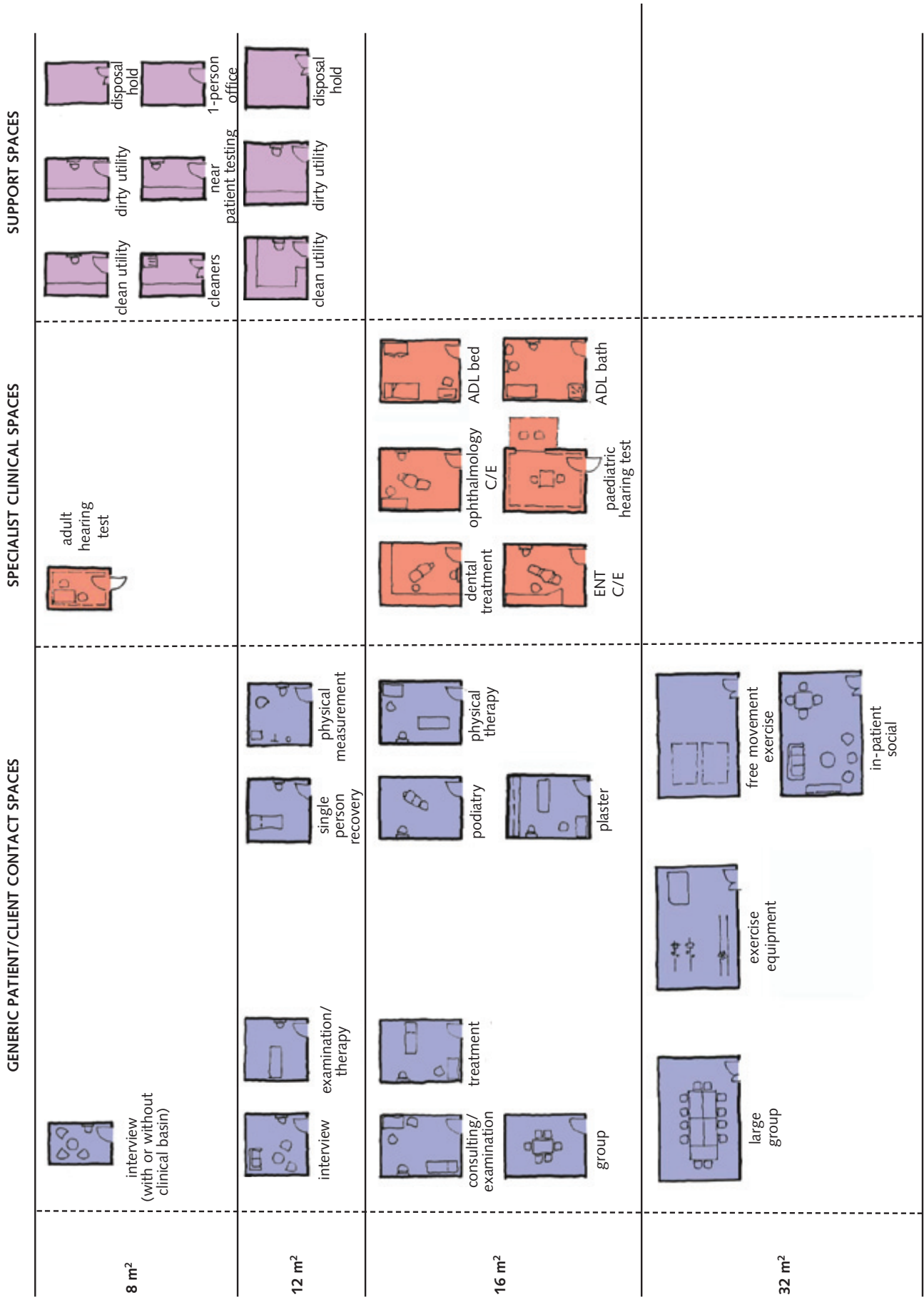
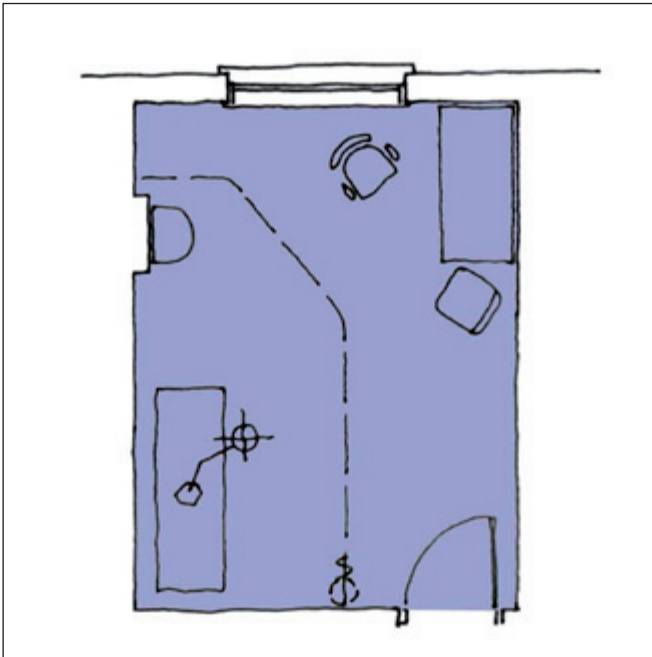


Figure 3 Alternative layout for 16 m² consulting/ examination room with couch against wall



This can be achieved with blank, plumbed IPS panels or (*Legionella*-compliant) capped hot and cold water supply tails in ceiling voids and capped wastes.

3.28 Reference should be made to ADB datasheets to establish the specific engineering requirements for the different room types. See also [Chapter 10](#).

Consider flexible and adaptable forms of construction

3.29 To ensure day-to-day flexibility, consider the use of:

- acoustically treated folding partition walls between adjoining group rooms, allowing rooms to be opened up to create larger spaces;
- changeable signage, allowing room names and routes to be easily modified for individual sessions;
- mobile, rather than fixed, equipment and furniture;
- wireless and/or internet protocol technology, where appropriate;
- standard data outlets (for example RJ45) and common structured wiring infrastructure to create a network for telephones, data and video.

3.30 To ensure that buildings are adaptable in the longer term, consider the following:

- the use of framed construction allowing partition walls to be altered;
- the installation of suitable surface fixed trunking to allow engineering services outlets to be added or altered, particularly where large numbers and types of outlet are concentrated in a small space. This is subject to infection control requirements being met;
- the use of structured wiring for IT and communication systems and modular wiring systems for lighting and small power;
- provision of adequate spare plant and service access space, including ceiling void depths and service risers, to have sufficient capacity to accommodate anticipated future M&E expansion and equipment replacement;
- developing a modular approach to planning and construction.

3.31 Adopting a limited number of room sizes can lead to building layouts that use economic structural spans, stack efficiently and allow for natural cross-ventilation.

3.32 The planning grid chosen will depend on site conditions and the form of construction being used (steel or concrete frame or load-bearing). This approach can also be adopted when converting existing commercial buildings into primary and community care accommodation.

3.33 As well as encouraging simple layouts of rooms around a central corridor with standardised building spans and grids, the modular approach can be extended to provide additional benefits:

- locating electrical trunking on exterior walls also helps with the flexibility of office space, in particular, as it makes it easier to move dividing cross walls, at a later date;
- off-site fabrication can be viable on larger schemes, if not for the room itself, then for elements such as standard plumbing modules.

3.34 It is not always possible to use the same modular sizes for in-patient and out-patient accommodation. This is particularly the case if corridor-side en-suite shower rooms are used in wards, as this leads to a deep-plan form that is often difficult to locate above naturally ventilated and lit ground-floor out-patient accommodation. A modular approach can be adopted by stacking in-patient accommodation in a separate block,

adjacent to the out-patient space, or by placing it above accommodation that does not require so much natural light and ventilation, such as imaging or FM space.

Conversions and alternative uses

- 3.35 A loose-fit, non-bespoke approach to space planning will lead to flexible buildings that are suitable for conversion to alternative uses. This is particularly useful in schemes where building costs may not be fully recouped during the lease period or where significant reductions in service provision are anticipated.
- 3.36 Consideration should be given to forms of construction, storey heights, structural grid, floor loadings, fire stair and riser locations etc which, in conjunction with a modular approach to room sizing, can result in buildings that have increased residual value, should needs change in the future. Such decisions should not, however, jeopardise functionality in the short term.

Provide space for future expansion, if relevant

- 3.37 Consideration should be given at the early planning stage to how the building might expand or contract over time, as activity levels change.
- 3.38 If expansion space is provided, it should be adjacent to the relevant part of the building. The impact of expansion on circulation routes, fire strategy and provision of daylight needs to be addressed.
- 3.39 Should mains services, public spaces and the car park be sized to accommodate the extension from the outset, or is a strategy in place to enable this support accommodation to expand over time too?
- 3.40 If it is likely that services and activity will contract, consideration should be given to how the building can be sub-divided, or how areas can be let for non-core activity.



4 Sizing a development and creating a briefing schedule

Introduction

- 4.1 This chapter describes the process by which the spaces in primary and community care buildings (excluding community wards) are quantified, and from that, how a briefing schedule can be generated.
- 4.2 This analysis can be undertaken manually, following the methodology set out below. The Department of Health is currently developing an interactive online standard space scheduling system to aid this process.
- 4.3 The briefing schedule will be used to produce an informed construction cost and hence to determine whether the scheme is viable or whether basic assumptions (such as functional content, opening hours etc) have to be adjusted to achieve affordability. It is vital that the briefing schedule is created very early in the development process to avoid abortive work being undertaken.
- 4.4 The briefing schedule can also be used to establish approximate car parking numbers to assist with site capacity planning and inform discussions with local authority planners.
- 4.5 For information on how to size community wards see the example briefing schedules.

Primary and community care spaces

- 4.6 This is the most complex element to define because, as indicated in [Chapter 3](#), most primary and community care spaces will be shared by a variety of users on a timetabled basis. Primary and community care spaces can be established using the following steps:
- establish the range of primary and community care services to be delivered;
 - establish the anticipated activity levels for each service;
 - establish the types of patient/client contact space required for each service;

- state operational assumptions;
- calculate the number of patient/client contact spaces required for each service;
- calculate the total number of patient/client contact spaces required;
- establish the number of support spaces required.

4.7 These steps are discussed in more detail below.

Establish the range of primary and community care services to be delivered

4.8 The service brief will provide this information.

Establish the anticipated activity levels for each service

- 4.9 The number of patient/client contacts per annum for each service can be calculated using:
- access rates applied to the relevant catchment population; and/or
 - outputs from service redesign pathways; and/or
 - historical activity levels, modified to reflect planning assumptions on trends.

Establish the types of patient/client contact space required for each service

- 4.10 The primary and community care room directory may aid this process (see [Figure 1](#)). These spaces can be generic or specialist.
- 4.11 Most individual services will require access to more than one room type, for example general medical services require access to both consulting/examination and treatment rooms.
- 4.12 Where an individual service requires access to more than one room type it is necessary to identify the percentage of patients/clients using each room type; for example, analysis may show that 100% of GMS patients/clients require access to a consulting/examination room but only 20% require access to a treatment room.

State operational assumptions

- 4.13 To enable patient/client contact spaces to be quantified, assumptions about the following operational issues will be required:
- number of weeks the building will be open per year;
 - opening hours per week;
 - average duration of each appointment by service and room type;
 - average room utilisation rate.
- 4.14 The room utilisation rate allows for non-attendees, unplanned activity and the complexity of scheduling a variety of staff. A utilisation rate of at

least 60% should be achieved. However, the impact on room requirements of using a higher utilisation rate should be investigated.

Calculate the number of patient/client contact spaces required for each service

- 4.15 The examples below illustrate how this can be done for general medical services using the steps outlined above.
- 4.16 Requirements for specialist patient/client contact spaces should be determined in the same way. However, the decision to provide a specialist room will also depend on whether the service can be delivered in a generic room.

Calculating number of consulting/examination rooms required for general medical services:

Catchment population:	10,000
Access rate:	5260 per 1000 population
Anticipated annual contacts:	$10 \times 5260 = 52,600$
Assume 100% patients use C/E room: Patients accessing a C/E room:	52,600
Assume open 50 weeks a year: Patients per week:	$52,600/50 = 1052$
Appointment duration	15 minutes
Patient appointment time per week	$1052 \times 15/60 = 263$ hours per week
Assume building operational	60 hours per week
Assumes room utilisation	60%
Rooms available	36 hours per week
Number of C/E rooms required:	$263/36 = 7.3$

Calculating number of treatment rooms required for general medical services:

Catchment population:	10,000
Access rate:	5260 per 1000 population
Anticipated annual contacts:	$10 \times 5260 = 52,600$
Assume 20% patients use a treatment room: Patients accessing a treatment room:	$52,600 \times 0.2 = 10,520$
Assume open 50 weeks a year: Patients per week:	$10,520/50 = 210$
Assume appointment duration	20 minutes
Patient appointment time per week	$210 \times 20/60 = 70$ hours per week
Assume building operational	60 hours per week
Assumes room utilisation	60%
Rooms available	36 hours per week
Number of treatment rooms required:	$70/36 = 1.9$

Calculate the total number of patient/client contact spaces required

4.17 Once these room quantification calculations have been undertaken for all services, and all room types, the results can be added together to establish overall requirements for patient/client contact spaces for delivering primary and community care. At this point, room numbers should be rounded, as appropriate. These spaces will effectively become the “schedule drivers” for the project.

Establish the number of support spaces required

4.18 In order to function efficiently, patient/client contact spaces require access to a range of support spaces (for example utility rooms, storage spaces etc). The number and mix of support spaces required should be identified from an analysis of the number and mix of patient/client contact spaces.

Staff spaces

4.19 Staff spaces can be quantified as follows:

- shared-use admin workstations for building-based practitioners: the number of practitioners working in the building can be calculated from the number of patient/client contact spaces in the primary and community care zone. The number of workstations required will depend on the level of sharing;
- shared-use admin workstations for community-based practitioners: the number of community staff can be derived from the service brief and business case assumptions. The number of workstations required will depend on the level of sharing and maximum number of community staff likely to be in the building at any one time;
- continuous-use admin workstations: requirements will be based on the number of permanent admin staff. This information can be derived from the service brief and an overview of activity levels;
- reception spaces: requirements for reception spaces can be based on the size of the waiting area (see below for details).

4.20 Research in Primary care is an invaluable activity for the development of science that underpins the practice of Primary care and the improved care of patients. Good premises design can facilitate and foster the undertaking of research and consideration of research when building new or substantially developing existing premises is appropriate. The development of such facilities away from the traditional academic centres has the potential to support the development of research in areas and communities where previously it has been difficult due to lack of appropriate facilities.

4.21 Facilities that might be considered to support the provision of research within primary include,

- Additional administration space for research administrators
- Video conferencing facilities to support collaboration with academic centres without travel (ecological)
- Meeting space for research planning and development
- Additional clinical space for research investigators

4.22 It is assumed that admin areas will be open-plan and associated with a series of ancillary office spaces. See [Chapter 8](#) for further details. Requirements for ancillary office spaces should be driven by numbers of workstations.

4.23 Single-person offices should be kept to a minimum. The number required will depend on local operational policies.

Public spaces

4.24 Requirements for waiting spaces and public WCs (except independent wheelchair WCs) may be based on the number of patient/client contact spaces in the primary and community care zone. Independent wheelchair WCs should be quantified according to the size of the building.

4.25 Community and commercial partners should advise on the number of attendances that their accommodation is likely to generate over and above those already attending for primary and community care appointments, per day and at peak

times, to ensure that adequate public spaces are provided.

Facilities management spaces

- 4.26 The amount of space required for facilities management depends on operational policies and working practices.
- 4.27 Space estimates for specialist FM space (regeneration kitchens, commercial cafés etc) should be validated from potential service providers as soon as the scheme is deemed to be potentially viable.

Compiling the briefing schedule

- 4.28 Using the steps outlined above, a briefing schedule can be produced. The example briefing schedules clearly set out all the assumptions used to calculate requirements for public, clinical support, staff and FM spaces.
- 4.29 Example briefing schedules are useful for overall costing purposes, but do not indicate how spaces might be put together into a coherent design. This is described in subsequent chapters.

5 Creating zones within primary and community care buildings

Introduction

- 5.1 All primary and community care buildings include the following types of space:
- public spaces;
 - primary and community care spaces;
 - staff spaces.
- 5.2 These different categories of spaces should be grouped together to create separate zones within the building.

Public zone

- 5.3 The public zone comprises the main entrance, reception and waiting area, public WCs and health information points. This zone should be located at the front of the building.
- 5.4 The public zone should have a non-clinical character, relevant and inviting to the community that it serves, who it is hoped will develop a sense of ownership for it.
- 5.5 See [Chapter 6](#) for further details on how to design the public zone.

Primary and community care zone

- 5.6 This zone accommodates the core patient/client contact spaces, most of which will be generic.
- 5.7 Public access to this zone will be from the public zone. Ideally, it should have direct staff-controlled access to the staff zone. Public access to individual patient/client contact spaces will be controlled by staff.
- 5.8 The primary and community care zone should inspire confidence through order, cleanliness and efficiency.
- 5.9 See [Chapter 7](#) for further details on how to design the primary and community care zone.
- 5.10 Some buildings contain community beds and stand-alone specialist clinical units, located outside

the primary and community care zone. See [paragraphs 1.7 and 1.8](#) for details.

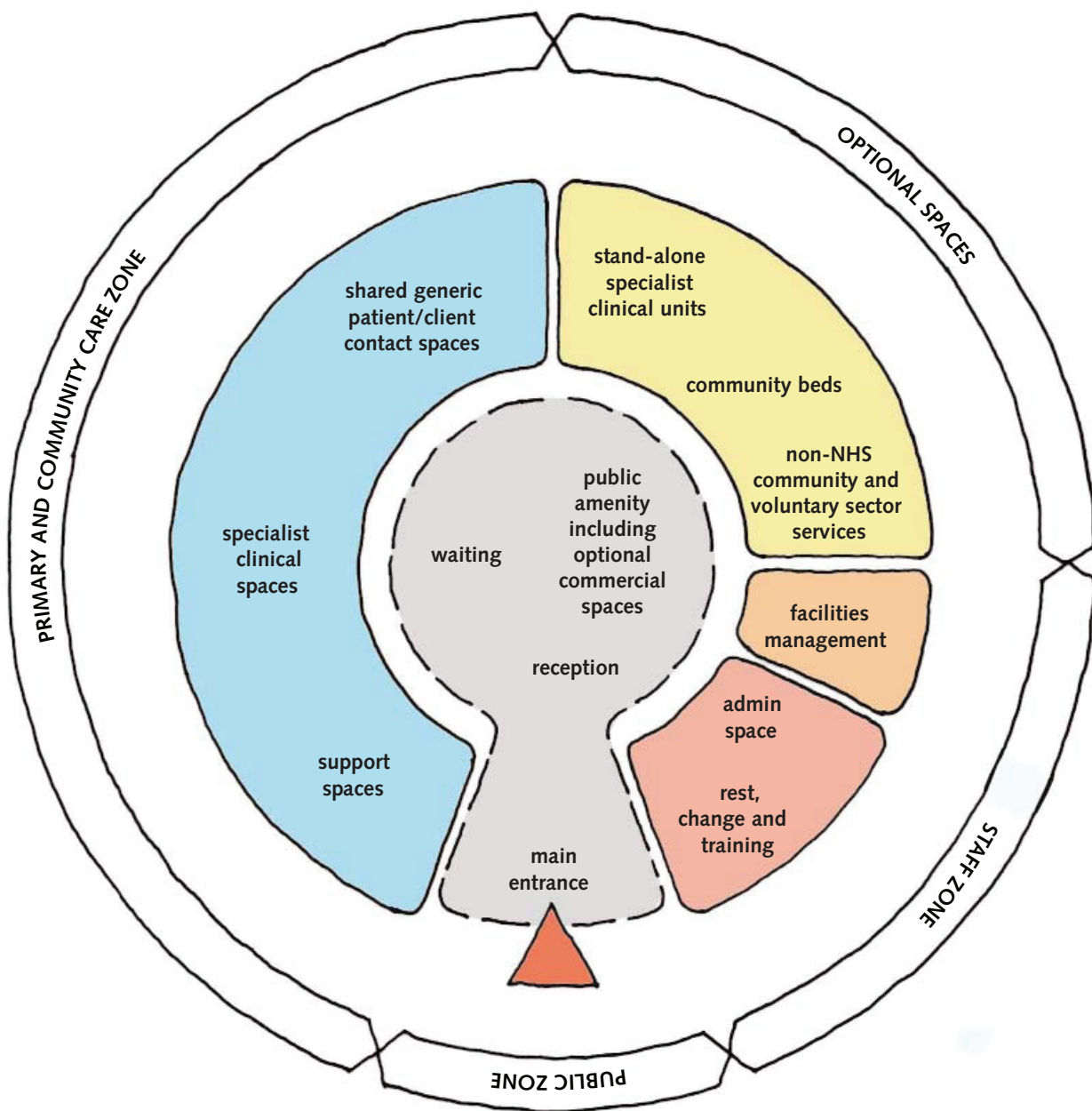
Staff zone

- 5.11 The staff zone may include:
- admin areas;
 - rest rooms;
 - changing areas;
 - training spaces.
- 5.12 The staff zone should generally only be accessible to staff.
- 5.13 Most staff areas can be shared by different groups of staff, including community-based staff. They should therefore be easily accessible to staff from the main entrance (or staff entrance, where provided).
- 5.14 Admin areas should be designed on the basis of open-plan working.
- 5.15 Staff rest rooms should provide good-quality environments to encourage their use and promote staff interaction.
- 5.16 Accommodation for staff training may be located in the staff zone, although it is useful if this is also accessible from the public zone.
- 5.17 All buildings will require some level of facilities management (FM) services, which may be provided by directly employed staff or through contracts with third parties. Certain services, especially laundering, catering and some maintenance, can be contracted off-site. However, most buildings will require central space for sorting and storing incoming supplies and outgoing waste. These spaces should be located together, near the service or staff entrance to the building.
- 5.18 See [Chapter 8](#) for further details on how to design the staff zone.

Diagrammatic representation of the zoning concept

5.19 The idea of creating zones within the building is represented diagrammatically in Figure 4. The optional spaces represent those facilities that are not provided in every building and may or may not fall outside the public, primary and community care, and staff zones.

Figure 4 Zoning concept diagram



6 Public zone



Introduction

- 6.1 The public zone, made up of the main entrance, reception and associated spaces, should be:
- open and welcoming;
 - visible from outside the building, to aid building legibility;
 - naturally lit, with good views of external spaces.
- 6.2 Most buildings will include one or two waiting or foyer spaces, which may be double-storey to provide views to suites located at different levels. These “reference spaces” are useful, as they aid orientation and wayfinding. They should provide easy access to WCs, baby changing, vending and car park payment machines.

Main entrance and reception

- 6.3 Ideally, only one public entrance to the building should be provided, as this avoids confusion and aids security. A draught lobby is usually required.
- 6.4 Secondary public entrances may be required, however, where standalone specialist clinical units are included within the development.
- 6.5 The main entrance point should be overseen by a desk, which is staffed whenever the building is open. In larger buildings this first desk may simply provide an information and greeting point, and is often staffed by volunteers and/or non-clinical staff. Alternatively this security function can be fulfilled from the main reception desk. Situations should be avoided where visitors can access areas of the building without having passed a desk.
- 6.6 All buildings require a main reception desk, monitoring the waiting area and managing appointments. The reception desk should be visible and welcoming and will usually have a number of stations to which patients/clients can report.
- 6.7 Ideally all reception staff should be trained to manage the full range of enquiries. This pattern is more efficient and cost-effective, provides better cover at non-peak times and gives a better quality service to patients.
- 6.8 Receptionists will inform staff running clinics and/or the relevant practitioner that the patient/client has arrived. They will also book follow-on appointments once the consultation is complete, though self-booking points may also be provided. In larger facilities, follow-on appointments may be

made at staff communication bases or secondary reception desks associated with specific suites.

- 6.9 There should be an interview room close to the main reception desk, either as part of the counselling suite or as an additional space, depending on the size and layout of the building. This is used for private discussions on an unplanned basis, and so should not be blocked for sessional activity.
- 6.10 There may be an open-plan office behind the main reception desk for general administration tasks associated with appointments and clinics. Paper records, if used, may be stored here. Where an office is provided behind reception, it should have direct access to the primary and community care zone.
- 6.11 The post room function may be located behind the main reception desk, in a quiet corner, in the adjacent office if provided, or in the porters’ room.

Waiting and patient/client information points

- 6.12 As waiting and patient facilities make up a large part of the public zone of the building, project teams should decide on the nature of the resulting overall space. In smaller primary care buildings, servicing a local community, the space may require a quiet, intimate, domestic character that provides confidentiality by placing small-group seating in bays and screened-off areas. In larger buildings it may be appropriate for the space to have a much more civic character, more akin to a shopping centre environment, with continuity maintained between a complex pattern of waiting areas and ancillary activities by the use of double-storey spaces, atria or glazed courtyards.
- 6.13 It is more efficient to provide a shared main waiting area to serve a number of different suites, rather than a series of individual waiting spaces. This makes it easier to manage peaks in attendance numbers and also means that less “contingency” needs to be built into each space.
- 6.14 Large waiting areas will need to be broken down with smaller groups of seats, to make the space less daunting and institutional, and to enable patients to sit close to the suite to which they will be called.
- 6.15 These seating clusters can be distinguished from each other by different colours, changes in level, different floor finishes etc and may be divided

by screens, plants or, in larger buildings, accommodation such as a catering outlet or retail stall. The layout of seating should enable confidentiality to be maintained at the main reception desk, by providing suitable space around the desk or by using glazed screens.

- 6.16 The layout should be flexible enough to accommodate patient flow at peak times, and to allow children's play areas and quiet areas to be shared by different patient groups.
- 6.17 A range of different seating, of varying heights and styles should be provided, including sofas and high-backed chairs.
- 6.18 Dining table arrangements should also be considered, particularly if wireless Internet access is provided, to enable patients to use laptops or deal with paperwork while they wait.
- 6.19 Consideration should be given to providing patient/client information points, with direct access to online health information, such as NHS Choice.

Self check-in can also be managed at these points. Appropriately located health pods for recording a person's height, weight, blood pressure and other core screening data may also be provided. These terminals should be networked to the practitioner computer system for direct data entry.

- 6.20 Wayfinding within the waiting area is important, particularly in larger buildings. Colour, pendants or large icons may be useful in helping patients to orientate themselves within the space.

Public WCs and baby care facilities

- 6.21 In small buildings it is often sensible to provide individual WC cubicles containing a toilet and wash-hand basin. In larger buildings multi-cubicle public WCs will be appropriate (see the Building Regulations). Separate baby changing and feeding facilities should be provided.
- 6.22 See Health Building Note 00-02 for details on sanitary spaces.



7 Primary and community care zone

Introduction

- 7.1 It is usually the responsibility of the health planner and/or architect to translate the briefing schedule into a project accommodation schedule, by re-ordering it first into individual suites and then in a manner that better expresses the way in which the building will operate. This process is informed from a service viewpoint by the model of care and operational policies, and practically by site constraints and the design vision for the scheme.
- 7.2 This process will usually entail making adjustments to the briefing schedule, to reflect the number of storeys in the building, local policy etc.

Organising spaces into suites

- 7.3 The first task in structuring a project accommodation schedule is to consider how the primary and community care zone should operate.
- 7.4 This zone will usually be mainly composed of shared generic spaces, the flexibility of which can be maximised by arranging spaces in clusters or strings to create different suites.
- 7.5 Spaces may be organised into generic suites based on the common activities identified in [paragraph 3.2](#):
- Counselling suite;
 - Consulting/examination suite;
 - Treatment suite;
 - Physical therapy suite.
- 7.6 The size of each suite is determined by the number of patient/client contact rooms that can be effectively managed by a team of practitioners. Each suite should be large enough to maximise work efficiency but not so large that it becomes impersonal or difficult to navigate. These suites may host a range of different speciality clinics throughout the week or month, on a timetabled basis.

- 7.7 Specialist rooms may also be required. These may be distributed across suites or concentrated to form a specialist suite.
- 7.8 Certain specialist spaces and associated support spaces, regardless of the design solution chosen, will be grouped together. These groups of spaces have been defined as clusters.
- 7.9 Figure 5 illustrates how specialist spaces may be organised.

Factors affecting the composition and design of suites

- 7.10 The design of the suites within the primary and community care zone depends additionally on a number of factors, including:
- routes, reception and control points;
 - system of patient call;
 - storage and management of paper patient records;
 - storage of consumables and portable equipment;
 - shared support spaces.

Routes, reception and control points

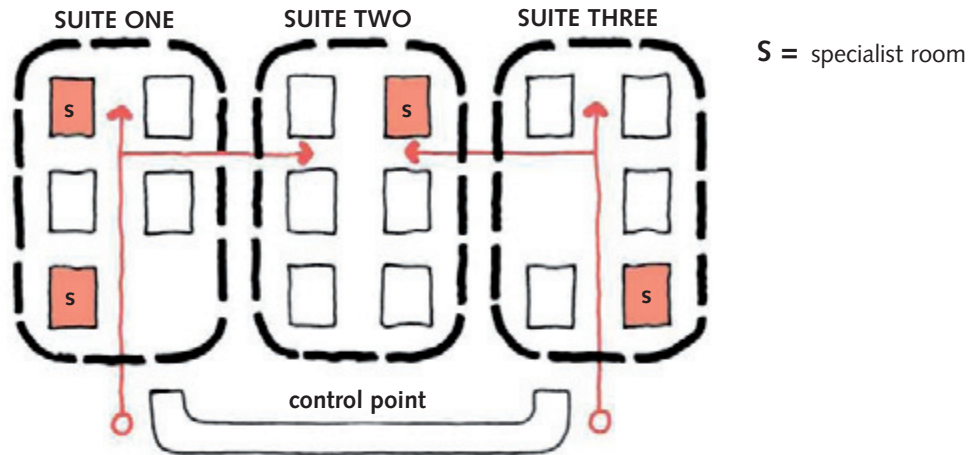
- 7.11 Public access to the various suites within the primary and community care zone needs to be controlled, and to be as direct as possible, from waiting areas. In small buildings this control may be provided by the main reception desk. In larger buildings, with more suites, a number of additional control points (staff communication bases) may be required. Key factors affecting this are discussed in [Chapter 10](#).

System of patient call

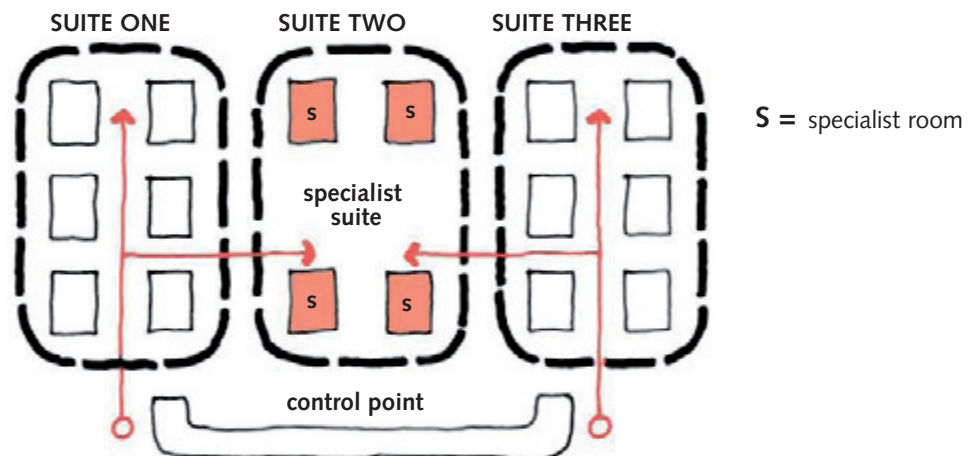
- 7.12 At the appropriate time the patient/client will be called, preferably in person, and directed or accompanied to the relevant room. Confidentiality and the needs of those with impaired sight or

Figure 5 Suite concept diagram – arranging specialist rooms

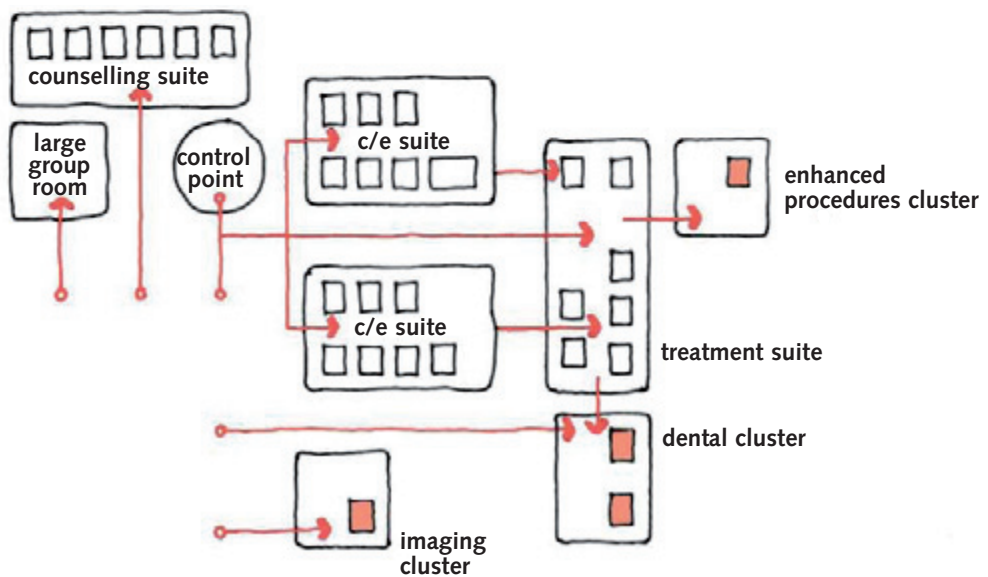
Distributed around suites:



Concentrated in specialist suite:



In cluster, adjacent to generic suite:



hearing should be considered when selecting call systems.

Storage and management of paper patient records

- 7.13 The NHS is moving towards electronic patient records, so the need for storing paper records is likely to diminish over time.
- 7.14 In the meantime project teams may need to consider requirements for storage of paper records, both those held permanently in the building (that is, GP and/or community care records) and those on loan from the acute sector for specific clinics.
- 7.15 Spaces used to store paper records should be designed and located so that they can be adapted for alternative use in the future.
- 7.16 Generally, community records should be stored within or adjacent to the open-plan admin area. GP records and records on loan from the acute sector should be stored close to the main reception desk or appropriate control point.
- 7.17 All records need to be held securely, with carefully controlled access arrangements.
- 7.18 Routes for taking delivery of incoming boxed files from the acute sector should be considered in deciding where to locate storage space for acute records.

Storage of consumables and portable equipment

- 7.19 In order to maximise the flexibility and adaptability of patient/client contact spaces, and for control of infection reasons, fixed storage cupboards within rooms are not recommended. Instead, this guidance is based on the following principles:
- working stocks of sterile supplies and consumables, when and where required, should be held on supplies trolleys in patient/client contact spaces. Supplies trolleys should be restocked in clean utility rooms;
 - portable equipment and consumables should be stored in dedicated storerooms when not in use. Equipment may be mounted on wheels/trolleys. Trolleys may be pre-prepared for particular clinics;
 - loose items such as crutches and walking aids may be stored on racking and wall hooks. A small store may be provided within each suite for this purpose, or part of a larger store may be set aside for this;

- larger equipment stores may be provided and shared between suites. Bulky and infrequently used items may be stored here, on large trolleys or mobile cages (see [paragraph 7.89](#) for storage associated with large group rooms);
- space should be provided, in accessible strategic positions, for storing a resuscitation trolley or grab bag containing a defibrillator. Access to medical gas cylinders and a portable suction machine may also be required;
- small captive key lockers should be provided for staff within each suite, for handbags, wallets and mobile phones.

Shared support spaces

- 7.20 The briefing schedule will identify the number of cleaners' rooms, disposal holds and utility spaces required to satisfy clinical functionality. Additional rooms may be required, however, because of the layout of the building or based on facilities management operational policies. The numbers of such rooms may consequently be adjusted in the project accommodation schedule. Additional rooms may be located within suites or between them or adjacent to lift and stair cores.

Counselling suite

- 7.21 A counselling suite may comprise the following rooms:
- interview rooms for individual discussions/counselling (for use by mental health services, therapists, community services and the voluntary sector);
 - group rooms for group discussions/counselling and patient support meetings, for example speech and language therapy, smoking cessation clinics, remembrance discussions, weight loss clinics etc;
 - a small store for consumables and portable equipment.
- 7.22 This suite would be appropriate for use by a wide range of primary and community care providers (see [Figure 1](#)). If provided, it should be located close to the main entrance and reception so that it is readily available for commercial or out-of-hours use when the rest of the building is closed.
- 7.23 Group rooms may be used for a variety of activities such as family therapy, child protection work (social services) and child psychology work. Where appropriate, the group room may be fitted with

audiovisual CCTV linked to suitable monitoring and recording equipment, which is portable and may be temporarily housed in another room.

