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CPWD

Compendium of Norms for Designing of Hospitals & Medical Institutions

Compendium of Norms for Designing of Hospitals & Medical Institutions

July 2019

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Government of India
Ministry of Housing & Urban Affairs
Central Public Works Department



CPWD

Compendium of Norms for Designing of Hospitals & Medical Institutions



PRABHAKAR SINGH
Director General

सत्यमेव जयते

भारत सरकार
Government of India

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MESSAGE

Central Public Works Department has always been proud of its tradition of contributing to the built environment through various publications.

With the advancement of technological options now available, a need was felt to compile the norms for designing of Hospitals & Medical Institutions, which will give an overview about the new possibilities that have emerged.

I am happy to note that a Publication **"Compendium of Norms for Designing of Hospitals & Medical Institutions"** is being brought out by the department. This publication is an initiative towards creating a user-friendly space i.e. modern sustainable and productive. It is one more step forward in the journey of CPWD towards technical excellence, to which CPWD is always committed.

This Publication is easy to adopt, compiled primarily for internal use. Other organisations and private sector will also find it useful. I look forward to the widespread dissemination and use of this **"Compendium of Norms for Designing of Hospitals & Medical Institutions"** and feedback on the same.

(Prabhakar Singh)



Navneet Kumar
Additional Director General
(Works)

सत्यमेव जयते
भारत सरकार
Government of India

केन्द्रीय लोक निर्माण विभाग
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PREFACE

Various Healthcare facilities & infrastructure are being dealt in CPWD for a long time on the basis of Norms fixed by different statutory bodies. With changing needs and time various modifications were proposed from time to time by the different organisations with respect to norms & guidelines related to healthcare. Therefore a need was felt to compile all the relevant data for the use of Architects as well as Engineers of CPWD. Revisions which have been made in the Unified Buildings Bye-Laws-Delhi, 2016 Master Plan of Delhi-2021 & National Building Code 2016 from time to time have also been included.

I would like to express my thanks to Sh. R.K. Kaushal, ADG (Region Hyderabad) for taking initiative and also appreciate the sincere efforts of his entire team with whose dedication this **"Compendium of Norms for Designing of Hospitals & Medical Institutions"** has been brought out.

This Compendium of Norms for Designing of Hospitals & Medical Institutions has been prepared specifically for use in CPWD for design of hospitals. It is hoped that this will serve as a useful reference material.

Navneet Kumar
Additional Director General (Works)
CPWD



Rajesh K. Kaushal
Additional Director General
(Region Hyderabad)

सत्यमेव जयते
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ACKNOWLEDGEMENT

With the rise of Professionalism, the disciple of Architecture has become increasingly specialised and focused on questions of basic functionality and aesthetics. This specialist role now forms the basis of the widely accepted modern definition of architectural practice, Architects, as licensed professionals, transform the space needs into concepts, images and plans of buildings and to be constructed by others. They are responsible for orchestrating & coordinating the work of many disciplines during the design phases and, at times, even during the execution. Their profession is responsible for safeguarding the health, safety and welfare of the public. The cultural definition of architecture characterises the ways in which the discipline responds to social, aesthetic aspects of making cities, buildings and landscapes. A “whole building” approach must necessarily incorporate both sets of disciplinary dissemination.

The Publication & widespread dissemination of this simple yet effective user friendly “Compendium of Norms for Designing of Hospitals & Medical Institutions by CPWD, Ministry of Housing & Urban Affairs marks another milestone in the journey of energy efficient buildings and productive work environment. It is hoped that the information complied in this publication is suitably adopted throughout the country

I wish to show my deep gratitude to the esteemed Director General, CPWD, Sh. Prabhakar Singh, for agreeing and encouraging us to publish this book.

I also express my deep appreciation to all the team members including Sh. T.K.Giri (Architect), Sh. Gem George Jacob (Dy. Architect), Sh. Kamal Passi (Asstt. Architect), and Ms. Nazera Mohiuddin (Asstt. Architect) who have made their sincere efforts to bring out this publication.

Special mentioned must be made for Arti Printers for untiring efforts in printing the publication.

Rajesh K. Kaushal
Additional Director General
Region Hyderabad, CPWD

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This compendium is a collection of various guidelines, Standards, circulars published by the Government, etc. that facilitate the Designing of Healthcare facilities in India.

Given the vast amount of information that can be accessed for Healthcare Facilities, it becomes difficult to compile all that information into one book. Thus, this compendium refers the following Guidelines, Minimum Standards for Hospitals and Medical Institutions.

1. Indian Public Health Standards (IPHS) for all Parameters such as Areas, Manpower, Physical Infrastructure, etc.
2. Clinical Establishments for Minimum Area Norms for various Healthcare Facilities.
3. National AYUSH Mission for various facilities to be upgraded/ designed as per AYUSH Framework.
4. BIS 1984 for any Areas not mentioned in the above Guidelines.
5. Medical Council of India (MCI) Guidelines for Teaching Hospitals.
6. IGBC Green Healthcare Facilities Rating System for Green Building Recommendations.
7. International Health Facility Guidelines for International Standards.

Healthcare Facilities In India

Healthcare Facilities in India

Background

Report on the Health Survey and Development Committee, commonly referred to as the Bhore Committee Report, 1946, has been a landmark report for India, from which the current health policy and systems have evolved. The recommendation for three-tiered health-care system to provide preventive and curative health care in rural and urban areas placing health workers on government payrolls and limiting the need for private practitioners became the principles on which the current public health-care systems were founded. This was done to ensure that access to primary care is independent of individual socioeconomic conditions. However, lack of capacity of public health systems to provide access to quality care resulted in a simultaneous evolution of the private health-care systems with a constant and gradual expansion of private health-care services.

Although the first national population program was announced in 1951, the first National Health Policy of India (NHP) got formulated only in 1983 with its main focus on provision of primary health care to all by 2000. It prioritized setting up a network of primary health-care services using health volunteers and simple technologies establishing well-functioning referral systems and an integrated network of specialty facilities. NHP 2002 further built on NHP 1983, with an objective of provision of health services to the general public through decentralization, use of private sector and increasing public expenditure on health care overall. It also emphasized on increasing the use of non-allopathic form of medicines such as ayurveda, unani and siddha, and a need for strengthening decision-making processes at decentralized state level.

