

Part B – Health Facility Briefing & Design
65 Dental Surgery Unit



iHFG

International Health Facility Guidelines

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Table of Contents

65	Dental Surgery Unit.....	3
1	Introduction	3
2	Planning	3
3	Design	5
4	Components of the unit	7
5	Schedule of Accommodation – Dental Surgery Unit	8
6	Functional Relationship Diagram – Dental Surgery Unit.....	10
7	References and Further Reading.....	11

65 Dental Surgery Unit

1 Introduction

Description

The Dental Surgery Unit provides facilities for the delivery of dental services which may include:

- Dental consult and procedures including cosmetic dental procedures
- Orthodontic treatments
- Dental imaging, generally using digital processing
- Dental Prosthetics, (dentures, crowns, veneers, bridges etc.)
- Dental hygiene education

Dental services will be provided according to a Service Plan and Operational Policy, determined for each unit.

This FPU will address Dental Surgery provided as a free-standing unit located in a community setting.

Refer to Oral Health Unit for dental services provided within a hospital facility.

2 Planning

Operational Models

Hours of Operation

The Dental Surgery Unit will generally operate up to 12 hours per day, 5 days per week. However, extended hours services involving after-hours and weekends may be provided by individual units.

Location

The location of the Dental Surgery Unit will vary, depending on the needs of the local area that it will serve. Options for locating units include:

- free standing in a community location
- attached or included in the development of commercial facilities e.g. shopping centre or medical suite.

Functional Areas

The Dental Surgery Unit will consist of the following Functional Areas/ Zones:

- Entry / Reception and Waiting
- Client/ Treatment Areas – including Dental Surgery Rooms, Dental Imaging Rooms, dental education areas
- Dental Support areas including Clean-up, Sterilising, Laboratories, dental plant room.
- Staff and Support Areas; Utilities, Storage, Drug storage, Staff Room, Toilets and Locker facilities.

Entry/ Reception and Waiting

The Entry to the Unit should be clearly identified through appropriate signage informing people where to proceed. The Entry may incorporate an airlock space and should have suitable weather protection. Entry doors should cater to the physically handicapped and may require automatic doors for easy access.

The Entry should have access to a vehicle set down area and be readily accessible from the street and parking areas. Reception and Waiting Areas should be adjacent.

Dental Surgery Unit

The Reception area should be prominent and well signposted. If the Reception is also used for Cashier functions, then appropriate security may be added for cash handling. Patient registration is generally undertaken at the Reception desk.

Waiting areas need to accommodate a range of occupants of varying mobility and should be designed for accessibility. As many patients may be accompanied by family members, provisions should be made for prams and play areas should be provided for children.

Client/ Treatment Areas

Dental Surgery Rooms

Dental Surgery Rooms should be located with ready access to/from Waiting Areas. The rooms will require access for clients with disabilities.

Provide Dental Surgery Rooms to comply with Standard Components, refer to details in Standard Components Room Data Sheets and Room Layout Sheets

Dental Education Area

A Dental Education area may be provided to teach children teeth care and brushing techniques. The education area will consist of basins at child height and a mirror. The area may include more than one basin according to service requirements.

The child education area may be incorporated into a dental surgery room or may be a separate room within the Unit, with ready access to the Waiting areas.

Provide warm water to the basins.

Dental Support Areas

Dental Support Areas will consist of:

- Dental Clean-up Room
- Dental Sterilising area
- Dental Laboratory, according to the service plan and requirement for dental prosthetics.
- Dental Plant room, for plant equipment servicing dental chairs.

Dental Service area should be located in a staff only zone with ready access to Dental Surgery Rooms and storage areas.

Provide Dental Clean-up, Dental Sterilising and Dental Laboratory Rooms to comply with Standard Components, refer to details in Standard Components Room Data Sheets and Room Layout Sheets

Dental Plant Room

The Dental Plant Room will accommodate equipment including water filtration equipment, silver water treatment system, dental suction plant and air compressors. The Plant Room shall be a minimum of six m². The size will be dependent on the amount of equipment to be accommodated and the layout.