- 7.24 Interview rooms and group rooms for speech and language therapy should be in a quiet location.
- 7.25 Interview rooms and group rooms may be clustered in groups of up to eight rooms. The ratio of interview rooms to group rooms will depend on the range of services to be delivered.
- 7.26 At least one interview room should be suitable for violent or disturbed patients with double entry and egress.
- 7.27 The interview rooms may be used for unplanned activity, for example referrals from the main reception desk and/or for staff to see clients without appointments. In larger facilities, additional dedicated interview rooms should be located adjacent to the main reception desk for private discussions.
- 7.28 This suite will usually have a “non-clinical” character, sometimes using carpet and soft furnishings to create a more social atmosphere. Clinical wash-hand basins may be required in some interview and group rooms, which may affect the ambience of the spaces. See paragraph 3.26 for further details.
- 7.29 The flexibility of the suite will greatly increase if there is easy access to a large group room and beverage-making facilities (see paragraphs 7.87–7.90).
- 7.30 See Figure 6 for an illustration of the counselling suite concept.

Consulting/examination suite

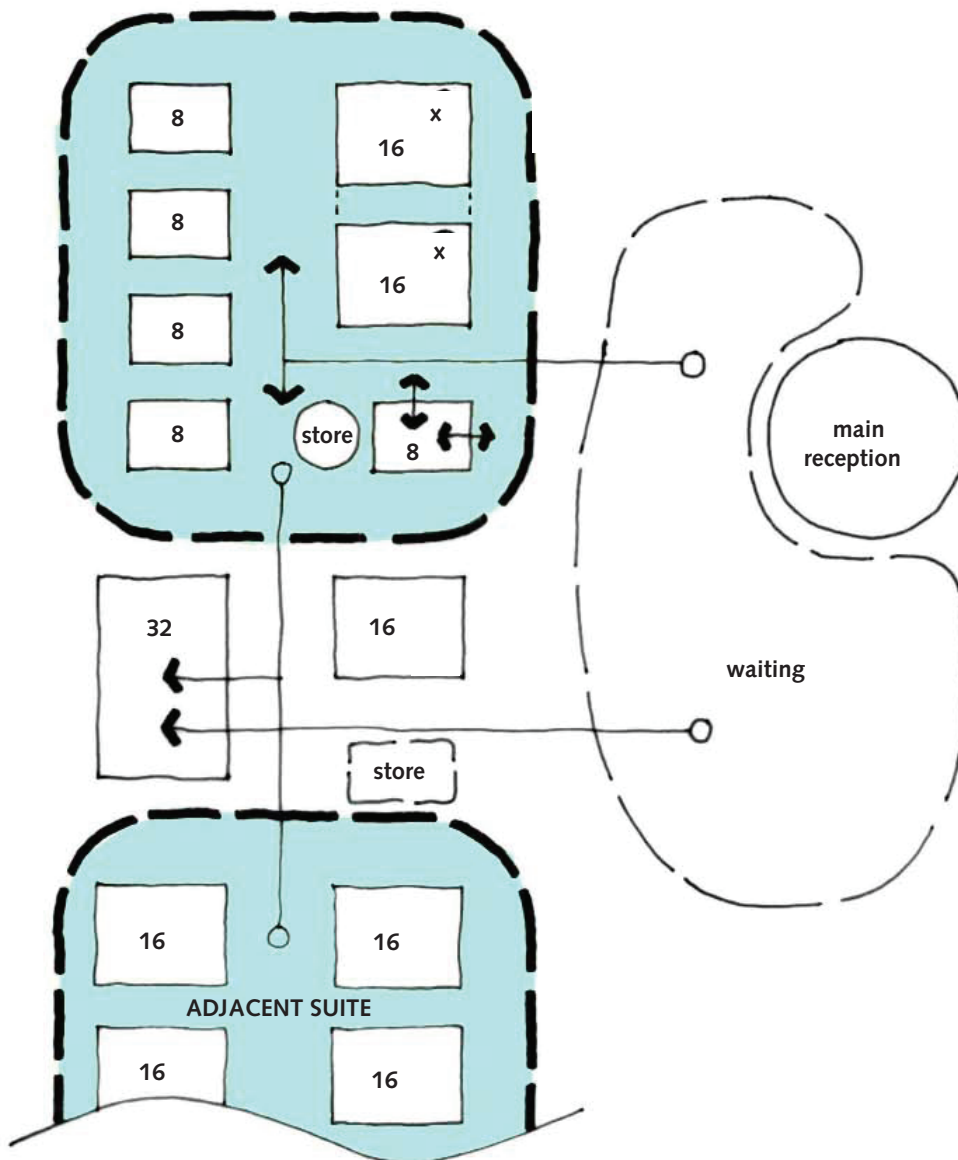
- 7.31 A consulting/examination suite may comprise the following rooms:
- consulting/examination rooms for consultations and examinations. Non-invasive and minimally invasive procedures may also take place here;
 - interview room(s) for discussions/counselling;
 - a small store for consumables and portable equipment.
- 7.32 This suite would be appropriate for use by GPs, nurse practitioners, allied health professions and outreach consultants.
- 7.33 Consulting/examination rooms may be clustered in groups of up to eight rooms.

- 7.34 If shared-use clean and dirty utility rooms are not available nearby, these should be provided within the suite.
- 7.35 Patients may have their medical history taken and weight/height checked by a nurse prior to their consultation. This can occur in a consulting/examination room or examination/physical therapy room.
- 7.36 Specialist consulting/examination rooms may be disbursed with generic consulting/examination rooms across a number of different suites or concentrated to form a specialist consulting/examination suite.
- 7.37 See Figure 7 for an illustration of the consulting/examination suite concept.
- 7.38 Consulting/examination suites should be arranged with a direct relationship to the main waiting area, and possibly an adjacent suite to enable patients to be referred on from their initial consultation to a specialist consulting/examination suite or treatment suite. Figure 8 illustrates the arrangement of consulting/examination suites and treatment suites at Bunny Hill Customer Service Centre.
- 7.39 It may be beneficial to include one or two treatment rooms in the same suite as the consulting/examination rooms; for example, where the number of treatments undertaken does not justify a separate treatment suite, to offer a one-stop shop for ECGs, echocardiograms and ultrasound scans or to enable delivery of urgent care or out-of-hours GP services when the treatment suite is closed. This effectively creates a mixed consulting/treatment suite. Preservation of patients’ modesty, particularly at points of transfer between changing, sub-waiting and treatment facilities, should be given high priority, and in some cases men and women should be segregated. This may be achieved operationally or by providing separate facilities.

Treatment suite

- 7.40 A treatment suite may comprise the following rooms:
- treatment rooms for invasive procedures and procedures that produce odours, for example leg ulcer clinics. Podiatry work may take place in a treatment room with a podiatry couch rather than a standard couch;
 - interview rooms for discussions/counselling only;

Figure 6 Counselling suite concept

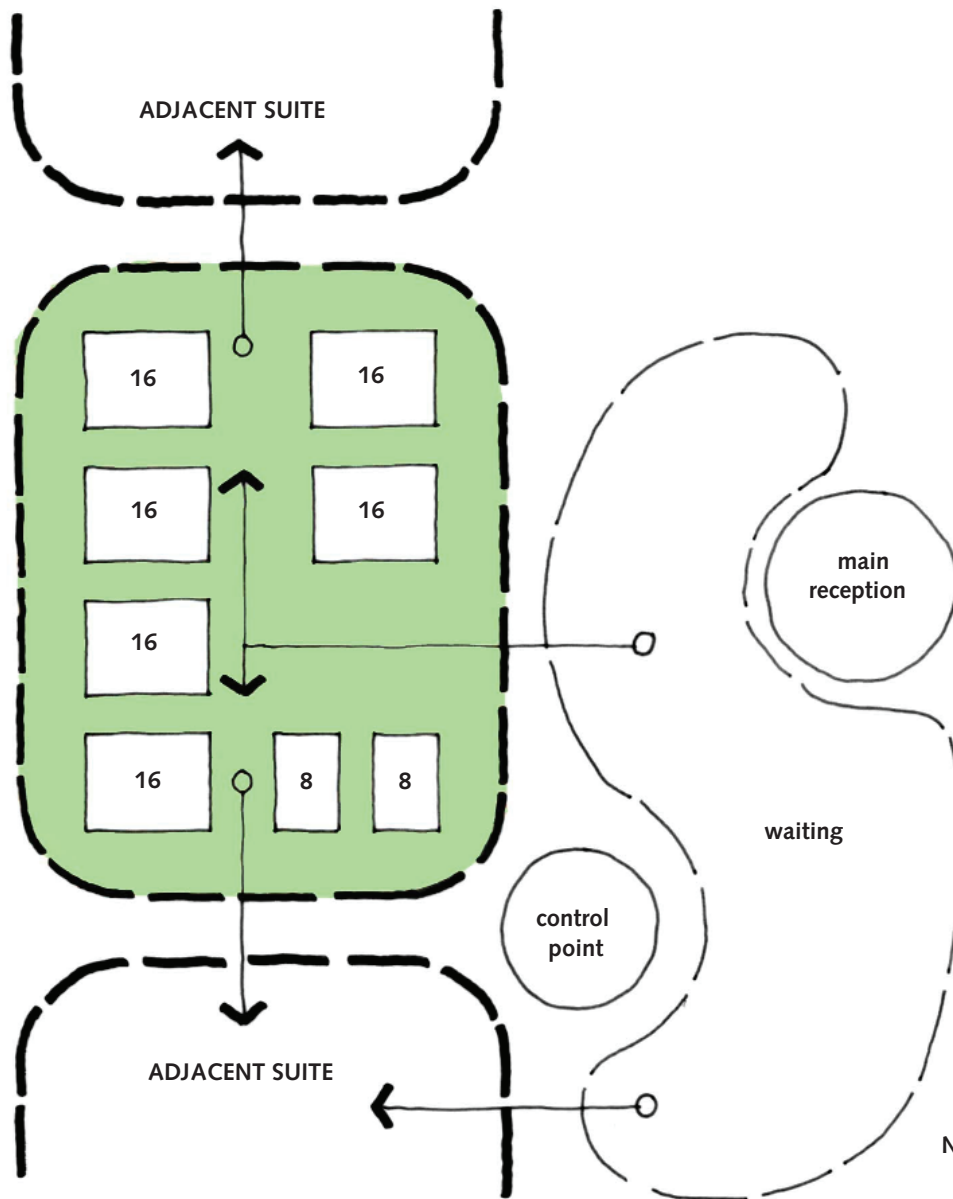


x Can be combined to form 32 m² group room

NB Number and mix of rooms in a suite will vary depending on activity levels

- | | |
|-------------------------------|--|
| 8 m ² room types: | interview
store |
| 16 m ² room types: | group
meeting |
| 32 m ² room types: | exercise equipment
free movement exercise
meeting
large group |

Figure 7 Consulting/examination suite concept

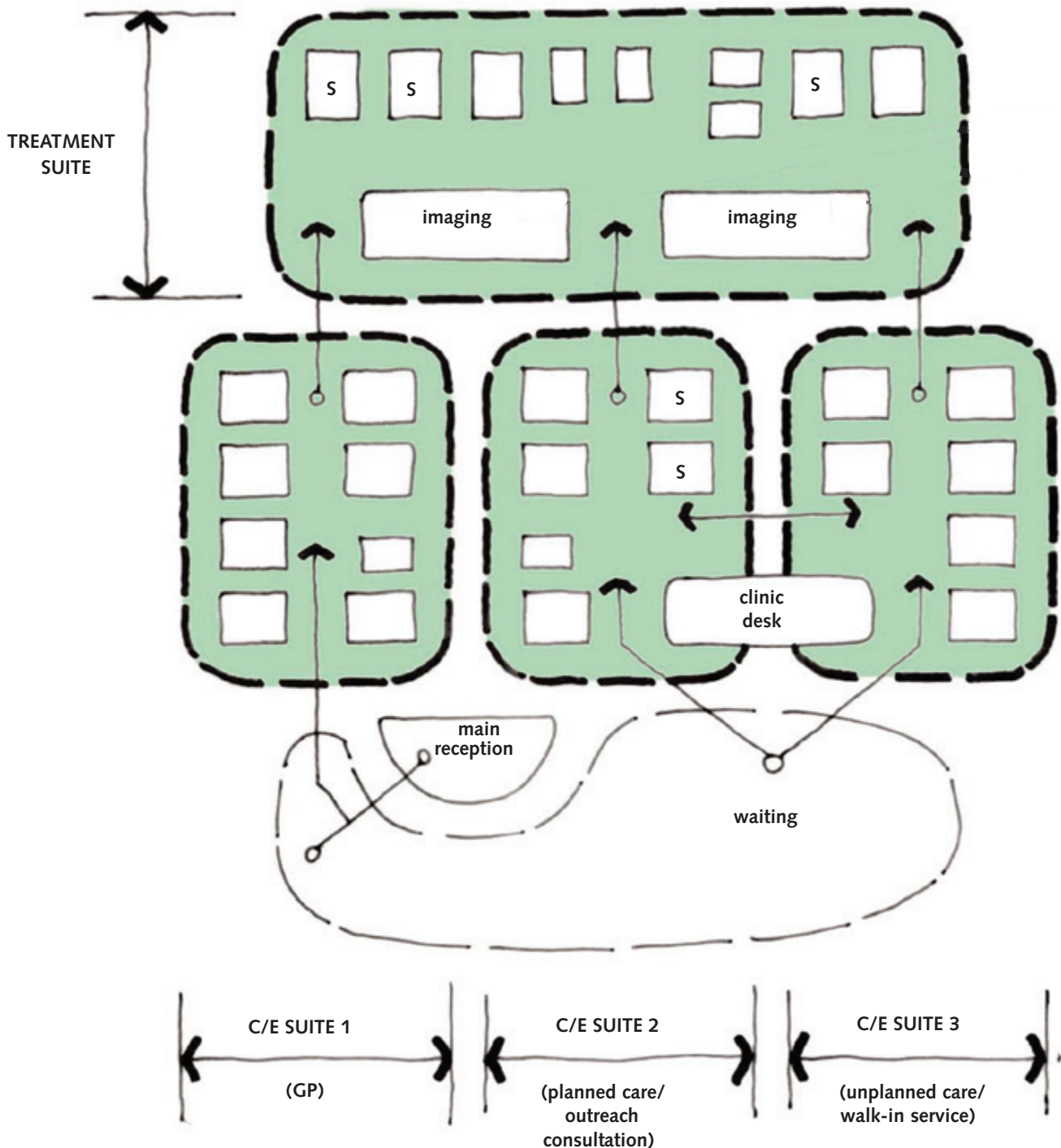


NB Number and mix of rooms in a suite will vary depending on activity levels

8 m² room types:
 interview
 store
 clean utility
 dirty utility
 specialist (eg adult hearing test)

16 m² room types:
 consulting/examination
 treatment (in small facilities, or for one-stop-shop services, creating a mixed consultation/treatment suite)
 specialist consultation (ENT, etc)
 group/meeting

Figure 8 Arrangement of consulting/examination suites and treatment suites at Bunny Hill Customer Service Centre



S = specialist room

- clean utility room. May be shared with other suites;
- dirty utility room. May be shared with other suites;
- a small store for consumables and portable equipment.

- 7.41 This suite would be suitable for use by practice nurses, visiting specialist nurses and allied health professionals, for example podiatrists. It may also be used for urgent care services.
- 7.42 Treatment rooms may be clustered in groups of up to six rooms. The number of support rooms should be determined locally depending on infection control policy and the layout of the building.
- 7.43 Plaster rooms and ultrasound rooms may be located alongside generic treatment rooms.
- 7.44 Locating treatment rooms together to create a treatment suite, used by different staff on a timetabled basis, provides a number of advantages:
- enables rooms to be designated for particular activities, for example clean versus dirty procedures, planned versus unplanned work, fast versus slow throughput;
 - improves control of infection performance;
 - reduces the number of clean and dirty utility rooms required;
 - reduces stocking levels and waste;
 - maximises opportunities for peer support and specialisation for staff.
- 7.45 See [Figure 9](#) for an illustration of the treatment suite concept.
- 7.46 This model may require changes in working patterns, stock accounting and space charges.

Physical therapy suite

- 7.47 Physical therapists, including physiotherapists and occupational therapists, require access to a range of different room types to enable them to see patients/clients individually and/or in groups. Activity may be couch- or desk-based, or may require access to equipment (portable and fixed) and/or open spaces.
- 7.48 The design of accommodation for delivering physical therapy will differ depending on the level and mix of services provided.

Non-dedicated facilities

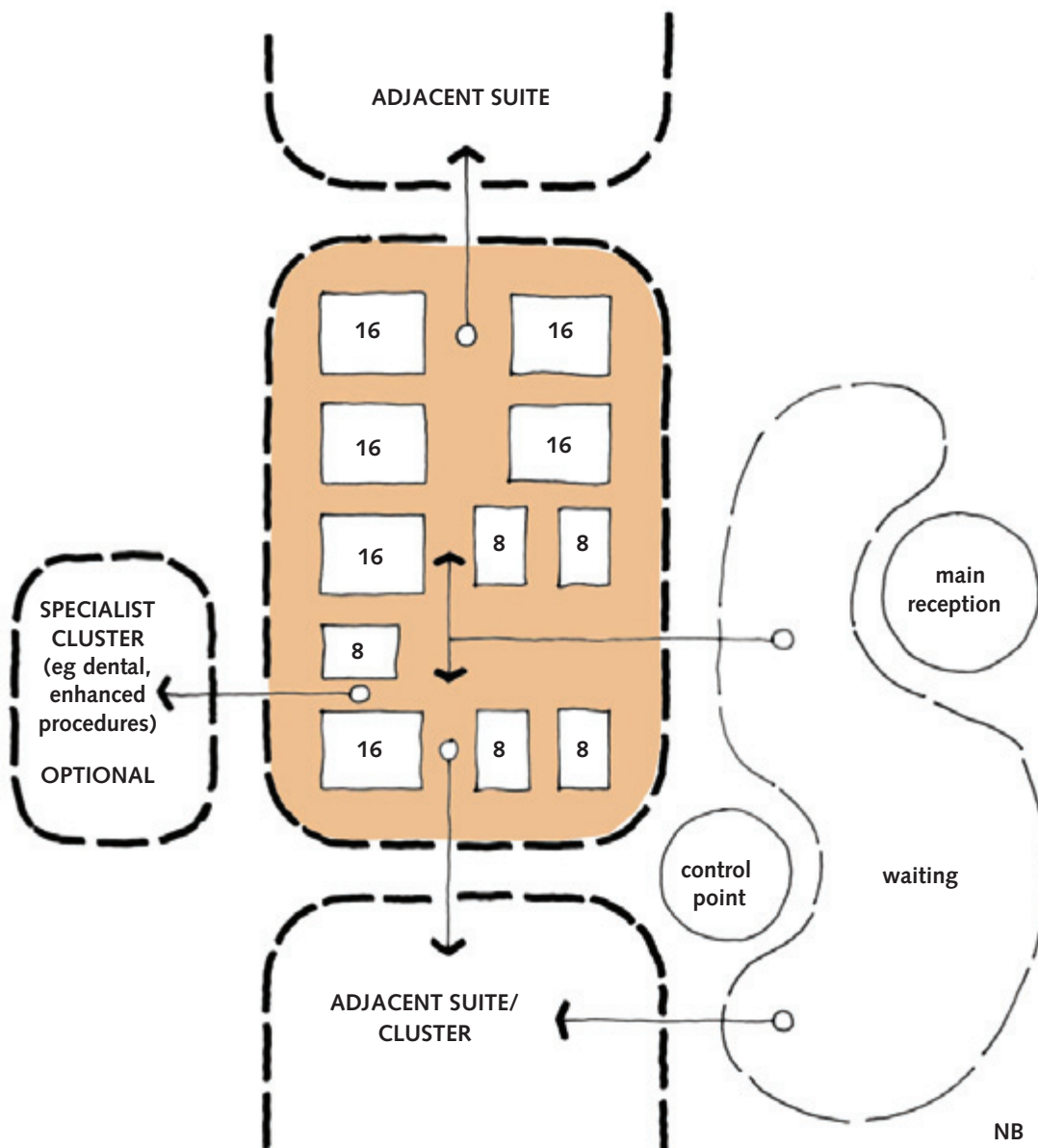
- 7.49 Where activity levels for physical therapy are low, generic rooms may be used on a timetabled basis as follows:
- consulting/examination rooms equipped with an electric couch for consultations/examinations and couch-based physical therapy;
 - interview rooms, with a clinical wash-hand basin, for individual patient/client discussions undertaken by physical therapists. Interview rooms for occupational therapy should be in a quiet location;
 - group rooms for group discussions/counselling and patient support meetings undertaken by physical therapists;
 - large group room for physical therapy and associated physical activities requiring open space and/or use of handheld equipment. Equipment will be brought into the room from an adjacent store for sessional use of the room. See [paragraph 7.90](#) for further details;
 - small store for consumables and portable equipment.
- 7.50 Where physical exercise occurs, it is assumed that any patient changing will take place in a consulting/examination room and that heavy exercise, requiring patient showering, will be avoided.
- 7.51 Physical therapy activity should be taken into account when quantifying requirements for the rooms listed above. This will enable a virtual physical therapy suite to be created on a timetabled basis as required.
- 7.52 See [Figure 10](#) for an illustration of the non-dedicated physical therapy suite concept.

Dedicated facilities

Therapy treatment cluster

- 7.53 Where activity levels justify dedicated facilities, the following dedicated spaces may additionally be required (that is, on top of those used on a sessional basis):
- examination/physical therapy rooms for individual physical therapy (usually in place of consulting/examination rooms);
 - a splint room with splint oven, ice machine and possibly a wax bath.

Figure 9 Treatment suite concept

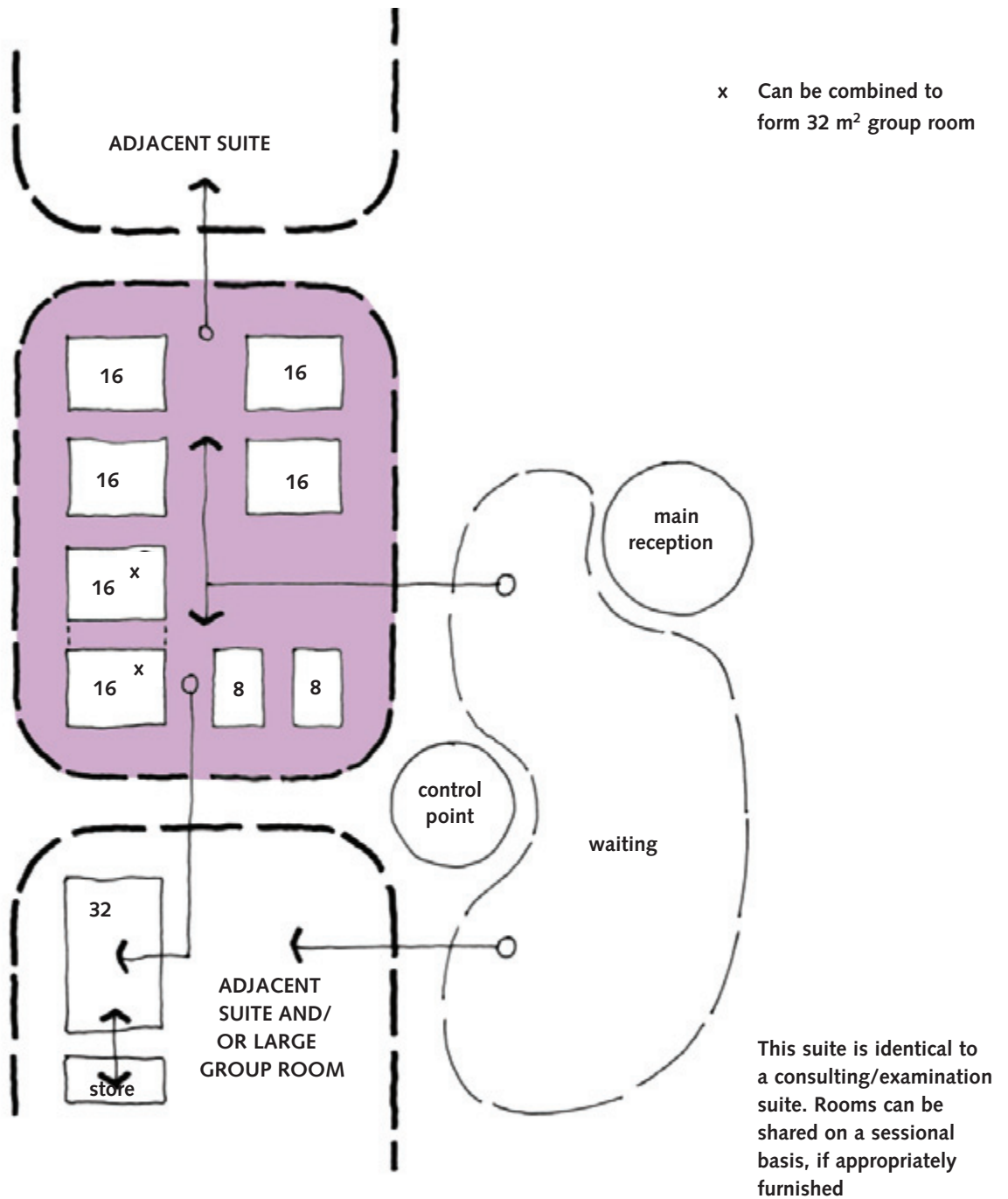


NB Number and mix of rooms in a suite will vary depending on activity levels

8 m² room types: clean utility
dirty utility
store
near patient testing
cleaners'

16 m² room types: generic treatment (with furniture/fittings options)
specialist treatment
store

Figure 10 Non-dedicated physical therapy suite concept



8 m² room types:

store
clean utility
dirty utility
interview

NB

Number and mix of rooms in a suite will vary depending on activity levels

16 m² room types:

consulting/examination
group

32 m² room types:

free movement exercise
exercise equipment

- 7.54 Providing individual physical therapy rooms, rather than bays, has the advantage of allowing enhanced privacy, better segregation of patients (useful if running mixed specialty clinics) and improved flexibility in use.
- 7.55 Any number of examination/physical therapy rooms can be linked together, provided that travel distances to the large group rooms are manageable. They will be attractive to other couch-based services, such as acupuncture and massage. If possible they should therefore be located with easy access from the public zone.
- 7.56 There may be an occasional need to access clean or dirty utility rooms, to obtain medication or dispose of fluids. If such facilities are not available nearby, dedicated rooms may be required within the physical therapy cluster.

Therapy exercise cluster

- 7.57 A physiotherapy activity area containing exercise equipment, space for mobile bobath plinths (behind moveable screens) and a free movement exercise area may be provided. If the activity area is provided, a storeroom will be required nearby for storing walking aids etc. Showering and changing facilities may also be provided.
- 7.58 See example briefing schedules for further details of space requirements.

ADL cluster

- 7.59 There may be a need to assess a patient's daily living ability and provide settings for rehabilitation and retraining in life skills. This is best performed in the patient's home. In some cases, however, the following rooms may be required:
- ADL bedroom containing a divan bed, bedside table and wardrobe, if a domestic-style bedroom (for example relatives' overnight stay) is not available;
 - ADL bathroom containing a domestic bath, shower and toilet (use of a toilet may also be assessed in an assisted WC with access from both sides, one of which should be located nearby. See Health Building Note 00-02);
 - ADL kitchen containing electric and gas assessment areas, with adjustable height fittings.
- 7.60 If ADL rooms are provided they should be drawn together into a domestic pattern, accessed from a cul-de-sac corridor. For further details on ADL facilities see Health Building Note 8.

- 7.61 See [Figure 11](#) for an illustration of the dedicated physical therapy suite concept.

Diagnostic facilities

- 7.62 As technology improves, more direct diagnosis will be undertaken in primary and community care settings. This may involve:
- near-patient testing using bench-top equipment;
 - digital diagnosis, most commonly ultrasound scans, resting electrocardiograms and X-rays.
- 7.63 Some of these activities may be delivered on a timetabled basis from the following generic rooms:
- consulting/examination room equipped to carry out resting electrocardiograms;
 - treatment room equipped to carry out ultrasound scans and/or resting echocardiograms (easy access to a WC is required for antenatal scanning);
 - near-patient testing room for blood-gas analysis.
- 7.64 A docking station may also be required to accommodate mobile vehicles carrying diagnostic equipment such as MRI, CT and mammography scanners. The internal route to the docking station should be well planned, passing the main reception desk and waiting area. See [paragraphs 10.17–10.19](#) for further details.

Imaging cluster

- 7.65 Where X-rays are undertaken, the following facilities will be required:
- X-ray rooms;
 - image control/reporting room;
 - changing rooms.
- 7.66 These facilities should be clustered together. For further details see the example briefing schedules.
- 7.67 If other dedicated imaging rooms are provided, these may be located alongside X-ray facilities.
- 7.68 See [Figure 12](#) for an illustration of the imaging cluster concept.

Dental cluster

- 7.69 Where general personal or community dental services are to be provided from new or significantly refurbished facilities, the following facilities will be required:
- dental treatment room;

Figure 11 Dedicated physical therapy suite concept



NB Number and mix of rooms in a suite will vary depending on activity levels

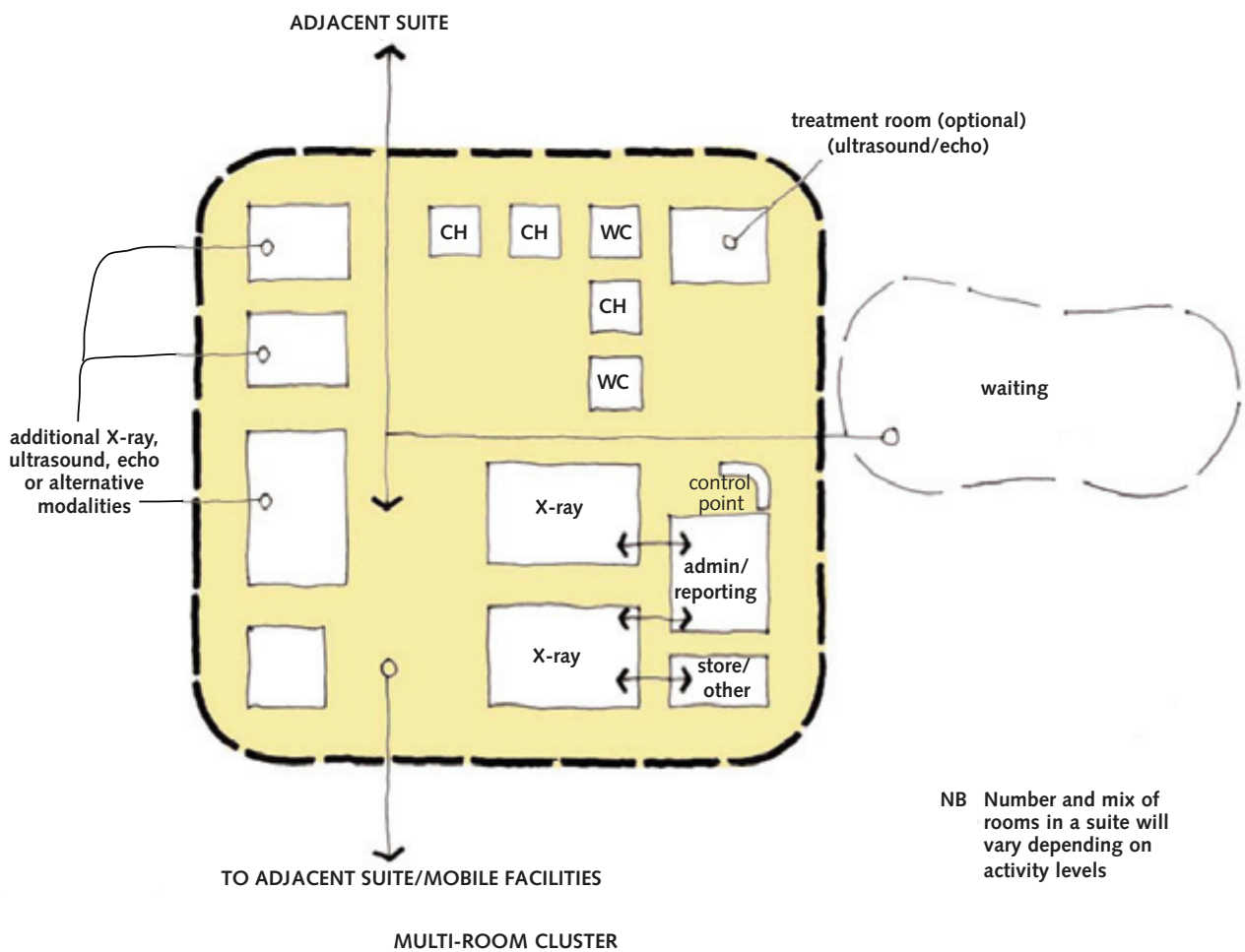
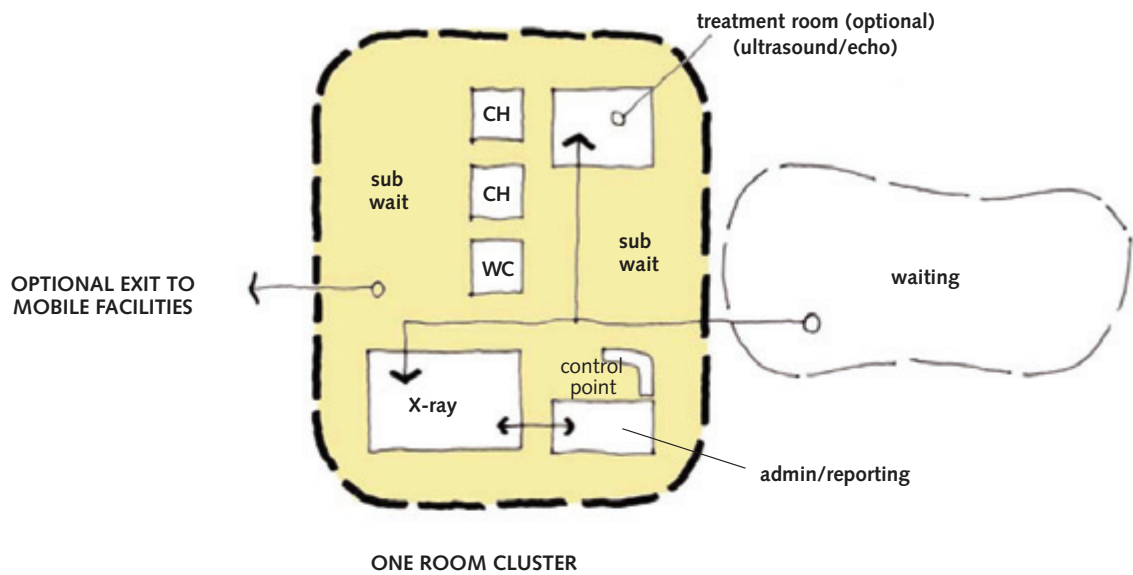
8 m² room types: clean utility
dirty utility
store

16 m² room types: consulting/examination

12 m² room types: examination/therapy
clean utility
dirty utility
store

32 m² room types: free movement exercise
exercise equipment
large group

Figure 12 Imaging cluster concept



NB Number and mix of rooms in a suite will vary depending on activity levels

CH = changing room

- decontamination suite;
- clean utility room;
- sub-wait/sitting recovery area.

- 7.70 For further details of space requirements see the example briefing schedules.
- 7.71 Some centres will require facilities to treat patients whilst in their wheelchairs. This requires larger treatment rooms, which may also be used for training purposes. Local policy will determine how the larger dental treatment rooms are distributed across the locality.
- 7.72 Decontamination should be carried out in accordance with Health Technical Memorandum 01-05 – ‘Decontamination in primary care dental practices’. Where new practices are being commissioned or new premises contemplated, it is advised that the full best practice provisions of this guidance are utilised wherever reasonably practicable. For details go to www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_109363.
- 7.73 The dental treatment room will contain specialist built-in cabinetry, a reclining chair, ceiling-mounted lamp, wall-mounted inter-oral periapical X-ray machine and a console adjacent to the chair supplying dental gases.
- 7.74 Specialist advice should be sought on the need for X-ray protection.
- 7.75 The plant for the suction unit should be located in a nearby compressor room, which requires ventilation and acoustic treatment. Amalgam from waste water will be captured and stored here.
- 7.76 Dental gases may be piped from a central manifold or provided from bottles. If a bottle store is provided, it should be located on an outside wall with good ventilation. When nitrous oxide is used, a gas scavenging system must be fitted.
- 7.77 If intravenous sedation is carried out, a reclining recovery room will be required. If only one couch space is required, an examination/physical therapy room may double up for this purpose. A resuscitation trolley should also be provided nearby.
- 7.78 This cluster should be close to the treatment suite, with which it may share support accommodation.
- 7.79 Requirements for reception, admin and records storage space should be agreed locally, although the principles of shared reception and separating admin space from clinical space apply.