Due to the India's federalized system of government, the areas of governance and operations of health system in India have been divided between the union and the state governments. The Union Ministry of Health & Family Welfare is responsible for implementation of various programs on a national scale (National AIDS Control Program, Revised National Tuberculosis Program, to name a few) in the areas of health and family welfare, prevention and control of major communicable diseases, and promotion of traditional and indigenous systems of medicines and setting standards and guidelines, which state governments can adapt. In addition, the Ministry assists states in preventing and controlling the spread of seasonal disease outbreaks and epidemics through technical assistance. On the other hand, the areas of public health, hospitals, sanitation and so on come under the purview of the state, making health a state subject. However, areas having wider ramification at the national level, such as family welfare and population control, medical education, prevention of food adulteration, quality control in manufacture of drugs, are governed jointly by the union and the state government. (Chokshi, et al., 2016)

Public Healthcare Infrastructure in India

India has a mixed health-care system, inclusive of public and private health-care service providers. The public health-care infrastructure in rural areas has been developed as a three-tier system based on the population norms.

The size of a hospital depends upon the hospital bed requirement, which in turn is a function of the size of the population it serves. As per the Indian Public Health Standards (IPHS), 2012, the calculation of number of beds is based on-

- annual rate of admission as 1 per 50 population
- average length of stay in a hospital as 5 days

For example: In India the population size of a district varies from 50,000 to 15,00,000. For the purpose of convenience the average size of the district is taken as one million population. Based on the assumptions the number of beds required for 10,00,000 population is :

- No. of bed days per year : (10,00,000 x 1/50) x 5 = 1,00,000
- No. of beds required with 100% occupancy : 1,00,000 / 365 = 275
- No. of beds required with 80% occupancy : (1,00,000 / 365) x 80% = 220

The Department of Health and Family welfare suggests incorporation of **Trauma Centres** in the highways cutting across urban local authority jurisdiction. The trauma care centres should be suitably positioned along the highways with doctors trained in emergency medicine and trauma care, with adequate emergency management technicians, supported by efficient and efficient ambulance system. (URDPFI Guidelines, MoUD, 2015)

Sr. No.	Category	No. of beds	Population served per unit	Area requirement
1.	Dispensary	--	15000	0.08 to 0.12 Ha
2.	Nursing home, child welfare and maternity centre	25 to 30 beds	45000 to 1 lakh	0.20 to 0.30 Ha
3.	Polyclinic	Some observation beds	1 lakh	0.20 to 0.30 Ha
4.	Intermediate Hospital (Category B)	80 beds Initially maybe for 50 beds including 20 maternity beds	1 lakh	Total Area = 1.00 Ha a) Area for Hospital = 0.60 Ha b) Area for residential Accommodation = 0.40 Ha
5.	Intermediate Hospital (Category A)	200 beds Initially the provision maybe for 100 beds	1 lakh	Total Area = 3.70 Ha a) Area for hospital = 2.70 Ha b) Area for residential Accommodation = 1.00 Ha
6.	Multi-Speciality Hospital (NBC)	200 beds Initially the provision may be for 100 beds	1 Lakh	Total Area = 9.00 Ha a) Area for hospital = 6.00 Ha b) Area for residential accommodation = 3.00 Ha
7.	Speciality Hospital (NBC)	200 beds Initially the provision may be for 100 beds	1 Lakh	Total Area = 3.70 Ha a) Area for hospital = 2.70 Ha b) Area for residential accommodation = 1.00 Ha
8.	General Hospital (NBC)	500 Initially the provision maybe for 300 beds	2.5 lakh	Total Area = 6.00 Ha a) Area for hospital = 4.00 Ha b) Area for residential Accommodation = 2.00 Ha
9.	Family Welfare Centre (MPD, pg 134)	As per requirement	50,000	Total area = 500 sqm 800 sqm
10.	Diagnostic centre (MPD, pg 134)	--	50,000	Total area = 500 sqm to 800 sqm
11.	Veterinary Hospital for pets and animals (MPD, pg 134)	--	5 lakh	Total area = 2000 sqm
12.	Dispensary for pet animals and birds (MPD, pg 134)	--	1 lakh	Total area = 300 sqm
13	Rehabilitation centres			As per requirement

Source: UDPFI Guidelines, 1996, NBC, 2005 Part 3 and MPD, 2021.

Figure 1 The classification of health care facilities (URDPFI Guidelines, MoUD, 2015)

The Indian Public Health Standards (IPHS) classify the Public Health Care System into the following categories:

Sub-centres

A sub-centre (SC) is established in a plain area with a population of 5000 people and in hilly/difficult to reach/tribal areas with a population of 3000, and it is the most peripheral and first contact point between the primary health-care system and the community. Each sub-centre is required to be staffed by at least one auxiliary nurse midwife (ANM)/female health worker and one male health. Sub-centres are assigned tasks relating to interpersonal communication in order to bring about behavioural change and provide services in relation to maternal and child health, family welfare, nutrition, immunization, diarrhoea control and control of communicable diseases programs. The Ministry of Health & Family Welfare is providing 100% central assistance to all the sub-centres in the country since April 2002. (IPHS for Sub-Centres, 2012)

Primary Health Centres

A primary health centre (PHC) is established in a plain area with a population of 30 000 people and in hilly/difficult to reach/tribal areas with a population of 20 000, and is the first contact point between the village community and the medical officer. PHCs were envisaged to provide integrated curative and preventive health care to the rural population with emphasis on the preventive and primitive aspects of health care. The PHCs are established and maintained by the State Governments under the Minimum Needs Program (MNP)/Basic Minimum Services (BMS) Program. As per minimum requirement, a PHC is to be staffed by a medical officer supported by 14 paramedical and other staff. It acts as a referral unit for 5-6 sub-centres and has 4-6 beds for in-patients. The activities of PHCs involve health-care promotion and curative services. (IPHS for Primary Health Centres, 2012)

