

TR 65:2018(2023)
(ICS 11.020; 91.040.10)

TECHNICAL REFERENCE

Facility design for polyclinics

Confirmed 2023

TR 65:2018(2023)

(ICS 11.020; 91.040.10)

TECHNICAL REFERENCE

Facility design for polyclinics

Published by Enterprise Singapore

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilised in any form or by any means, electronic or mechanical, including photocopying and microfilming, without permission in writing from Enterprise Singapore. Request for permission can be sent to: standards@enterprisesg.gov.sg.

© Enterprise Singapore 2018

ISBN 978-981-48-3516-9

Contents

	Page
Foreword _____	5
0 Introduction _____	7
1 Scope _____	7
2 Normative references _____	7
3 Terms and definitions _____	8
4 Provisions common to all functional planning units (FPU) _____	10
4.1 General _____	10
4.2 Functional and design considerations _____	10
4.3 Environmental considerations _____	16
4.4 Infection prevention and control _____	18
4.5 Building services _____	20
5 Basic facilities: Acute services unit _____	26
5.1 General _____	26
5.2 Planning considerations _____	26
5.3 Functional and design considerations _____	27
5.4 Environmental considerations _____	32
5.5 Infection prevention and control _____	33
5.6 Building services _____	34
6 Basic facilities: Wellness module unit _____	36
6.1 General _____	36
6.2 Planning considerations _____	37
6.3 Functional and design considerations _____	37
6.4 Environmental considerations _____	40
6.5 Infection prevention and control _____	40
6.6 Building services _____	40
7 Basic facilities: Chronic disease related services unit _____	40
7.1 General _____	40
7.2 Planning considerations _____	41
7.3 Functional and design considerations _____	41
7.4 Environmental considerations _____	44
7.5 Infection prevention and control _____	44
7.6 Building services _____	44
8 Support facilities: Diagnostics services unit _____	44
8.1 General _____	44
8.2 Planning considerations _____	44
8.3 Functional and design considerations _____	45

8.4	Environmental considerations _____	47
8.5	Infection prevention and control _____	48
8.6	Building services _____	48
9	Support facilities: Pharmacy services unit _____	49
9.1	General _____	49
9.2	Planning considerations _____	49
9.3	Functional and design considerations _____	50
9.4	Environmental considerations _____	52
9.5	Infection prevention and control _____	52
9.6	Building services _____	53
10	Enhanced facilities: Dental services unit _____	53
10.1	General _____	53
10.2	Planning considerations _____	53
10.3	Functional and design considerations _____	54
10.4	Environmental considerations _____	56
10.5	Infection prevention and control _____	57
10.6	Building services _____	57
11	Enhanced facilities: Allied health services unit _____	58
11.1	General _____	58
11.2	Planning considerations _____	58
11.3	Functional and design considerations _____	59
11.4	Environmental considerations _____	61
11.5	Infection prevention and control _____	61
11.6	Building services _____	61

Annexes

A	Room area guide _____	62
B	Acoustic guide _____	63
C	Planning models of consult rooms guide _____	64
D	Internal planning of consult rooms guide _____	65

Tables

1	Recommended corridor width _____	12
2	Modes of ventilation for polyclinic _____	22
3	Air-conditioning design parameters _____	23
4	Load type categorisation _____	25
5	Operational models of an acute services unit _____	26
6	Planning models of consult rooms _____	27
7	Functional zones and areas in an acute services unit _____	28

8	Operational models of a wellness module unit _____	37
9	Functional zones and areas in a wellness module unit _____	38
10	Operational models of a chronic disease related services unit _____	41
11	Functional zones and areas in a chronic disease related services unit _____	42
12	Operational models of a diagnostics services unit _____	44
13	Functional zones and areas in a diagnostics services unit _____	45
14	Operational models of a pharmacy services unit _____	49
15	Functional zones and areas in a pharmacy services unit _____	50
16	Functional zones and areas in a dental services unit _____	54
17	Operational models of an allied health services unit _____	58
18	Functional zones and areas in an allied health services unit _____	59
A.1	Recommended room area guide _____	62
B.1	Recommended internal design sound levels _____	63
	Bibliography _____	66

Foreword

This Technical Reference (TR) was prepared by the Working Group on Facility Design for Polyclinics set up by the Technical Committee on Architectural Works under the purview of the Building and Construction Standards Committee.

Primary care is the foundation of the healthcare system and associated healthcare services will continue to increase as we face an increasing prevalence of chronic diseases in tandem with an ageing population, changing lifestyles and longer life expectancies. While it is important for the elderly person to retain and maintain his or her functionality, mobility and quality of life, there is also a need to ensure that the working Singaporeans are managing good health with easy access to preventive health and health promotion services. As such, polyclinics which are defined as one-stop healthcare centres, independent of a hospital, will provide subsidised primary care which includes primary medical treatment and examination, preventive healthcare and health education for patients of the different age groups.