The Plant Room should be located to minimise the impact of noise and heat generated by equipment accommodated within the room on adjacent areas. Access to the Plant Room through an external door is recommended as internal access may present noise issues.

Services required for equipment may include compressed air, cold water and both single and three phase power. Additional requirements include floor wastes and tundishes for waste water, external exhausting for suction system air discharge and room ventilation. There may be a requirement to include a pit in the plant room floor to accommodate an air venturi for the suction system. Remote isolation switches for plant should be considered (the sterilizing room or reception are ideal locations) so plant can be easily shut down at the end of the day.

Staff and Support Areas

Staff and Support areas for the Community Health Unit will include:

- Bays for Linen, Resuscitation trolley, mobile equipment
- Cleaners room
- Clean Utility with provision for drug storage
- Store Rooms for general stock and equipment; storage for sterile stock may be required for Dental Surgery rooms
- Offices for Unit Manager, Dentists and Orthodontists
- Staff amenities including Staff Room, Toilets, Shower, Lockers.

Functional Relationships

External

The Dental Surgery Unit will have a close functional relationship with the following:

- Car parking areas
- Ambulance access for emergency use
- Main Entry
- Services entry for delivery of supplies and removal of waste.

Internal

Within the Unit, key functional relationships will include:

- Reception should have a direct view of Entry / Waiting Areas and be visible from adjacent staff areas for optimal security; stationery and patient records should be conveniently located for staff access. Access to Dental Treatment areas by clients should be controlled by the Reception area.
- Dental Surgery and treatment rooms should be easily accessible from the Entry / Waiting Area for patients
- Separation of clean and dirty traffic flows particularly in Surgery rooms and Clean-up/sterilising areas
- Staff areas should be located with ready access to Entry / Reception and Client/ Treatment areas. Staff offices and amenities should be separate from client and Waiting areas to provide privacy and security.

3 Design

General

Design needs to accommodate all types of patients using the Unit. Provision shall be made for wheelchairs, mobility aids, and families with children and prams within the Unit.

Environmental Considerations

Natural Light

Where possible, the use of natural light shall be maximised within the Unit. Sufficient levels of natural lighting can provide a sense of wellbeing for both staff and patients, reduce patient discomfort and stress and is more likely to lead to better service outcomes

Maximise provision of natural light to areas where staff spend a large proportion of their working day such as Clean-up Rooms and Laboratories.

Privacy

Privacy is an important consideration in this Unit. The following features shall be integrated to the design of the Unit to support privacy:

- Doors and windows to be located appropriately to guarantee patient privacy and promote staff security
- Window treatments should provide patient privacy from external and internal viewing
- Confidentiality of patient discussions and patient records.

Acoustics

The following functions require careful consideration of acoustic privacy:

- noisy areas such as Waiting and play areas shall be located further away from the Surgery/ treatment spaces and staff areas
- interview areas with clients
- discussion areas for staff where confidential patient information will be shared
- Surgery/ treatment areas and Dental Laboratories where equipment noise and noise producing treatments are likely to be transmitted.

Space Standards and Components

Ergonomics

The Dental Surgery Unit should be designed with consideration to ergonomics to ensure an optimal working environment, particularly with respect to heights of benches, working height of equipment and location of equipment within rooms.

Refer also to Part C of these Guidelines.

Safety and Security

Equipment, furniture, fittings and the facility itself shall be designed and constructed to be safe, robust and meet the needs of the intended range of users.

The Dental Unit requires the following security considerations:

- The perimeter of the Unit shall be lockable
- Zones within the Unit such as service areas may need to be lockable when not in use
- Doors to all offices shall be lockable
- Rooms used for storing equipment and files must be lockable
- Provision of after-hours access and security for staff may be required.

Finishes

Floor and ceiling finishes shall be selected to suit the function of the space and promote a pleasant environment for patients, visitors and staff.