Community Health Centres

Community health centres (CHCs) are established in an area with a population of 120 000 people and in hilly/difficult to reach/tribal areas with a population of 80 000. As per minimum norms, a CHC is required to be staffed by four medical specialists, that is, surgeon, physician, gynaecologist/obstetrician and paediatrician supported by 21 paramedical and other staff. It has 30 beds with an operating theatre, X-ray, labour room and laboratory facilities. It serves as a referral centre for PHCs within the block and also provides facilities for obstetric care and specialist consultations. (IPHS for Community Health Centres, 2012)

Sub-District Hospitals

Sub-district/Sub-divisional Hospitals are in an area with a population of 100 000-5,00,000 people. Sub-district (Sub-divisional) hospitals are below the district and above the block level (CHC) hospitals and act as First Referral Units for the Tehsil/Taluk/block population in which they are geographically located. Specialist services are provided through these Sub- district hospitals and they receive referred cases from neighbouring CHCs, PHCs and SCs. They have an important role to play as First Referral Units in providing emergency obstetrics care and neonatal care and help in bringing down the Maternal Mortality and Infant Mortality. They form an important link between SC, PHC and CHC on one end and District Hospitals on other end. It also saves the travel time for the cases needing emergency care and reduces the workload of the district hospital. In some of the states, each district is subdivided in to two or three sub divisions. A subdivision hospital caters to about 5-6 lakhs people. In bigger districts the Sub-district hospitals fills the gap between the block level hospitals and the district hospitals. (IPHS for Sub Distict Hospitals, 2012)

District Hospitals

District Hospital is a hospital at the secondary referral level responsible for a district of a defined geographical area containing a population above 5,00,000. Its objective is to provide comprehensive secondary health care services to the people in the district at an acceptable level of quality and being responsive and sensitive to the needs of people and referring centres. Every district is expected to have a district hospital. As the population of a district is variable, the bed strength also varies from 100 to 500 beds depending on the size, terrain and population of the district. District Hospital should be in a position to provide all basic speciality services and should aim to develop super-specialty services gradually. District Hospital also needs to be ready for epidemic and disaster management all the times. In addition, it should provide facilities for skill based trainings for different levels of health care workers. (IPHS for District Hospitals, 2012)

First referral units

An existing facility (district hospital, sub-divisional hospital, CHC) can be declared a fully operational first referral unit (FRU) only if it is equipped to provide round-the-clock services for emergency obstetric and new-born care, in addition to all emergencies that any hospital is required to provide. It should be noted that there are three critical determinants of a facility being declared as a FRU: (i) emergency obstetric care including surgical interventions such as caesarean sections; (ii) care for small and sick new-borns; and (iii) blood storage facility on a 24H basis.

Schematic diagram of the Indian Public Health Standard (IPHS) norms, which decides the distribution of health-care infrastructure as well the resources needed at each level of care is shown below.

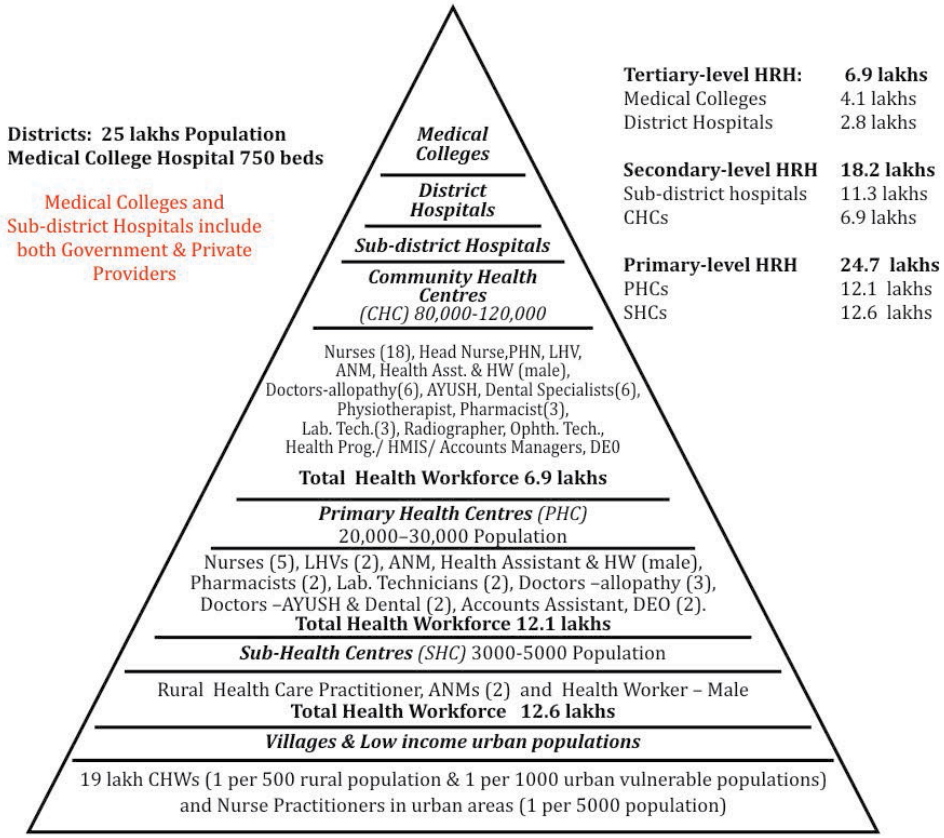


Figure 2 Healthcare Facilities in India (UHC India, 2011)

Indian Public Health Standards (IPHS)

Indian Public Health Standards (IPHS)

National Rural Health Mission (NHM) was launched in the year 2005 to strengthen the Rural Public Health System and has since met many hopes and expectations. The Mission seeks to provide effective health care to the rural populace throughout the country with special focus on the States and Union Territories (UTs), which have weak public health indicators and/or weak infrastructure. Towards this end, the Indian Public Health Standards (IPHS) for Sub-centres, Primary Health Centres (PHCs), Community Health Centres (CHCs), Sub-District and District Hospitals were published in January/ February, 2007 and have been used as the reference point for public health care infrastructure planning and up-gradation in the States and UTs. IPHS are a set of uniform standards envisaged to improve the quality of health care delivery in the country. The IPHS documents have been revised keeping in view the changing protocols of the existing programmes and introduction of new programmes especially for Non-Communicable Diseases. Flexibility is allowed to suit the diverse needs of the States and regions. These IPHS guidelines will act as the main driver for continuous improvement in quality and serve as the bench mark for assessing the functional status of health facilities. States and UTs should adopt these IPHS guidelines for strengthening the Public Health Care Institutions and put in their best efforts to achieve high quality of health care across the country.