Enhanced procedures cluster

- 7.80 Some enhanced procedures may be performed in treatment rooms with all-round couch access rather than operating theatres (see the BADS directory of procedures 2009, published by the British Association of Day Surgery, for a list of procedures that may be undertaken in a procedures room).
- 7.81 If this is the case, the following facilities may be required:
- treatment room with all-round couch access;
 - changing rooms;
 - recovery facilities;
 - clean utility room;
 - dirty utility room.
- 7.82 Requirements for recovery space (sitting and/or reclining) will depend on the types of surgery undertaken and whether patients are sedated. If only one reclining couch space is required, an examination/physical therapy room may double up for this purpose. Planning decisions should take account of patient culture and preferences in terms of privacy, modesty and same-sex accommodation.

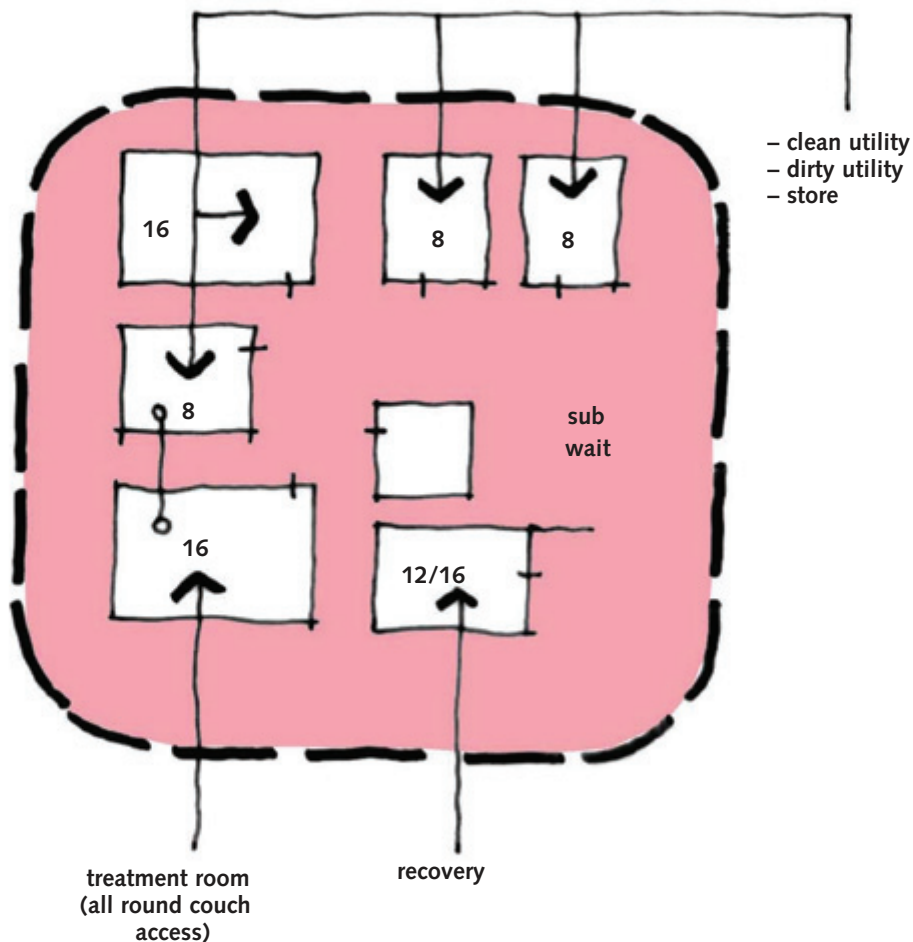
Note

Principles (Ref: PL/CNO/2009/2):

- Decisions should be based on the needs of each individual patient, not the constraints of the environment, or the convenience of staff.
- Greater segregation should be provided where patients’ modesty may be compromised (for example when wearing hospital gowns/nightwear, or where the body, other than the extremities, is exposed).
- Staff should make clear to the patient that the trust considers mixing to be the exception, never the norm.
- Greater protection should be provided where patients are unable to preserve their own modesty (for example following recovery from a general anaesthetic or when sedated).

- 7.83 See [example briefing schedules](#) for further details.
- 7.84 Certain procedures may require a larger treatment room due to the amount of equipment and/or number of staff present.

Figure 13 Enhanced procedures cluster concept



NB Access required to decontamination facilities

7.85 Where provided, this cluster should be located in a quiet area, close to the treatment suite, with which it may share support accommodation.

7.86 See Figure 13 for an illustration of the enhanced procedures cluster concept.

Multi-purpose group rooms and associated stores

7.87 One or more large group rooms are usually provided within the primary and community care zone. The best location is usually near the counselling suite and main waiting area. This room will be used on a timetabled basis for:

- physical therapy requiring a large open space and access to handheld equipment;
- baby clinics;

- health promotion/disease management events;
- ante-natal classes;
- keep-fit classes;
- voluntary sector classes, such as stroke club;
- large meetings;
- social events.

7.88 Spaces should be sized to suit activity. Consideration should be given to providing one large space, sub-divided by acoustic folding walls.

7.89 Storerooms with wide-opening doors should be located immediately adjacent to enable furniture to be wheeled away when not in use.

7.90 The provision of catering facilities nearby should be considered.

8 Staff zone

Introduction

- 8.1 The staff zone should be separate from the primary and community care and public zones, possibly on a separate floor. Generally patients and visitors should not enter the staff zone.
- 8.2 Ideally, the staff zone should have direct access to the primary and community care zone.
- 8.3 The design brief should address the need for a dedicated staff entrance and car park. Staff car parks, where provided, should be well lit and observed to ensure staff safety and security.
- 8.4 Staff spaces include the following:
- admin spaces for practitioners and desk-based staff;
 - rest rooms;
 - changing areas;
 - training spaces (some staff training can take place in patient/client contact spaces).
- 8.5 Detailed guidance on each of these spaces is given below.
- 8.10 The IT system should enable any worker to log on at any workstation.
- 8.11 Interview rooms should be provided for private discussions. Quiet workspaces should be available for making confidential phone calls and breakout spaces for informal discussions.
- 8.12 Telephones should be cordless to enable confidential calls to be taken in quiet areas.
- 8.13 Open-plan work areas may need to be subdivided using acoustic screens to reflect team working patterns and/or for space charging reasons.
- 8.14 Single-person offices may be provided where full-time access to workstations and constant privacy are required.
- 8.15 Space for hanging coats should be provided.
- 8.16 An area for making hot beverages should be provided. It should not be over-specified, since staff should be encouraged to use the shared staff rest room for long breaks.
- 8.17 For further information on administration spaces, see Health Building Note 00-03.

Admin spaces

- 8.6 Admin spaces should be open-plan, as this supports multidisciplinary working and provides greater flexibility and adaptability.
- 8.7 Dedicated workstations should be provided for desk-based staff (for example team secretaries, service managers and other staff in non-clinical roles).
- 8.8 Practitioners requiring intermittent access to workstations for paperwork and other admin activities can have a designated area provided for this purpose. This will prevent patient/client contact spaces being blocked for admin work.
- 8.9 The workstations within the practitioner admin area should be shared. However, dedicated lockable storage units should be provided for personal items and files.
- 8.18 Staff rest rooms, changing rooms and WCs should be shared by different groups of staff.
- 8.19 Good quality environments should be provided in staff rest areas, to encourage their use and the resulting interaction that occurs. For design guidance see Health Building Note 00-03.
- 8.20 Separate male and female staff changing and showering areas should usually be provided in the staff zone.
- 8.21 Staff WCs may be distributed around the building, including within the staff zone.
- 8.22 For design guidance on staff changing areas and WCs see Health Building Note 00-02.

Staff rest rooms and changing areas

Staff meeting and training spaces

- 8.23 Team meetings will tend to take place in shared group rooms within the primary and community care zone. If a dedicated meeting room for staff is justified, this may be located in the staff zone.
- 8.24 Consulting/examination rooms and treatment rooms have been sized to accommodate training.
- 8.25 Seminar rooms, possibly with videoconferencing, may be required for training undergraduates and postgraduates. A library may also be required.

- 8.26 Premises with links to universities may require additional training facilities. Advice should be sought from the appropriate deanery.
- 8.27 It may be beneficial to draw staff meeting and training spaces together into a training suite, accessible from the public zone so it can be used out-of-hours.



9 Creating integrated primary and community care facilities

Introduction

- 9.1 Previous chapters describe the different types of functional space within primary and community care buildings and how they can be arranged to create zones.
- 9.2 This chapter explains how to bring the different types of space/zone together to create a coherent, user-friendly building. This design process is complex, but some of issues to be considered include:
- arrangement of zones relative to one another;
 - adjacency requirements and routes;
 - design and layout of circulation spaces;
 - out-of-hours access arrangements.
- 9.3 The resultant design solution should integrate all these elements in a creative manner that reflects a high level of design quality and lifts the spirits of patients, staff and visitors entering the building. The case studies within this document indicate the quality of design that is achievable.

Arrangement of zones relative to one another

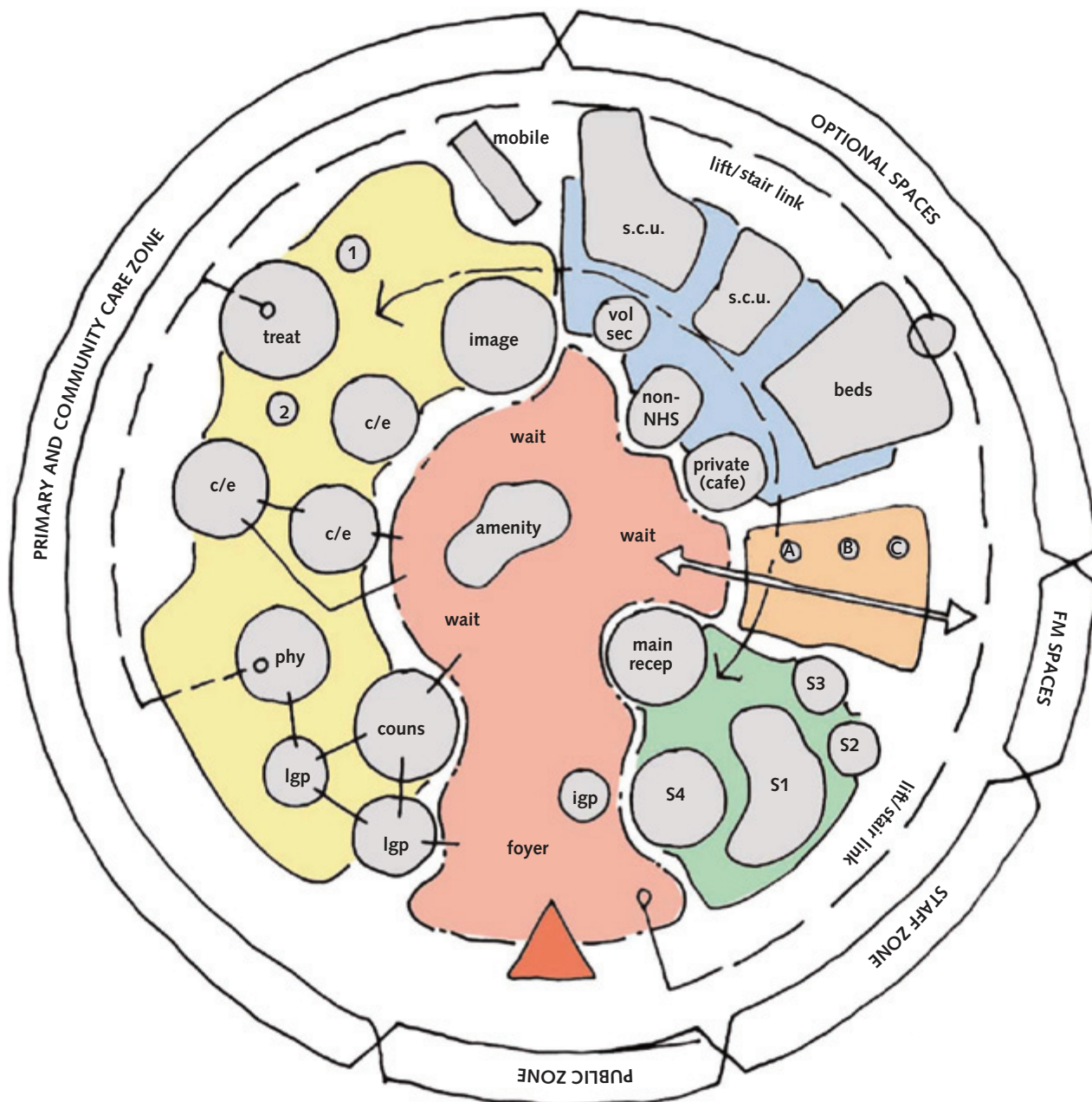
- 9.4 The way in which zones are arranged relative to one another depends on the nature and scale of the building.
- 9.5 In small facilities, zoning will be simple and may not be expressed in the architectural treatment of the building. In larger projects the way in which zones overlay one another will be more complex, and may require architectural devices such as double-height spaces, hospital streets or external reference spaces to clarify the way in which the building is organised.
- 9.6 Whatever the scale of the building, the use of zones should aid wayfinding, simplify user journeys, segregate users, and demonstrate the function of the different areas within the building.

Adjacency requirements and routes

- 9.7 In order to create a coherent, user-friendly building it is essential to achieve the correct adjacencies for the different functional spaces and zones.
- 9.8 Once the space requirements for the building have been established it should be possible to create an adjacencies diagram, which builds on the zoning concept diagram (Figure 4 in Chapter 5).
- 9.10 See Figure 14 for an illustration of an example adjacencies diagram.
- 9.11 Figure 14 illustrates some of the key organisational principles already highlighted in this document:
- single main entrance to the building overseen by a main reception desk;
 - a centrally placed waiting area, serving the core accommodation;
 - the counselling suite is adjacent to the public zone;
 - there is good access to the diagnostics cluster from the waiting area;
 - access to some suites is controlled from local staff communications bases or secondary reception desks;
 - the in-patient accommodation is separated from the rest of the core accommodation;
 - there is easy access to the physical therapy suite from the in-patient accommodation (avoiding the public zone);
 - most administration spaces are located in the staff zone, separate from the primary and community care zone;
 - staff rest areas are located in the staff zone, linked by stairs and accessible lifts to the primary and community care zone;

Figure 14 Example of an adjacencies diagram

s.c.u.	stand-alone clinical unit	S1	admin space
beds	community beds	S2	staff rest
non-NHS	non-NHS community care	S3	staff changing
vol sec	voluntary sector spaces	S4	staff meeting and training
private	commercial spaces		



couns	counselling suite	igp	info and greeting point
c/e	consulting/examination suite	amenity	public WCs, vending, lockers etc
treat	treatment suite	A	regen kitchen
phy	physical therapy suite	B	stores
image	imaging cluster	C	waste
1	dental cluster		
2	enhanced procedures cluster		
lgr	large group room		

- utility spaces are distributed around the primary and community care zone, but central stores, decontamination areas, disposal holds and maintenance accommodation are located in a separate non-patient FM services area, with discrete access. Vehicular access serving this entrance is separated from public vehicular and pedestrian routes;
- the regeneration kitchen is located in the FM services area, adjacent to the public café (with which it will share kitchen facilities) and with easy access to the wards.
- in centralised facilities management and staff zones, it is normal for accommodation to be accessed from both side of the circulation route, using double-banked corridors. These corridors can be utilitarian in nature;
- in the primary and community care zone, efforts should be made to provide a more attractive, naturally-lit pattern, with parts of the circulation route having windows and views to the outside;
- the public zone of the building is more likely to be planned around a central space, with minimal corridors.

9.12 Figure 14 shows how considering zoning and key adjacencies can assist in achieving clarity in the layout, as well as enabling like elements to be co-located, rationalising construction and servicing.

9.13 The following routes/journeys can be overlaid onto the adjacencies diagram to ensure they are efficient and user-friendly:

- a variety of client/patient journeys through the building, reflecting individual needs, from arrival on site to leaving the facility;
- a variety of staff routes;
- routes for the collection and removal of waste;
- routes for the delivery and distribution of supplies;
- routes for emergency evacuation;
- design and layout of circulation spaces.

9.14 Circulation and communication spaces should be sized and located to support the efficient flow of users and the delivery of goods and services. See Health Building Note 00-04 for further details on circulation and communication spaces.

Horizontal circulation

9.15 The width of corridors is generally determined by the traffic carried. For pedestrian and wheelchair access, corridors should be 1500 mm wide, with 1800 mm wide passing places. In parts of the building where trolleys need to be manoeuvred this may increase to 1800 mm, or 2150 mm for bed movement. Corridors may also be designated as “hospital streets” in Firecode-compliant buildings, in which case they need to be 3000 mm wide.

9.16 The design of horizontal circulation spaces within different zones of the building may vary, particularly in larger facilities:

Vertical circulation

9.17 Staircases should be sized and designed in accordance with Firecode or the Building Regulations, as appropriate.

9.18 Multi-storey primary and community care buildings will include wheelchair-accessible lifts. Trolley lifts and/or bed lifts may also be required. Trolley lifts are required where in-patients beds are provided on an upper floor or where treatments there require patients to be moved on a trolley (including for ambulance evacuation). If beds are moved from floor to floor, a bed lift should be provided. In general, more than one lift of the same type should be provided to enable continuation of services should one lift be temporarily inoperable.

9.19 Dedicated facilities management lifts (for supplies and waste) will only be provided in the largest community facilities. Policies for moving clean and dirty items using shared-use lifts should be agreed with the local infection control team.

Out-of-hours access arrangements

9.20 The following facilities may remain open to the public even when the rest of the building is closed:

- in-patient accommodation;
- the counselling suite;
- “out-of-hours” urgent care, including diagnostic facilities, if provided;
- waiting spaces, WCs and information points (not usually the whole of the daytime waiting area);
- a suite of meeting rooms, with WC and beverage facilities.

9.21 Public access to the building during this time will need to be well monitored and controlled from a reception point.

9.22 Staff may additionally require out-of-hours access to:

- administration spaces;
- staff rest facilities.

9.23 Facilities required for out-of-hours access should be located together, where possible, to enable the rest of the building to be shut down, easing security arrangements and reducing operating costs. This will also minimise user journeys around the building during this time.



10 Engineering services

Introduction

- 10.1** This chapter provides general guidance on the engineering, technical and environmental aspects of healthcare building design.
- 10.2** Consultation should take place at project and design team level to ensure understanding of key issues, healthcare delivery and the appropriate standards for healthcare engineering services.
- 10.3** Designers should ensure that they read this publication as a whole, since further engineering guidance may be outlined in and cross-referenced within other sections.
- 10.4** The Health Technical Memorandum series is supported by an overarching publication, 'Policies and principles – Best practice guidance for healthcare engineering' (Health Technical Memorandum 00), which covers the following issues:
- a. overview of engineering services guidance;
 - b. statutory and legislative requirements;
 - c. professional support;
 - d. operational policy;
 - e. training and workforce development;
 - f. emergency procedures and contingency planning;
 - g. training, information and communications;
 - h. maintenance;
 - j. engineering services.
- 10.5** Guidance on specific types of engineering services can be found within the Health Technical Memorandum '00' series of documents as follows:
- a. Decontamination (Health Technical Memorandum 01);
 - b. Medical gases (Health Technical Memorandum 02);
 - c. Ventilation systems (Health Technical Memorandum 03);
 - d. Water systems (Health Technical Memorandum 04);
 - e. Fire safety (Health Technical Memorandum 05);
 - f. Electrical services (Health Technical Memorandum 06);
 - g. Environment and sustainability (Health Technical Memorandum 07);
 - h. Specialist services (Health Technical Memorandum 08);
 - j. other existing HTM 2000 series guidance documents.

General

- 10.6** The design, construction and operation of primary and community care facilities should comply with all relevant aspects of Health Technical Memoranda, statutory requirements and best practice to ensure high-quality engineering installations and services suitable for their application.
- 10.7** Changes in clinical practices have resulted in an increasing provision of clinical functions within the primary and community care sector that were previously undertaken within the acute sector. As a consequence, clinical risk, business continuity risk and safety factors within the primary and community care sector are becoming more critical, and with these, the requirement for safe and resilient engineering services in support of the environment and equipment used to fulfil the functions of the premises.
- 10.8** The design and operation of primary and community care premises should therefore take full account of planned and potential future increases in clinical and business continuity risks appertaining to the functions of the premises, and should ensure that all key engineering services are sufficiently robust to continue operating

satisfactorily during emergency situations so as to minimise the risk of harm to patients, staff and visitors.

- 10.9 This should include consideration of engineering service requirements during loss of normal incoming utility and local supplies and during activation of emergency preparedness plans.

System capacity

- 10.10 All engineering systems and equipment should be fit for purpose and designed to have an initial capacity to safely accommodate peak maximum loads plus an additional allowance of 25% for future expansion.

Utility supplies

- 10.11 Where new or changes to existing incoming utility services are required, discussions should take place with each utility company concerned to establish incoming service routes, capacity requirements, tariffs, meter locations, access provisions and wayleave requirements as soon as practical during the design process.

Life expectancy of engineering plant and equipment

- 10.12 All principal items of plant and equipment should have a minimum life expectancy as described in CIBSE Guide M.
- 10.13 Materials and components that will require maintenance and replacement during the life of the facility should be selected, located and fixed in such a way as to minimise future inconvenience and disruption and to avoid temporary closure of all or part of the facility.

External services

- 10.14 Primary and community care facilities generally do not operate over a 24-hour period. External engineering plant and equipment, particularly security cameras and engineering service supplies, should therefore be positioned and suitably protected to minimise the risk of damage or interference when the premises are closed.

Metering

- 10.15 Primary and community care premises should be fitted with adequate provisions to monitor all primary incoming and sub-distribution

engineering services sufficient to comply with statutory legislation and to support energy efficiency.

- 10.16 Many primary and community care facilities sub-lease tenanted areas to commercial organisations such as pharmacies. Energy and water supplies to such areas should be sub-metered in order to facilitate billing arrangements by the landlord.

Mobile units

- 10.17 Certain clinical services may be delivered from mobile units. The following types of mobile unit may be provided within the grounds of primary and community care premises:

- mobile breast screening units;
- mobile CT/MRI scanning units;
- mobile theatres.

- 10.18 These units may be self-contained or may need to be connected to mains services.

- 10.19 Where connection to mains services is required, these should be provided in appropriate locations taking into account the following factors:

- external access arrangements;
- supplies capacities;
- the need for isolation and protection of mains services;
- earthing arrangements;
- the need for weatherproofing of external equipment;
- type of connection and security.

Access to engineering service outlets and controls

- 10.20 The design and positioning of engineering service outlets and controls should take account of safety and access requirements. This includes consideration of the following:

- the height of light switches, socket outlets, taps and controls;
- the temperature of hot water and surfaces of radiators, heat emitters and hot water pipes;
- the provision of audio-visual indicators and signage where appropriate (for example fire alarm systems).

Control of infection

10.21 Informed by a clinical risk assessment, the design and installation of engineering services should incorporate adequate measures to minimise infection control risks so far as is practicable. In particular, precautions should be incorporated to ensure that within areas occupied by patients, staff and visitors:

- ventilation provisions are adequately filtered, with air changes and pressure differentials maintained in accordance with Health Technical Memorandum 03-01 – ‘Specialised ventilation for healthcare premises’ and other guidance to reduce the risk of HCAI;
- all exposed surface finishes of engineering services and equipment are generally smooth, accessible and easy to wipe clean;
- engineering services pipework, heat emitters, electrical trunking, luminaires, accessories and specialist fixed control equipment are appropriately encased to present a smooth exposed surface with gaps sealed with a suitable substance to control the potential harbouring and propagation of bacterial growth;
- sloped surfaces are provided instead of horizontal surfaces to reduce the build-up of dust;
- all engineering components and equipment that are regularly handled by patients, such as light switches, nurse call units, door entry controls, TV sets etc are capable of being wiped clean and disinfected or sterilized between patient use.

Space requirements for engineering plant and services

10.22 The building design must incorporate adequate space to enable the full range of engineering plant and services to be installed and kept operational.

10.23 Space for plant and services should provide:

- an easy and safe means of access;
- secure accommodation protected from unauthorised access;
- adequate space around the plant and services to permit inspection, maintenance and replacement;

- for the installation of further plant and services at a later date where this is anticipated to be required.

10.24 Guidance on spatial requirements for engineering plant and services is contained in Health Technical Memorandum 00.

10.25 Further useful information on the provision of space for plant is contained in BSRIA TN 9/92, and for building services distribution systems in BSRIA TN 10/92.

10.26 With the exception of drainage and some heating pipework, engineering services should not be brought from the ceiling void of the floor below. Service distribution to a particular area should be contained within the service spaces on that floor.

10.27 Plantrooms, particularly for air-conditioning and ventilation, should be located as close as possible to the areas they serve, thus minimising the amount of space necessary to accommodate large ducts.

10.28 Care should be taken to ensure that noise and structure-borne vibration cannot be transmitted beyond the plantroom. Further guidance on acoustics and vibration can be found in Health Technical Memorandum 08-01 – ‘Acoustics’.

Mechanical services

Piped medical gases

10.29 Piped medical gases should be designed in accordance with Health Technical Memorandum 02-01 – ‘Medical gas pipeline systems’.

Heating

10.30 General space heating requirements may be met by a variety of systems including under-floor pipework, radiators or ceiling-mounted radiant panels, or by an air-conditioning system. Notwithstanding this, designers should ensure that the most appropriate method is employed with regard to the healthcare environment being provided.

10.31 The surface temperature of radiators should not exceed 43°C. Ceiling-mounted radiant panels can operate at higher surface temperatures as long as the surface is not easily accessible.

10.32 Exposed heating pipework, accessible to touch, should be encased and/or insulated. Further information is given in Health Guidance Note –

“Safe” hot water and surface temperatures’. Special care should be taken when facilities are being provided for older, confused or mental health patients.

- 10.33 Care should be taken to ensure that heat emitters do not adversely affect the local temperature conditions of adjacent storage and preparation areas.
- 10.34 Heat emitters should be located under windows, against exposed walls or in the ceiling above windows.
- 10.35 Where radiators are installed there should be space between the top of the radiator and the windowsill to prevent curtains reducing the output. There should also be adequate space underneath to allow cleaning equipment to be used.
- 10.36 Ceiling-mounted radiant panels should preferably run around the perimeter of the building. The panels should not be located over beds, patient trolley positions or in other locations where they might radiate directly onto a patient or member of staff for a prolonged period.
- 10.37 Ceiling-mounted radiant panels should be selected to match the appearance of the adjacent ceiling and should be sealed to the adjacent ceiling by means of a gasket or similar device. Where appropriate, heating controls should be provided to modulate heating circuit flow temperatures to maintain the desired air temperature.
- 10.38 Radiators or radiant panels 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 coordinated manner and do not cause the space to overheat.
- 10.39 In comparison with wall-mounted radiators, ceiling-mounted radiant panels can reduce infection risk and increase useable space. For these reasons, they are often the preferred choice of heat emitter within primary and community care premises.

Ventilation and cooling

- 10.40 Ventilation systems should be designed in accordance with the requirements of Health Technical Memorandum 03-01.
- 10.41 Theoretical modelling of summer temperatures should be undertaken to ensure that the

ventilation system is able to control air temperatures within an acceptable range.

- 10.42 It is important to achieve a balance between economy in capital and energy costs and creating appropriate levels of comfort through mechanical ventilation/comfort cooling.
- 10.43 Air movement induced by mechanical ventilation should be from clean to dirty areas, where these areas can be defined. The design should allow for an adequate flow of air into any spaces having only mechanical extract ventilation, via transfer grilles in doors or walls. However, such arrangements should avoid the introduction of untempered air and should not prejudice fire safety (through the introduction of uncontrolled air) or privacy (through the positioning of transfer grilles).
- 10.44 Local exhaust ventilation (LEV) will be required where exposure (by inhalation) to substances hazardous to health cannot be controlled by other means. The Health and Safety Executive (HSE) publishes guidance notes, updated annually, on occupational exposure limits (Guidance Note EH 40) for the control of exposure by inhalation of substances hazardous to health. The limits specified form part of the requirements of the Control of Substances Hazardous to Health (COSHH) Regulations.

Hot and cold water systems

- 10.45 Water storage and distribution systems should be designed in accordance with Health Technical Memorandum 04-01 – ‘The control of *Legionella*, hygiene, “safe” hot water, cold water and drinking water systems’.
- 10.46 Exposed hot water pipework, accessible to touch, should be encased and/or insulated. Special care should be taken when facilities are being provided for older, confused or mental health patients.

Building management systems

- 10.47 All engineering plant and equipment associated with the internal environment should, where possible, be monitored and controlled by a building management system (BMS) in accordance with Health Technical Memorandum 2005 – ‘Building management systems’.
- 10.48 Requirements for the monitoring and control of specific types of plant and system are also covered in the relevant Health Technical Memorandum.

Internal drainage

- 10.49 A system of soil and waste drainage including anti-siphon and ventilation pipework should be provided in accordance with BS EN 12056.
- 10.50 Where plastic pipework is used, suitable intumescent collars should be fitted when breaching fire compartments, and acoustic wrapping should be applied where drainage pipework runs above wards and other sensitive areas.
- 10.51 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).
- 10.52 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.
- 10.53 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.
- 10.54 To prevent the ingress of bacteria, waste outlets from distillation and refrigeration plant should discharge via a trapped tundish or gully to the drainage system at a point where infection risks are minimal.
- 10.55 Drainage/waste systems from air-conditioning units should be installed to prevent Legionnaires’ disease and back-feeding of bacteria into the unit.
- 10.56 Where diagnostic imaging is carried out, and providing that there is adequate dilution and the silver content has been effectively recovered, effluent can be discharged into the internal drainage system. Project teams should establish acceptable levels for silver and other processing chemicals at the planning stage.
- 10.57 All drainage that may be used for the passage of contaminated effluent should be clearly labelled.
- 10.58 At an early stage in the design process, proposals for the collection and discharge of chemical and radioactive contaminated effluent should be discussed and verified with the sewerage undertaker. Some water authorities may impose

restrictions on the quantity and rate of discharge of such effluent into public sewers.

Acoustics

- 10.59 Consideration should be given at the earliest opportunity to the requirements for privacy and noise control. Guidance on sound attenuation requirements is given in Health Technical Memorandum 08-01.
- 10.60 Whenever background music or PA systems are installed, the sound quality should be such that it is intelligible and not subject to unwanted reverberations.

Fire safety

- 10.61 Fire safety standards in healthcare premises need to be high owing to the vulnerability of occupants.
- 10.62 In order to ensure appropriate fire safety standards, the design and operation of primary and community care buildings should meet the objectives of ‘Firecode’ (Health Technical Memorandum 05 suite of documents) or provide a fire-engineered solution that achieves similar objectives. Firecode is not exhaustive, and signposts out to Approved Document B of the Building Regulations as appropriate.
- 10.63 It is important to establish those aspects of fire safety that affect building design. During the design process, design team members should discuss their proposals with the relevant Building Control/Approved Inspector and the rest of the planning team.
- 10.64 All staff should be familiar with the operational aspects of fire safety.

Fire detection and alarm systems

- 10.65 The design of fire detection and alarm systems should take account of the number of fire zones (compartments) within the building, which in turn will be informed by an assessment of fire risk. It is important that the architect and design engineer work together to ensure that all fire risks are properly understood and addressed in the design solution.
- 10.66 For specific guidance see Health Technical Memorandum 05-03 Part B – ‘Fire detection and alarm systems’.

Electrical services

General

- 10.67** Electrical installations should comply with the current edition of BS 7671 IEE Wiring Regulations together with Guidance Note 7 – Special Locations (Institute of Engineering and Technology (IET)) and Health Technical Memorandum 06-01 – ‘Electrical services supply and distribution’.
- 10.68** Where applicable, electrical installations should also comply with ‘Medical Electrical Installation Guidance Notes’ (MEIGaN; Medicines and Healthcare products Regulatory Agency (MHRA)).
- 10.69** Prior to final design, a full assessment should be made of the clinical and business continuity risks, the range of room types (including equipment requirements), occupation levels and resilience requirements. This will influence the extent and location of electrical services, the availability of alternative sources of electrical supply and the need for secondary power sources if appropriate.

Electromagnetic compatibility

- 10.70** Steps should be taken to prevent mains-borne and electrical radio frequencies from affecting diagnostic and monitoring equipment, computers or other sensitive electronic equipment. Guidance on the avoidance and abatement of electrical interference is given in Health Technical Memorandum 06-01.

Primary electrical infrastructure

- 10.71** The primary electrical infrastructure (PEI), comprising the public electrical supply (PES) and electrical distribution system equipment for the facilities, should be an integral part of the whole site/building network and provide adequate capacity for both normal and all assessed business-critical needs.
- 10.72** The PES supply together with the facilities electrical distribution equipment should be sited in areas where access by the PES or healthcare authorities to inspect and/or replace plant would not disrupt normal communication routes. Careful consideration should also be given to the impact from flooding, pipework leaks and mechanical damage.

Resilience of electrical supplies

- 10.73** The resilience of the electrical supply and distribution system and the capacity of any secondary power sources such as emergency standby generators and uninterruptible power supplies (UPS) should be established following the assessment of clinical and business continuity risks.
- 10.74** It may be appropriate to provide separate essential and non-essential small power distribution systems or a dual unified system. This will enhance the resilience of the electrical services as well as facilitating the ability to test and repair faulty system components whilst sustaining continuity of supply to operational areas.
- 10.75** Electrical supply resilience provisions should comply with the requirements of Health Technical Memorandum 06-01.

Socket-outlets for cleaning equipment

- 10.76** Sufficient socket-outlets (RCBO protected) should be provided to enable the use of cleaning equipment without the need to use extension leads. Most floor scrubbers and polishers have 9 m-long power cables.

Lighting systems

- 10.77** Lighting services, including lighting controls, should comply with the following CIBSE guidance: ‘Code for Lighting’, Lighting Guide 2 – ‘Hospitals and health care buildings’ and Guide F – ‘Energy efficiency in buildings’.
- 10.78** In areas where VDUs are in use, lighting should be designed to comply with CIBSE Lighting Guide 3 – ‘The visual environment for display screen use’.
- 10.79** To achieve energy efficiency, lighting systems should be designed to:
- maximise use of natural daylight;
 - avoid unnecessarily high levels of illumination;
 - incorporate efficient luminaires, control gear and lamps;
 - incorporate effective controls.
- 10.80** Lighting and the appearance of luminaires should be coordinated with architectural design. In particular, decorative finishes should be compatible with the colour-rendering properties of lamps and spectral distribution of the light source. See also ‘Lighting and colour for hospital design’ (Dalke et al, 2004).

- 10.81** Light switches should be provided in easily accessible positions and at appropriate locations in corridors and general circulation areas. In areas with multiple luminaires, switches should permit the selection of luminaires appropriate to the area requiring illumination.
- 10.82** Where local circumstances permit, the use of time switches or occupancy controls using infrared, acoustic or ultrasonic detectors should be encouraged. In corridors and general circulation areas, lighting levels should be automatically controlled to allow reduced levels of lighting (for example with only up to 50% of luminaires switched on) when the space is not occupied during normal opening hours.
- 10.83** Low-energy or ultra-low-energy lighting should be considered as the primary lighting source.
- 10.84** Fluorescent lighting in areas where clinical procedures are carried out and/or medicines are handled, including stores, must be derived from lamps having suitable colour-rendering characteristics.
- 10.90** Patient/staff call points should be provided in all spaces where a patient/attendee may be left alone temporarily, for example clinical rooms and WCs.
- 10.91** Staff emergency call points are for a member of staff to call for assistance from another member of staff. They should be provided in all spaces where staff consult, examine and treat attendees/patients.
- 10.92** Consideration should be given to the use of modern technology and location of staff emergency call points to ensure that the risk of accidental operation is minimal and that, where necessary, they can act as a deterrent to potential aggressors in addition to enabling a response to an incident.
- 10.93** Patient/staff and staff emergency call systems may be hard-wired or may form part of a multiplexed data or radio system.
- 10.94** Dedicated call points for summoning the crash team may be provided. These are not standard installation, and need to be specified for individual rooms where patients are at a high risk of suffering a cardiac arrest.

