

TECHNICAL REFERENCE

Facility design guidelines for community hospitals



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CIAP Architects Pte Ltd

Ministry of Health

MOH Holdings Pte Ltd

RDC Architects Pte Ltd

SAA Architects Pte Ltd

Singapore General Hospital

Singapore Health Services

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Foreword

This Technical Reference was prepared by a Working Group (WG) appointed by the Technical Committee on Architectural Works which is under the direction of the Building and Construction Standards Committee (BCSC).

Singapore's healthcare system is seeing an increasing number of chronic illness cases as compared to the past, where sporadic acute inpatient cases managed in acute general hospitals were more common. The tight bed situation at acute general hospitals nationwide also lends urgency to the development of more appropriate intermediate acuity services to support patients from acute general hospitals in continuation of their lower intensity post-injury or illness care. As such, community hospitals are required to facilitate integration of care between acute inpatient and long-term convalescent care, forming part of the Regional Health System to deliver integrated, seamless and holistic care to the population.

This Technical Reference is part of MOH Holdings' Standardisation Plans for Healthcare Infrastructure to support new community hospital projects in Singapore. These guidelines will benefit project consultants and healthcare operators to enhance the quality and safety of healthcare services.

This Technical Reference is a provisional standard made available for application over a period of three years. The aim is to use the experience gained to update the Technical Reference so that it can be adopted as a Singapore Standard. Users of the Technical Reference are invited to provide feedback on its technical content, clarity and ease of use. Feedback can be submitted using the form provided in the Technical Reference. At the end of the three years, the Technical Reference will be reviewed, taking into account any feedback or other considerations, to further its development into a Singapore Standard if found suitable.

The specific requirements of the Ministry of Health's policies, clinical services and guidelines for community hospitals shall take precedence over the recommendations in this Technical Reference.

This Technical Reference does not give exemption from the adherence to the relevant Authorities' Acts, Codes and Regulations currently enforced, such as the following (and the list may not be exhaustive):

Building Control Regulation 27, Approved Document - Acceptable Solutions

Code of Practice on Environmental Health

Code of Practice for Fire Precautions in Buildings (Fire Code)

Code of Practice on Surface Water Drainage

Code of Practice on Sewerage and Sanitary Work and its amendments

Energy Conservation Act 2012 (No. 11 of 2012) and its Regulations

Environmental Protection and Management Act (Cap. 94A) and its Regulations

Environmental Public Health Act (Cap. 95) and its Regulations

Environmental Public Health (Cooling Towers and Water Fountains) Regulations

Infectious Diseases Act (Cap. 137) (Part V) and its Regulations

Misuse of Drugs Act and its Regulations

Private Hospitals and Medical Clinics Act (Cap. 248) and its Regulations

Radiation Protection Act (Cap. 262) and its Regulations

Sewerage and Drainage Act (Cap. 294) and its Regulations

Workplace Safety and Health Act and its Workplace Safety and Health (General Provisions) Regulations

WSH Guidelines on Healthcare

At the time of publication, this Technical Reference is expected to be used by architects, professional engineers, consultants, operators of community hospitals and relevant regulatory/government agencies.

Attention is drawn to the possibility that some of the elements of this Technical Reference may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.*
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Technical Reference – Facility design guidelines for community hospitals

0 Introduction

Community hospitals are intermediate care facilities. They cater to patients who are fit for discharge from acute general hospitals but require a brief period of inpatient convalescent and rehabilitative care.

Community hospitals play an important role in providing rehabilitation care for a longer period, with the aim of optimising the patient's recovery and functional outcomes, facilitating patients' return to the community with maximum possible independence. Community hospitals usually take over care from acute general hospitals after an acute phase to provide rehabilitation and extended nursing to further improve patient function.

The model of care for community hospitals should support the acute general hospitals and elderly patients. The key services are those related to geriatric and psycho-geriatric care, rehabilitation and general non-specialist-type care. As an intermediate care sector facility, its organisation of care and deployment of manpower should be coordinated with partner or co-located acute general hospitals in a seamless and timely manner so that patients can be transferred from acute care to continue their care in a patient-centred, time-limited manner. Such collaborations with the partner or co-located acute general hospitals should include early initiation of joint discharge planning from the acute general hospitals, clinical pathways, visiting consultant rounds and teaching sessions.