The guidelines can be downloaded from the following links:

Sub Centres

https://nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/sub-centers.pdf

Primary Health Centre (PHC)

https://nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/primay-health-centres.pdf

Community Health Centre (CHC)

https://nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/community-health-centres.pdf

Sub-district & Sub-divisional Hospital

https://nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/sub-district-sub-divisional-hospital.pdf

District Hospital

https://nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/district-hospital.pdf

These guidelines contain detailed information with regard to Health Care Facility Planning. A brief account of the various Physical Infrastructure requirements are mentioned in this compendium.

IPHS Guidelines for Sub-Centres

(IPHS for Sub-Centres, 2012)

https://nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/sub-centers.pdf

Introduction

In the public sector, a Health Sub-centre is the most peripheral and first point of contact between the primary health care system and the community. A Sub-centre provides interface with the community at the grass-root level, providing all the primary health care services. It is the lowest rung of a referral pyramid of health facilities consisting of the Sub-centres, Primary Health Centres, and Community Health Centres, Sub-Divisional/Sub-District Hospitals and District Hospitals. The purpose of the Health Sub-centre is largely preventive and promotive, but it also provides a basic level of curative care.

As per population norms, there shall be one Sub-centre established for every 5000 population in plain areas and for every 3000 population in hilly/tribal/desert areas. As the population density in the country is not uniform, application of same norm all over the country is not advisable. The number of

Sub-centres and number of ANMs shall also depend upon the case load of the facility and distance of the village/habitations which comprise the Sub-centres. There are 147069 Sub-centres functioning in the country as on March 2010 as per Rural Health Statistics bulletin, 2010.

The Indian Public Health Standards (IPHS) for health Sub-centre lays down the package of services that the Sub-centre shall provide the population norms for which it would be established, the human resource, infrastructure, equipment and supplies that would be needed to deliver these services with quality.

Setting standards is a dynamic process. These standards are being prescribed in the context of current health priorities and available resources. The Indian Public Health Standards (IPHS) are being prescribed to provide basic primary health care services to the community and achieve and maintain an acceptable standard of quality of care.

During the course of revision of current IPHS for Sub- centre, feedback through interactions with Health Worker Females/Auxillary Nurse and Mid-wife (ANMs) was taken regarding the wide spectrum of services that they are expected to provide, which revealed that most of the essential services enumerated are already being delivered by the Sub-centres staff. However, the outcomes of health indicators do not match with services that are said to be provided. Therefore it is desirable that manpower as envisaged under IPHS should be provided to ensure delivery of full range of services.

Monitoring of services may be strengthened for better outcomes.

Objectives of the Indian Public Health Standards for Sub-Centre

- To specify the minimum assured (essential) services that Sub-centre is expected to provide and the desirable services which the states/UTs should aspire to provide through this facility.
- To maintain an acceptable quality of care for these services.
- To facilitate monitoring and supervision of these facilities.
- To make the services provided more accountable and responsive to people's needs.

Categorization of Sub-Centres

In view of the current highly variable situation of Sub- centres in different parts of the country and even with in the same State, they have been categorized into two types type A and type b. Categorisation has taken into consideration various factors namely catchment area, health seeking behaviour, case load, location of other facilities like PHC/CHC/FRU/Hospitals in the vicinity of the Sub-centre. States shall be required to categorize their Sub-centres into two types as per the guidelines given below and provide services and infrastructure accordingly. This shall result in optimum use of available resources.

Type A

Type A Sub-Centre will provide all recommended services except that the facilities for conducting delivery will not be available here. However, the ANMs have been trained in midwifery, they may conduct normal delivery in case of need. If the requirement for this goes up, the sub centre may be considered for up gradation to type B. the Sub-centres in the following situations may be included in this category.

i. Sub-centres not having adequate space and physical infrastructure for conducting deliveries, due to which providing labour room facilities and equipment at these Sub-centres is not possible. However there may still be demand for delivery services from the community in these areas e.g., Sub-centres located in remote, difficult, hilly, desert or tribal area. In such areas, the transport facility is likely to be poor and the population is still dependent on these Sub-centres for availing delivery facilities. In such situations, ANMs would be required to conduct deliveries at homes and ANMs of these Sub-centres should mandatorily be Skilled Birth Attendance (SBA) trained. Such Sub-centres should be identified for infrastructure up gradation for conversion to type b Sub-centres on priority.
ii. Sub-centres situated in the vicinity of other higher health facilities like PHC/CHC/FRU/Hospital, where delivery facilities are available
iii. Sub-centres in headquarter area
iv. Sub-centres where at present no delivery or occasional delivery may be taking place i.e. very low case load of deliveries. If the case load increases, these Sub-centres should be considered for up gradation to type b.

Type b (MCH Sub-Centre)

This would include following types of Sub-centres:

i. Centrally or better located Sub-centres with good connectivity to catchment areas.
ii. They have good physical infrastructure preferably with own buildings, adequate space, residential accommodation and labour room facilities.
iii. They already have good case load of deliveries from the catchment areas.
iv. There are no nearby higher level delivery facilities.

Physical Infrastructure

A Sub-centre should have its own building. If that is not possible immediately, the premises with adequate space should be rented in a central location with easy access to population. The States should also explore options of getting funds for space from other Health Programmes and other funding sources.