Emergency lighting

- 10.85** Emergency lighting, incorporating escape lighting and standby lighting, should be provided in accordance with BS 5266 and building control and fire officer requirements.
- 10.86** Escape lighting should also be provided in accordance with Health Technical Memorandum 06-01, Health Technical Memorandum 05-02 – ‘Fire safety in the NHS: Guidance in support of functional provision for healthcare services’ and CIBSE Lighting Guide 2.
- 10.95** A visual and audible indication of the operation of each system should be provided at a suitable staff base to identify the nature and origin of the call.
- 10.96** Over-door indicator lamps and corridor indicator lamps should be appropriately located to guide staff quickly to the origin of the call.

External lighting

- 10.87** The issue of light pollution should be taken into consideration when planning external lighting. Where possible, external lighting should not shine excessively into adjacent properties.
- 10.88** The following steps should be taken:
- avoid excessive lighting;
 - use sensor-activated luminaires;
 - ensure luminaires are correctly orientated.

Patient/staff and staff emergency call systems

- 10.89** Patient/staff and staff emergency call systems should comply with Health Technical Memorandum 08-03 – ‘Bedhead services’.
- 10.97** Measures should be incorporated in the design of all primary and community care buildings to help protect the safety of staff, patients and visitors and the security of the premises.
- 10.98** The project team should discuss security with the local police crime prevention officer and the trust’s nominated local security management specialist (LSMS) at an early stage in the design process.
- 10.99** The local fire officer and LSMS should be consulted concurrently to avoid the possibility of the demands of security and fire safety conflicting.
- 10.100** Before a security system is installed, a local risk assessment and crime prevention survey should be carried out for both daytime and out-of-hours use of the premises.
- 10.101** For further guidance, see the Directions to NHS bodies on Security Management Measures

2004 (Amendment) Directions 2006 and 'A Professional Approach to Managing Security in the NHS' (DH, 2003).

CCTV installation

10.102 CCTV systems should be installed to monitor internal and external areas where there is a risk of attack or vandalism. Areas such as receptions, external entrances, car parking and pedestrian walkways may be at particular risk at night.

Car park barriers

10.103 To improve site security, and control unauthorised parking, it may be necessary to install car park barriers. Where barriers are required, all electrical services to them should be installed using external cable runs routed below ground level as far as is practical.

Door access control systems

10.104 Primary and community care premises will generally require controlled access to the building at the staff entrance and, internally, to staff areas.

10.105 Where door access control systems are required, these should consist of an electronic keypad, fob or other approved door entry system installed in conjunction with a separate door entry intercom system.

10.106 External door entry systems should be compatible with insurance requirements.

10.107 External entry systems should be weatherproof and vandal-resistant. Internal systems should be vandal-resistant.

IT and telephone wiring systems

General

10.108 Where possible, a structured wiring system as described in Health Guidance Note – 'Structured cabling for IT systems' should be provided. This will permit a unified approach to the provision of cabling for:

- voice systems;
- data systems;
- imaging systems;
- alarm systems.

10.109 While such a "universal" cabling system is initially more expensive than separate voice and

data systems, it may be more cost-effective in the long run.

10.110 In determining the nature of the IT system to be provided, it is necessary to identify:

- the areas to be served;
- whether structured cabling will be used;
- the density of RJ45 data and telephone outlets to be provided;
- whether wiring will be on a "flood" or "as required" basis.

10.111 Where appropriate, specialists should be employed to assist in the design and installation of IT and telephone systems, including interfacing with service wiring and equipment suppliers to ensure a fully operational and reliable system.

Telecommunication systems

10.112 The telecommunication system should comply with the requirements of the public telephone operator (PTO), various Codes of Practice and British Standard specifications, in particular BS EN 6506 and BS 6701 Part 1.

10.113 Public telephones should be provided where required, complete with coin box and acoustic hoods, as appropriate. Consideration should be given to disabled persons in relation to the height of payphones.

IT systems

10.114 The IT system should include the installation, termination, testing and commissioning of all switches, routers, hubs, distribution cabling complete with cable containment system, and required RJ45 terminal outlets.

Entertainment systems

10.115 Entertainment facilities, such as television and radio/music systems, may be provided in waiting areas to mask sound transfer for confidentiality purposes or in staff rest areas to create a relaxing atmosphere.

10.116 The entertainment services should comply with Health Technical Memorandum 08-03.

Pneumatic tube transport systems

10.117 If a new pneumatic tube system is to be installed, significant investigation needs to be undertaken

to ensure that the system will meet required needs. For further guidance on the design of pneumatic tube systems, see Health Technical Memorandum 2009 – ‘Pneumatic air tube transport systems’ (due to be revised as Health Technical Memorandum 08-04).

Lifts

- 10.118 Lifts may be required for general passenger transportation, bed/stretchers transportation or service use. They may also be required in order to comply with the requirements of the Disability Discrimination Act 2005 and/or Approved Document M of the Building Regulations.
- 10.119 Consideration may be given to the installation of lifts that do not require a separate machine room, particularly in buildings with fewer than three floors and/or where there is limited space available. For further guidance on the design of lift installations, see Health Technical Memorandum 08-02 – ‘Lifts’.

Controlled drugs storage

- 10.120 Controlled drugs cupboards should be fitted with a red lamp indicating when the cupboard is unlocked. An indicator lamp should be sited outside the doorway of the room in which the cupboard is located. In addition a secondary repeat lamp may be taken to a permanently staffed area.
- 10.121 The normal power supply for each cupboard should be backed up by a small integral battery to cover the short period between mains failure and an alternative power supply becoming available.
- 10.122 To assist in keeping their contents secure, controlled drugs cupboards should be fitted with a seven-lever mortice lock designed to meet BS 3621.

Lightning protection systems

- 10.123 Lightning protection systems should be evaluated and, if necessary, installed in accordance with BS EN 62305.

Audio induction loop systems

- 10.124 Audio induction loop systems should be provided in main receptions, seminar rooms and waiting areas in accordance with the Disability Discrimination Act. They may be fixed or portable.

- 10.125 They should comply with the requirements of BS EN 60118-4, IEC 60118-4, where applicable.
- 10.126 Audio loop systems should be able to provide an interface with any PA or music system. In areas with televisions, they should be interfaced to provide TV sound into the local area loop system.

Sustainability and energy efficiency

- 10.127 Engineering services should use renewable and natural energy sources, wherever feasible. The energy consumption of engineering services should be further minimised through the use of low/zero energy solutions and/or energy-saving devices.
- 10.128 Account should be taken of the recommendations in the following documents:
- current editions of Building Regulations and Approved Codes of Practice;
 - Energy Efficiency Office and Carbon Trust best practice guidance;
 - ‘Sustainable development in the NHS’;
 - ‘New environmental strategy for the NHS’;
 - Health Technical Memorandum 07-02 – ‘Encode – making energy work in healthcare’;
 - Health Technical Memorandum 07-07 – ‘Sustainable healthcare buildings’;
 - Building Services Research and Information Association (BSRIA) publications;
 - CIBSE publications – design guides, energy codes, technical memoranda, lighting guides, climate change levy.
- 10.129 The following factors should be considered in order to minimise energy consumption:
- use of natural lighting and ventilation, wherever feasible;
 - use of passive solar design, including the use of solar heating panels, the use of reflective glass and/or blinds to minimise solar gain, where appropriate, and locating heat-sensitive accommodation away from south-facing fascias;
 - use of energy-efficient equipment, including high-efficiency condensing boilers and motors, and energy-efficient luminaires;
 - use of electronic inverter speed control devices on air handling equipment instead

of alternatives such as belt pulleys or pole-changing motors;

- power factor correction to major plant;
- use of presence detection, photocell and multi-circuit systems to control lighting;
- use of a BMS system to provide automatic time control switching (to shut down plant when not required) and performance monitoring (to ensure plant is operating at optimum levels);
- implementation of heat recovery, particularly for ventilation systems;
- use of ground source heat pumps;
- use of sensory taps, urinal controls, low-volume toilet cisterns and grey water (that is, rainwater harvesting or recycled water) to reduce water usage;
- use of combined heat and power plant (including micro CHP plant) to reduce consumption of incoming electrical supplies as well as carbon emissions;
- use of thermostatic controls to limit temperature increases and heat wastage;
- increased pipe insulation to limit temperature losses.

10.130 Consideration should be given to using the thermal properties of the building when the facility is not in use, for example at night or weekends, where circumstances permit.

10.131 Engineering plant and equipment should be recycled, wherever practical. Ideally any disposal of plant and equipment should not require a special licence. Where a licence for disposal is necessary, these should be acquired as prescribed by statute.

10.132 Specific guidance can be found in Health Technical Memorandum 07-01 – ‘Safe management of healthcare waste’, Health Technical Memorandum 07-05 – ‘The treatment, recovery, recycling and safe disposal of waste electrical and electronic equipment’ and Health Technical Memorandum 07-06 – ‘Disposal of pharmaceutical waste in community pharmacies’.

Validation and handover of engineering installations

10.133 It is important that, on completion of an installation and prior to hand-over, the performance of the installation is fully tested and validated.

10.134 The final acceptable performance details should be recorded and, together with full manufacturers’ operating and servicing details, test results, certificates, as-fitted drawings, manuals etc, made available to users and the maintenance organisation before the installation is handed over.

10.135 Once the installation is fully operational, its performance should again be tested. This will check that it is operating to the designed criteria.

10.136 Any risk management plans, operational procedures and contingency plans should be fully evaluated and tested with staff. Opportunities should also be taken as soon as practical after physical completion of the facilities to familiarise and train staff in the use of all relevant equipment and services and to practise any procedures to ensure staff members understand what is required of them.

11 Cost information

Healthcare Premises Cost Guides (HPCGs)

- 11.1 Departmental Cost Allowance Guides (DCAGs) have been replaced by Healthcare Premises Cost Guides (HPCGs).
- 11.2 HPCGs have been produced for the three types of primary and community care building covered by the example briefing schedules appended to this chapter. These provide a cost per square metre for building and engineering services costs.
- 11.3 The HPCGs for primary and community care buildings are based on new-build two-storey premises operating independently on an existing or greenfield site. It is assumed there are no abnormal planning conditions.
- 11.4 The HPCGs allow for a double-storey height space with an element of glazing to courtyard elevations in public areas.

Costing the example briefing schedules

- 11.5 The HPCGs have been calculated by costing each example briefing schedule in detail.

Note

The briefing schedules show example notional accommodation and are not to be taken as ideal provision for any particular project.

- 11.6 Non-NHS community and commercial spaces have not been costed.
- 11.7 For the purpose of calculating engineering services costs it is assumed that primary and community

care buildings are low tier resilience units in terms of emergency preparedness and that clinical risks due to activity within the premises will not exceed the relevant categories as defined in Health Technical Memorandum 06-01 and ADB sheets.

- 11.8 For full details of how the HPCGs were calculated see 'Healthcare Premises Cost Guides' (DH, 2010).

Engineering space allowance

- 11.9 The example briefing schedules include an engineering space allowance. This is based on buildings with fully dedicated engineering equipment.
- 11.10 Some reduction in engineering space requirements should be possible for facilities built in the grounds of other healthcare premises where sharing of primary engineering services is feasible.
- 11.11 The engineering space allowances associated with non-NHS community and commercial facilities allow for the provision of general heating and electrical services to these areas.
- 11.12 For primary and community care premises where parts of the site operate on a stand-alone basis (for example day surgery unit), an increase to the engineering space allowance may be necessary to account for the requirement to have dedicated main plant (for example heat source and piped medical gas supplies) to part of the site.
- 11.13 For further details of how the engineering space allowances have been calculated see the 'Healthcare Premises Cost Guides'.

Example schedules of accommodation for Health Building Note 11-01 - 'Facilities for primary and community care services'									
Version 1, published July 2010									
ADB code	Activity space	Example 1 Primary care centre		Example 2 Extended primary care centre		Example 3 Community hospital		Notes	
		Quantity	Total area	Quantity	Total area	Quantity	Total area		
	Unit area allowance								
	Public spaces								
	Entrance and reception								
NA	Entrance foyer		24.0		48.0		64.0	User defined.	
J0232	Reception (size based on number of places)	2	11.0	4	22.0	4	22.0	User defined.	
M0252	Office: 2-person	1	12.0	1	12.0	1	12.0	Provided if more than 2 reception places. Used for post and switchboard.	
M0724	Interview room: 4 places (including 1 wheelchair place)	1	8.0	1	8.0	1	8.0	1 per reception area.	
	Waiting area (size based on number of places)	72	122.4	240	408.0	255	433.5	Overall allowance for building. Location to be determined. Waiting allowance includes more than one type of ADB room. For details of unit area allowance see HBN 00-03.	
	Waiting area								
J1152	Children's play area								
J1413	Children's play area								
V1121	WC: semi-ambulant	2	5.0	7	17.5	6	15.0	1 WC for every 25 waiting places plus 1 less provision for independent wheelchair WCs. Minimum 2 scheduled to allow for separate male and female provision.	
V0922	WC: independent wheelchair	2	9.0	4	18.0	5	22.5	Approximately 1 per 500 sqm (net internal area) of clinical and clinical support area. Dispersed throughout building.	
V1131	Nappy changing room	1	5.0	3	15.0	4	20.0		
S0012	Infant feeding room	1	6.0	3	18.0	4	24.0		
NA	Faith/contemplation room		24.0	1	24.0	1	24.0	Provided if there is an entrance foyer.	
G0180	Parking bay		2.0	1	2.0	1	2.0	Provided if there is an entrance foyer.	
	Clinical spaces								
	Clinical spaces for generic suites								
G0237	Consulting/examination room: double-sided couch access	14	224.0	24	384.0	24	384.0	Derived from clinical planning.	
X0145	Treatment room: double-sided couch access	3	48.0	8	128.0	8	128.0	Derived from clinical planning.	
M0724	Interview room: 4 places (including 1 wheelchair place)	2	16.0	11	88.0	11	88.0	Derived from clinical planning.	
H1335	Group room: 7 seating places (including 1 wheelchair place)	1	16.0	2	32.0	2	32.0	Derived from clinical planning. If observation is needed consider CCTV.	
H1313	Group room: multi-purpose	1	32.0	1	32.0	2	64.0	Derived from clinical planning.	
W1585	General store		8.0		8.0		16.0	8 sqm per multi-purpose group room for flexibility in use.	
	Specialist clinical rooms								
G0243	Consulting/examination room: ENT		16.0	2	32.0	2	32.0	May form part of generic or specialist suites.	
C1030	Consulting/examination room: ophthalmic		12.0	2	24.0	2	24.0	Derived from clinical planning. Room scheduled at 12 sqm rather than 16 sqm as indicated on the modular sizing concept diagram.	
X0145	Ultrasound room		16.0	1	16.0	1	16.0	Derived from clinical planning.	
X0266	Plaster room		16.0	1	16.0	1	16.0	Derived from clinical planning.	
	Enhanced procedures cluster								
X0147	Treatment room: all-round couch access		16.0	1	16.0			Derived from clinical planning.	
C0522	Recovery reclining room: 1 place		12.0	1	12.0			1 per enhanced procedures room.	
T0538	Clean utility room without controlled drugs cupboard		8.0	1	8.0			1 per enhanced procedures cluster.	
Y0431	Dirty utility room		8.0	1	8.0			1 per enhanced procedures cluster.	
V0726	Changing room: independent wheelchair		4.5	1	4.5			1 per enhanced procedures room. For patients.	
	Therapy treatment cluster								
C0522	Examination/physical therapy room		12.0	6	72.0	12	144.0	Derived from clinical planning.	
X0281	Splint room		19.0	1	19.0	1	19.0	Derived from clinical planning.	
	Therapy exercise cluster								
X0325	Physiotherapy activity area		64.0	1	64.0	1	64.0	Derived from clinical planning.	
W1585	General store		2.0	2	4.0	2	8.0	8 sqm per physiotherapy activity area.	
V0725	Changing room: semi-ambulant		4.5	1	4.5	1	4.5	2 per physiotherapy activity area.	
V0726	Changing room: independent wheelchair		1.5	2	3.0	2	3.0	1 per 4 semi-ambulant changing rooms.	
V0653	Locker bay: 6 large lockers		1.5	2	3.0	2	3.0	3 lockers per changing room.	
V1631	Shower room: independent wheelchair		7.0	1	7.0	1	7.0	1 per 5 changing rooms.	

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Example schedules of accommodation for Health Building Note 11-01 - 'Facilities for primary and community care services'

ADB code	Activity space	Example 1 Primary care centre		Example 2 Extended primary care centre		Example 3 Community hospital		Notes
		Quantity	Total area	Quantity	Total area	Quantity	Total area	
			Unit area allowance					
	ADL cluster							
Q0136	Bathroom: ADL		16.0	1	16.0	2	32.0	Derived from clinical planning.
Q0134	Kitchen: ADL		24.0	1	24.0	2	48.0	Derived from clinical planning.
Q0131	Bedroom: ADL		16.0	1	16.0	2	32.0	Derived from clinical planning.
	Audiology cluster							
C0515	Audiometric testing room		8.0	2	16.0	2	16.0	Derived from clinical planning.
C0517	Paediatric audiometric testing room		16.0	1	16.0	1	16.0	Derived from clinical planning.
C0518	Observation/control room: paediatric audiometric testing		8.0	1	8.0	1	8.0	1 per paediatric audiometric testing room.
	Dental cluster							
X0277	Treatment room: dental: community	2	32.0	3	48.0	3	48.0	Derived from clinical planning.
J1251	Sitting recovery area: 5 places (including 1 wheelchair place)	1	9.0	2	18.0	2	18.0	1 sitting area (5 seats) per 2 treatment rooms.
T0538	Clean utility room without controlled drugs cupboard	1	8.0	1	8.0	1	8.0	1 per dental cluster.
R0902	Decontamination room: dirty instruments	1	12.0	1	12.0	1	12.0	1 per dental cluster.
R0904	Decontamination room: clean instruments	1	12.0	1	12.0	1	12.0	1 per dental cluster.
	Imaging cluster							
E0171	X-ray room		30.0			3	90.0	Derived from clinical planning. Allows for bed access.
E0176	X-ray room: ambulant		24.0	2	48.0			Derived from clinical planning.
E0136	Image control/reporting room		7.0	1	7.0	1	7.0	1 per cluster. Officer/reporting room.
V0725	Changing room: semi-ambulant		2.0	2	4.0	3	6.0	1 per X-ray room.
V0726	Changing room: independent wheelchair		4.5	1	4.5	1	4.5	1 per 4 semi-ambulant changing rooms.
	Support spaces							
T0211	Staff communication base allowance (size based on number of places)	3	15.8	9	49.5	10	56.4	1 place per 6 clinical rooms. Location to be determined locally.
T0538	Clean utility room without controlled drugs cupboard	1	8.0	2	16.0	2	16.0	1 per 4 treatment rooms or per 12 C/E rooms, whichever is the greater. Minimum 1.
Y0431	Dirty utility room	1	8.0	2	16.0	2	16.0	1 per 4 treatment rooms or per 12 C/E rooms, whichever is the greater. Minimum 1.
G0180	Parking bay for resuscitation equipment	1	2.0	1	2.0	1	2.0	1 per community out-patient/clinic facility.
J0304	Specimen reception	1	4.0	1	4.0	1	4.0	Derived from clinical planning.
V0922	WC: independent wheelchair	1	4.5	1	4.5	1	4.5	1 per specimen reception.
C0522	Physical measurement room	2	24.0	3	36.0	3	36.0	1 per 12 C/E rooms.
L1308	Near patient testing room		8.0	1	8.0	1	8.0	
W1685	General store		42.0					Storage based on 10% overall net clinical area.
P0625	Pantry/refreshment area		8.0	1	8.0	1	8.0	Provided if more than 2 group rooms.
J1251	Sub wait for docking station for mobile units		9.0	1	9.0	1	9.0	Derived from clinical planning.
Y1510	Cleaners' room	2	16.0	5	40.0	7	56.0	
Y0642	Disposal hold: 1700 litres	2	16.0	5	40.0	7	56.0	
	Staff spaces							
	Office accommodation							
M0251	Office: 1-person	2	16.0	4	32.0	4	32.0	Derived from clinical planning.
	Continuous use admin area (size based on number of workstations)	6	39.6	28	184.8	100	660.0	Derived from service planning input. Allowance includes more than one type of ADB room. For details of unit area allowance see HBN 00-03.
M0268								
M0281	Administration area: continuous use							
M0724	Quiet workspace							
	Interview room: 4 places (including 1 wheelchair place)							

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Version 1, published July 2010		Example 1 Primary care centre		Example 2 Extended primary care centre		Example 3 Community hospital		Notes
ADB code	Activity space	Unit area allowance	Quantity	Total area	Quantity	Total area	Quantity	
M0410	Photocopying/printing room							
M0731	Breakout space	6.6	8	52.8	20	132.0	20	132.0
	Community admin area (size based on number of workstations)							Derived from clinical planning. Allowance includes more than one type of ADB room. For details of unit area allowance see HBN 00-03.
M0278	Administration area, shared use							
M0281	Quiet workspace							
M0724	Interview room: 4 places (including 1 wheelchair place)							
M0410	Photocopying/printing room							
M0731	Breakout space	6.6	7	46.2	23	151.8	25	165.0
	Practitioner admin area (size based on number of workstations)							Based on 22, 68 and 76 practitioners in examples 1, 2 and 3 respectively. Allowance includes more than one type of ADB room. For details of unit area allowance see HBN 00-03.
M0278	Administration area, shared use							
M0281	Quiet workspace							
M0724	Interview room: 4 places (including 1 wheelchair place)							
M0410	Photocopying/printing room							
M0731	Breakout space							
	Shared staff support							
	Communal changing area (size based on number of lockers)	1.4	11	15.4	34	47.6	38	53.2
								Assumes 50% of practitioners need staff change. Based on 22, 68 and 76 practitioners in examples 1, 2 and 3 respectively. Allowance includes more than one type of ADB room. For details of unit area allowances see HBN 00-02.
V0554	Communal changing room							
V0725	Semi-ambulant changing room							
V1321	Shower room: ambulant							
V0667	Uniform exchange							
V1010	WC: ambulant	2.0	2	4.0	6	12.0	10	20.0
								1 WC for every 25 staff plus a contingency for shift changeover, less provision for independent wheelchair WCs. Minimum 2 scheduled to allow for separate male and female provision.
V0922	WC: independent wheelchair	4.5	1	4.5	1	4.5	1	4.5
D0434	Staff rest and mini kitchen (size based on number of seats)	1.8	16	28.8	50	90.0	82	147.6
								Allows 40% of staff to be in rest room at any one time. For details of unit area allowances see HBN 00-03.
H1304	Seminar room: 24 places (including 1 wheelchair place)	32.0	1	32.0	1	32.0	1	32.0
W1565	General store							8 sqm per seminar room for flexibility in use.
M0330	Library/CP training room	16.0	1	16.0	1	16.0	1	16.0
P0625	Pantry/refreshment area	8.0	1	8.0	1	8.0	1	8.0
W1565	General store							Provided in addition to staff rest in units with over 30 staff rest places.
W0812	Records store	12.0	2	24.0	5	60.0	5	60.0
								User defined storage for records.
NA	Central FM space			24.0		48.0		96.0
								User/FM provider defined space.
	Net internal area (NIA)			1067.0		3056.7		3937.2
1	Circulation allowance		32.0%	341.4	32.0%	978.1	32.0%	1259.9
	Communication allowance		10.0%	106.7	10.0%	305.7	10.0%	393.7
	Engineering space allowance		31.5%	336.1	23.0%	705.0	24.0%	944.9
	Gross internal area (GIA)			1691.3		5043.6		6555.7
	Self-contained specialist clinical units							
	Day surgery unit: 4 operating theatres						1	1544.0
	Net internal area (NIA)							
	Circulation allowance						27.0%	416.9
	Communication allowance						10.0%	154.4
	Engineering space allowance						35.0%	540.4
	Gross internal area (GIA)							2655.7

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Example schedules of accommodation for Health Building Note 11-01 - 'Facilities for primary and community care services'									
Version 1, published July 2010									
ADB code	Activity space	Example 1 Primary care centre		Example 2 Extended primary care centre		Example 3 Community hospital		Notes	
		Quantity	Total area	Quantity	Total area	Quantity	Total area		
			Unit area allowance						
	Satellite dialysis unit: 78 stations		Net internal area (NIA)				649.5		Based on HBN 07-01 schedules published in April 2008. Excludes water treatment plant room, IT hub and electrical switchroom, which are included in engineering space allowance.
			Circulation allowance				162.4		
			Communication allowance				65.0		
			Engineering space allowance				198.1		
			Gross internal area (GIA)				1074.9		
	Midwife-led birthing unit: 500 births per annum		Net internal area (NIA)				385.5		Based on forthcoming HBN 09-02 schedules.
			Circulation allowance				109.7		
			Communication allowance				36.6		
			Engineering space allowance				177.0		
			Gross internal area (GIA)				628.7		
	Adult community ward: 48 beds, 83% single rooms		Net internal area (NIA)				1586.0		Based on HBN 04-01 schedules published in June 2010. Includes ECA.
			Circulation allowance				161.0		
			Communication allowance				480.4		
			Engineering space allowance				174.7		
			Gross internal area (GIA)				2803.9		
	Community and commercial spaces		Net internal area (NIA)				546.0		Areas to be determined by commercial and other self-funded partners.
	Police community support base		Circulation allowance				12.0		
	Ambulance service rest room		Communication allowance				24.0		
	Commercial pharmacy		Engineering space allowance				48.0		
	Café, including servery, prep and store		Gross internal area (GIA)				86.0		
	ATM								
	Gym								
	Retail unit (optician, newsagent)								
	High street dental practice								
			Net internal area (NIA)				48.0		
			Circulation allowance				14.4		
			Communication allowance				4.8		
			Engineering space allowance				9.6		
			Gross internal area (GIA)				76.8		
	Entire building		Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		
			Net internal area (NIA)				546.0		
			Circulation allowance				163.8		
			Communication allowance				54.6		
			Engineering space allowance				92.8		
			Gross internal area (GIA)				860.0		

Example schedules of accommodation for Health Building Note 11-01 - 'Facilities for primary and community care services'									
Version 1, published July 2010									
ADB code	Activity space	Unit area allowance	Example 1 Primary care centre		Example 2 Extended primary care centre		Example 3 Community hospital		Notes
			Quantity	Total area	Quantity	Total area	Quantity	Total area	
Note 3	Status of defined metrics 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.								

Appendix 1 – Community wards

Community wards may be located on ground and/or upper floors with their own internal entrance from the public zone and good access to the primary and community care zone.

For guidance on the design of in-patient bed spaces and associated support spaces see Health Building Note 04-01.

Social and therapy spaces

In acute hospitals there is a limited need for social and therapy space at ward level, as patient stays are short. In community settings, patient stays tend to be longer so the need for social and therapy space is much greater, particularly on rehabilitation wards.

There are a number of questions that project teams can ask, to achieve a good balance of social and therapy spaces for any particular client group. Planning decisions should take account of patient culture and preferences in terms of privacy, modesty and same-sex accommodation:

- If multi-bed rooms are provided, what additional “private” space will be needed? A group room furnished as a restricted access or same-sex lounge?
- Should televisions be confined to bedrooms, to make shared spaces more social?

- Is there access to outside space either directly from the ward, or from a common area, away from the public zone of the building?
- Are dedicated sitting, dining and social spaces required, or can spaces be multifunctional?
- How is dining handled? Should a space be provided that allows all patients to eat together, or should it be assumed that a proportion will eat in their bedrooms? Alternatively, should patients come together in groups of, say, 12 or 24 to dine? Should there be separate dining areas for people who may have difficulty eating, such as stroke patients?
- What are the special social requirements for accommodation for palliative care?
- What therapy (discursive and physical) can occur in the patient’s bedroom?
- If therapy spaces are provided, should they be shared by more than one ward?

Therapy and social spaces should be designed so they are flexible and adaptable. They are often best located at the centre of the ward, close to the entrance and between nursing units, to increase privacy in the bedded areas.

Appendix 2 – Co-located services

Non-NHS community, voluntary sector and commercial spaces may be co-located alongside primary and community care services if their addition accords with the philosophy of care and can improve affordability.

Facilities for delivering non-NHS community and commercial services tend to be self-contained units with their own internal front door and branding. They may open off the public zone or be accessed from it. In some cases, they may have their own external door.

Voluntary sector services often simply require access to generic group rooms in the primary and community care zone, on a sessional basis, for meetings and activities such as keep fit or stroke clubs. This is often out-of-hours.

Space requirements for co-located services should be determined by discussions with the relevant provider at an early stage of the project.

Co-locating services may provide the following benefits:

- focal point for the community;
- promotion of healthy lifestyles as part of an integrated health and community care policy;
- increased footfall to the building/site and hence activity levels;
- creation of a critical mass of linked services;
- increased convenience for users;
- improved funding;
- improved transport links;
- reinvigoration of deprived areas;
- job creation.

The following criteria will increase the chances of the successful co-location of services:

- early involvement and sign-up by all partners;
- commitment at the highest levels (chief executive or board level for the LA or PCT);
- sharing of partners' strategic plans at an early stage;

- taking bold steps but with a managed approach to risk;
- learning progressively together;
- a default position where a partnership approach is assumed.

Potential stakeholders may be treated as development partners or tenants. The partnership approach may provide the additional benefits:

- engagement of the partners in health equity audits and health impact assessments;
- sharing of data and expertise among partners.

In designing such facilities, early resolution of the following points is advised:

- How self-contained or integrated should these co-located services be?
- How should they be branded? As part of the overall building, or should they express their own identity, separate from that of the NHS?
- Can staff share rest, changing and administration facilities with primary and community care staff, possibly invoiced through a service charge?
- Is the local authority a tenant in the building, or is the development put together on a partnership basis, with capital injections from more than one stakeholder at the outset?
- How long is the franchise or lease on the space? What alternative uses could this space have in the future?
- Are voluntary sector users charged for using the space, and if so, is this at a commercial rate or a nominal one, with the balance being borne by other stakeholders?
- How are engineering services in the building organised? Is there separate metering and billing?

- How is IT networked in the building (for example shared hub room)?
- How can the building be designed to allow operation of different parts of the building at different times?
- How can the different design, construction and operational standards for healthcare delivery aspects of the building be communicated in the client's brief?

Case studies



The government's advisor
on architecture, urban design
and public space

Acknowledgements

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64–66	Dulverton	Guy Greenfield	CABE
69	Dulverton	Guy Greenfield	Paul Tyagi

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Introduction

Purpose and scope of this document

This section of Health Building Note 11-01 – ‘Facilities for primary care and community services’ aims to extend the guidance by:

- describing and evaluating a range of recently completed primary and social care facilities in the community;
- providing real examples of the key design principles set out above;
- making recommendations for the future development of facilities.

It focuses on the physical nature of facilities. It is not intended to be a comprehensive evaluation of primary and community care services.

Ten primary and community care schemes are examined. They illustrate a variety of service models, ranging from those delivering largely integrated primary care services for a specific neighbourhood through to those delivering hospital services for a wider catchment population. All are forward-looking in terms of service delivery and each one has been planned to meet local needs.

Three themes emerged during analysis of the schemes:

- the key features of service delivery and their impact on the building type;
- the opportunity for each project to develop a sense of place in their design;
- the extent to which flexible and sustainable design was sought or achieved.

Policy context

Investment in healthcare buildings has been significant since the announcement in 2001 of the NHS Plan. Primary care services and facilities have been improved and hundreds of new premises are now being used and developed to deliver a wider range of services, including health, social care, education and physical exercise, across the country.

The planning of primary and social care services ideally reflects the needs of the local population and fits with existing resources available in the locality. Therefore, the range of services and their combinations varies widely from one facility to another so that there is not one typical physical arrangement. Primary and social care facilities are referred to by a wide variety of names such as GP surgeries, health centres, resource centres, clinics and community hospitals. Even with the same name, these can differ widely in scope and range of services as well as size and location of the building.

New definitions for the range of facilities and how they relate to one another have been captured in some strategic plans. Liverpool Primary Care Trust, for example, has defined three levels of care ranging from many small GP practices, to 25 Level 2 local centres, and to only three Level 1 community centres to serve the whole city population. These plans can also relate to regional level and include services offered in acute and local hospitals.

The Department of Health paper ‘Our Health, Our Care, Our Community’ set out four types of facility defined by the range of services provided within them. They are described as:

- multi-use clinics;
- integrated health and social care centres;
- intermediate care centres;
- remodelled hospital.

In Figure 1, at one quadrant, with larger size and broader scope of services, is a former general hospital that has been remodelled to reflect changing needs: it offers a wide range of diagnostic, out-patient and day care services but no longer has an A&E department or provides complex surgery. There are then many possibilities extending to the fourth quadrant with relatively small clinics in the community offering a distinct but narrow set of services for the neighbourhood.

Added to these is the Community Hospitals Association (CHA) model of a partnership with care homes.

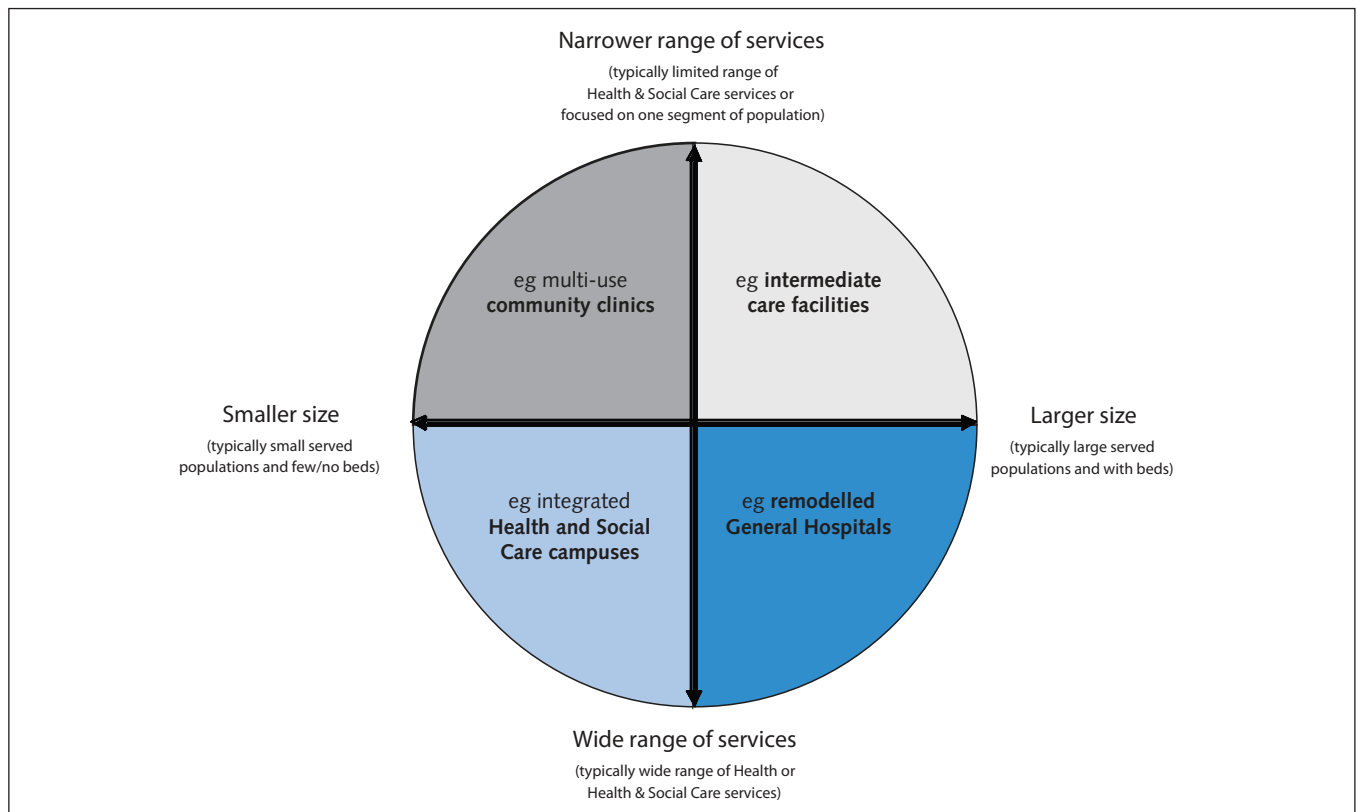


Figure 1 Range and scope of community hospitals and services

Adapted from Figure 2 in 'Our health, our care, our community'

In practice, building types vary widely, and it is perhaps easier to think of them in terms of the services they offer and the populations they serve rather than how they are categorised by name. Many of the facilities provide local authority services alongside health care. Only a few include beds; most offer exclusively ambulatory services. But even here the range of ambulatory services can vary widely. What is clear is that the categories are not exclusive, so that the combination of health and social care may be found in community, intermediate and hospital settings.