The following factors shall be considered:

- aesthetic appearance
- acoustic properties
- durability
- ease of cleaning
- infection control
- movement of equipment and mobility equipment through the Unit.

Refer to Part C and Part D of these Guidelines.

Fixtures and Fittings

Specialised dental equipment will require services and installation according to manufacturer's specifications.

Refer to Part C of these Guidelines and Standard Components for information of fixtures and fittings.

Building Service Requirements

Radiation Safety and Shielding

The Unit will undertake dental imaging procedures; plans and specifications will require assessment for radiation protection by a certified physicist or other qualified expert as required by the relevant Radiation and Nuclear Safety Agency. The radiation protection assessment will specify the type, location and amount of radiation protection required according to the final equipment selections and layout. Radiation protection requirements must be incorporated into the final specifications and building plans.

Information Technology (IT) and Communications

It is vital to provide reliable and effective IT/ Communications service for efficient operation of the Unit. The following items relating to IT/ Communication should be addressed in the design:

- Appointment systems
- Electronic records, pathology results
- Scheduling systems to manage Dental surgery room bookings, if applicable
- Materials management including bar coding for supplies, x-rays and records, as required
- Emergency and duress call systems
- Telephones, computers, servers and communications room requirements.

Infection Control

Consideration of Infection Control is important in the design of this Unit. Separation of clean and dirty workflows in Dental Surgery rooms and clean-up areas is critical to the function of the Unit and to prevent cross infection. Dental Surgery rooms will be used for a variety of clients whose infection status may be unknown. Standard precautions must be taken for all clients regardless of their diagnosis or presumed infectious status. Staff hand washing facilities, including disposable paper towels, must be readily available.

4 Components of the unit

The Dental Unit will consist of Standard Components to comply with details described in these Guidelines. Refer to Standard Components Room Data Sheets.

5 Schedule of Accommodation – Dental Surgery Unit

Dental Unit with 2, 4 & 6+ chairs

Entry/Reception

ROOM / SPACE	Standard Component			2 Chairs Qty x m2	4 Chairs Qty x m2	6+ Chairs Qty x m2	Remarks
AIRLOCK – ENTRY	AIRLE-6-I			1 x 6	1 x 6	1 x 6	Optional depending on location
RECEPTION	RECL-10-I RECL-20-I			1 x 10	1 x 12	1 x 20	
STORE – FILES	STFS-8-I STFS-10-I			1 x 8	1 x 8	1 x 10	Compactus or fixed shelving
STORE - PHOTOCOPIER / STATIONERY	STPS-8-I			Share	1 x 8	1 x 8	
OFFICE – 2 PERSON, SHARED	OFF-2P-I				1 x 12	1 x 12	
WAITING - MALE / FEMALE	WAIT-10-I WAIT-20-I			2 x 10	2 x 15	2 x 20	Cold water dispenser; separate for Male & Female
WAITING – FAMILY	WAIT-10-I WAIT-20-I			1 x 10	1 x 15	1 x 20	Cold water dispenser
PLAY AREA- PAEDIATRIC	PLAP-10-I PLAP-15-I			Included in Waiting	1 x 10	1 x 15	Optional
BAY - WHEELCHAIR PARK	BWC-I			Share	1 x 4	1 x 4	1 – 2 wheelchairs
TOILET – PUBLIC	WCPU-3-I			Share	2 x 3	2 x 3	Separate for Male & Female
TOILET – ACCESSIBLE MALE/ FEMALE	WCAC-I			2 x 6	2 x 6	2 x 6	