Location of the Centre

For all new upcoming Sub-centres, following may be ensured:

- Sub-centre to be located within the village for providing easy access to the people and safety of the ANM.
- As far as possible no person has to travel more than 3 km to reach the Sub-centre.
- The Sub-centre village has some communication network (road communication/public transport/post office/telephone).
- Sub-centre should be away from garbage collection, cattle shed, water logging area etc.
- While finalizing the location of the Sub-centre, the concerned Panchayat should also be consulted.

Building and Layout

- Boundary wall/fencing with Gate should be provided for safety and security.
- In the typical layout of the Sub-centre, the residential facility for ANM is included, however, it may happen that some of the existing Sub-centres may not have residential facilities for ANM. In that case, some house should be available on rent in the Sub-centre headquarter village for accommodating the ANM.
- Residential facility for Health Worker (Male), if need is felt, may be provided by expanding the Sub-centre building to the first floor. The entrance to the Sub-centre should be well lit and easy to locate. It should have provision for easy access for disabled and elderly. Provision of ramp with railing to be made for use of wheel chair/stretcher trolley, wherever feasible.
- The minimum covered area of a Sub-centre along with residential quarter for ANM will vary depending on land availability, type of Sub-centre and resources.
- Separate entrance for the Sub-centre and for the ANM quarter may be ensured.
- Type B Sub-centre should have, about 4 to 5 rooms with facilities of
    - Waiting Room
    - One Labour Room with one labour table and New-born corner
    - One room with two to four beds (in case the no. of deliveries at the Sub-centre is 20 or more, four beds will be provided)
    - One room for store
    - One room for clinic/office
    - One Toilet facility each in labour room ward room and in waiting area (Essential)

Residential Accommodation

This should be made available to the Health workers with each one having 2 rooms, kitchen, bathroom and Water Closet (WC). Residential facility for one ANM is as follows which is contiguous with the main Sub-centre area.

- Room - 1 (3.3 m x 2.7 m)
- Room - 2 (3.3 m x 2.7 m)
- Kitchen - 1 (1.8 m x 2.5 m)
- W.C (1.2 m x 9.0 m)
- Bath Room (1.5 m x 1.2 m)

Residential Facility for a minimum of 2 staff and desirably for 3 staff should be provided at Type B (MCH) Sub-centres.

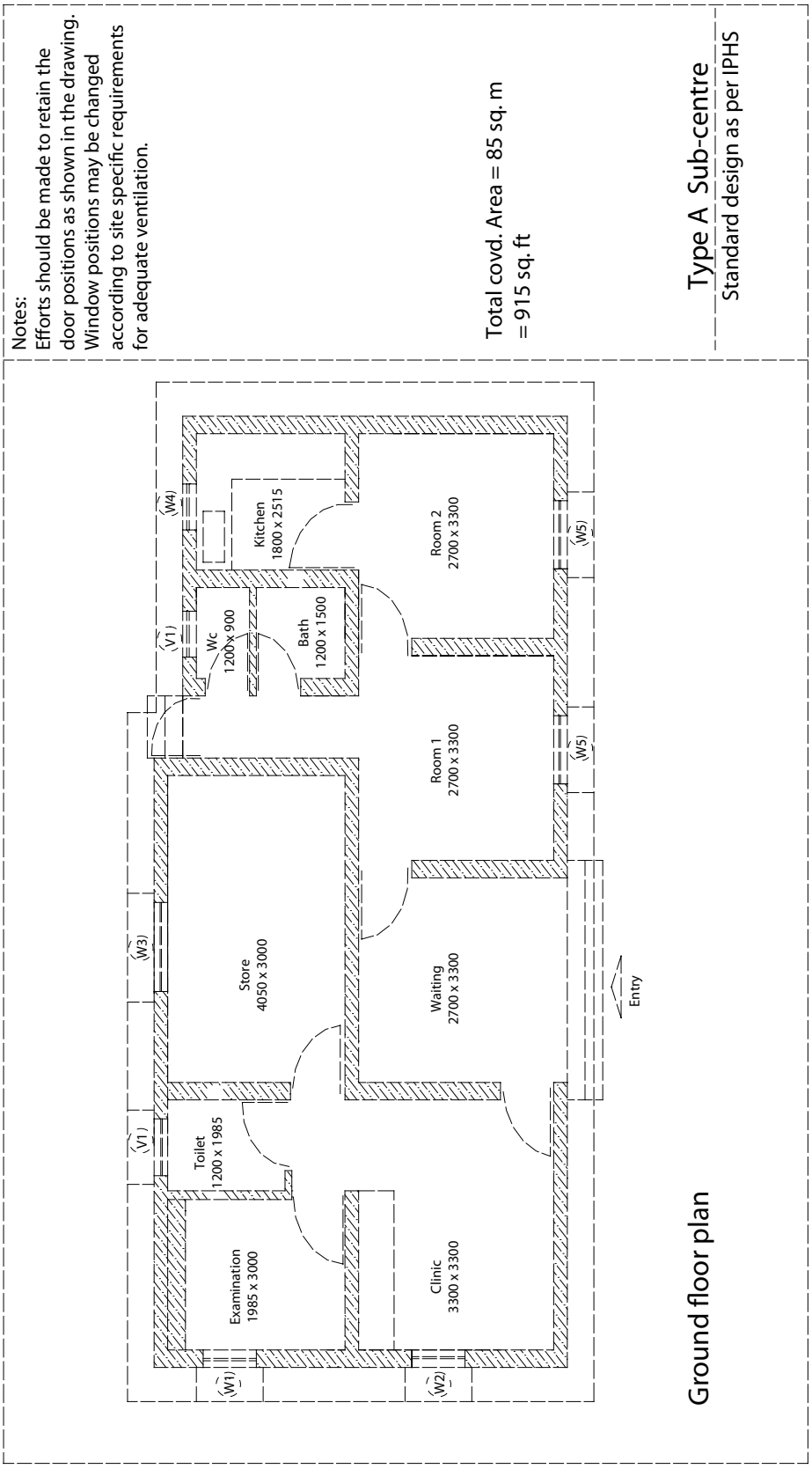


Figure 3 Typical Type A Sub-Centre (IPHS for Sub-Centres, 2012)