Current concerns

The guiding principles for the design of new primary and social care facilities include:

- integration of health and social care;
- location of care closer to where people live and work;
- ease of access by public transport or on foot;
- contribution to healthy lifestyles and neighbourhoods;
- adherence to robust strategic planning at regional level;
- responsiveness to local needs;

- demonstration of robust and tested capacity planning;
- delivery of safe and effective services in appropriate environments;
- quality of patient, visitor and staff experience;
- investment in flexible facilities able to accommodate changes over time;
- resilient developments that respond to climate change.

Thorough strategic service planning is key to ensuring long-term investment in primary and community care, and needs to include not only local facilities but also acute and specialist services across a wider patch. The recent significant shifts in policy development, the understanding that models of care are likely to change over 5–10 years, the impact of technology on service delivery, and the need for a more sustainable response to climate change and transport assumptions, all mean that the planning and location of facilities must be robust.

Recent initiatives

The NHS Institute's initiative '**the Productive Community Hospital**' is building on existing best practice knowledge to improve the effectiveness, safety, reliability and productivity of care delivered by

community hospitals. According to the CHA, there are currently over 300 community hospitals, many of them financed originally by sponsorship and donations, which have become part of the NHS. Most are embedded in the local community and enjoy a great deal of local support. However, many need updating, not only physically but also in terms of service delivery. The Productive Community Hospital initiative is setting out to create a package of high-impact solutions and to test these in a number of settings as the basis for roll-out across the NHS. The project aims to provide an evidence base that will help community hospitals improve their services, reduce costs and maximise their use of space. The evidence base will also provide a mechanism for measuring these improvements.

The Health and Social Care Change Agent Team (CAT), in partnership with the CHA, is also developing a web-based tool to help integrate the planning of health and social care for community hospitals. It includes case studies, resources and checklists on six themes:

- involving people;
- taking stock of current services;
- preparing for change;
- options for development;
- making changes;
- evaluation and governance.

Building for the future

The future for the development of primary and social care facilities looks busy, with the push to develop more specialised community services, a far greater diversity of providers, and exploration of models of ownership and procurement. The vision is for more responsive services to be available much closer to home. The building infrastructure can play a part in supporting this drive – and help to create a quality setting for local care and personalised service.

Main conclusions

Each project is unique in both service delivery and physical form, suggesting that they have been planned to meet local needs.

Most schemes aimed to integrate a variety of health and social care services. In some cases this worked really well with innovative groupings of services such as libraries, housing advice and gym facilities alongside healthcare services. In other cases, service partners sometimes withdrew from projects, often at a late stage, leaving buildings under-utilised.

The potential to standardise room sizes and encourage the sharing of space has not been fully realised. Better briefing and improved capacity planning techniques are needed to ensure that space is used efficiently and that buildings are sufficiently flexible to respond to changing service needs.

Many buildings were easy to access on foot and by public transport. Some of the larger projects, however, were located on sites at the edge of town which are not so well served by trains and buses.

All of the projects recognised the potential of the physical environment to improve the experience of patients and staff. Buildings have been designed to make wayfinding intuitive and to make the most of individual site features such as slopes, views and daylight.

While some projects have incorporated sustainable design measures, it is clear that sustainability needs to be identified as an objective early on in the design brief.

Examining real examples

The selection of case studies represents a snapshot of good practice at a specific time. It is clear that policy is rapidly developing in this area but that planning and making buildings typically takes four to five years from inception to operation. The study focused on projects that are in use, some of which have anticipated the most recent policy initiatives and where the vision for modern services has been achieved in the design. Without exception, these projects relate to local needs and have been planned as part of the local health economy.

Selection criteria

The study was interested in identifying projects that are forward-looking in terms of service delivery. This was broadly interpreted as examples in which:

- healthcare services are located in primary and community settings that are close to where people live;
- services delivered by different agencies such as social care, health, and voluntary organisations are integrated in one place;
- the inclusion of wider community activities has been encouraged;
- service delivery demonstrates efficient and safe practices;
- the physical environment is well designed for patients, visitors and staff.

The study recognised that it was unlikely that every case study would meet all these criteria. The aim was to ensure that examples of each criterion could be found from within the range of sites selected. Most importantly, the selected case studies needed to provide useful lessons to inform the guidance.

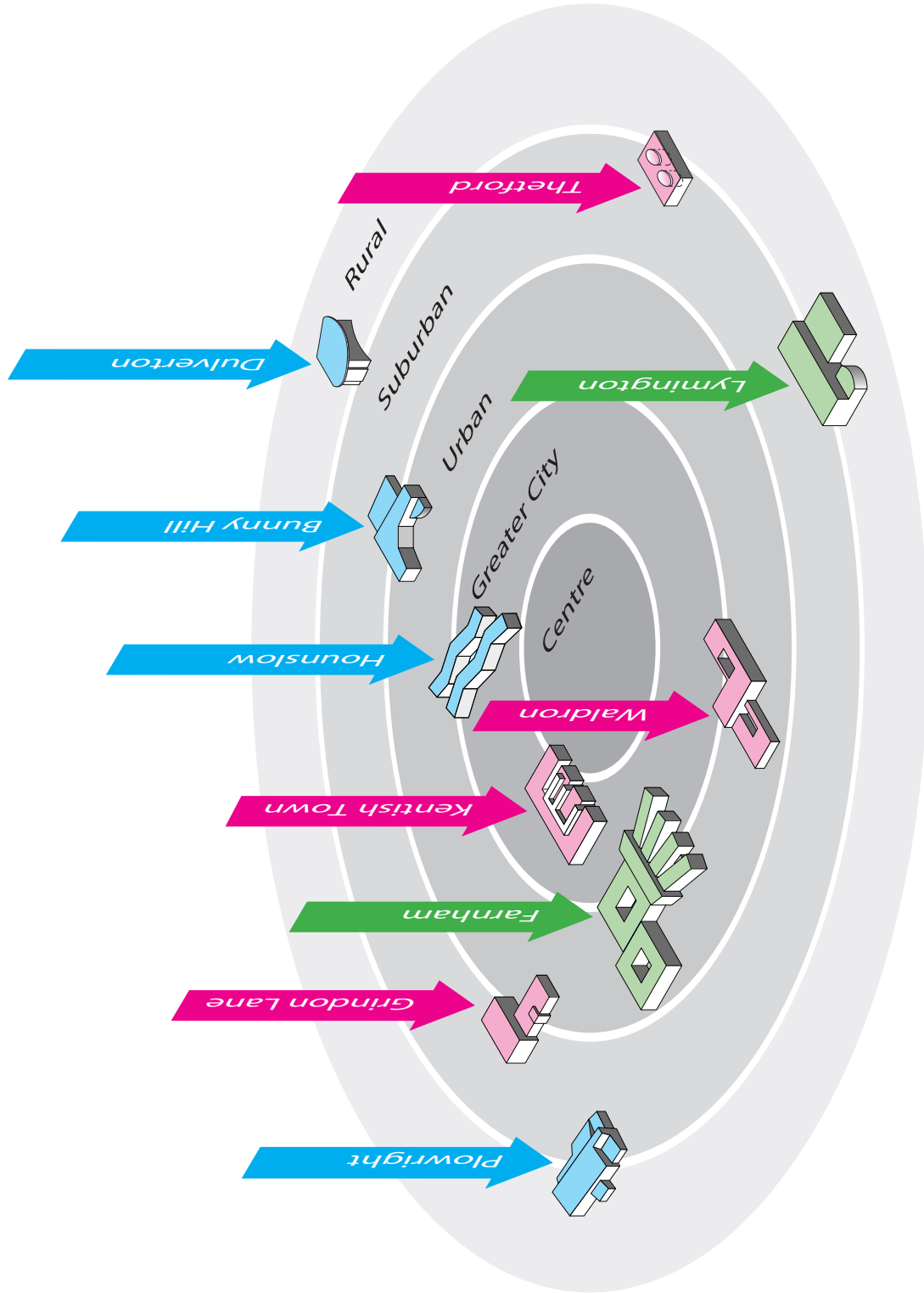
The key selection criteria can be summarised as:

- **Care model:** the study should recognise the Department of Health's definition of community hospitals (intermediate care, multi-use clinic, health and social care, community hospital) but would not be required to identify an exemplar for each specific category.
- **Service improvement:** two of the pilot projects identified by the NHS Institute's 'Productive Community Hospital' programme should be included.
- **Geographical spread:** a variety of city, town and rural locations across England.
- **Architect/design teams:** a range of health experts and generalists.
- **Procurement:** a variety of funding sources, for example LIFT, ProCure21, PFI.
- **Practicalities:** what would be do-able in terms of site visits, information available etc.

From a long-list of 50 projects, 12 were chosen to visit, from which ten have been developed as case studies. These are (in alphabetical order):

- 1 Dulverton Surgery, Somerset
- 2 Farnham Hospital and Centre for Health, Surrey
- 3 Heart of Hounslow, London
- 4 Kentish Town Health Centre, London
- 5 Lymington New Forest Hospital, Hampshire
- 6 Plowright Medical Centre, Norfolk
- 7/8 Sunderland: Bunny Hill Customer Service Centre and Grindon Lane Primary Care Centre
- 9 Thetford Community Healthy Living Centre, Norfolk
- 10 The Waldron Health Centre, London

See [page 139](#) for a summary table that lists the ten sites against the selection criteria.



Findings

The study has drawn on the experience of identifying and visiting a number of primary and social care facilities that cover a range of models of care and attendant building types.

Three themes emerged during the investigation:

1. the key features of **service delivery** and their impact on the building type;
2. the opportunity each project took to develop a **sense of place** in their design;
3. the extent to which **flexible and sustainable design** was sought or achieved.

1 Service delivery

Defining the service model

The case studies illustrate a wide range of service models for primary and social care facilities, making it impossible to derive a single description that will fit all. It is even difficult to locate each of these into the four categories set out in ‘Our health, our care, our community’ (Department of Health, 2006), that is, multi-use clinic, integrated health and social care centre, intermediate care centre and remodelled hospital. The study sample showed that these four models are not mutually exclusive: many of the schemes visited provide health and local authority services, but are also multi-use clinics or intermediate care centres. Each facility has been modelled to suit local needs and to complement services being provided in other local acute, primary and community settings.

The projects ranged from predominantly medical models to social models with an emphasis on “well-being”.

Medical models tend to focus on clinical activities and have diagnostic services, therapy services and overnight care. Social models generally include a mix of primary and community health with social care and other local authority services, for example advice on housing provided in the daytime and early evening. However, the distinction between the two models is blurred: most projects have a mix of acute, community and primary health, social care, local authority services and advice, and services provided by voluntary groups. Some have specialised services for a wider catchment (even national)

population. Many include mental as well as physical health; most cover services for a wide age range including children and older people.

Some have been revamped from former district general hospitals (DGHs), where rationalisation of services across a health economy has led to the establishment of a “hub and spoke” model for service delivery. These examples are invariably the “spokes” providing more local services but fewer “hot” services (for example minor injuries services rather than A&E), and with rehabilitation/intermediate care rather than acute beds.

Table 1 Service models

	Service model
Bunny Hill	Social model Integrating primary + social <i>Health and well-being</i>
Dulverton	Social model Integrating primary + social <i>Health and well-being</i>
Farnham	Medical model Hospital beds, former DGH <i>Community hospital</i>
Grindon	Medical model Including diagnostics and treatment <i>Healthcare express</i>
Hounslow	Social model Integrating primary + social <i>Health and well-being</i>
Kentish Town	Medical model Including diagnostics and treatment <i>Healthcare express</i>
Lymington	Medical model Hospital beds, former community hospital <i>Community hospital</i>
Plowright	Social model Primary care <i>Health and well-being</i>
Thetford	Medical model Including diagnostics and treatment <i>Healthcare express</i>
Waldron	Medical model Including diagnostics and treatment <i>Healthcare express</i>

The groups of services can perhaps best be captured in three models on a spectrum from social to medical model:

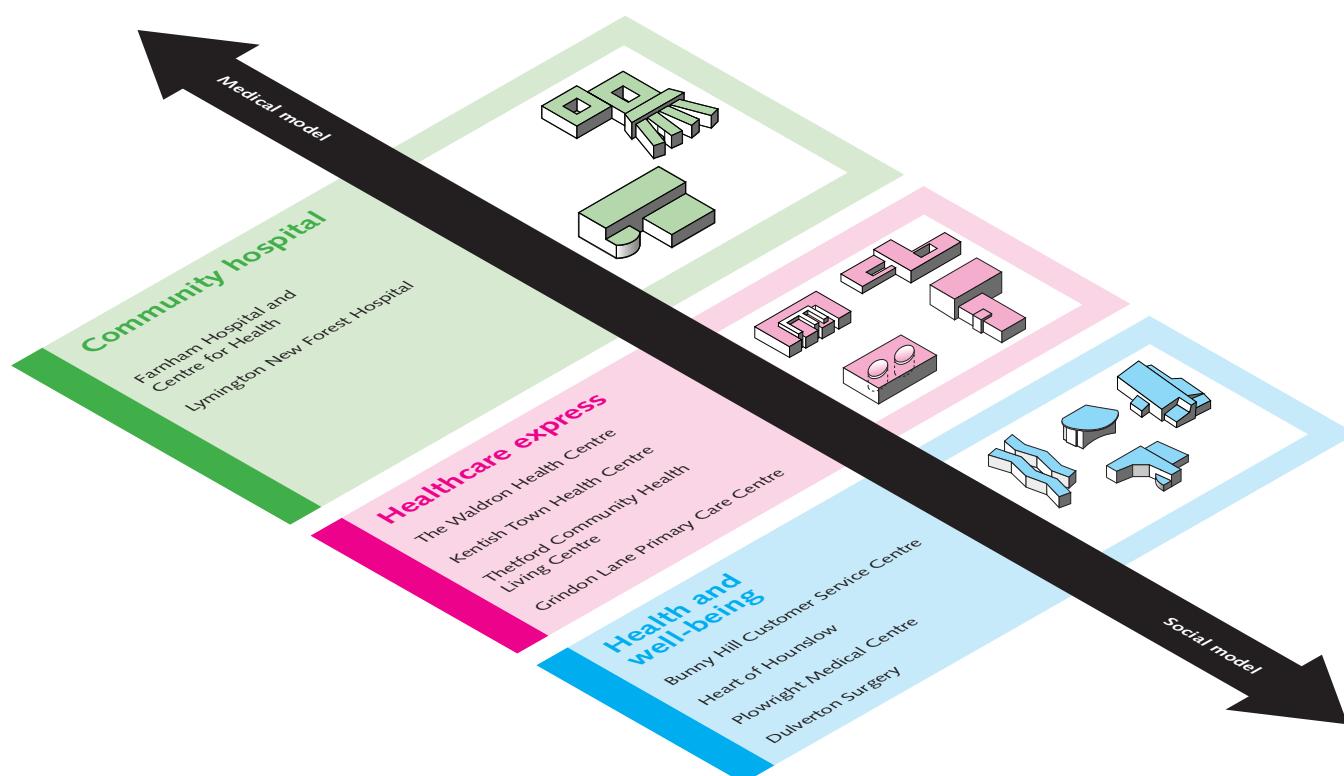
- **Health and well-being** representing the social model delivering primary and community services integrated with social care and other local authority services;
- **Healthcare express** representing a medical model largely consisting of community services with diagnostic and treatment services, where some also include primary care/GP services. These may include, for example, digital imaging and phlebotomy;
- **Community hospital** representing a medical model largely consisting of a range of local services including beds, diagnostics and clinics.

These three service models translate into three building types: most projects that focus on **health and well-being** are located in neighbourhood buildings in community settings. Some have been developed as part of wider regeneration schemes. All these include a range of local authority services, commonly social care and advice on jobs and housing. Other services include library, gym, and nursery. Examples in the case study section of this document are the Heart of Hounslow LIFT project and the Bunny Hill Customer Service Centre.

Projects that focus on diagnostic services are referred to here as **healthcare express**. These focus more on health than social care or regeneration and may serve a wider catchment population than the immediate neighbourhood. They usually include services that were relocated from acute hospital sites to a community setting, typically digital imaging, out-patient services and therapies. Thetford Healthy Living Centre and Grindon Lane Primary Centre fit into this category.

A number of projects provide services traditionally associated with **community hospitals**. These buildings tend to be more substantial in size, often accommodating in-patients. They often provide a local base for services and were part of a strategic reorganisation of acute services for the wider catchment. This category includes Farnham Hospital and Centre for Health, and Lymington New Forest Hospital.

The extent to which services have been relocated from acute hospitals (beds, diagnostics, out-patient clinics) varies and sometimes has even changed dramatically during the development of the project. This suggests that service visions and briefs are being adjusted to respond to the rapid changes in policy direction. Robust strategic planning would help to bring greater certainty to these projects, many of which are trying very hard to deliver



Spectrum of care models



The Waldron Health Centre

more local services in appropriate settings. Some facilities are not being used to full capacity at first, often with organisations pulling out during the construction period. The need for clearer commitment from all parties would help to alleviate this uncertainty, with the potential to improve the take-up and utilisation of space.

2 A sense of place

It is commonly accepted that a significant ingredient of design quality is to do with how the place feels through the creation of a distinct identity, attention to the siting of the building, and what it feels like inside.

The link between quality of design and patient health outcomes is well researched, as is the potential for the design of buildings to support effective ways of working. People are also starting to recognise that healthcare facilities can enhance the immediate neighbourhood by creating lively and interesting public spaces. Ease of access is important for all users, and the location of the building is crucial. Buildings can be orientated to take best advantage of daylight and views, which directly affect how people feel. The form and shape of the building can be designed to make the most of a site's features, such as changes in level and shelter from the wind. The clarity of the organisation of the spaces can also aid wayfinding, making it easier for people to find their way to and around the building.

Location

Some of the facilities have been rebuilt on existing healthcare sites of former hospitals or health centres: these locations are already well known to local people. Other facilities are located on new sites, and two were notably on new business parks on the edge of rural towns. The latter tend to be less well served by public

transport and more heavily reliant on cars. The facilities in the community were sited on recognisable, busy sites near to shopping centres and served by reasonable public transport.

Table 2 Location

	Location
Bunny Hill	Health and social centre in suburban residential neighborhood
Dulverton	New site on outskirts of village
Farnham	Existing local hospital site near town centre
Grindon	Suburban site next to a school
Hounslow	Health centre in the community
Kentish Town	Residential setting in city
Lymington	Business park on edge of town
Plowright	Eco-park on edge of town
Thetford	Business park on edge of town
Waldron	Health building in the high street

Typology

Several of the buildings are provided in compact (space-efficient) deep plans relying on courtyards or roof lights for natural light and ventilation. Finding clear routes and understanding how to navigate a building are crucial to minimising anxiety for patients and visitors. This is obviously easier to achieve in smaller buildings where the corridors are shorter and destinations are more obvious.

For the larger buildings, courtyards and atria help to create a sense of place, provided these features are of sufficient size to bring good daylight and views into the



Grindon Lane

building. This has been achieved at Lymington where the main entrance and waiting space for the day clinics help to shorten the corridor route and give positive clues about one's position in the building. At Thetford the courtyards also help with orientation.

Several of the buildings are designed around a linear plan, often using the atria as a spine to organise the circulation. This enables clusters of activities to be arranged on one side or the other, for example at Farnham; or to make connections across bridges, as in Hounslow.

Some of the projects are designed as L-shaped plans to fit onto corner sites. These commonly have double-loaded corridors (rooms on both sides of the corridor) bringing limited daylight into the corridors themselves. In some schemes this has been remedied by using roof lights.

At Bunny Hill, the slope of the site has been used to organise the health and local authority activities: each being placed with level access but on separate floors of the building. Whilst this separation helps visitors to know where to enter, the staircase connecting them is not particularly prominent, which would have given a greater sense of integration between the authorities.

Most schemes have plans that bring activities together in efficient clusters, minimising walking distances for staff and patients. Generally, patient spaces are organised close to the entrance, and staff areas are located above the ground floor in suites that are separate from public areas.

Table 3 Building typology

	Typology
Bunny Hill	L-shaped plan with atrium
Dulverton	Leaf-shaped plan with atrium
Farnham	Linear street with fingers and interlocking squares
Grindon	L-shaped plan with double-loaded corridors
Hounslow	Articulated linear plan with atrium
Kentish Town	Rectangular blocks joined by atrium
Lymington	Rectangular plan with atria/courtyards
Plowright	Rectangular plan with atrium
Thetford	Rectangular plan with courtyards
Waldron	Two wings wrapped round courtyards and joined by atrium

Masterplanning

Some of the buildings reviewed were part of larger development schemes. Hounslow, for example, included housing that was being developed separately from the health building.



Bunny Hill

Where the buildings are in prominent locations, for example on the high street, greater consideration seems to have been given to how they relate to neighbouring buildings and spaces. Priority is given to pedestrians, and car parking is arranged to be convenient but not dominating. The sites on business parks, in contrast, are not well served by public transport, inevitably involving the need for plenty of parking spaces, which are commonly sited in front of the buildings.

Healthy neighbourhoods

Many of these buildings have recently opened and there has not been the time to establish mature landscaping. Where there has been consideration of public spaces for active physical activity, it has not been made explicit. For most of these projects, the budgets were tight, with little to spend on external landscaping.

The links between fitness and environment have been more clearly expressed in the provision of facilities, for example the gym at Bunny Hill. This does suggest that further work is needed to link health promotion to the delivery of health services, even at the local level.

Design quality

The selected schemes generally recognise the impact the environment has on well-being for staff as well as patients and have sought to create spaces that benefit from natural light and views.

Most of the buildings have generous and welcoming public spaces usually staffed by informed advisers sitting at a reception desk close to the entrance. Some incorporate artwork, which gives relief and interest as well as enhancing the overall quality of the place.

However, design quality has not been consistently high across the board: only a few schemes have been ambitious enough to achieve high standards. This appears to be

where the design ethos of the clients has embedded quality of design from the start and managed to sustain this throughout the development process. In other cases, quality has been hampered by inexperienced clients, low aspirations, tight budgets, and processes that inhibit the development of dialogue to reinforce the value of the contribution that a good environment can make.

3 Flexible and sustainable design

The importance of making flexible buildings that can adapt to change is self-evident: it is widely understood that models of care are likely to change every 5–10 years and buildings, at least in their basic structure and layout, are expected to last on average for 60 years. This point is all the more relevant in a context in which policy change is rapid: the greater emphasis on locating care close to home; changes in medical interventions, particularly pharmaceutical developments that affect how care is delivered; the introduction of new technologies that affect information handling, access and communication as well as medical interventions; and system reforms that affect provision and processes in the delivery of care and buildings.

However, the tendency has been to design tailor-made solutions for existing services, so achieving improvements to the appearance of the physical environment without necessarily taking on board the more strategic planning of local services. It is, of course, often far more difficult to imagine what future services will be like, let alone specifying the spaces they will require.

Some of the projects did address this issue, and have included services that were previously provided by the local hospital or other health and local authority facilities. Not all of these services are fully operational, leaving capacity for new service development. The tendency to simply bring different organisations side by side under one roof has generated discrete suites of rooms for different users that are not necessarily utilised to the full. Greater sharing of spaces by different organisations could lead to more effective space allocation and needs to be considered at the briefing stage. In some cases, organisations that committed to the scheme early in the development later opted out, leaving space underutilised. Other services have sometimes had to be found at a late stage. Firmer contractual arrangements would perhaps help to avoid such late changes.

Some of the buildings would have benefited from a manageable range of standard room sizes, which could accommodate different activities over time. This concept works well in Grindon Lane where one basic room layout is repeated for all therapy and treatment activities.

Equipment and supplies for different clinics are provided on mobile trolleys, which are stored in separate rooms between sessions. This flexible approach enables the building to be managed in a variety of ways.

Many of the buildings have open-plan offices but do not always have the necessary support rooms for quiet work, meetings etc. In the most successful arrangements, a committed manager was key to promoting the required changes in working habits and to making the best use of the space and opportunities for integrated teamwork.

On the whole, staff facilities were greatly improved, with recreation rooms, beverage facilities and outside space.

Some projects set out to make sustainable designs that were energy-conscious and used material specified from “green sources”. This is a topic that is beginning to gain greater interest and is likely to be further explored in future projects. None of the projects had made rigorous formal evaluation of their sustainable credentials, other than the required BREEAM¹ Healthcare assessments, but some professed to have considered the issue.

Natural ventilation has been difficult to achieve, due to high temperature fluctuations in summer. Where additional cooling has been needed, many schemes have tried to make a combined system work. In some cases this relies on users understanding how the system works and, for example, making an effort to open windows early on predictably hot days to avoid a build-up of heat. The need for users to take an active part in managing passive solar cooling is self-evident.



Heart of Hounslow

1 BREEAM Healthcare (Building Research Establishment’s Environmental Assessment Method for Healthcare) replaced NEAT (NHS Environmental Assessment Tool) as of 1 July 2008. The Department of Health now requires, as part of the Outline Business Case approval, that all new builds achieve an Excellent rating and all refurbishments achieve a Very Good rating under BREEAM Healthcare. Additionally, all projects need to achieve the Tra 5 Travel Plan credit.

The case studies



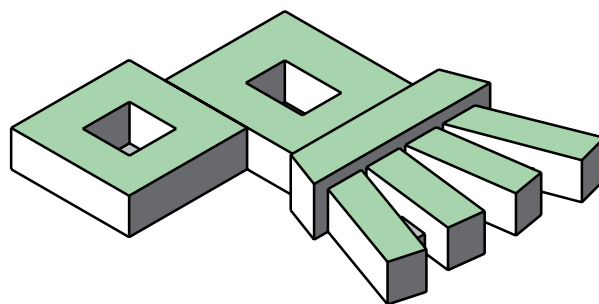
Farnham Hospital and Centre for Health

Community Hospital



Introduction

Farnham Hospital and Centre for Health expands on former intermediate care and out-patient services to provide a wider range of primary and community services including GPs. Situated on the edge of Farnham town centre, it is easily accessible on foot and by public transport. The building includes new ward accommodation with single-bed rooms throughout.



The typology is a linear street with fingers and interlocking squares



Project summary

- **Project type and location** New build, near town centre
- **Gross internal floor area** 12,873 m²
- **No of beds** 84
- **Activities in the building**
 - 3 GP practices
 - Community nursing and health visitors' base
 - Diagnostics
 - Specialist out-patient clinics including children's out-patients and assessment
 - Intermediate care day assessment and treatment for older people
 - Therapies including physiotherapy
 - Dental care
 - Beds: Intermediate care and rehabilitation including stroke and psychiatry of old age
 - Community mental health
 - Satellite renal dialysis unit
 - Adult and Community Services locality office, Registrar of Births Marriages and Deaths
- **Procurement type** PFI
- **Construction period** 2001–2003



Description

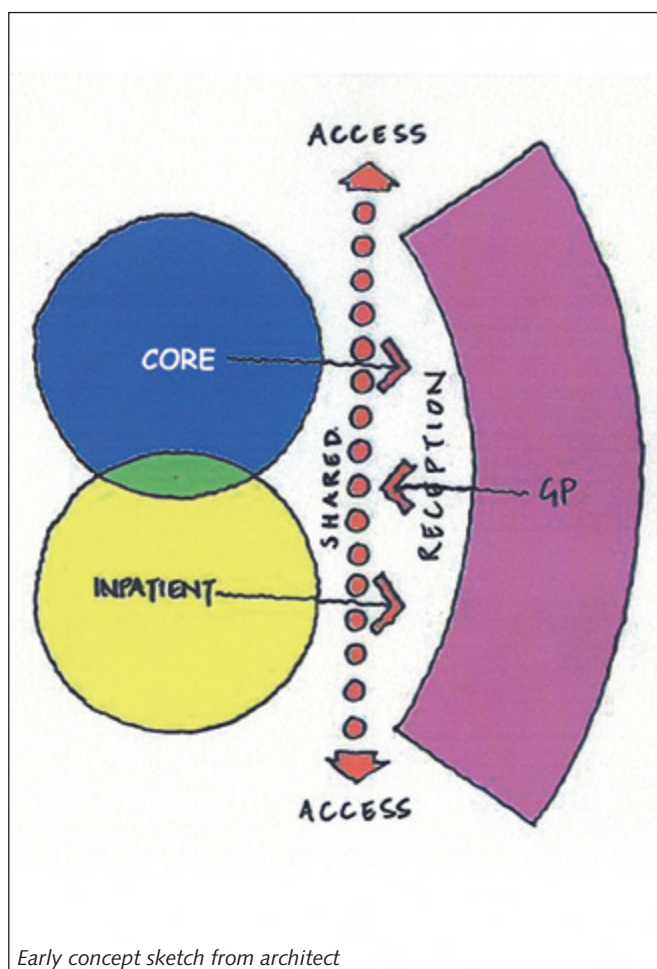
The original intermediate care and out-patient service has been extended to include GP services, social care, a satellite renal dialysis unit, day and in-patient services. Services are delivered by a range of providers including Surrey PCT, Surrey County Council social care providers and Fresenius Medical Care Renal Services for the renal unit.

The hospital is split into two main elements on either side of a double-height atrium 'spine': four fingers house GP services and the renal dialysis unit on the east side; other services are located in two interlocking squares across the atrium, arranged around planted courtyards.

The entrance to the main atrium is at the foot of shallow steps leading directly from the pavement. Such ease of

access was a positive deciding factor for some of the GPs, who were keen to find a location that their patients could easily reach from the town centre. Car parking is located at the back and side of the building and does not obstruct the entrance.

A series of public consultations took place during the design process. Farnham Action Group, a volunteer organisation, was involved initially in trying to preserve the original hospital and then eventually became a close reference group. It was particularly important, given that the demographic profile includes many older people, that the decision about the easily accessible location of this facility received strong community backing. Local groups are now involved in fundraising initiatives for equipment.



Building design

The main reception is immediately obvious whether one enters from the street or car park. The waiting space is shared with the hospital café adding an air of conviviality. An attractive fish sculpture hangs above the reception desk. Galleyed walkways overhead provide circulation for staff between services.

The GP practices each have a separate reception and discrete consulting suites and it remains to be seen whether these organisational and cultural distinctions over territory will change over time. As well as duplicating facilities, this also means that services do not appear as integrated to the patient as they perhaps could be. The dedicated circulation for this wing, parallel to the atrium, further reinforces this sense of separation, particularly as it seems to be somewhat underused.

A staff 'café' on the floor above this space offers a sculptural quality with a short wall offering different vistas across the atrium through 'windows' punched at intervals. At the time of writing, users noted that it might be better used if it were appointed with more power sockets to support mobile working.

The primary circulation and waiting areas are welcoming with light and views to the outside. Unfortunately, from the secondary circulation there are only occasional glimpses into the well-maintained courtyard gardens.

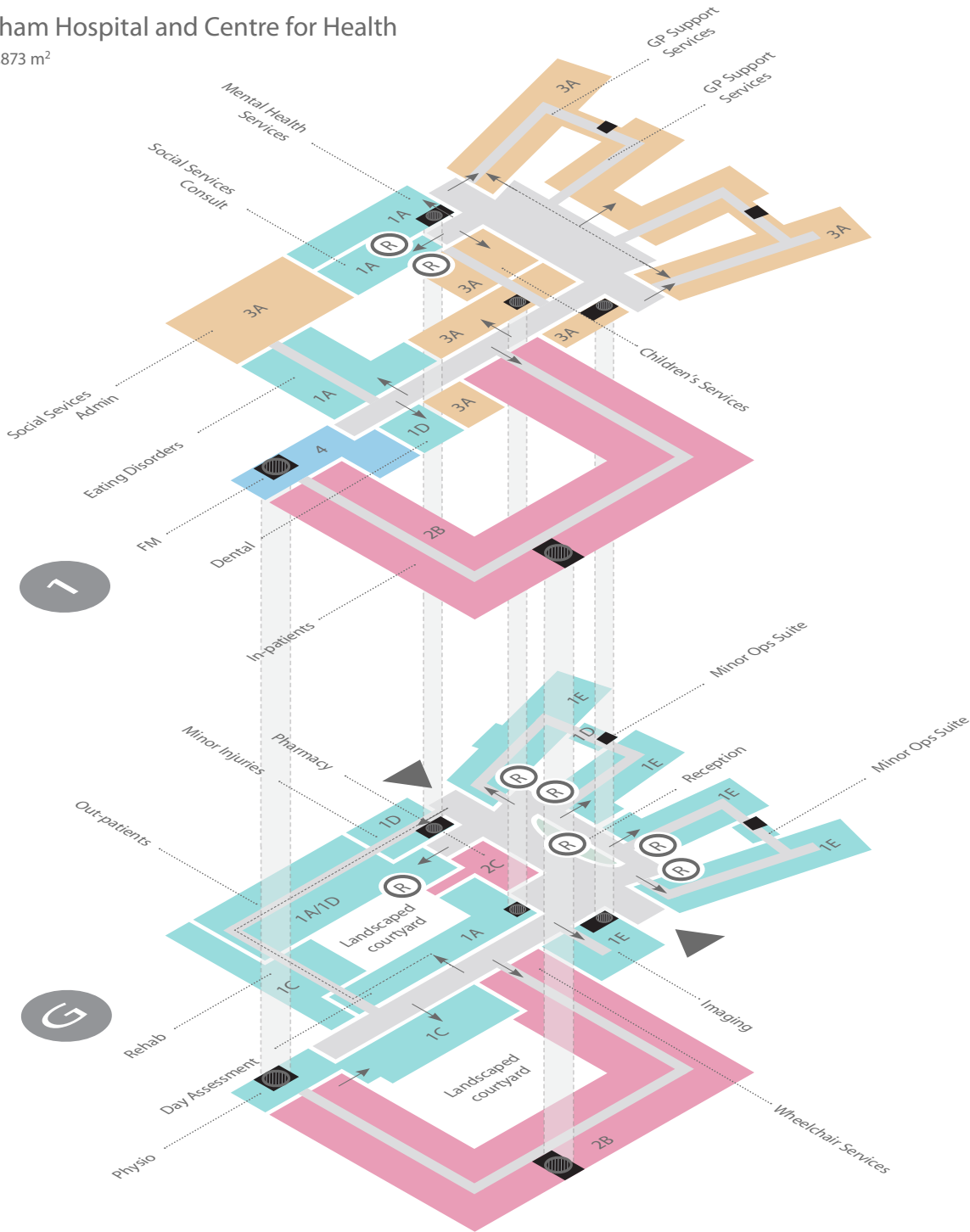
Most patients who attend diagnostic services are accompanied, and the waiting space might be best used by managing the appointment schedules in another way or by increasing the physical space.

This is one of the first community facilities to include single-bed rooms throughout the wards, which obviously enhances patient privacy. Whether the detailed design for these is optimal will show over time. Particular consideration will need to be given to wheelchair access.

Where views are offered, they are pleasant and it is clear some care has been taken with the placing of windows. Some of the rooms on in-patient wards enjoy views over nearby countryside and woodland.

Farnham Hospital and Centre for Health

GIA 12,873 m²



1 Primary and social care space

- A Counselling and group activity
- B C/E
- C Physical Therapy
- D Diagnostic Imaging
- E Treatment

2 Optional clinical space

- A Medical day unit
- B Day surgery unit

3 Optional in-patient space

- A Assessment ward

4 Staff/operational space

- A Office/admin
- B Staff common room
- C Meeting
- D Building operations

Vertical circulation

Horizontal circulation

(R) Reception

(L) Lifts



Evaluation

Farnham now provides a much wider range of services in an environment that is both accessible and modern. On the whole, the building is welcoming and workable. It could be more generous in parts but, equally, more efficient in others. It accommodates a wide range of providers and many of the treatment rooms are bespoke. They vary significantly in size and configuration making standardisation impossible and limiting long-term flexibility. The strong civic presence on the street, the social nature of the atrium, and the well thought-out therapeutic gardens in the courtyards, however, are positive contributions to the project.

Project Team

- Design Team HLM architects
- Lead client Surrey Primary Care Trust
- Key stakeholders Surrey Primary Care Trust
- Contractor Gleeson

Lymington New Forest Hospital

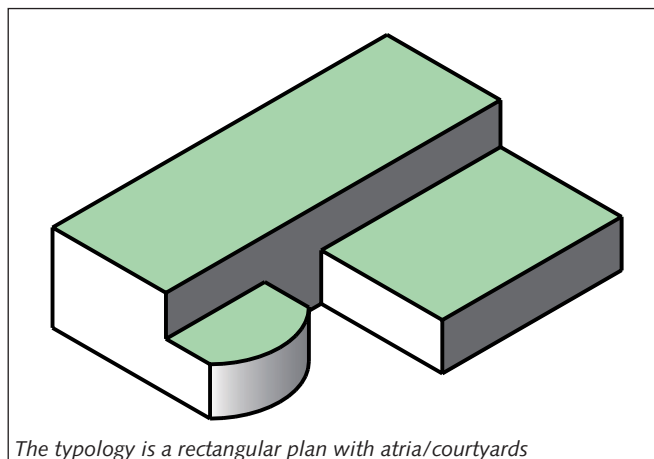
Community Hospital



Introduction

Lymington New Forest Hospital provides a range of hospital services under one roof with proposed management by an external provider on behalf of the NHS.