Treatment Areas

ROOM / SPACE	Standard Component			2 Chairs Qty x m2	4 Chairs Qty x m2	6+ Chairs Qty x m2	Remarks
DENTAL SURGERY – SINGLE	DENSR-14-I			2 x 14	2 x 14	3 x 14	
DENTAL SURGERY – SINGLE	DENSR-16-I				1 x 16	1 x 16	For Bed access As required
DENTAL SURGERY - 2 CHAIRS	DENSR-14-I similar				1 x 40	1 x 40	Similar to Dental Surgery - Single
CHILD EDUCATION AREA				1 x 2	1 x 3	1 x 4	Optional; may be incorporated into an open plan surgery
PATIENT BAY – HOLDING (RECOVERY)	PBTR-H-10-I			2 x 10	2 x 10	2 x 10	Separate Male & Female
BAY - HANDWASHING, TYPE B	BHWS-B-I			1 x 1	1 x 1	1 x 1	Collocate with recovery
BAY - RESUSCITATION TROLLEY	BRES-I			Share	1 x 1.5	1 x 1.5	

Support Areas

ROOM / SPACE	Standard Component			2 Chairs Qty x m2	4 Chairs Qty x m2	6+ Chairs Qty x m2	Remarks
DENTAL X-RAY PROCESSING DIGITAL	DENXR-I			1 x 6	1 x 6	1 x 6	
DENTAL X-RAY , OPG	DENXR-I				1 x 6	1 x 6	
DENTAL LABORATORY	DENL-8-I similar			1 x 8	1 x 20	1 x 30	
DENTAL CLEAN-UP / STERILISING	DCLUP-I similar			1 x 8	1 x 12	1 x 30	
STORE - STERILE STOCK	STSS-12-I			1 x 8	1 x 10	1 x 12	May be incorporated into instrument Processing
DIRTY UTILITY - SUB	DTUR-S-I DTUR-12-I			1 x 8	1 x 10	1 x 12	Including Disposal; for fluids disposal, soiled linen etc.