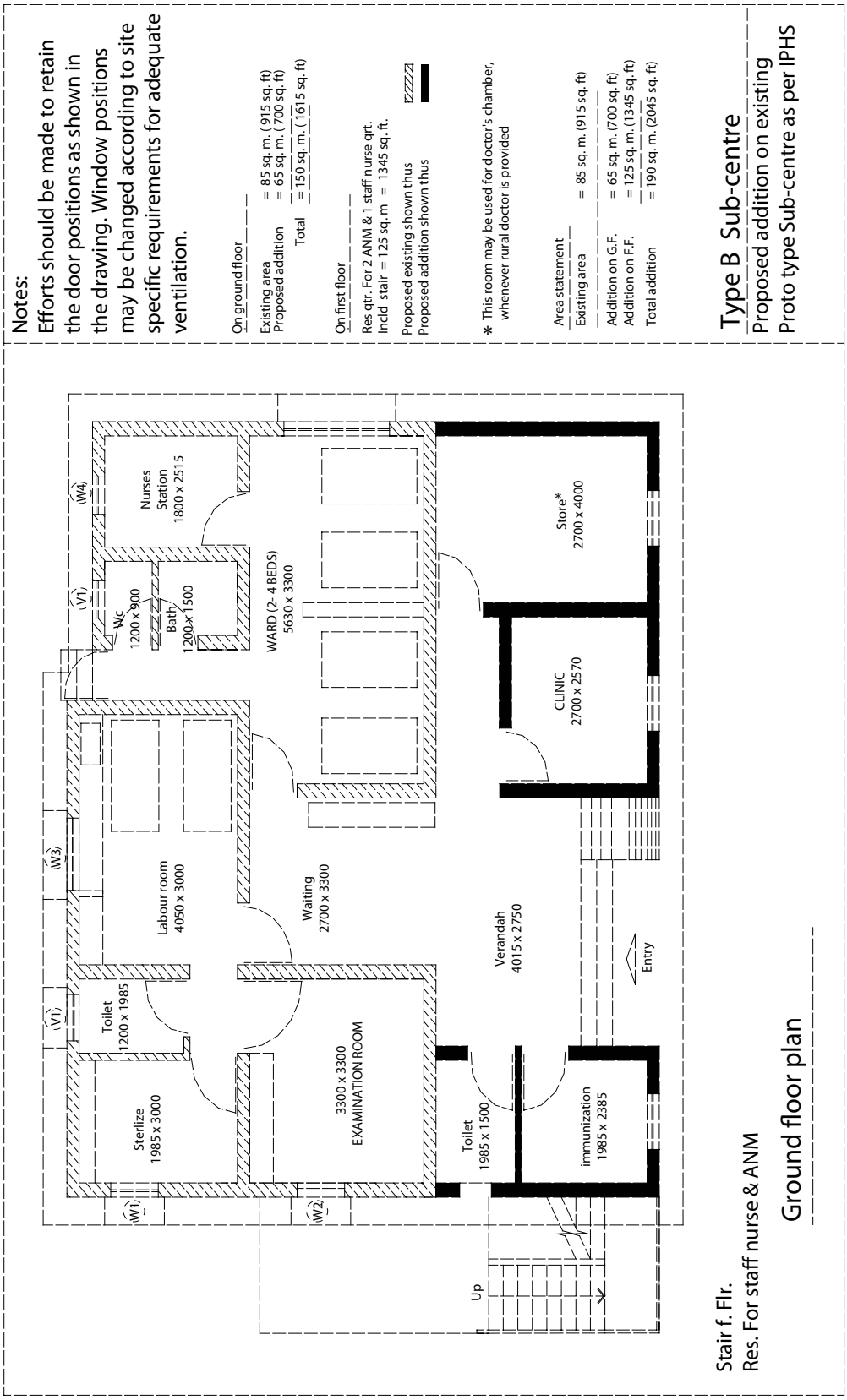


Figure 4 Typical Type B Sub-Centre Ground Floor (IPHS for Sub-Centres, 2012)