NOTE – For ease of reference, the term "hospital" mentioned in this Technical Reference refers to a community hospital.

1 Scope

1.1 This Technical Reference specifies the general guidelines for the basic space and design planning of new community hospitals in Singapore.

It provides guidance on the specific needs of related facilities in a community hospital to design consultants and personnel who may be involved in the design, construction, operation and maintenance of the community hospital. It aims to enhance the quality of care by establishing standards to provide suitable living conditions, with considerations of safety, privacy and dignity for the patients, staff and visitors of the community hospital.

1.2 Key planning unit (KPU) refers to a unit, grouping broadly related activities within a community hospital. Functional planning unit (FPU) refers to the key components within a KPU that determine the size of the unit. The planning units covered in this Technical Reference are as follows:

<u>Key planning unit (KPU)</u>	<u>Functional planning unit (FPU)</u>
a) Inpatient accommodation	<ul style="list-style-type: none"> – Rehabilitation care ward – Sub-acute care (general) ward – Sub-acute care (palliative) ward – Sub-acute care (dementia) ward
b) Clinical support services	<ul style="list-style-type: none"> – Rehabilitation and allied health unit

1.3 Refer to TR 42 for the general design requirements for outpatient clinics, pharmacy unit and renal dialysis unit.

1.4 Home care services, medical social services, operational support services, staff administration, staff amenities and ancillary facilities such as bin centres, carparks and landscape are not covered in this Technical Reference.

2 Normative references

The following standards/referenced documents are indispensable for the application of this Technical Reference. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ANSI/ASHRAE/ASHE Standard 170-2013 Ventilation of Health Care Facilities

ANSI/IESNA RP-28-07 Lighting and the Visual Environment for Senior Living

ANSI/IESNA RP-29-06 Lighting for Hospitals and Health Care Facilities

Building and Construction Authority (BCA), Code on Accessibility in the Built Environment

BCA, Green Mark for Healthcare Facilities

BCA, Universal Design Guide

CIBSE Guide 'D': Transportation Systems in Building

EN 779/ASHRAE 52.2 Indoor Air Quality

Health Technical Memorandum (HTM) 02-01 Medical Gas Pipeline Systems

HTM 03-01 Specialised Ventilation for Healthcare Premises

HTM 08-02 Lifts

IEEE Standard 1789-2015 IEEE Recommended Practices for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers

ISO 9170-1: 2008 Terminal Units for Medical Gas Pipeline Systems – Part 1: Terminal Units for Use with Compressed Medical Gases and Vacuum

Ministry of Health (MOH), Influenza Pandemic Guide for Step-Down Care Institutions and Nursing Homes

National Environment Agency (NEA), Guideline on Boundary Noise Limit for Air-Conditioning and Mechanical Ventilation Systems in Non-Industrial Buildings

Public Utilities Board (PUB), Trade Effluent Discharge into Sewers – A Guidebook to Good Practices

Singapore Environment Council, Singapore Green Labelling Scheme

Singapore Green Building Council, Singapore Green Building Product Label

CP 5 Code of practice for electrical installations

SS 485 Specification for slip resistance classification of pedestrian surface materials

SS 514 Code of practice for office ergonomics

SS 530 Code of practice for energy efficiency standard for building services and equipment

- SS 531 Code of practice for lighting of work places
- SS 550 Code of practice for installation, operation and maintenance of electric passenger and goods lifts
- SS 553 Code of practice for air-conditioning and mechanical ventilation in buildings
- SS 554 Code of practice for indoor air quality for air-conditioned buildings
- SS 569 Code of practice for manual handling
- SS 593 Code of practice for pollution control
- SS 597 Code of practice for bulk liquid oxygen storage installations on user premises
- SS 599 Guide for wayfinding signage in public areas
- SS 603 Code of practice for hazardous waste management
- SS 626 Code of practice for design, installation and maintenance of escalators and moving walks
- TR 42 Technical Reference for facility design guidelines for acute general hospitals