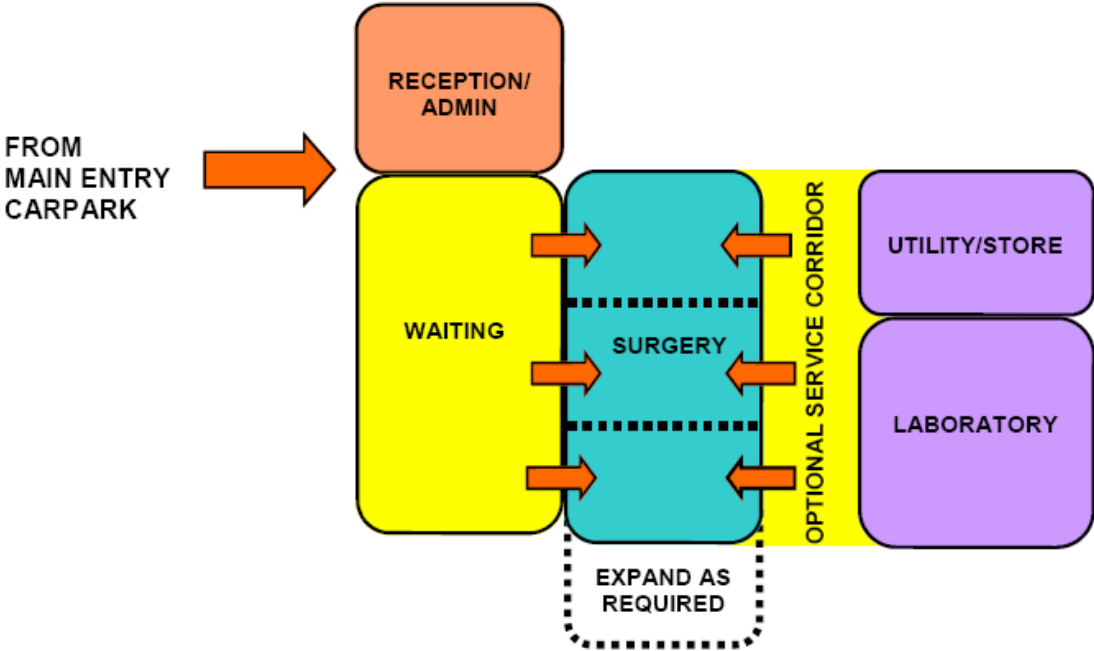
Dental Surgery Unit

ROOM / SPACE	Standard Component			2 Chairs Qty x m2	4 Chairs Qty x m2	6+ Chairs Qty x m2	Remarks
BAY - LINEN TROLLEY	BLIN-I			1 x 2	1 x 2	1 x 2	
STORE – GENERAL	STGN-9-I STGN-14-I			1 x 9	1 x 12	1 x 14	
CLEANER'S ROOM	CLRM-5-I			Share	1 x 5	1 x 5	
DENTAL PLANT ROOM				1 x 9	1 x 12	1 x 16	After-hours access
LOADING DOCK (GOODS RECEPTION)	LODK-I similar				1 x 15	1 x 15	Space for one truck May be shared
OFFICE – SINGLE PERSON	OFF-S12-I			1 x 12	1 x 12	1 x 12	Senior Dentist
OFFICE - WORKSTATION	OFF-WS-I			2 x 5.5	4 x 5.5	6 x 5.5	Number to suit staff establishment
MEETING ROOM – MEDIUM/ LARGE	MEET-L-15-I MEET-L-20-I				1 x 15	1 x 20	
STAFF ROOM	SRM-15-I				2 x 15	2 x 15	Male/ Female
BAY - BEVERAGE	BBEV-OP-I			1 x 4			Included in Staff Room
SHOWER - STAFF (MALE)	SHST-I				1 x 3	1 x 3	Optional
SHOWER - STAFF (FEMALE)	SHST-I				1 x 3	1 x 3	Optional
TOILET - STAFF (MALE)	WCST-I			1 x 3	2 x 3	2 x 3	
TOILET - STAFF (FEMALE)	WCST-I			1 x 3	2 x 3	2 x 3	
CIRCULATION ALLOWANCE %				25%	32%	32-35%	

Please note the following:

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in the FPU.
- Rooms indicated in the schedule reflect the typical arrangement according to the Role Delineation.
- Exact requirements for room quantities and sizes will reflect Key Planning Units identified in the Service Plan and the Operational Policies of the Unit.
- Room sizes indicated should be viewed as a minimum requirement; variations are acceptable to reflect the needs of individual Unit.
- Office areas are to be provided according to the Unit role delineation and the number of approved full time positions within the Unit
- Staff and support rooms may be shared between Functional Planning Units dependant on location and accessibility to each unit and may provide scope to reduce duplication of facilities.

6 Functional Relationship Diagram – Dental Surgery Unit



7 References and Further Reading

- Australasian Health Facility Guidelines, Part B Health Facility Briefing and Planning, Oral Health Unit, Rev 4, 2012; refer to website www.healthfacilitydesign.com.au
- Guidelines for Design and Construction of Health Care Facilities, The Facilities Guidelines Institute, 2010; refer to website www.fgiguilines.org
- HBN12 Out-patients Department, NHS Estates, UK Department of Health, 2004 refer to website www.tso.co.uk/bookshop .



The International Health Facility Guidelines recommends the use of HFBS “Health Facility Briefing System” to edit all room data sheet information for your project.

HFBS provides edit access to all iHFG standard rooms, and departments, and more than 100 custom report templates.

HFBS Health Facility Briefing System



Briefing Module

The Health Facility Briefing System (HFBS) has numerous modules available via annual subscription. It suits healthcare Architects, Medical Planners, Equipment Planners Project Managers and Health Authorities.

Use the HFBS Briefing Module to quickly drag in health facility departments or pre-configured room templates from the iHFG standard, edit the room features such as finishes, furniture, fittings, fixtures, medical equipment, engineering services. The system can print or download as PDF more than 100 custom reports including room data sheets, schedules, and more...

To learn more about the HFBS web-based Healthcare Briefing and Design Software and to obtain editable versions of the “Standard Components” including Room Data Sheets (RDS) and Room Layout Sheets (RLS) offered on the iHFG website, signup for HFBS using the link below.

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