This new PFI purpose-built hospital, serving the New Forest population, is located on a business park. The building is organised around a linear street with two public spaces that help to give a sense of scale and place.

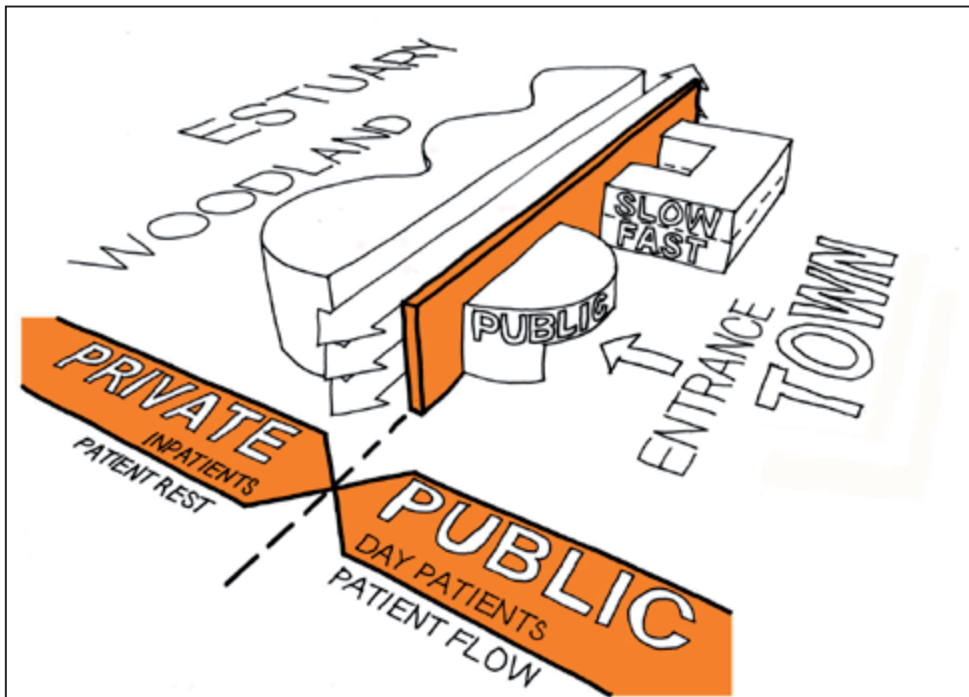


The typology is a rectangular plan with atria/courtyards



Project summary

- **Project type and location** New build, rural
- **Gross internal floor area** 11,839 m²
- **Number of beds** 104
- **Activities in the building**
 - Treatment centre
 - Day surgery
 - Endoscopy
 - Imaging
 - Beds
 - Rehabilitation
 - Therapy
- **Procurement type** PFI
- **Construction period** Opened 2006



Description

The new hospital replaces an old cottage hospital and brings together a wide range of services. It plays a key role in realising the local strategy to move services into the community: it is envisaged that the new hospital will help to bridge the gap between the existing acute and primary care providers.

As well as commissioning a new building to replace several outdated facilities, the trust was also interested in introducing new ways of working and developing

integrated care pathways to provide efficient and quality care. They hoped that the new physical and cultural environment would improve the recruitment and retention of key clinical and support staff.

Services are clustered by activity and include a minor injuries unit, rehabilitation and therapies suite, specialist treatment cluster, minor procedures and day surgery as well as bedrooms for in-patients.

Building design

The building has been designed to enhance the patient experience and streamline patient flows. It is a two-storey building arranged along a linear route or street. This creates an environment that is easy to navigate. This is further helped by the way the design has taken advantage of every opportunity to introduce daylight and views into the corridors, giving a sense of connection to the external environment.

The ground floor houses most of the services that are accessed daily, keeping the large throughputs of patients in the most accessible spaces. Bedrooms arranged in single and four-bed bays are located on the first floor with views over the nature reserve behind the hospital. Whilst these are not generous in terms of space, the arrangement of a linear string of clusters does afford flexibility of use over time and between care groups.

The main entrance is a bright and welcoming space with a reception and information point. A small interview room is provided for private and personal enquiries and a café creates an informal and lively place where people can wait, gather and chat before and after their appointments.

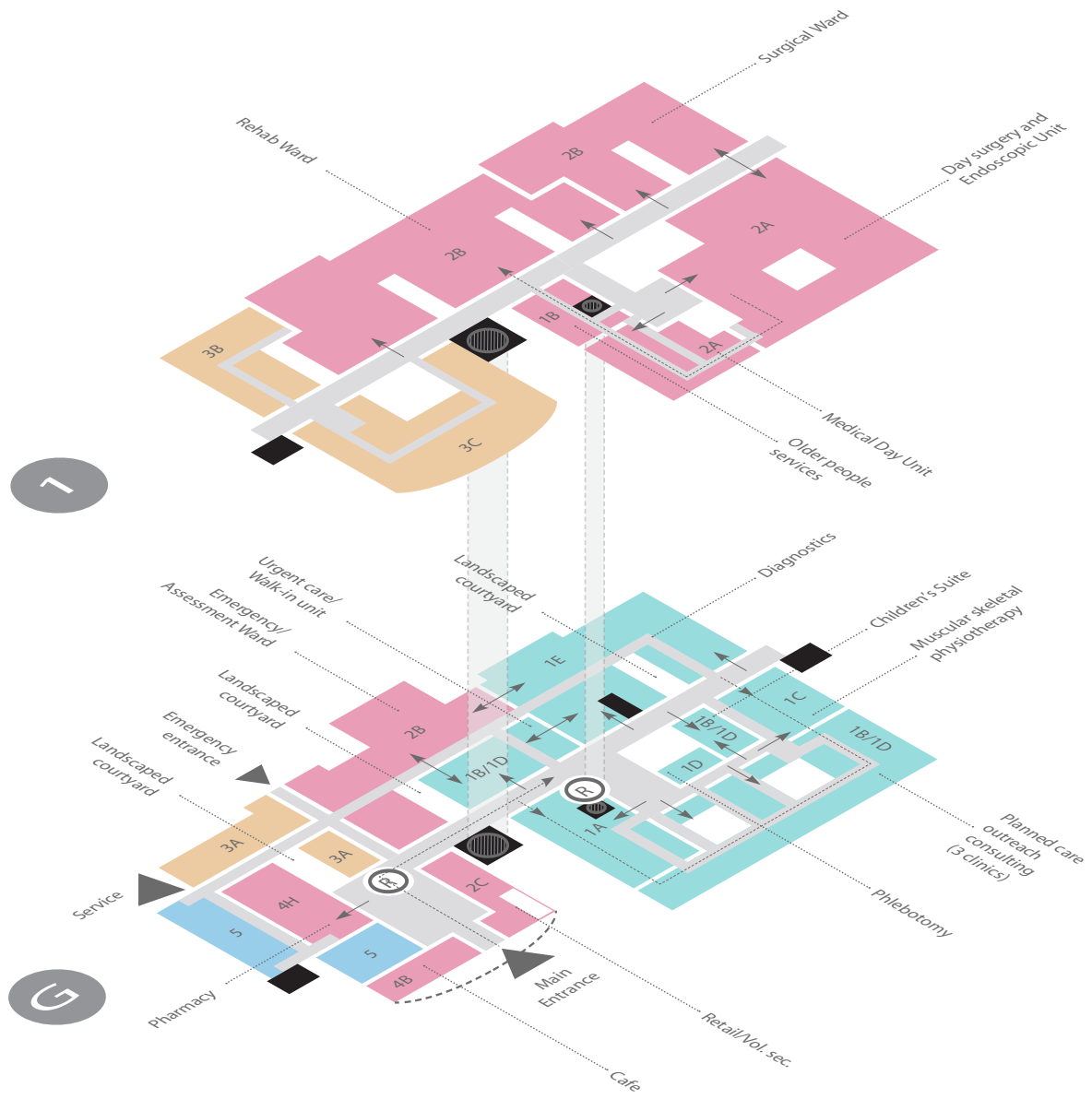
The main waiting foyer for the clinical and treatment areas is a double-height hall that provides another landmark in the circulation, making it easy to understand where one is in the building at both levels. Clinical receptions and nurse bases overlook the waiting foyer, although the furniture arrangement has become more rigid and less informal compared with the design proposals.

The standardisation of rooms and clusters of activities demonstrates how the physical design has responded to the brief to encourage new ways of working both now and in the future.



Lymington New Forest Hospital

GIA 11,839 m²



1 Primary and social care space

- A Counselling and group activity
- B C/E
- C Physical Therapy
- D Diagnostic Imaging
- E Treatment

2 Optional clinical space

- A Medical day unit
- B Day surgery unit

3 Optional in-patient space

- A Assessment ward
- B Rehab ward
- C General ward

4 Optional non-clinical space

- A Library
- B Community café and meeting
- C Housing office
- D LA nursery
- E Gym
- F Community IT facilities
- G Children's services
- H Pharmacy

5 Staff/operational space

- A Office/admin
- B Staff common room
- C Meeting
- D Building operations

Vertical circulation

Horizontal circulation

- (R) Reception
- (L) Lifts



Evaluation

Lymington New Forest Hospital provides a range of hospital services in a community setting. The arrangement of the plan affords a clear diagram that is legible and makes two social places en route, at the entrance and in the main waiting foyer for day clinics and treatment.

The building makes best use of its context with views over mature landscaping and planting to help settle the new building into its immediate surroundings. There is no doubt that the location is not as accessible as a site in town but the generous and attractive parking helps to mitigate this.

Project Team

- Design Team Murphy Philipps Architects
- Lead client New Forest Primary Care Trust
- Key stakeholders New Forest Primary Care Trust
- Contractor Ryhurst

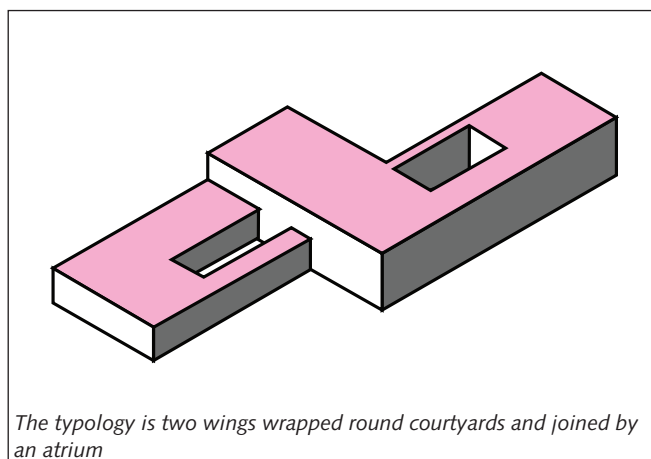
The Waldron Health Centre

Healthcare Express



Introduction

The Waldron Health Centre provides joined-up and patient-focused primary healthcare, and is one of the largest facilities of its kind in the UK. It is intended as a civic focus for the local community in this relatively deprived part of south London, and its presence on a main road and alongside New Cross train station makes it something of a local landmark. The building won the 2008 Building Better Healthcare Awards in the Best Primary Care Design category.



The typology is two wings wrapped round courtyards and joined by an atrium



Project summary

- **Project type and location** New build, urban
- **Gross internal floor area** 6000 m²
- **Activities in the building**
 - 4 GP practices
 - Health visitors
 - School nursing
 - District nurses
 - Reproductive and sexual health services
 - Chiropody
 - Speech and language therapy
 - Physiotherapy
 - Community dentistry
 - Community midwifery
- **Procurement type** LIFT
- **Construction period** 2006–2008



Description

Commissioned by Lambeth, Southwark and Lewisham LIFT, the centre brings together four GP practices, Guy's and St Thomas' ante-/post-natal care, King's Dental Health Trust community dentistry, sexual health services, a suite for community use, and a range of other services. The centre is a light, airy and easily navigable building. The consulting rooms, which are designed to be flexible and adaptable to different types of service in future, wrap over three floors around two landscaped courtyards.

The needs of the local population play a strong part in the ethos of the building: a community café greets the visitor on arrival, and bookable flexible-use suites on

the ground floor give local and community groups the opportunity to meet. In addition, part of the building encloses some long-established allotments, providing shelter from the elements for this important community activity. Staff members are also well catered for, with generous office space and a number of open terraces which allow for an attractive working environment and views across the capital.

The client's objective was to change people's perception of healthcare facilities. The architects sought to offset its "civic" scale with the warmth and richness of a lacquered timber façade.

Building design

The plan, which can be described as ‘Z-shaped’, is made up of two rectangular wings planned around courtyard gardens and each with two clinical clusters. The two wings meet at a triple-height central atrium, which is also the main entrance area. The atrium opens onto the new external civic square in front of the centre. The square sits opposite the train station and is framed by the entrance to the health centre, a café, optician and pharmacy. Undercroft parking takes up one of the ground floor wings nearest the main road, helpfully shielding some of the clinical space from the public.

The dark wooden lacquered façade of the centre provides an attractive welcome to visitors approaching the building. From this point the design seeks to simplify the patient journey into five steps. From the new civic square outside the building, the visitor moves through the central hall with its main reception and community café facility. The main wall finish here is a paler timber wall panelling, which reflects the light streaming down from windows placed two floors up. The eye is drawn upward past the balustrades of the open galley-ways overlooking the atrium on each floor, and up a generous timber-clad staircase. On the upper floors patients access the different clinical suites along door-free corridors, where floor-to-ceiling windows flood the spaces with natural daylight and the deep-set glazing creates the effect of “cloisters”. Each clinical suite has its own reception and waiting, with a series of more private and confidential clinical rooms beyond. The clinical rooms are planned to allow adjacent suites to share clinical spaces. This overall plan was generated both from consultation on the desired patient experience, and from the phasing requirements, where one block was developed after the other.

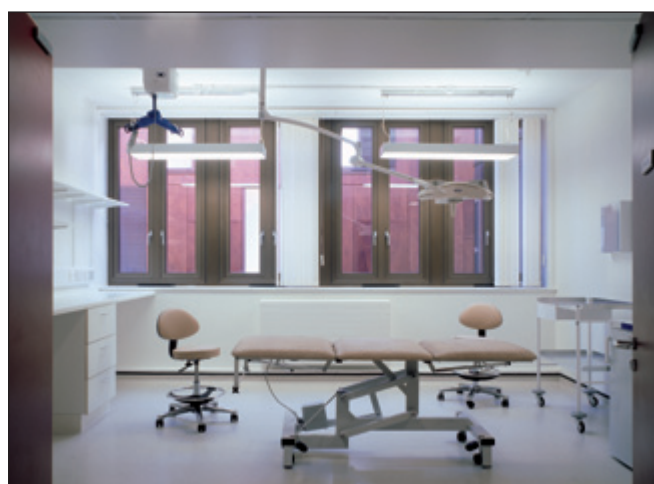
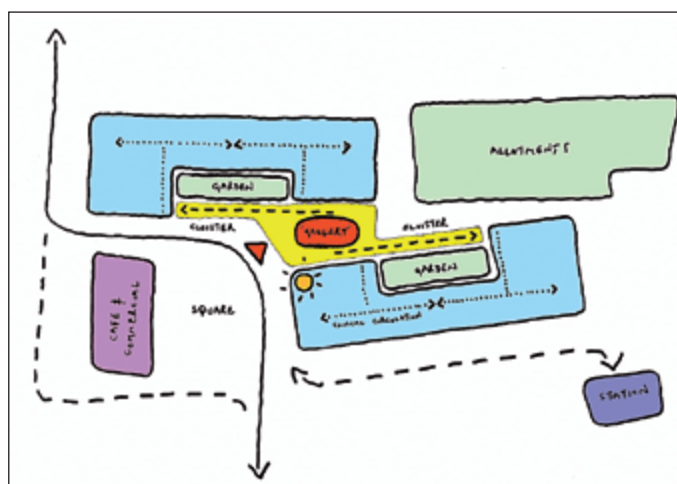
Clinical rooms are generally 10% larger than NHS minimum standards, aiding day-to-day functionality and

improving interchangeability of use, making the building more flexible and adaptable to future needs. The building is planned on a 1.2 m module – rooms, windows and cladding are set out to the same module.

As far as possible the ceilings throughout the building are exposed structural soffits rather than finished with ceiling tiles. This was an important part of the requirement to create a non-institutional and therefore more calming experience of the healthcare environment, whilst also improving the thermal mass of the building. Floor finishes are generally rubber within clinical spaces and carpet in admin spaces. Windows are strategically placed to maximise daylight, and the views offered – whether onto the landscaped gardens or the surrounding neighbourhood – are intended to bring in more daylight, aid navigation and lift the spirits as people move about the centre.

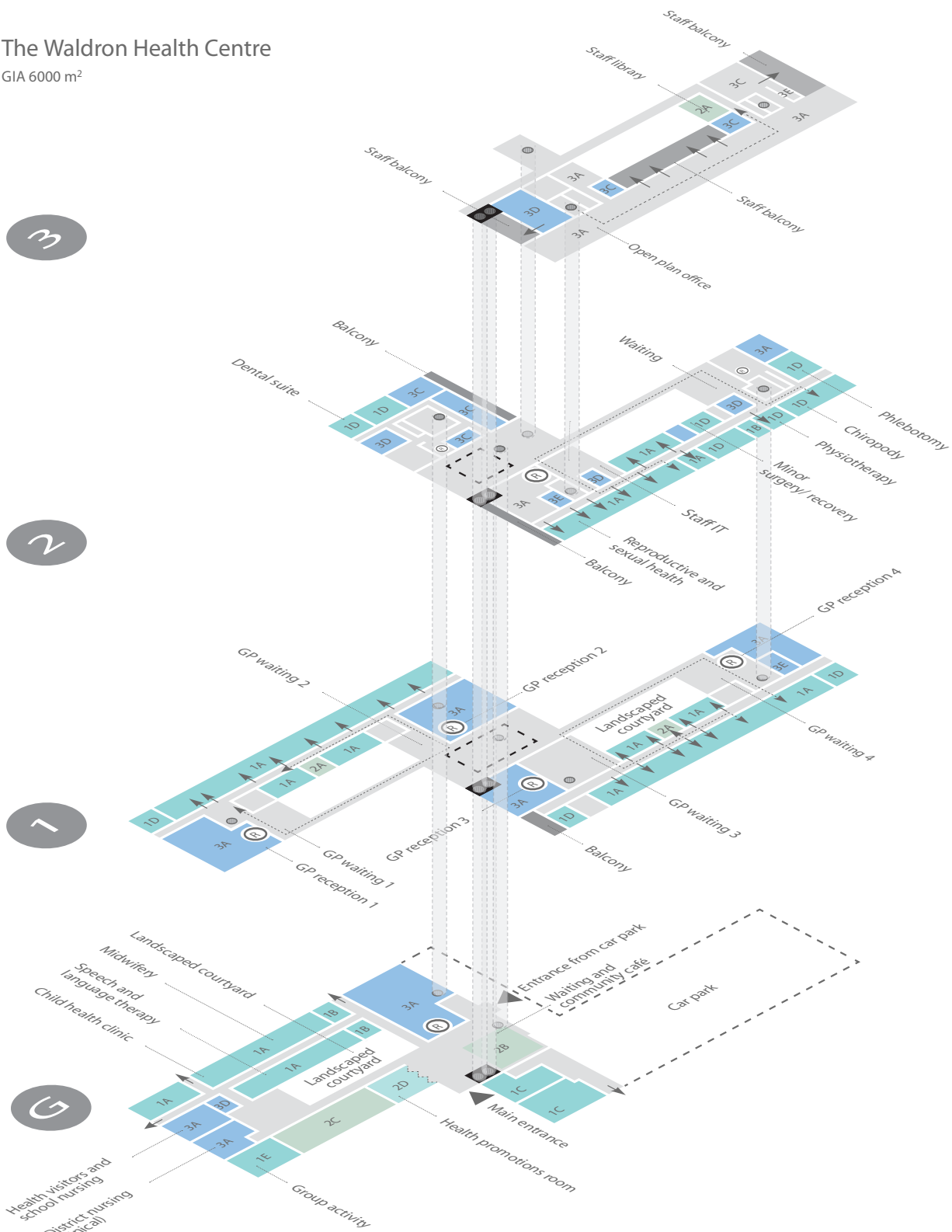
Public and patient access is open to the ground, first and second floor, and restricted on the top floor where offices and staff facilities are located. Staff offices are open-plan to encourage joint working. Health workers can enjoy fresh air and relaxation space on several terraces leading off various parts of the offices – so no one group of workers is favoured in terms of access to the outside space.

A highly-insulated concrete frame with good thermal mass improves the environmental efficiency of the building. Windows meet strict daylight and ventilation performance criteria. Louvres on the east, south and west elevations act both as solar protection and as acoustic baffles, and are made from the same timber as the panelling cladding the building.



The Waldron Health Centre

GIA 6000 m²



- 1 Primary and social care space**
- A Consult/Exam
 - B Counselling and group activity
 - C Diagnostic Imaging
 - D Treatment
 - E Group activity

- 2 Non-clinical space**
- A Library
 - B Community café and meeting
 - C Pharmacy
 - D Promotions room

- 3 Staff/FM space**
- A Office/admin
 - B Staff common room
 - C Meeting
 - D Building operations
 - E Staff kitchen

- Vertical circulation**
- Horizontal circulation**
- (R) Reception
 - (L) Lifts



Evaluation

In bringing together all of these diverse services, the design brief had to be extremely rigorous both in terms of the finished product and how the building process would work. Because of the need to maintain services on site throughout, a well-thought-out decant and phasing strategy was essential. Phase I (the central hall and south wing) opened in 2007, and phase II (the north wing) was complete a year later in 2008. The new public square and adjacent apartment block, also part of the original proposal, are unfinished at the time of writing.

Concerns had to be addressed about the scale of a building housing so many services, and how people would find their way around without getting confused or

having to follow signs. The centre had to fulfil a role as a civic building in the community and also had to be pragmatic in construction, with principles such as environmental impact, flexibility and adaptability guiding the design. Challenges such as the proximity of New Cross station and the potential interference of noise from the railway line also had to be addressed.

Generally, the building shows consideration to the impact on patients, staff and neighbours' well-being in its material quality and appearance. The design challenges of balancing functionality with humanity, and scale with intimacy, have been exceeded.

Project Team

- **Design Team** Buschow Henley
- **Lead clients** Lambeth, Southwark and Lewisham LIFT
- **Key stakeholders** Lewisham Primary Care Trust, four GP practices, Guy's & St Thomas' ante-/post-natal care, King's Dental Health Trust and community dentistry
- **Contractor** Wilmott Dixon

Kentish Town Health Centre

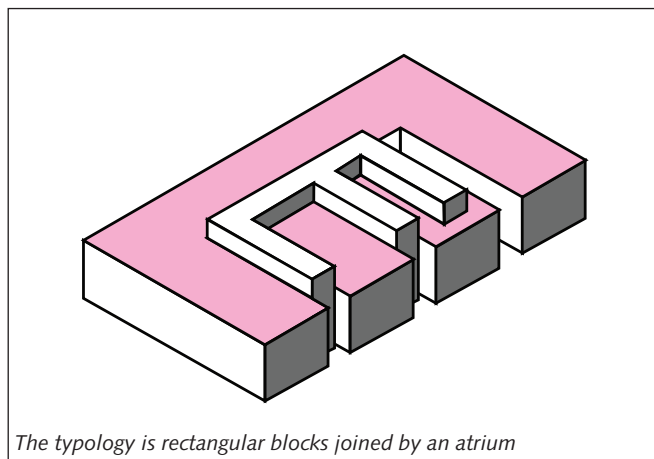
Healthcare Express



Introduction

Located in central London, Kentish Town Health Centre (KTHC) houses a large GP practice and a range of other health facilities including children's services, breast screening, dentistry and mental health.

The project champion, lead GP Dr Roy MacGregor, had a vision of a building where medicine comes together with health and art for the community. Ideas of transparency and connectivity were embraced by the stakeholders and the architects, and the whole team worked collaboratively to create a building that expresses the new holistic approach to healthcare.



Project summary

- **Project type and location** New build, urban
- **Gross internal floor area** 3432 m²
- **Activities in the building**
 - large GP practice
 - children's services
 - breast screening
 - diagnostic screening
 - dentistry
 - mental health services
 - library
- **Procurement type** LIFT (bespoke design and build)
- **Construction period** 2007–2008



Description

The centre brings an unprecedented range of services to a relatively deprived community in terms of health levels: a large GP practice, dental services, children's services, breast screening and diagnostic imaging, plus supporting office space, staff facilities, library and meeting rooms. The overall shape and form of the building is inspired by the game of "Jenga"™ blocks with bold rectangular interlocking parts; the white-rendered façade sharply accented with coloured windows helps to unify the various parts of the building. Corner windows and coloured grilles provide further interest. KTHC creates

a bold civic presence that gives a cheerful yet high-quality response to its urban environment.

Once inside, the central street with its bright murals and connecting bridges gives a positive impression of the services on offer. The ethos is of sharing clinical expertise and maximising efficiency, from the flexibly-designed clinical rooms, which are shared by consultants, through to the open-plan office spaces which maximise the opportunity for communication between health workers.

Building design

The large new building, tightly located on the site, has replaced a former health centre that had fallen into a state of disrepair. Its impact within the residential street setting is softened by the retention of as many of the existing trees as possible, including London planes, ash, lime and a damson tree. The entrance is clearly signalled by an opening in the massing on the corner of the site, and the visitor is welcomed towards the sliding glass entrance doors by a colourful mural bearing the letters 'KTHC'.

The internal layout of the building has been designed around the concept of a street – a generous public/private space that welcomes users and leads them to the reception at the heart of the building. From this reception, all services are accessed. The double and triple-height space running through the building is enlivened by bridges between the wings, views, colourful graphics and a bold sign and wayfinding system by Studio Myerscough that is easy to use and creates a stimulating internal streetscape. Arts Council funding has been secured to deliver a programme of art throughout the building.

In terms of massing, the ground floor functions as a brick plinth, with the upper floors “floating” above as white-rendered forms. Larger footplates at the upper levels are the result of cantilevered rooms, which give a smaller ground floor area and reduce the overall mass of the building. To allow flexible use of the building after surgery hours, some spaces on the ground floor had to be designed with their own discrete routes of access and security.

The different floors and spaces on the first floor and above are visually connected by circulation and waiting areas, so that staff can communicate by talking from bridges and leaning through hatches between consulting

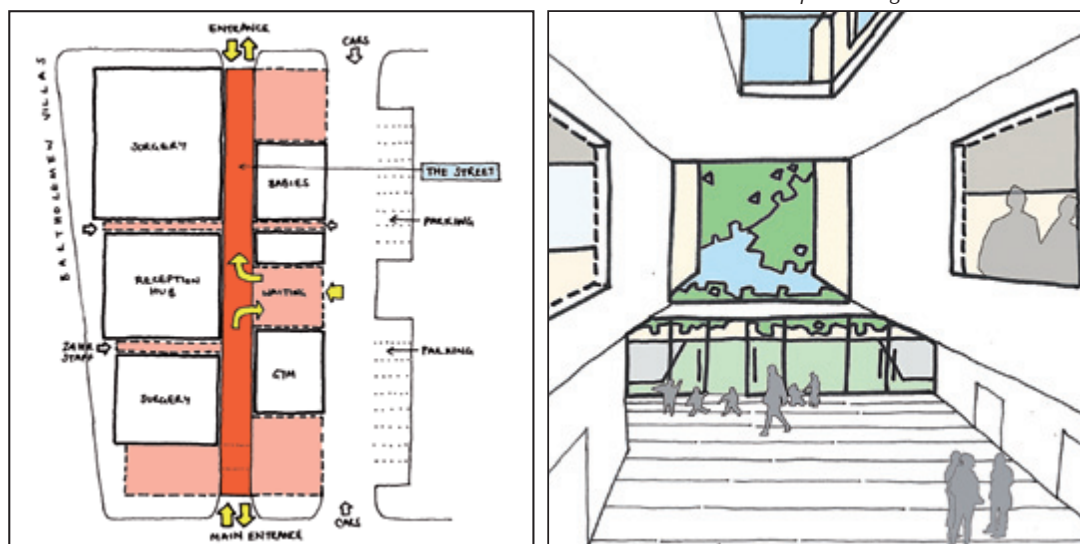
floors. Staff accommodation is generous, and there are break-out areas and tea points to enable different staff groups to meet to discuss clients.

The building's fixtures and fittings are deliberately robust and flexible. A hanging rail system within all rooms allows everyone to customise their space from a wide selection of fixtures. Interchangeable IPS panels allow the switch from clinical to counselling use, with green, black and white selected to provide a calming, neutral environment. Similarly, three modes of lighting can be selected by the GP or the consultant to suit the needs of the patient. Within communication areas a cost-effective lighting strategy has been designed to reinforce the linearity and volumetric nature of the spaces.

A number of sustainable features have been incorporated within the design. Recycled materials have been used wherever possible, including for the GP desks. The ventilation is a combination of mechanical and natural, with all rooms having specially designed opening windows that can be left open at night to cool the building. Also the atrium creates a stack effect within the main street, drawing fresh air through the building assisted by windcatchers and temperature-responsive openers on the rooflights. Grey water harvesting is used for irrigation, and electric car charging points and bike racks have been provided.

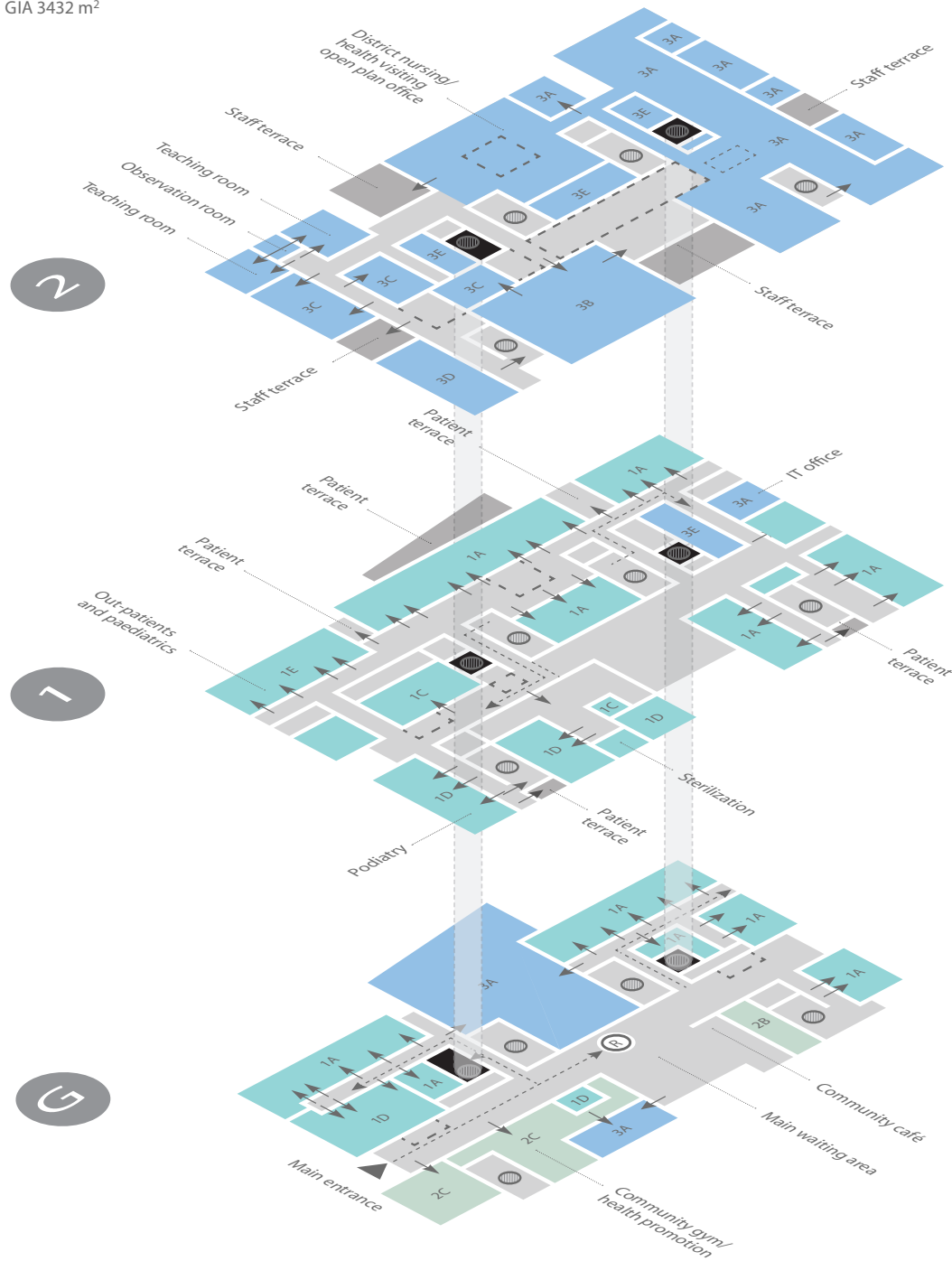
New landscaping features are in keeping with the residential scale of gardens and pockets of green in the surrounding streets. A series of small private gardens and terraces were carved into the built form with a more formal, public garden connecting to the main waiting room at ground floor level, where a café is also to be located.

Architects' concept drawings of internal “street”



Kentish Town Health Centre

GIA 3432 m²



1 Primary and social care space

- A Consult/Exam
- B Counselling and group activity
- C Diagnostic imaging
- D Treatment
- E Out-patients and paediatrics

2 Non-clinical space

- A Library
- B Community café and meeting
- C Gym/Health promotions

3 Staff/FM space

- A Office/admin
- B Staff common room
- C Meeting
- D Staff library
- E Building operations

Vertical circulation

Horizontal circulation

Reception (R)

Lifts



Evaluation

Kentish Town Health Centre provides an uplifting, inspiring environment of high quality for users and staff, setting a new standard for modern healthcare provision. A frequent comment from people using the building is the fact that they enjoy seeing all the different services in action as they wait – enlivening the place and making it

feel very friendly, unlike most other large-scale health buildings. In this way, the mainstay of primary health services in Kentish Town, the 122-year old GP practice, has managed to both revive confidence in local services and uplift the spirits.

Project Team

- Design Team Allford Hall Monaghan Morris Architects
- Lead client Camden Primary Care Trust
- Key stakeholders Camden Primary Care Trust, Camden & Islington Community Solutions, the James Wigg GP practice
- Contractor Morgan Ashurst plc

Thetford Community Healthy Living Centre

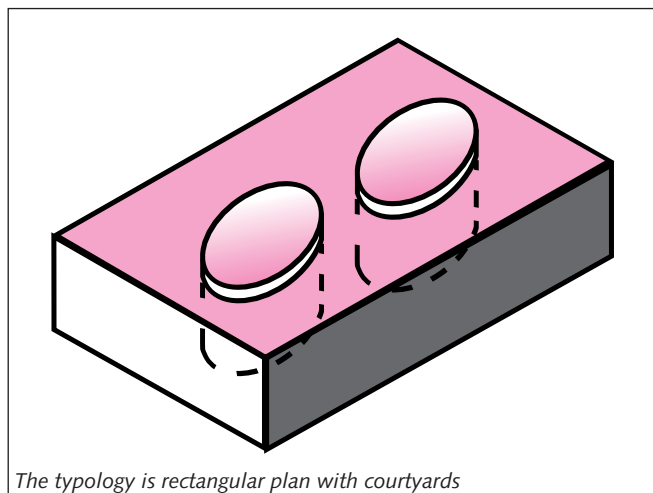
Healthcare Express



Introduction

Thetford Community Healthy Living Centre is a one-stop primary healthcare facility accommodating a range of local health services including primary care consulting, treatment, family services, rehabilitation, diagnostic imaging and some mental health services.

Located on a business park on the edge of a rural market town, the centre serves a large catchment population.