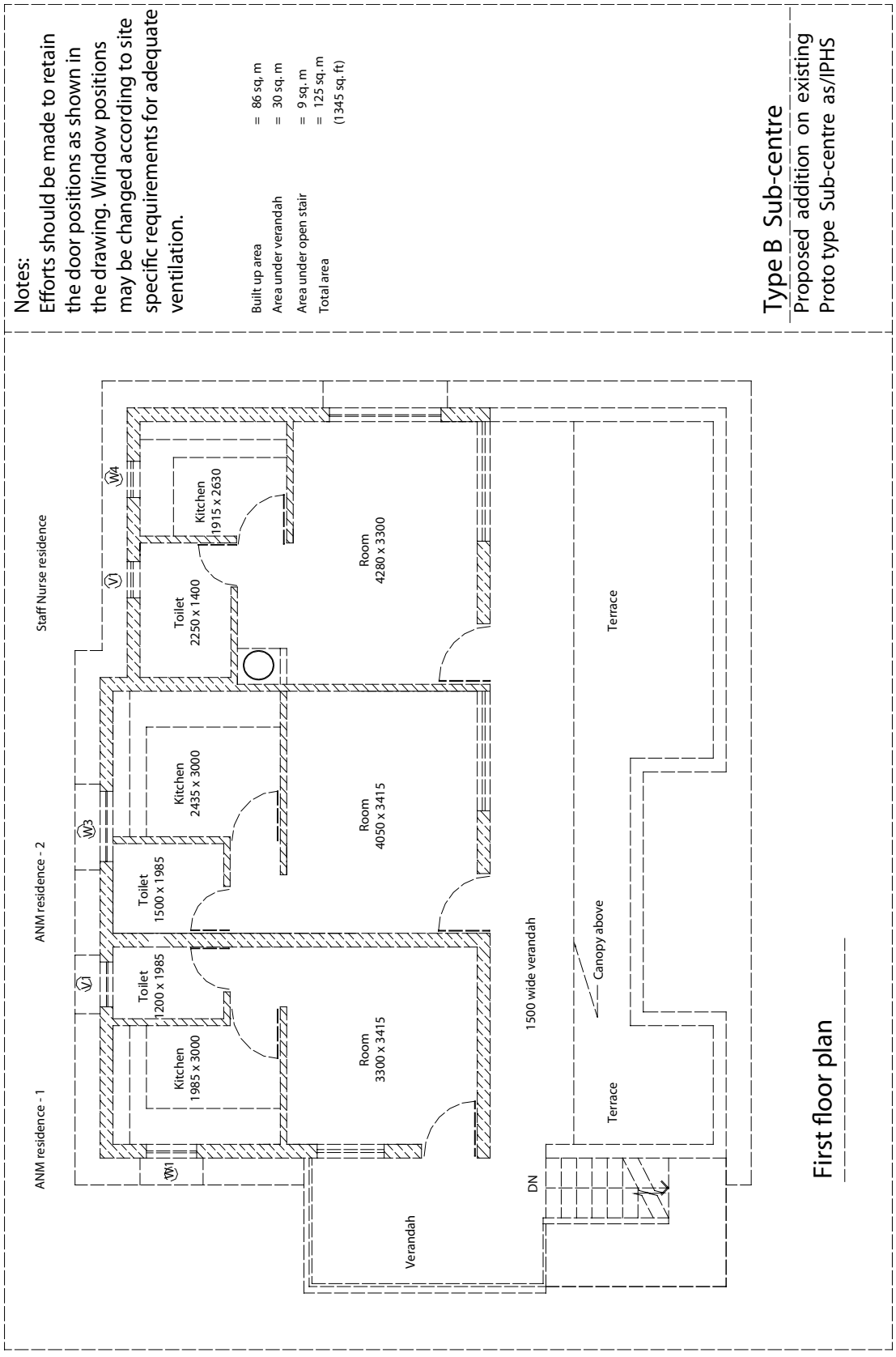


Figure 5 Typical Type B Sub-Centre First Floor Plan (IPHS for Sub-Centres, 2012)

IPHS for Primary Health Centres

(IPHS for Primary Health Centres, 2012)

https://nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/primay-health-centres.pdf

Introduction

Primary Health Centre is the cornerstone of rural health services- a first port of call to a qualified doctor of the public sector in rural areas for the sick and those who directly report or referred from Sub-Centres for curative, preventive and promotive health care.

A typical Primary Health Centre covers a population of 20,000 in hilly, tribal, or difficult areas and 30,000 populations in plain areas with 6 indoor/observation beds. It acts as a referral unit for 6 Sub-Centres and refer out cases to CHC (30 bedded hospital) and higher order public hospitals located at sub-district and district level. However, as the population density in the country is not uniform, the number of PHCs would depend upon the case load. PHCs should become a 24 hour facility with nursing facilities. Select PHCs, especially in large blocks where the CHC/FRU is over one hour of journey time away, may be upgraded to provide 24 hour emergency hospital care for a number of conditions by increasing number of Medical Officers, preferably such PHCs should have the same IPHS norms as for a CHC.

Standards are the main driver for continuous improvements in quality. The performance of Primary Health Centres can be assessed against the set standards. Setting standards is a dynamic process. Currently the IPHS for Primary Health Centres has been revised keeping in view the resources available with respect to functional requirements of Primary Health Centre with minimum standards such as building, manpower, instruments and equipment, drugs and other facilities etc. The revised IPHS has incorporated the changed protocols of the existing health programmes and new programmes and initiatives especially in respect of Non-communicable diseases.

The overall objective of IPHS for PHC is to provide health care that is quality oriented and sensitive to the needs of the community. These standards would also help monitor and improve the functioning of the PHCs.

Objectives of the Indian Public Health Standards for Primary Health Centres

The overall objective of IPHS is to provide health care that is quality oriented and sensitive to the needs of the community.

The objectives of IPHS for PHCs are:

- To provide comprehensive primary health care to the community through the Primary Health Centres
- To achieve and maintain an acceptable standard of quality of care.
- To make the services more responsive and sensitive to the needs of the community.

Categorization of Primary Health Centres

From Service delivery angle, PHCs may be of two types, depending upon the delivery case load – Type A and Type B.

Type A PHC

PHC with delivery load of less than 20 deliveries in a month

Type B PHC

PHC with delivery load of 20 or more deliveries in a month

Physical Infrastructure

The PHC should have a building of its own. The surroundings should be clean. The details are as follows:

Location

It should be centrally located in an easily accessible area. The area chosen should have facilities for electricity, all weather road communication, adequate water supply and telephone. At a place, where a PHC is already located, another health centre/SC should not be established to avoid the wastage of human resources.

PHC should be away from garbage collection, cattle shed, water logging area, etc. PHC shall have proper boundary wall and gate.

Area

It should be well planned with the entire necessary infrastructure. It should be well lit and ventilated with as much use of natural light and ventilation as possible.

The plinth area would vary from 375 to 450 sq. metres depending on whether an OT facility is opted for.

Signage

The building should have a prominent board displaying the name of the Centre in the local language at the gate and on the building. PHC should have pictorial, bilingual directional and layout sign-age of all the departments and public utilities (toilets, drinking water). Prominent display boards in local language providing information regarding the services available/user charges/fee and the timings of the centre. Relevant IEC material shall be displayed at strategic locations. Citizen charter including patient rights and responsibilities shall be displayed at OPD and Entrance in local language.

Entrance with Barrier free access

Barrier free access environment for easy access to non-ambulant (wheel-chair, stretcher), semi-ambulant, visually disabled and elderly persons as per guidelines of GOI.

Ramp as per specification, Hand- railing, proper lightning etc must be provided in all health facilities and retrofitted in older one which lack the same. The doorway leading to the entrance should also have a ramp facilitating easy access for old and physically challenged patients. Adequate number of wheel chairs, stretchers etc. should also be provided.

Disaster Prevention Measures

For all new upcoming facilities in seismic 5 zone or other disaster prone areas. Building and the internal structure should be made disaster proof especially earthquake proof, flood proof and equipped with fire protection measures.