It is essential to project, plan and facilitate cost-effective and quality healthcare facilities to support Singapore's needs and strategies as set out in Healthcare 2020 Masterplan. Thus, there is a need to establish this Technical Reference on facility design for polyclinics that will benefit project consultants and healthcare operators during the planning of new polyclinics to enhance the delivery of healthcare services.

This TR 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 TR so that it can be adopted as a Singapore Standard. Users of the TR are invited to provide feedback on its technical content, clarity and ease of use. Feedback can be submitted using the form provided in the TR. At the end of the three years, the TR will be reviewed, taking into account any feedback or other considerations, to further its development into a Singapore Standard if found suitable.

It is presupposed that in the course of their work, users will comply with all relevant regulatory and statutory requirements. Some examples of relevant regulations and acts are listed in the Bibliography. The Singapore Standards Council and Enterprise Singapore shall not be responsible for identifying all of such legal obligations.

In preparing this TR, reference was made to the following publications:

1. Building Control Regulation 27, Approved Document – Acceptable Solutions
2. Code of Practice on Environmental Health
3. Code of Practice for Fire Precautions in Buildings (Fire Code)
4. Code of Practice on Surface Water Drainage
5. Code of Practice on Sewerage and Sanitary Work
6. Energy Conservation Act 2012 (No. 11 of 2012) and its Regulations
7. Environmental Protection and Management Act (Cap. 94A) and its Regulations
8. Environmental Public Health Act (Cap. 95) and its Regulations
9. Environmental Public Health (Cooling Towers and Water Fountains) Regulations
10. Infectious Diseases Act (Cap. 137) (Part V) and its Regulations
11. Medicines Act (Cap. 176) and its Regulations

12. Private Hospitals and Medical Clinics Act (Cap. 248) and its Regulations
13. Radiation Protection Act (Cap 262) and its Regulations
14. Sewerage and Drainage Act (Cap. 294) and its Regulations
15. Workplace Safety and Health Act and its Workplace Safety and Health (General Provisions) Regulations
16. WSH Guidelines on Healthcare

Acknowledgement is made for the use of information from the above publications.

Attention is drawn to the possibility that some of the elements of this TR 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. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "mature standards". Mature standards will not be subject to further review unless there are requests to review such standards.*
2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*
3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

Facility design for polyclinics

0 Introduction

Historically, polyclinics have been vital in providing subsidised care for all Singaporeans. They started off as outpatient dispensaries, maternal and child health clinics, and were later amalgamated to provide a more comprehensive range of health services. Besides services provision, polyclinics are also key training centres for future family physicians as they provide a one-stop healthcare facility with an appropriate case mix of child, adult and elderly patients. The availability of clinical services such as diagnostics, allied health, etc. is also in line with the Family Medicine (FM) principles of providing comprehensive and coordinated care. Primary care, which includes polyclinics and general practitioners (GPs), continues to play a vital role in Singapore's healthcare system.

NOTE – For ease of reference, the term “facility” mentioned in this Technical Reference refers to the polyclinic.

1 Scope

1.1 This Technical Reference gives the provisions for the basic space and design planning of polyclinics in Singapore.

It covers the specific needs of related clinical facilities in a polyclinic to design consultants and personnel who may be involved in the design, construction, operation and maintenance of the polyclinic. It aims to enhance the quality of care by establishing standards to provide appropriate care delivery, with considerations for the safety, privacy and dignity of the facility's patients, staff and visitors.

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

	<u>Key planning unit (KPU)</u>	<u>Functional planning unit (FPU)</u>
a.	Basic facilities	<ul style="list-style-type: none"> - Acute services - Wellness module - Chronic disease related services
b.	Support facilities	<ul style="list-style-type: none"> - Diagnostic module - Pharmacy services
c.	Enhanced facilities	<ul style="list-style-type: none"> - Dental services - Allied health services

1.3 Enhanced acute, and chronic disease related services, training, staff administration, staff amenities and ancillary facilities such as bin centres, carparks and landscape are not covered in this Technical Reference.

1.4 Refer to Annex A for the room area guide for polyclinics.

2 Normative references

The following referenced documents are indispensable for the application of this document. 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 Ventilation of Health Care Facilities

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

ASHRAE Standard 55 Thermal Environmental Conditions for Human Occupancy

ASHRAE Standard 62.1 Ventilation for Acceptable Indoor Air Quality

Building and Construction Authority, Green Mark for Healthcare Facilities

CIBSE Guide 'D': Transportation Systems in Buildings

EN 779/ASHRAE 52.2 Indoor Air Quality

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

PUB, Singapore's National Water Agency, Trade Effluent Discharge into Sewers – A Guidebook to Good Practices

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 lift

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 599 Guide for wayfinding signage in public areas

SS 603 Code of practice for hazardous waste management

SS 638 Code of practice for electrical installations (formerly CP 5)