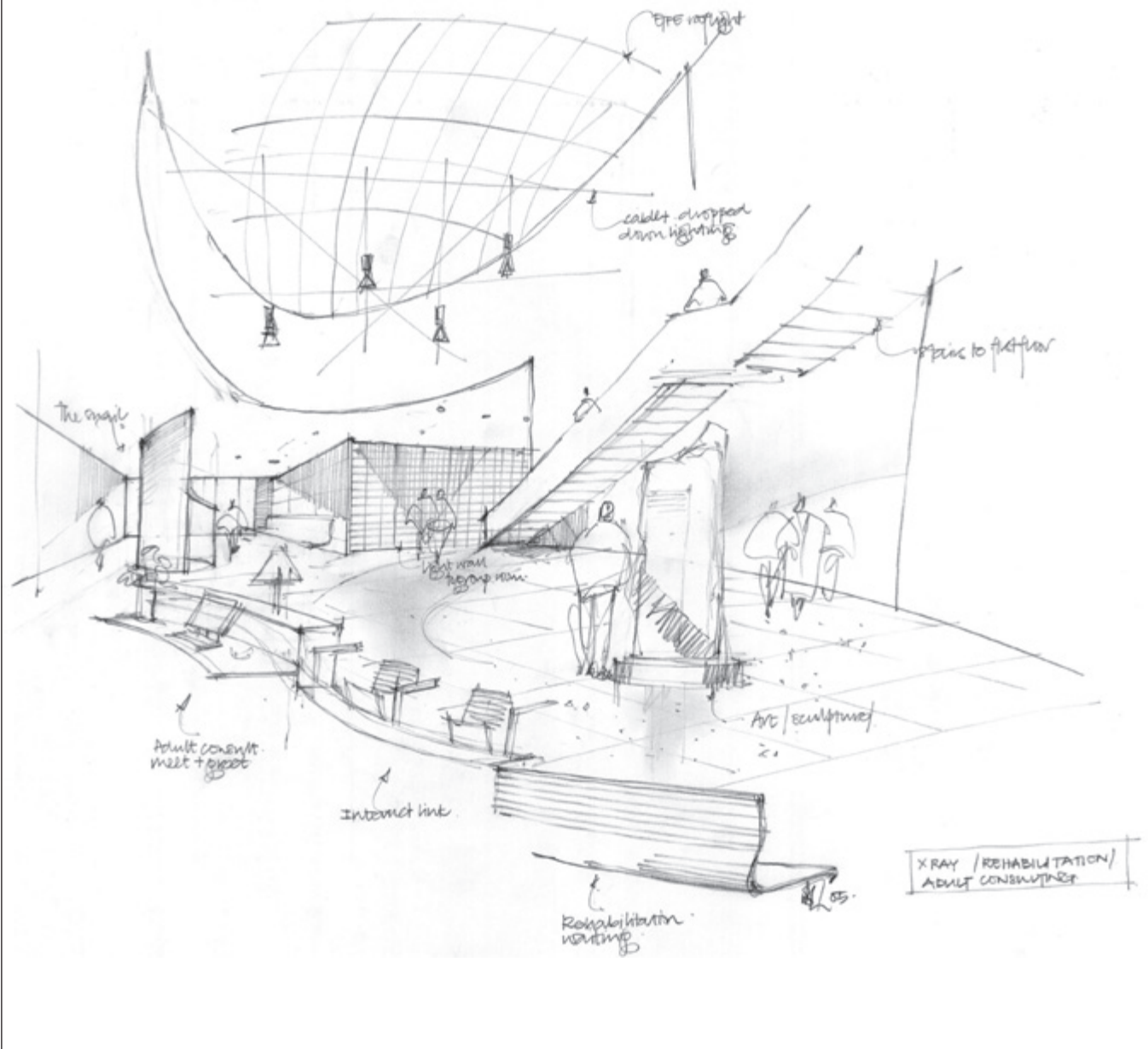
The typology is rectangular plan with courtyards



Project summary

- **Project type and location** New build, semi-rural
- **Gross internal floor area** 2555 m² (1804 m² ground and 749 m² first)
- **Activities in the building**
 - Primary care services
 - Community nursing and health visitors' base
 - Diagnostics: X-ray, phlebotomy
 - Therapies: physiotherapy and occupational therapy
 - Minor surgery
 - Community dental, podiatry, children and family services, audiology
 - Mental health services – clinics and outreach
 - Out-patient services
 - CAMHS
- **Procurement type** LIFT
- **Construction period** Opened January 2007

Architect's concept of reception/waiting with daylight from above



Description

The centre replaces an existing and outdated community hospital in the town. It serves a relatively wide catchment. The project was funded through the LIFT programme in which the centre services are managed by the primary care trust at the time of writing, and the building is managed and maintained by the LIFTCo.

The intention of the project had been to provide primary care, family clinics, rehabilitation therapies, podiatry and dental services, diagnostic imaging, mental health services and acute out-patient clinics. Some of this has been fully

realised although the contracts with the acute services were withdrawn at a relatively late stage in the project development, leaving some suites underutilised.

The building is located on the edge of Thetford, adjacent to a PFI-procured sports centre and Keystone Innovation centre providing office space for small businesses and a café. The general area is run down and the building is vulnerable to vandalism. There are plans to develop new housing nearby.

Building design

The building is highly visible from the road. The approach to the building is shared with the Keystone Innovation centre and whilst the main entrance is signed, it is not visible when approaching from the car park.

The two-storey building is rectilinear in plan, arranged around two full-height drums that house the main waiting areas on the ground floor. The clinical rooms are positioned mostly around the perimeter to make best use of natural light and views. The minor surgery suite and treatment rooms are located in the centre core. The out-of-hours accommodation was designed with a separate entrance and locked suite of clinical rooms, so that it could be used 24 hours a day without impacting on the rest of the building.

The primary care services and out-patient suites have separate reception desks, both visible from the main entrance. The rehabilitation service also has a small desk close to the suite.

The first floor includes dental services, podiatry, and open plan offices. Staff facilities include a shower/WC suitable

for overnight use. The open-plan office space is considered too expensive compared with other space nearby (on the same site), and a team of 40 or so staff from social services have not moved in. Rooms designed as break-out spaces are being used as designated offices by agreement.

The building is fully accessible, with level thresholds, lifts and accessible WCs. A quiet room for users of different denominations is provided close to the entrance.

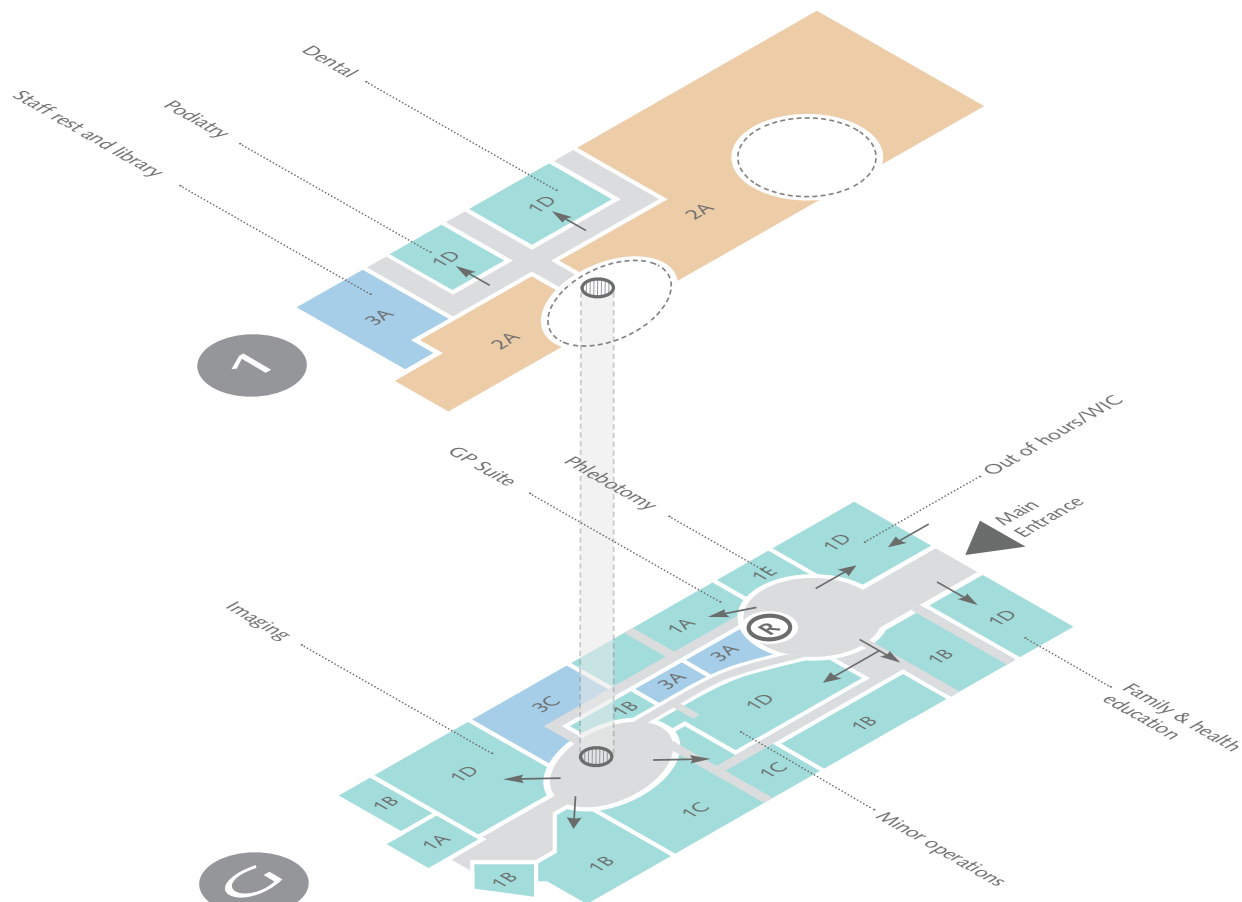
The building has been designed to be naturally ventilated, although there are some difficulties with the environmental services at present. These are being addressed.

There is no integrated arts programme, although a small space known as the “snail” provides a refuge for contemplation on the ground floor. Proposals to create planted gardens to the south and west of the site, which would be accessible from the consulting rooms, and a planted courtyard at the main entrance have yet to be realised.



Thetford

GIA 1520 m²



1 Primary and social care space

- A Counselling and group activity
- B Consult/Exam
- C Physical Therapy
- D Diagnostic Imaging
- E Treatment

2 Community patient space

- A Assessment ward
- B Rehab ward

3 Staff/operational space

- A Office admin
- B Staff common room
- C Building operations

Vertical circulation

Horizontal circulation

 Reception

 Lifts

Evaluation

The project was ambitious in its vision to make a range of acute and primary care services more accessible to this local community. The design development process included a raft of consultations with prospective users. Unfortunately, this vision has not been fully realised, leaving parts of the building under-utilised. Some services withdrew during the development process so that some areas are not being used as they were envisaged. The out-of-hours suite is now used by CAMHS (children and mental health services) and needs some alterations to the clinical rooms to make it more suitable for their use. Out-patient services and some of the phlebotomy services have not become operational, leaving vacant several clinical rooms on the ground floor. As each service has been designated a suite of rooms, the overall provision of clinical rooms is high. It is not clear whether a more

rigorous analysis of the potential for sharing space would have led to fewer clinical rooms, increasing the potential to achieve higher levels of utilisation.

The design of the building creates a positive atmosphere, bringing light and views to most of the clinical rooms at both levels. The deep plan is broken by the two-storey drums, which bring light into the centre of the building and create a dramatic space for waiting. The design for the furniture and planting in these waiting spaces has not been realised and they have less impact in reality than was intended in the sketch drawings. The translucent glazing in the full-height windows brings light into the consulting rooms whilst retaining privacy, and doors onto the garden area create a sense of connection to the immediate outside space.



Project Team

- Design Team LA Architects Ltd
- Lead client West Norfolk Primary Care Trust
- Key stakeholders West Norfolk Primary Care Trust;
Norlife LIFTCo
- Contractor Mansell

Bunny Hill Customer Service Centre

Health and Well-being

and Grindon Lane Primary Care Centre

Healthcare Express



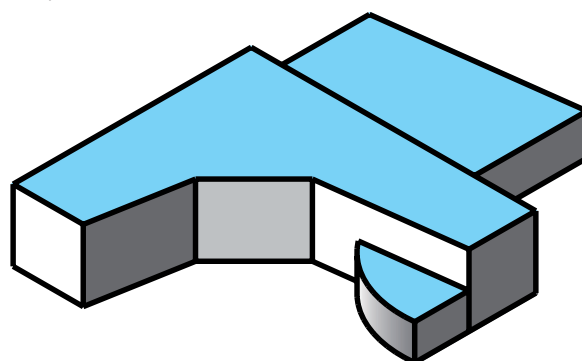
Introduction

Bunny Hill Customer Service Centre and Grindon Lane Primary Care Centre are two of 14 buildings being developed across the Sunderland area to provide a variety of health, local authority, education and social services closer to communities in most need. The two very different buildings exemplify the diverse responses to local needs and to linking-in with other already available services.

This initiative started in 2004 when a strategic vision, based on an overview of where services were needed, was established. As land became available, the local authority made their 'open door' policy known to other agencies, taking advantage of strong local strategic partnerships between the police, primary care trusts and housing services. In the case of Bunny Hill for example, the primary care trust already had £1.9m capital for a new centre: this was made in a one-off payment to the local authority in return for space in the new building, thus saving the primary care trust the cost of procuring a site.

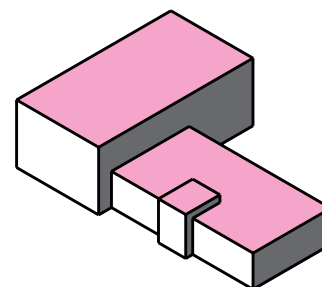
The reconfiguration of services has been supported by an information campaign advising local people how to use the new services.

Bunny Hill



The typology is L-shaped plan with atrium

Grindon Lane



The typology is L-shaped plan with double-loaded corridors

Project summary (Bunny Hill)

- **Project type and location** New build, suburban
- **Gross internal floor area** 3075 m²
- **Activities in the building**
 - GP practice
 - Community clinics, for example family planning, smoking cessation services
 - Specialist clinics, for example podiatry, dermatology
 - Minor injuries
 - Diagnostics and treatment, for example X-ray facilities and minor surgery
 - Community pharmacy
 - Local authority services: library, housing advice, adult education centre
 - Community development group
 - Sure Start
- **Procurement type** JCT 98 Design & Build
- **Construction period** Opened summer 2006

Project summary (Grindon Lane)

- **Project type and location** New build, suburban
- **Gross internal floor area** 2090 m²
[1665 m² GF/425 m² FF]
- **Activities in the building**
 - Minor injuries
 - Chronic diseases treatment (diabetes, heart disease and other long-term conditions)
 - Base for out-of-hours GP
 - Dental services
- **Procurement type** ProCure21
- **Construction period** Opened November 2005



Bunny Hill Customer Service Centre

Bunny Hill is a local authority customer service centre with primary and community health services. The building has a prominent position on a sloping site on a suburban housing estate. It houses GP services, a minor injuries and illness unit, a library, housing office, gym and Sure Start children's centre.

Building design

The community and health services are accommodated on separate floors. By taking advantage of the sloping site, each floor has direct access at ground level.

Health services are accessed from a dedicated entrance at the upper level. A shared reception desk, with separate

booths for the GP practice and other health services, is located prominently at the entrance. This also overlooks the shared waiting space. The community pharmacy near the entrance can be accessed separately after hours.

The visitor is made very aware of the many services offered, as the GP practices, urgent care and planned care are well signed on this level. Natural light is brought in from the glazed entrance and from skylights, and the general feeling is light and airy.

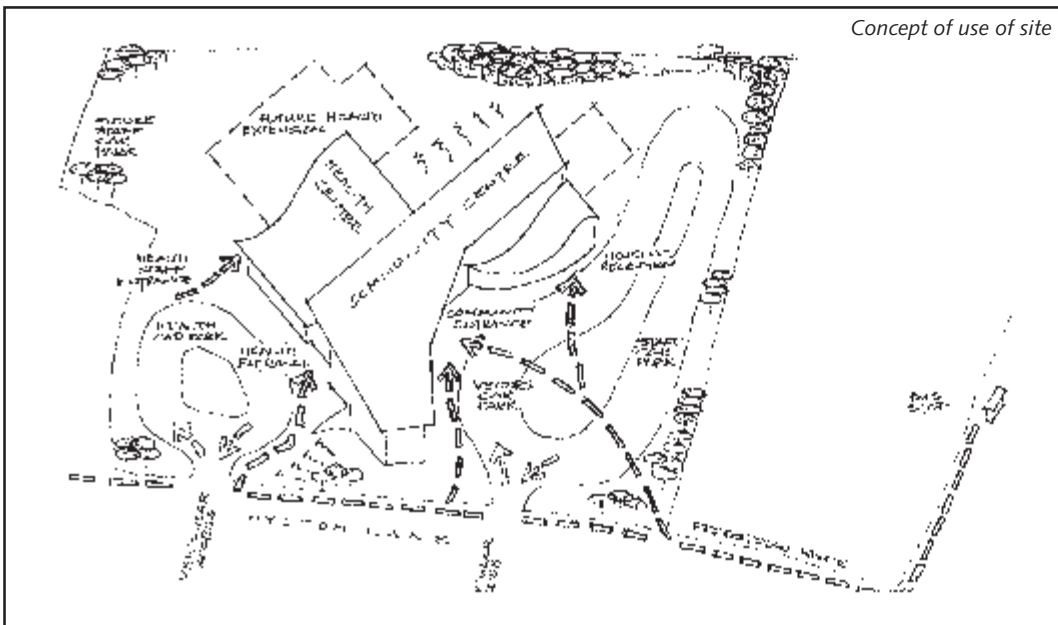
The Wellness centre – a gym where GPs can accompany patients to take them through their physical exercise prescriptions – is located off the main health waiting area. Users' USB keys track their fitness progress, and can be used in any of the other gyms that are part of this chain

of buildings. The gym is fitted with high-spec equipment and has exceeded the attendance targets in the first year of opening.

The separate customer services entrance is on the lower ground floor and the visitor is welcomed at a wide and welcoming reception desk, with the library extending to one side and the community café to the other. Generous amounts of natural light from the double-height glazed entrance (giving views over the valley towards Sunderland) and a careful selection of furnishings and finishes greet the visitor.

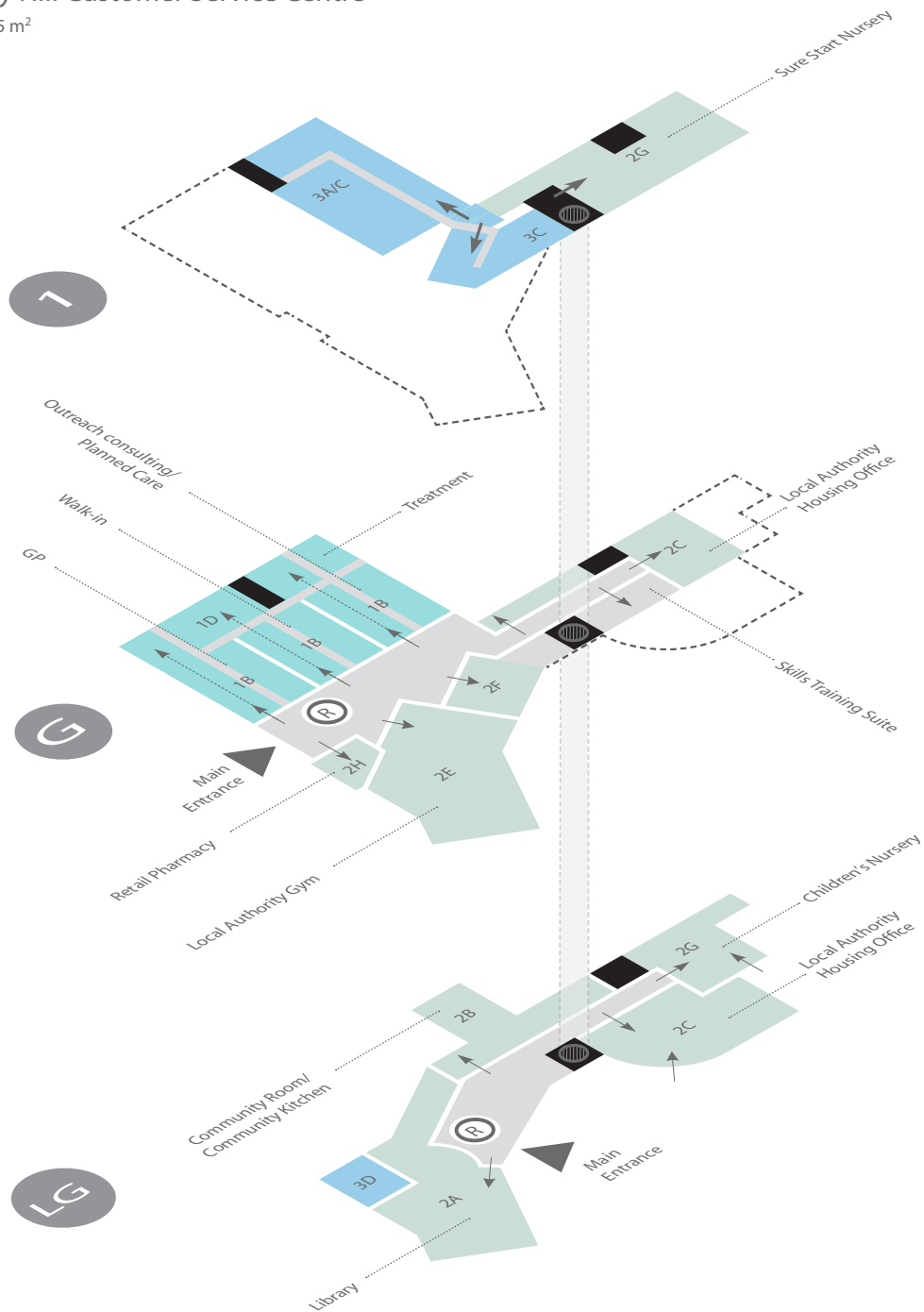
The double-height space of the atrium implies direct and open access to all services. However, the housing services and Sure Start can only be reached through a series of smaller and more internal corridors. Similarly, the connection between the health and customer services is played down with a staircase and lift that are not prominently located on either floor.

The specific layouts of the clinical areas have been designed with a variety of room sizes and configurations to suit each service. How these will flex to accommodate the inevitable changes to service provision in future will be interesting.



Bunny Hill Customer Service Centre

GIA 3075 m²



1 Primary and social care space

- A Counselling and group activity
- B C/E
- C Physical Therapy
- D Diagnostic Imaging
- E Treatment

2 Optional non-clinical space

- A Library
- B Community café and meeting
- C Housing office
- D LA nursery
- E Gym
- F Community IT facilities
- G Children's services
- H Pharmacy

3 Staff/operational space

- A Office/admin
- B Staff common room
- C Meeting
- D Building operations

Vertical circulation

Horizontal circulation

(R) Reception

(Lifts)



Visualisations of Bunny Hill proposals



Grindon Lane Primary Care Centre

Grindon Lane provides a minor injuries service and a range of diagnostic and treatment services in a purpose-built centre adjacent to a new school. It is intended that this service will ease pressure on the nearby acute hospital. Sited in a residential area, the building is set unobtrusively at the back of a car park with space for gardens and views over open fields from most of the clinical rooms.

Accommodation is simply arranged with health services – urgent care and chronic disease management services on the ground floor, and office administration on the floor above. All are accessed from a single entrance which is denoted by the fact it has a higher roof, steps forward from the rest of the building and is blue in colour. The main reception is placed prominently at the entrance. Receptionists have a full view over the clinic waiting area, which is glazed floor-to-ceiling on one wall, bringing light and views to those waiting.

Building design

The urgent care centre has a dedicated nurses' station and secondary waiting area, lit from above. The clinical rooms are arranged on the perimeter walls, with support rooms in the centre, and the corridors are lit by windows or glass doors linking them to the outside. The consulting examination and treatment rooms are broadly similar in plan layout and in size, at an average of 16.5 m². Minor variations are dictated by the building form.

The building is simple in layout with a legible plan that is easy to navigate. Waiting and reception spaces are marked with high ceilings and corridors with external views that bring light into the interior of the building. Generally there is a sense of intimacy and familiarity, which is calming. However, the omission of an interconnecting changing room in the diagnostic suite means that patients who have changed into an examination gown then have to wait in and cross a public corridor to the examination room.

The urgent care centre is open 24 hours a day and the GP out-of-hours service uses the building overnight and at

weekends. The rest of the building can be made secure, restricting patients to those clinical rooms nearest the entrance.

The standard size and layout of consulting examination rooms greatly facilitates the speed of patient throughput because, to a large extent, rooms are shared between clinicians and timetabled according to demand. Specialist equipment is stored within small, lightweight trolleys, which have their own parking area and can easily be wheeled from room to room as required.

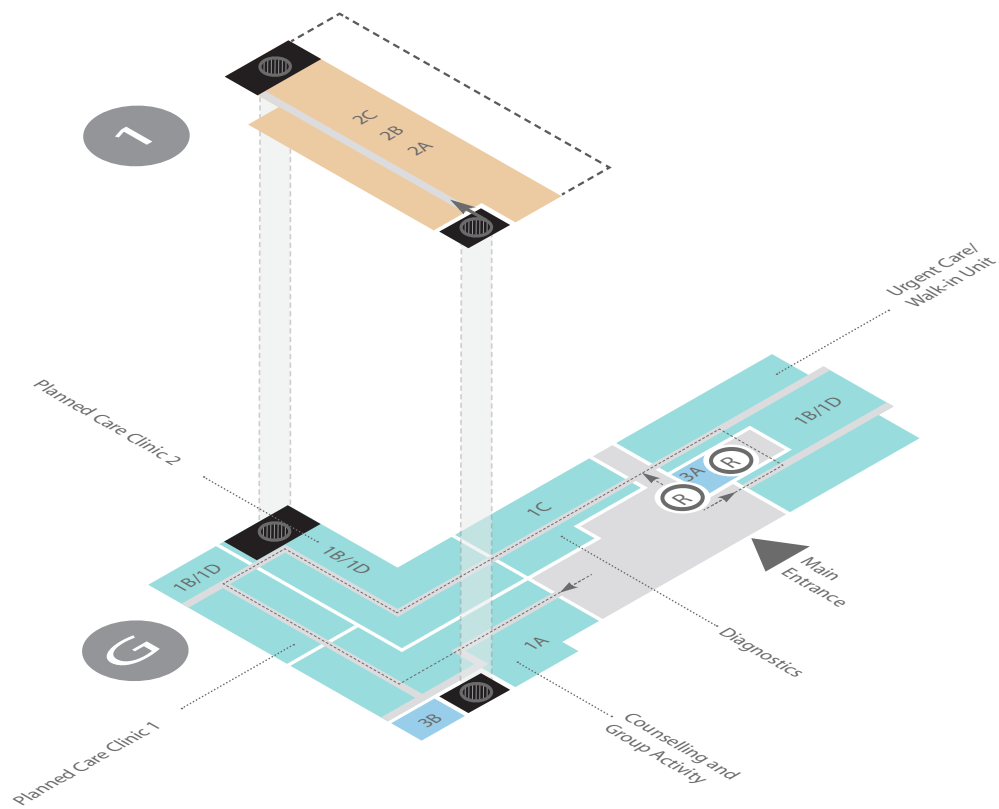
In the support areas for staff and groups the surface treatment is softer and mostly carpeted in both rooms and circulation spaces, which gives a more relaxed feel than those areas requiring more stringent infection control. Work arrangements effectively optimise space and resources in response to need: health visitors have their own individual desks, whereas nurses share and hot-desk.

Sketch proposals from architect



Grindon Lane Primary Care Centre

GIA 2090 m²



1 Primary and social care space

- A Counselling and group activity
- B C/E
- C Physical Therapy
- D Diagnostic Imaging
- E Treatment

2 Optional in-patient space

- A Assessment ward
- B Rehab ward
- C General ward

3 Staff/operational space

- A Office/admin
- B Staff common room
- C Meeting
- D Building operations

Vertical circulation

Horizontal circulation

(R) Reception

(L) Lifts

Evaluation

At Bunny Hill an innovative approach has been taken to house a combination of local authority and health services in one building: this has clear benefits not only for local users but also for staff. The potential benefits in improving healthy lifestyles will only be quantified over time. Although there is good connection between the health services and the Wellness gym, other services are more separate. The building design could have improved this connection by making the stairs and lift more obvious at both levels. The inclusion of community space and the involvement of a community development group make this a very attractive facility for local people. Children's groups, a training kitchen, IT training rooms and a café provide other reasons for local people to come

into the building and become familiar with the wider range of local authority and health services.

Grindon Lane has optimised patient through-flow and general efficiency without being institutional, through standardising room layouts, providing innovative storage solutions, and enabling simple wayfinding with natural light for orientation. The building has a human scale and has been thoughtfully designed to bring light and views into the interiors wherever possible. Both buildings have incorporated artwork in the public spaces.

Together these buildings illustrate the variety of approaches that can be taken to tackle local health and social care needs in a strategic way.

Project Team (Bunny Hill)

- Design Team Space architects
- Lead client Sunderland Primary Care Trust
- Key stakeholders Sunderland Primary Care Trust, Sunderland Local Authority, social services and library
- Contractor Clugston

Project Team (Grindon Lane)

- Design Team P+HS architects
- Lead client Sunderland Primary Care Trust
- Key stakeholders Sunderland Primary Care Trust, Sunderland Royal Hospital
- Contractor Laing O'Rourke

Heart of Hounslow

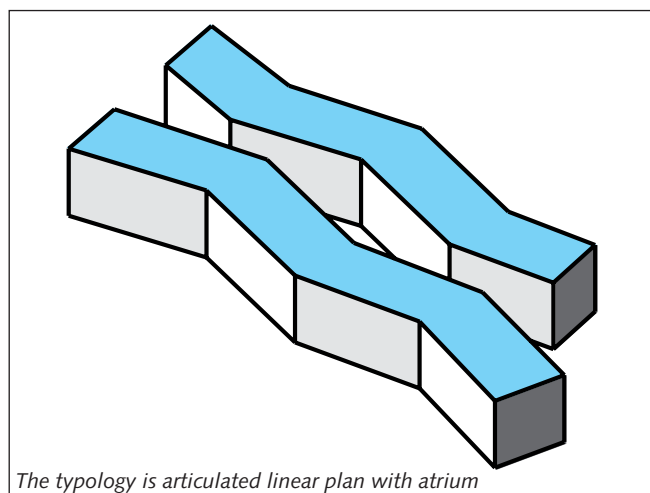
Health and Well-being



Introduction

The central vision of this scheme was to bring preventative health and social care services closer to the community and to reduce the need for local people to travel to the acute hospital.

Hounslow PCT, Ealing PCT and Hammersmith & Fulham PCT formed a LIFT partnership with Building Better Health to provide new primary care facilities in west London, the first of which, for Hounslow PCT, creates a flexible, colourful, multi-purpose building on the site of the former Thelma Golding Health Centre. The building sits in a prominent position on a main road in Hounslow and accommodates a range of community care services, including improved out-patient facilities and social care outreach.



The typology is articulated linear plan with atrium



Project summary

- **Project type and location** New build, Greater London main road into town centre
- **Gross internal floor area** 9000 m²
- **Activities in the building**
 - 4 GP practices
 - Community services
 - Out-patient services
 - Social care outreach
 - Children's services and nursery
 - Community dental care
 - Mental health (CAMHS)
 - Family planning/sexual health
- **Procurement type** LIFT
- **Construction period** Completed February 2007, operational April 2007



Description

Heart of Hounslow houses four GP practices, community health care and social services as well as a nursery. Community dentistry, family planning and community treatment for people with learning disabilities are being provided by the primary care trust, with a mental health trust providing the child and adult mental health services.

On a prominent landmark site, fortunate enough to already be owned by the primary care trust, the entrance to Heart of Hounslow is set back behind a paved public open space with benches and is sheltered and enclosed on one side by one wing which brings the animated façade right up to the street. This is a linear building, with two cranked wings running either side of a five-storey covered

glass atrium, holding cross-circulation routes between floors and departments. Each service has a colour-coded reception and waiting area, which opens onto galleried walkways overlooking the central atrium.

The ground floor is dedicated to children's services including audiology and children's therapies, the GP practices are all located on the first floor. The second floor houses out-patient community services with administration and outreach staff on the third floor. The top floor includes meeting rooms that can be booked by the community, and a staff club with far-reaching views over west London.

Building design

The design has sought to standardise the size of clinical rooms: consulting rooms are 15 m² and treatment rooms are 20 m² based on a 1.2 m planning grid. Waiting spaces are conveniently distributed around the building, close to sub-receptions. The floor plan is a simple layout around the central atrium, easily understood and navigated. The planning grid allows for future flexibility to change current office space to clinical rooms and vice versa.

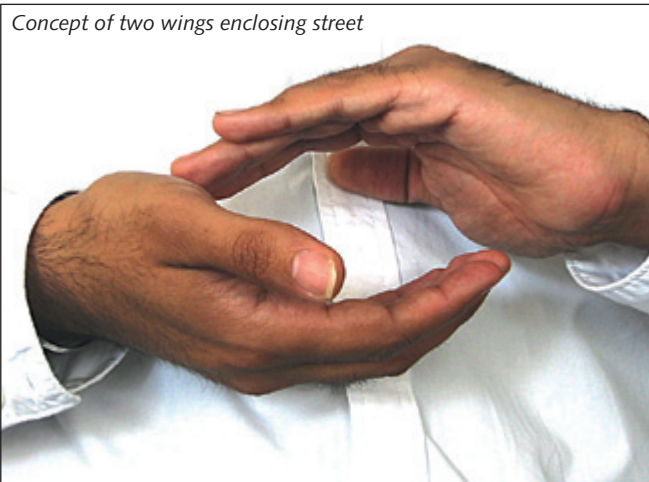
The range of colour-coded suites, distinguishable from the other side of the building across the open atrium, aids orientation, as does the abundant use of daylight. The atrium, which runs the full length of the building, floods the central area with natural light and reduces the need for artificial lighting here during daylight hours.

Similarly, glazed stairwells opening onto the corridors at intervals filter daylight through expanses of glazing, aiding orientation. At night, the atrium glows colourfully as the stained glass is lit from the inside.

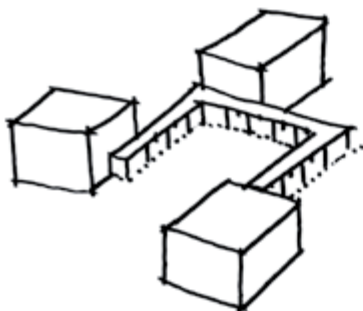
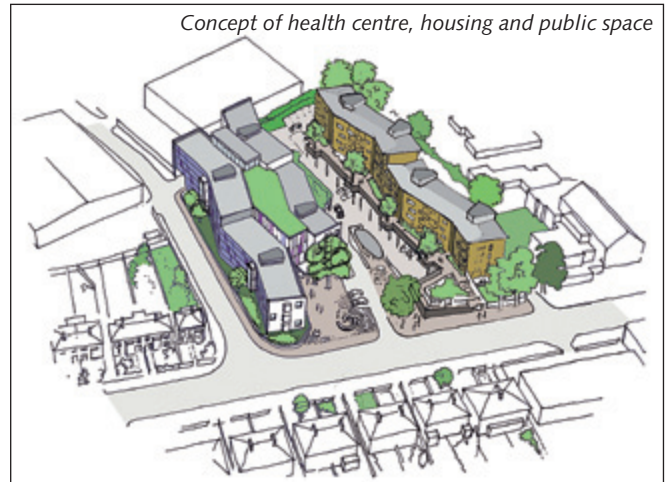
The overall impression is of a durable, flexible design that could accommodate a variety of different uses, from health and social care through to teaching and office administration should local need arise.

The architects, Penoyre & Prasad LLP, were appointed through the LIFT process, as they were part of the chosen private sector partner, Building Better Health, who will be responsible for the long-term care and maintenance of the building. The bringing together of local health and social care services culminated in a naming competition won jointly by a local schoolchild and a member of staff.

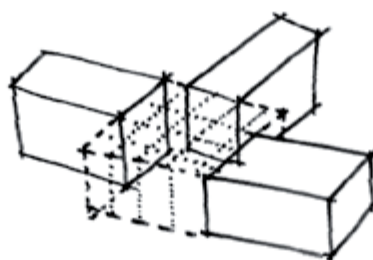
Concept of two wings enclosing street



Concept of health centre, housing and public space



cloister

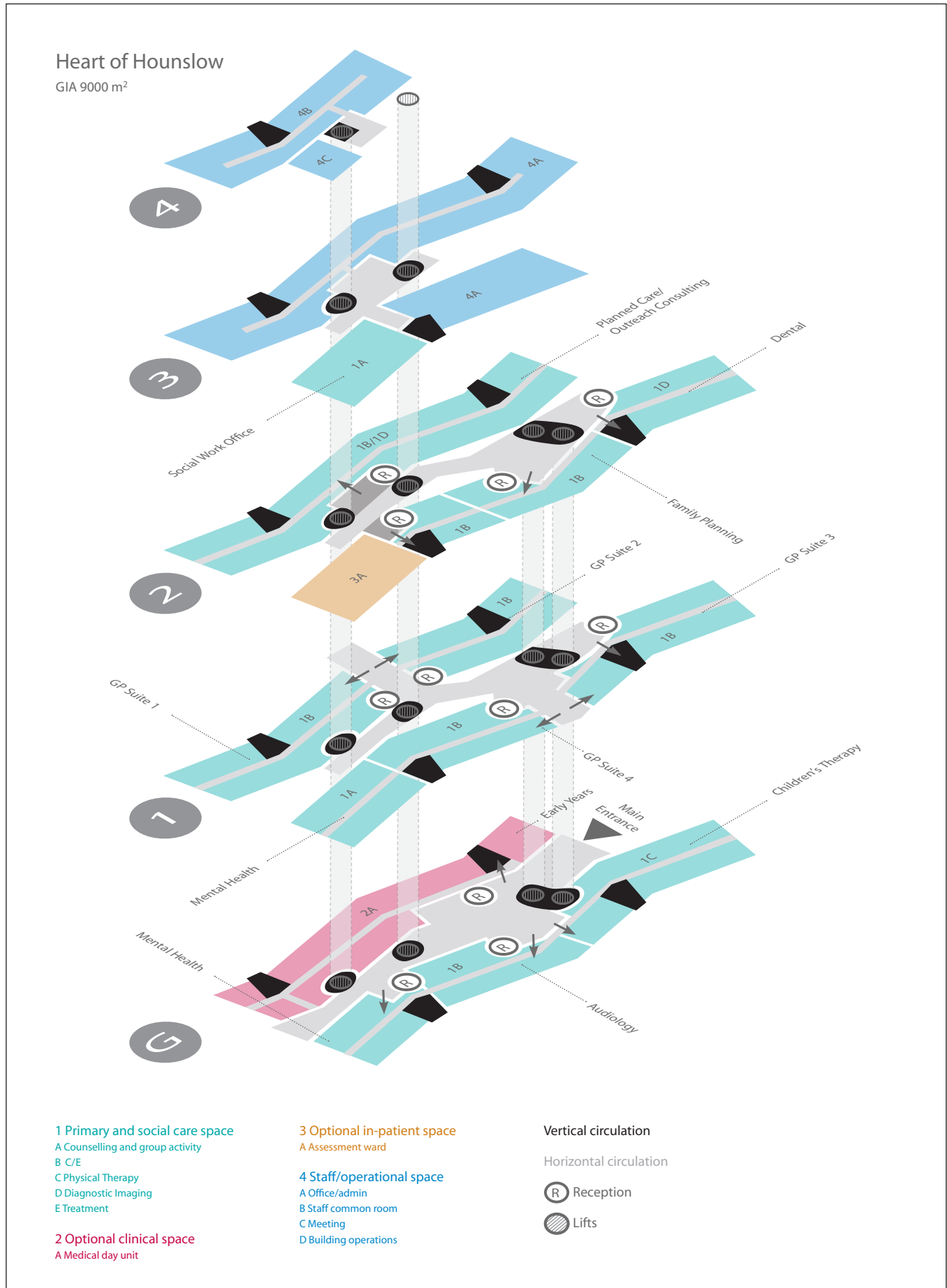


cluster



unitary

Three design options considered





Evaluation

Overall the building functions well in terms of its intention to bring services together. Environmental considerations have meant it was not possible to naturally ventilate the building, as it lies under the Heathrow flight path and open windows would have posed a problem acoustically. In the open-plan offices, outreach staff

are now encouraged to ‘hot-desk’ and this new system has been working well thanks to consistent office management in sharing valuable space. Although holding sensitive conversations in an open-plan environment has been a new step for some, the professional attitude of staff has enabled it to work.

Project Team

- Design Team Penoyre & Prasad LLP
- Lead clients Hounslow Primary Care Trust, Building Better Health
- Key stakeholders Hounslow Primary Care Trust, West London Health Estates, London Borough of Hounslow
- Contractor Wilmott Dixon

Plowright Medical Centre

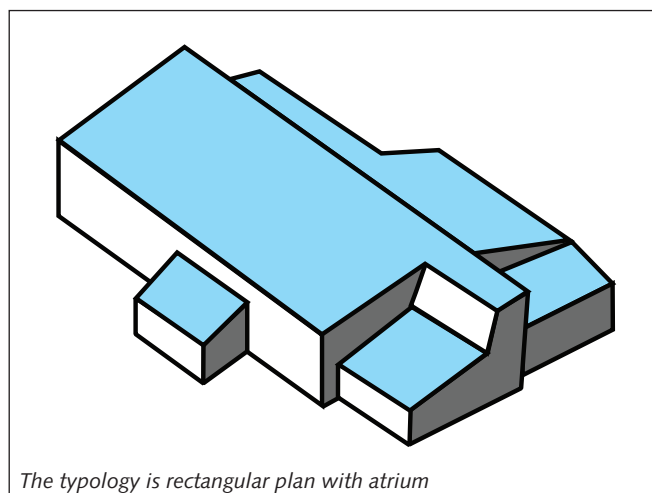
Health and Well-being



Introduction

The aim for this smaller-scale GP practice was to create a welcoming, modern and environmentally sustainable surgery building with light airy spaces which would be easy to use for those with mobility restrictions. The finished centre has become a sustainability exemplar, using just 54 kWh of electricity and 90 kWh of gas per square metre per year, far less than Department of Health new build targets, and it scored highly on design quality in CABE's 2008 survey of completed LIFT buildings.

Before the Plowright Medical Centre opened in 2005, the GPs were operating from an out-of-date building which, although conveniently located in the town centre, could not provide the accommodation needed. Services were restricted due to the confines of the previous building but, with the new medical centre, staff and users enjoy a spacious environment where the appropriate services can be offered next to local amenities, and served by good public transport links.



Project summary

- **Project type and location** New build, semi-rural
- **Gross internal floor area** 762 m²
- **Activities in the building**
 - 4 GP practices
 - Health administration
- **Procurement type** LIFT
- **Construction period** 2004–2005



Description

Those accessing the GP services at Plowright enjoy an uncluttered, calming environment enhanced by the use of natural materials. Three activity areas define the surgery building: the first area, which immediately greets the public, is the reception and public waiting space. The second is the semi-public clinical space (consultation and treatment rooms) on the ground floor beyond the waiting area. Upstairs are the private administration areas.

This example won an “Excellent” rating for its NHS NEAT environmental assessment, partly due to planning permission being granted for the surgery on the condition that every one of the sustainable design principles included in the planning application would actually be applied. The contractor, Mowlem, was very

supportive of low-energy principles. A sustainable means of reaching the centre is encouraged, with secure cycle storage provided in an accessible location, and showers and changing facilities for staff. Further details have been considered, including flow restrictors installed on taps to conserve water, and permeable paving to the car parking areas to allow for surface water run-off during periods of heavy rain.

The building’s sustainability has to be effectively managed by staff; for example, they open the clerestory windows at certain times of the day to facilitate the natural ventilation system. So, as staff develop and learn to manage the infrastructure more effectively, it is hoped that the performance of the building will only improve.

Building design

The two-storey building sits relatively low on the land, and the distinctive yet simple angular shape of the brickwork entrance welcomes the visitor and the passer-by. The scale is almost domestic compared with other more business- and retail-like buildings nearby.

A generous glass canopy at the entrance offers shelter against the elements, and the lobby is large enough to contain a buggy store for the tidy storage of pushchairs.

The pharmacy reception is located handily near the entrance and has its own small waiting area. The main reception for the GP surgery is positioned on an outward curve so that the receptionist can survey both the entrance and the entire waiting area. Beyond these are the children's play area and the patients' outside terrace.

The double-height space in the waiting area makes the first-floor walkways visible, and the whole building is revealed. Intuitive wayfinding is further helped by windows and daylight coming from all sides of the waiting area. Even the view down the straight corridor past the consulting and treatment rooms ends in a glass-fronted door onto the exterior, giving clues about orientation and siting.

The waiting area is carpeted in a calming shade of blue, accented by the exposed natural timber frame structure. French windows give direct access from the waiting area onto a south-facing terrace for patients' use. The consulting rooms on the south side themselves all overlook the same private grassed area as the patio, but privacy is ensured in consulting rooms as the windows and patio face the same direction. Solar gain is minimised in the consulting rooms by the brise-soleils running the length of the south-facing façade.

Across the corridor, there is a treatment room and minor operations suite, connected by the clean utility store, and an interview room (one of three, of varying sizes).

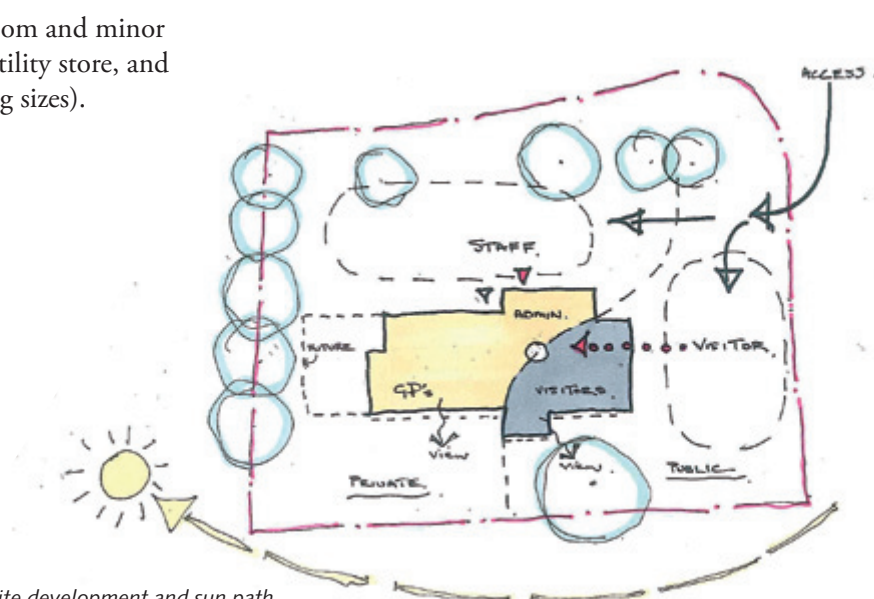
Another interview room is adjacent to the reception for patients wishing to speak confidentially to staff. The surgery administration areas, including record-keeping, are behind the public reception zone.

The building is designed to be both easy and pleasant to use for staff and visitors. The form and mass of the building are broken down to give a more residential feel and to allow for future growth and additions. The separate "glulam" timber structural frame was especially chosen for its low embodied energy, and its structure allows for flexibility, as internal wall positions can then be changed with minimum disruption due to the non-load-bearing infill panels. The double-height space above the entrance and waiting areas is also designed to be easily converted to additional accommodation if more space is required. IT is surface-mounted, and electrical trunking is used where possible for flexibility.

The building is low-maintenance, as the thermo-wood timber cladding is steamed to remove impurities and gives an untreated finish to the cladding that is virtually maintenance-free.

Ventilation is entirely passive, with the central double-height atrium aiding air circulation, and clerestory windows high up in the corridors on the upper floor allowing warm air that rises through the building to escape. Even on the hottest summer days, the building is cooler inside than the temperature outside.

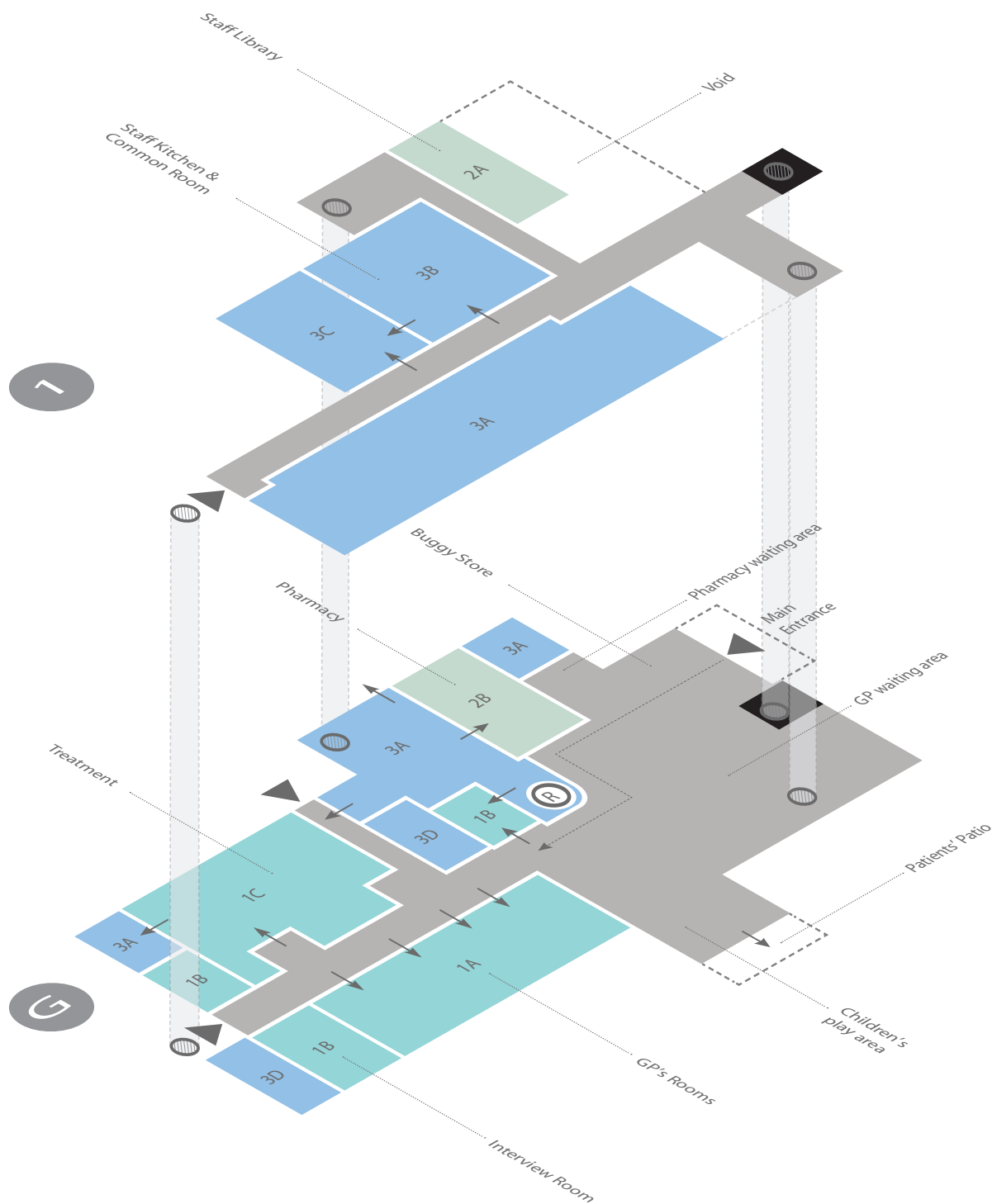
Heating has a gas energy source, with a low CO₂ emission level. Energy efficiency is further helped by high insulation, 15% above the levels required by building regulations. Specific site modelling was undertaken to reduce air leakage.



Concept of site development and sun path

Plowright Medical Centre

GIA 762 m²



1 Primary and social care space

- A Consult/Exam
- B Counselling and group activity
- C Treatment

2 Non-clinical space

- A Library for staff
- B Pharmacy

3 Staff/FM space

- A Office/admin
- B Staff common room
- C Meeting
- D Building operations

Vertical circulation

Horizontal circulation

Reception



Lifts





Evaluation

Along with bringing a calm, therapeutic ethos to primary care delivery in this part of Norfolk, the Plowright Medical Centre is amongst the best-performing primary care buildings in terms of sustainability. It was made possible through close partnership and with help from the LIFT process. Local user groups ensured the buy-in of residents, while the local authority established a viable site on the existing eco-park, demonstrating that all parties were committed to developing both an economically and an environmentally sound building. Working with the GP practice, the LIFTCo, Norlife, bought the old town centre practice to

ensure the financial stability of the new development. The practice could then begin the intensive planning of the new centre, focusing on the services relevant to the local population's needs.

The surgery's staff were consulted many times over the course of design, through an "operational needs forum" which the architects then translated into design. Staff helped define the building's layout and, later on in the process, the colour scheme. User and staff surveys now show high levels of satisfaction, reflected by staff involvement in the operation of the building.

Project Team

- Design Team Chaplin Farrant
- Lead clients GP surgery, Norlife LIFTCo
- Key stakeholders GP surgery, Norfolk Primary Care Trust
- Contractor Mansell

Dulverton Surgery

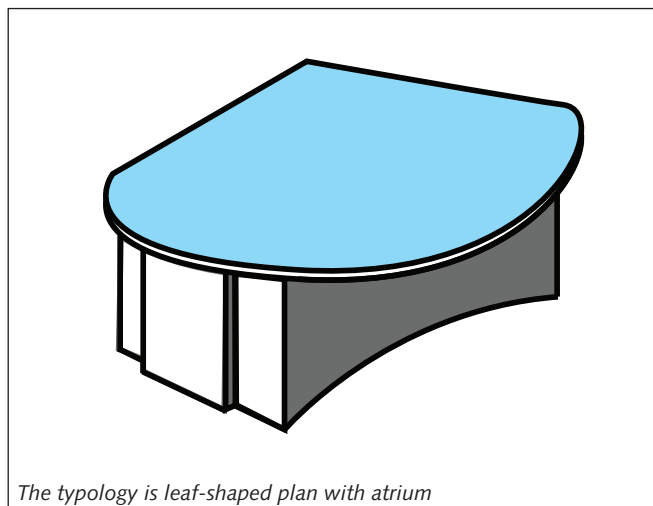
Health and Well-being



Introduction

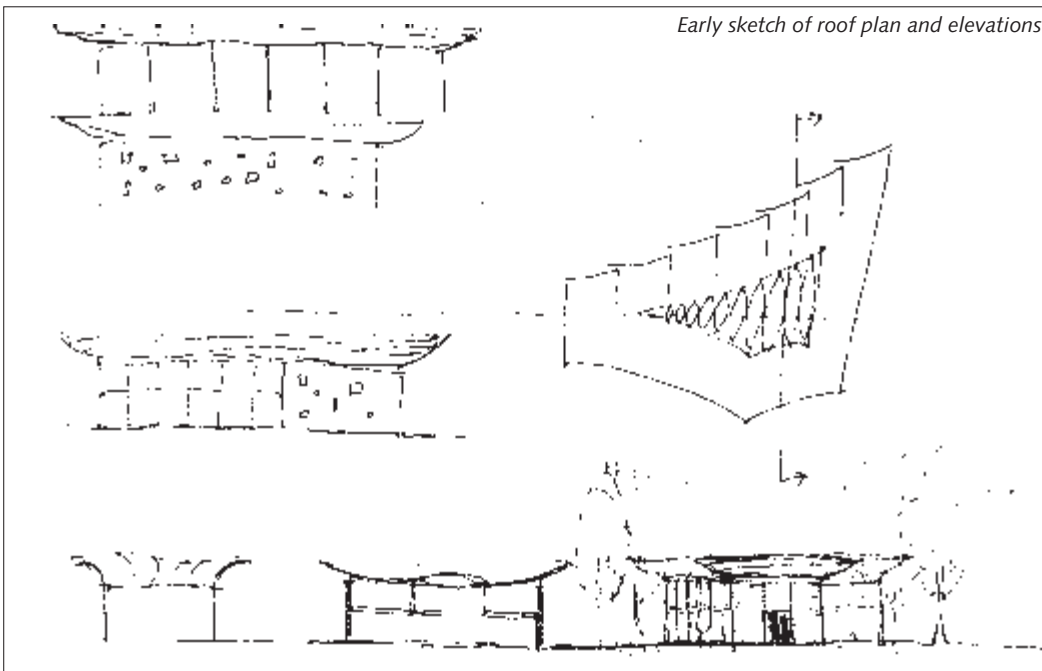
This GP practice moved from the centre of the market village of Dulverton, Somerset into a contemporary, high-quality building on the outskirts of the village, together with a dental surgery and health workers' office base.

The building takes cues from its natural setting and has the quality of a modern arts facility rather than a healthcare building. The intimacy of its scale and configuration, together with closer opportunities for communication between staff, make for a facility which truly welcomes and serves the immediate community.



Project summary

- **Project type and location** New build, semi-rural
- **Gross internal floor area** 660 m²
- **Activities in the building**
 - 3 GPs
 - 1 dental practice
 - Administration base for midwives, community nurses, health workers and social workers
- **Procurement type** Traditional
- **Construction period** 2008–2009



Early sketch of roof plan and elevations

Description

Settled within a steep slope leading from the centre of town, Dulverton surgery can be easily reached on foot along a pedestrian footpath, as well as by bus and car. This site offered much more accommodation and an opportunity for closer working between the GPs (who had outgrown their outdated accommodation) and the health workers operating within the area.

One of the GPs' main aims was to get away from the "leaflets and posters" culture and create an elegant, non-institutional building. This required a high degree of control over build quality, which was possible because the architect also functioned as the contractor, and formed a consortium together with the GP client. This enabled them to have more control over the design, costing and delivery of the project.

Building design

Because of the steepness of the site's original slope, a good deal of excavation had to take place to create the "nook" in which the building nestles, its roof hardly higher than the lawn of the next house up the slope. The height of the building and its possible infringement on the views from neighbouring dwellings was an issue that had to be resolved with the planning authority, this being a conservation area.

The site is bordered on one side by a stream and on all sides by mature trees. Since all of the trees have preservation orders, the tree canopy gave cues for the footprint of the building.

The visitor is greeted by the upward sloping roof profile and white-rendered wall of the entrance area, and a narrow water-moat wraps round the side which houses the clinical rooms, sending reflected light up against the narrow glass windows and against the green copper underside of the curved roof projection.

The first sight inside the buildings is the dispensing pharmacy, where the glass-topped reception counter is also a display for antique medical equipment discovered when the GP practice, founded in 1840, moved into the new premises. This pharmacy area can be closed off separately from the rest of the building so that people can still pick up dispensed prescriptions when the rest of the surgery is closed. There is also a separate interview room leading from the pharmacy.

Away from the dispensary, the visitor is then led into the "public" area, which runs along the other length of the building from the consulting rooms. The waiting area is contained by a double-height glazed façade and is lit from above by the double-height atrium, which acts as a light well. The fully glazed external façade enables patients waiting on both floors to look straight out onto the tree canopy and the hand-built stone wall that retains the area excavated for the building.

The benches in the public waiting area are long, slightly curved single pieces of polished timber which follow the gentle angle of the glazed external wall. The benches guide the visitor towards the reception, which is across the waiting area from the entrance. The staff administrative areas occupy the far end of the building on both floors. A small room next to the reception desk and opening onto it can be closed off from the main waiting room, creating a private place for a confidential conversation between patient and receptionist if necessary.

The GPs' consulting and examination rooms lead off the corridor that runs the length of the waiting room; each room is "slotted" behind the other with a narrow projection on the external side. This projection gives the space for long floor-to-ceiling windows which, although letting a lot of natural light into the room, only the GPs, when sitting at their desks, can see out of, affording privacy to visiting patients. On sunny days the light from the shallow moat outside is reflected in ripples onto the ceiling of the consulting room, to calming and therapeutic effect.

The day-care room leads off the corridor between the GP rooms and the administration spaces. Subject to funding from the PCT, the GPs are hoping to offer this space as a place for possible overnight stay if necessary after a minor operation.

An elegant staircase with glass balustrade and spotlights across the treads leads from the downstairs waiting room across an angled wall painted the same reddish colour as the local stone. This stair leads up through the double-height atrium to the dental reception upstairs, the upper waiting area, health workers' administrative base and the staff room. There is also a secondary private stair for staff, which leads from the closed corridor next to the reception desk.

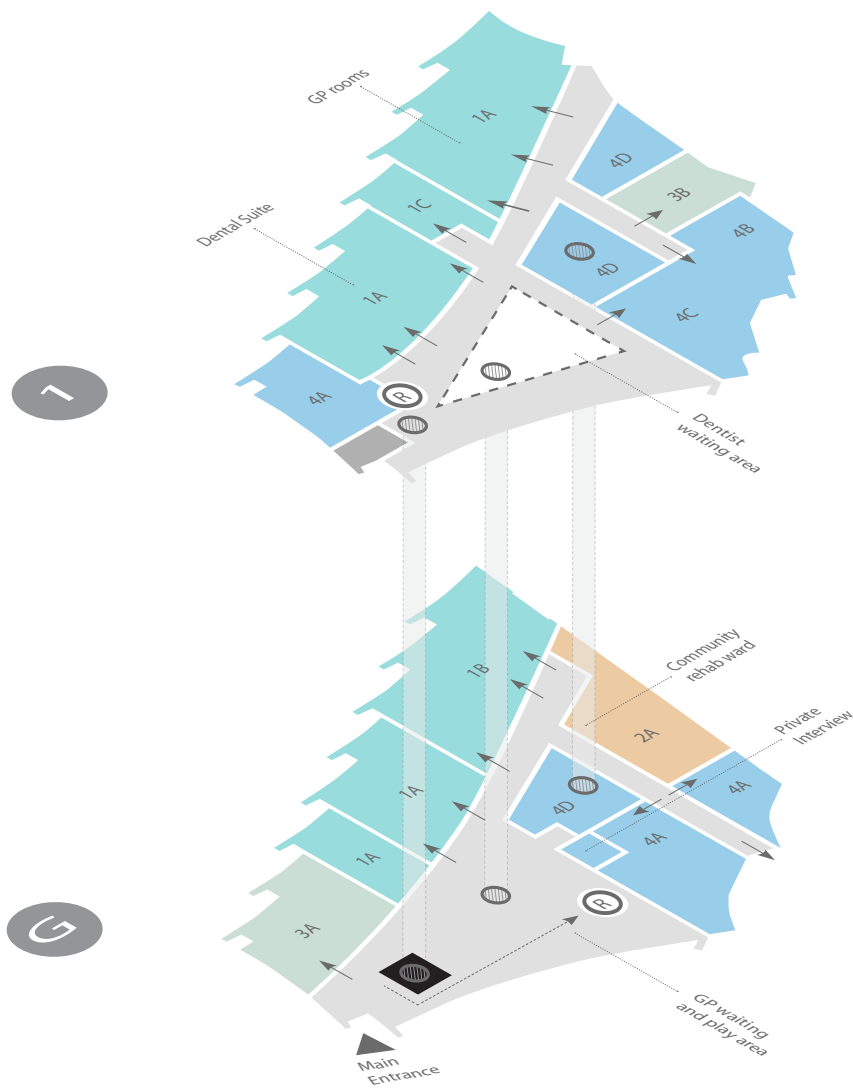
The upstairs corridor follows the same pattern as the corridor below, with the dental rooms and two further GP rooms leading off the corridor, one behind the other, and with the same long windows as in the GP rooms below. Natural light is further spread throughout the building on this floor by the upper eighth or so of each of the dividing walls between rooms being glazed.

In the upstairs area the most striking feature is the sunlight attenuator, shaped like several leaves lying next to each other. This is finished in gold leaf and has a luminescent quality, letting in light which bounces off the glass balustrade and is reflected in ever-changing angles across the internal surfaces on the upper and lower floors throughout the day.

In terms of sustainability, a timber frame forms the main structure of the building, and lime render and lime paint are used wherever possible. A ground-source heat pump provides the heating for the building. The roofing is made from 100% recycled rubber material with welded seams, and the bespoke sunlight attenuator set in the centre is glazed externally with transparent polycarbonate.

Dulverton Surgery

GIA 660 m²



1 Primary and social care space

- A Consult/Exam
- B Treatment
- C Diagnostic imaging

2 Community bed space

- A Rehab room

3 Non-clinical space

- A Pharmacy
- B Community meeting

4 Staff/FM space

- A Office/admin
- B Staff common room
- C Meeting
- D Building operations

Vertical circulation

Horizontal circulation

Reception



Lifts



Evaluation

The difference between how patients behave in the new building as compared to the old is marked. The former waiting room was square, with seats lining the walls and facing each other, which meant that people were less likely to strike up conversation with each other. Now that people have more space to move around in, and less formal seating, they can choose where to sit and have more conversations with each other.

The GPs now find they can work much more closely with the community nurses, and with the new presence of the

dentists in the building, all are more able to comply with the PCT's requirements of joint working – for example to monitor the effects of certain medications, which may affect a patient in various ways.

Still a topic of conversation for the local community, some refer to the Dulverton surgery as being more like an art gallery than a health building – much to the pleasure of staff and users.



Project Team

- Design Team Guy Greenfield Architects
- Lead client GP surgery
- Key stakeholders GP surgery, dental practice
- Contractor Guy Greenfield Architects

Conclusions

Every project is unique

There is a wide variety of care models across the case studies, ranging from those delivering largely integrated primary care services for a specific neighbourhood through to those delivering local hospital services for a wider catchment population. Each project is unique in both service delivery and physical form. This suggests that they have been planned to meet local needs – the profile of services relates to health needs of the local population and is part of a strategic delivery plan across the region, and the building itself has been designed to make the most of the site's features.

Integration of services

Whilst the drivers behind the schemes varied, most were consciously aiming to provide services close to where people live and work, and to integrate working practices, at least through co-location, across health and social care. In practice this sometimes proved difficult to achieve, with some key players withdrawing from the projects, often at a late stage in development. For some projects this has meant finding alternative users for significant parts of the building even after opening. It has also resulted in under-utilisation of the building soon after opening. Clearly a more robust arrangement at planning stage is required to commit potential users to the projects.

Productive practices

With any new project there is the potential to modernise care delivery alongside the making of a better physical environment. It was clear that this opportunity had not always been fully exploited. Since it takes as long to change organisational behaviour as it does to develop building projects, these two change processes need to take place simultaneously. At the same time, some of the projects that had consciously set out to bring key services together had achieved this with innovative groupings of services across health and social care. Some, for example, included libraries, housing advice, gym facilities, and community organisations alongside healthcare and promotion.

Accessibility

The projects were located on a range of sites, many of which were accessible on foot and by public transport. However, some of the larger projects were located on sites at the edge of the town, typically business parks where bus and train routes are not so well provided. This has an impact not only on the ease of access for patients but also on the social responsibility of the organisation with regard to transport.

Health and healthy

Whilst the projects had developed services that promoted healthy lifestyles through their service profile, often including health promotion services, gym and exercise facilities etc, few had considered the contribution that the space around the building could make to a healthy neighbourhood.

Quality over quantity

Some projects have found it difficult to bring all the spaces into full use. This has been partly due to changes in service delivery during project development. But there was also a tendency in some cases to provide each service with a separate suite of rooms. More robust strategic planning, more rigorous capacity planning, and greater commitment by all stakeholders would help to alleviate this. Putting a greater emphasis on quality over quantity would help to improve the patient and staff experience overall.

All of the projects recognised the potential of the physical environment to improve the experience of patients and staff. The shape and layout of the buildings not only responded to the specific site, but also acknowledged the need for clear internal arrangements of activities to aid productivity and make wayfinding more intuitive for users. It is clear that even in the smaller projects, improvements to place making can be achieved by giving greater clarity to the circulation routes between the clinical suites.

Some were more successful than others in achieving good daylight for all clinical spaces. As this links significantly

with the overall shape and form of the building, it is a strategic design decision that needs to be established at the outset. Good daylight and views are known to support safe working conditions and help to improve the patient experience. Achieving quality as well as functionality should be a key driver at all levels in the design process.

Standardisation

There is potential to improve standardisation of room sizes. Where projects are part of a larger portfolio some effort has been made to rationalise room sizes over several schemes. However, there is potential to further develop this and to reduce the overall number of room sizes, encouraging multi-use of spaces. Improvements in capacity planning techniques are much needed to help to improve flexibility and utilisation of space over time. The notion that space is a resource, not territory, needs to be made more explicit in the briefing stages to avoid unnecessary duplication. Further guidance is required to set out the needs for office planning.

Flexible arrangements

The need to provide greater flexibility over the life of the building should be acknowledged. It is clear that policy and practice are changing rapidly in this sector and will continue to do so. This means that the buildings themselves must be capable of being changed over time. This is not unique to healthcare, and other sectors, such as office development, are prone to similar pressures. A better understanding of how to achieve optimal flexibility is needed. This might relate to different factors: strategic fit, building construction, room sizes, fittings and fixtures as well as timetabling to improve utilisation.

Sustainable developments

The 2008 Climate Change Act requires the reduction of net UK carbon for 2050 by 80% from the 1990 baseline.

Despite an increase in efficiency, the NHS has increased its carbon footprint by 40% since 1990. As recognised in the NHS's 2009 carbon reduction strategy, this means that meeting the Climate Change Act targets of 26% reduction by 2020 and 80% reduction by 2050 will be a huge challenge. During the development of both local health facilities and the spaces where they sit, there is a cumulative effect of decision-making around environmental factors, which can either make for incremental improvements in the environmental performance of buildings and health and well-being of the people that use them, or exacerbate problems that already exist.

Bearing in mind some of the negative impacts of climate change and damage to the environment on public health, through weather extremes, and airborne and respiratory disease, NHS buildings are ideally placed to set a leading example in terms of environmental sustainability. Straightforward design measures can be taken to help improve environmental performance for truly holistic health environments. Careful and well-informed decisions should be taken around factors such as:

- siting facilities close to civic hubs and transport links, and with good pedestrian and cycle access;
- intelligent building orientation, maximising the potential for “passive” design using natural ventilation, solar shading and daylighting;
- use of water- and energy-saving installations;
- use of materials with low embodied energy;
- use of benefits the site may offer for energy generation, such as ground-source heat pumps and combined heat and power (CHP) plants.

Wherever possible these decisions should be taken in the early stages of development so that solutions can be embedded into the ethos of the development and lifetime management of facilities.

Recommendations

Robust planning

Ensure that robust strategic planning and rigorous capacity planning determine the service vision for the scheme. Demonstrate their impact on the investment decisions for the physical improvements.

Forward-looking service delivery

Define organisational improvements and forward-looking service delivery plans and consider the change process involved to bring these about. Consider the impact of working practices on the functional requirements for physical space. Allow sufficient time to develop organisational changes alongside the building development programme.

Design quality

Improve design briefing by setting out quality requirements for the design of the built environment: make the design vision explicit particularly in relation to the patient experience. Encourage an integrated approach to design encompassing site planning, spatial arrangements, interior, landscape, and art.

Flexibility for the future

Devise planning and design strategies that cater for changes in service delivery over time. Further guidance is needed to establish an optimal range of generic room sizes to enable greater utilisation of rooms. More detailed understanding of design approaches that facilitate flexibility needs to be developed.

Healthy neighbourhoods

Improve site planning to ensure universal access, making the approach to the building visible and welcoming. Develop the potential for the buildings to contribute to the making of healthy neighbourhoods by considering the attractiveness of the open space to encourage, for example, cycle and pedestrian use.

Sustainable investment

Define the requirements for sustainable investment and ensure these are fully appreciated at the start of the project. The shape and form of the building and the orientation on the site have a significant impact on sustainable performance. A social, environmental and economic approach to sustainability needs to be considered together for best results.

Training and support

Establish support for the project team on design quality throughout the project; for example, appoint client design advisors, CABI enablers, and design champions. Undertake design reviews during development as a quality check for commissioners. Develop training for project and design teams to help identify key issues, share good practice and understand how to make a step change in design quality for primary and community buildings.

Summary of case studies against selection criteria

Table A1 Summary of case studies against selection criteria

	Model	Service improvement	Geographical spread	Architects/designers	Procurement
Bunny Hill	integrated health and social care		Suburban site North east	_space	Traditional/LA-led
Dulverton	primary care surgery		Market town, edge of centre; Southwest	Guy Greenfield	Traditional/Architect-led consortium
Farnham	remodelled hospital	NHS Institute pilot	Hospital site Surrey town	HLM	PFI
Grindon Lane	intermediate care	NHS Institute pilot	Outer city site North East	P+HS Architects	Traditional/LA-led
Hounslow	integrated health and social care		High street/health centre Outer London	Penoyre and Prasad	LIFT
Kentish Town	integrated health and social care		Health centre site Inner London	Allford Hall Monaghan Morris	LIFT with design competition
Lymington	remodelled hospital		Business park; rural Southwest	Murphy Philipps	PFI
Plowright	primary care surgery		Retail park; rural East Anglia	Chaplin Farrant	LIFT
Thetford	multi-use clinic		Business park/rural Market town, East Anglia	LA Architects	LIFT
Waldron	multi-use clinic		High street/health centre Outer London	Buschow Henley	LIFT

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