Earthquake proof measures - structural and non-structural should be built in to withstand quake as per geographical/state govt. guidelines. Non-structural features like fastening the shelves, almirahs, equipment etc. are even more essential than structural changes in the buildings. Since it is likely to increase the cost substantially, these measures may especially be taken on priority in known earthquake prone areas. PHC should not be located in low lying area to prevent flooding as far as possible.

Firefighting equipment – fire extinguishers, sand buckets etc. should be available and maintained to be readily available when needed. Staff should be trained in using firefighting equipment.

All PHCs should have Disaster Management Plan in line with the District Disaster management Plan. All health staff should be trained and well conversant with disaster prevention and management aspects. Surprise mock drills should be conducted at regular intervals.

Space Requirements

Waiting Area

a. This should have adequate space and seating arrangements for waiting clients/patients as per patient load.
b. The walls should carry posters imparting health education.
c. Booklets/leaflets in local language may be provided in the waiting area for the same purpose.
d. Toilets with adequate water supply separate for males and females should be available. Waiting area should have adequate number of fans, coolers, benches or chairs.
e. Safe Drinking water should be available in the patient's waiting area.

There should be proper notice displaying departments of the centre, available services, and names of the doctors, users' fee details and list of members of the Rogi Kalyan Samiti/Hospital Management Committee.

A locked complaint/suggestion box should be provided and it should be ensured that the complaints/suggestions are looked into at regular intervals and addressed.

The surroundings should be kept clean with no waterlogging and vector breeding places in and around the centre.

Outpatient Department

- The outpatient room should have separate areas for consultation and examination.
- The area for examination should have sufficient privacy.
- In PHCs with AYUSH doctor, necessary infrastructure such as consultation room for AYUSH Doctor and AYUSH Drug dispensing area should be made available.
- OPD Rooms shall have provision for ample natural light, and air. Windows shall open directly to the external air or into an open verandah.
- Adequate measures should be taken for crowd management; e.g. one volunteer to call patients one by one, token system.
- One room for Immunization/Family Planning/Counselling.

Wards

5.5 m x 3.5 m each

- There should be 4-6 beds in a Primary Health Centre. Separate wards/areas should be earmarked for males and females with the necessary furniture.
- There should be facilities for drinking water and separate clean toilets for men and women.
- The ward should be easily accessible from the OPD so as to obviate the need for a separate nursing staff in the ward and OPD during OPD hours.
- Nursing station should be located in such a way that health staff can be easily accessible to OT and labour room after regular clinic timings.

- Proper written handover shall be given to incoming staff by the outgoing staff.
- Dirty utility room for dirty linen and used items.
- Cooking should not be allowed inside the wards for admitted patients.
- Cleaning of the wards, etc. should be carried out at regular intervals and at such times so as not to interfere with the work during peak hours and also during times of eating. Cleaning of the wards,
- Labour Room, OT, and toilets should be regularly monitored.

Operation Theatre

(Optional)

To facilitate conducting selected surgical procedures (e.g. vasectomy, tubectomy, hydrocelectomy etc.)

a. It should have a changing room, sterilization area operating area and washing area.
b. Separate facilities for storing of sterile and unsterile equipment/instruments should be available in the OT.
c. The Plan of an ideal OT has been annexed showing the layout.
d. It would be ideal to have a patient preparation area and Post-Operative area. However, in view of the existing situation, the OT should be well connected to the wards.
e. The OT should be well-equipped with all the necessary accessories and equipment.
f. Surgeries like laparoscopy/cataract/Tubectomy/Vasectomy should be able to be carried out in these OTs.
g. OT shall be fumigated at regular intervals.
h. h. One of the hospital staff shall be trained in Autoclaving and PHC shall have standard Operative procedure for autoclaving.
i. OT shall have power back up (generator/Invertor/UPS). OT should have restricted entry. Separate foot wear should be used.

Labour Room

(3.8 m x 4.2 m) Essential

- Configuration of New Born care corner
  - Clear floor area shall be provided in the room for new-born corner. It is a space within the labour room, 20-30 sq ft in size, where a radiant warmer (Functional) will be kept.
  - Oxygen, suction machine and simultaneously accessible electrical outlets shall be provided for the new-born infant in addition to the facilities required for the mother. Both Oxygen Cylinder and Suction Machine should be functional with their tips cleaned and covered with sterile gauze etc for ready to use condition. They must be cleaned after use and kept in the same way for next use.
  - The Labour room shall be provided with a good source of light, preferably shadow-less.
  - Resuscitation kit including Ambu Bag (Paediatric size) should be placed in the radiant warmer.
  - Provision of hand washing and containment of infection control if it is not a part of the delivery room.
  - The area should be away from draught of air, and should have power connection for plugging in the radiant warmer.

- There should be separate areas for septic and aseptic deliveries.
- The Labour room should be well-lit and ventilated with an attached toilet and drinking water facilities. Facilities for hot water shall be available.
- Separate areas for Dirty linen, baby wash, toilet, Sterilization.
- Standard Treatment Protocols for common problems during labour and for new-borns to be provided in the labour room.
- Labour room should have restricted entry. Separate foot wear should be used.
- All the essential drugs and equipment (functional) should be available.
- Cleanliness shall always be maintained in Labour room by regular washing and mopping with disinfectants.
- Labour Room shall be fumigated at regular interval **(Desirable)**.
- Delivery kits and other instruments shall be autoclaved where facility is available.
- If Labour Room has more than one labour table then the privacy of the women must be ensured by having screens between 2 labour tables.

Minor OT/Dressing Room/Injection Room/ Emergency

a. This should be located close to the OPD to cater to patients for minor surgeries and emergencies after OPD hours.
b. It should be well equipped with all the emergency drugs and instruments.
c. Privacy of the patients should be ensured.

Laboratory

(3.8 m x 2.7 m)

a. Sufficient space with workbenches and separate area for collection and screening should be available.
b. Should have marble/stone table top for platform and wash basins.

General store

- Separate area for storage of sterile and common linen and other materials/drugs/consumable etc. should be provided with adequate storage space.
- The area should be well-lit and ventilated and rodent/pest free.
- Sufficient number of racks shall be provided.
- Drugs shall be stored properly and systematically in cool (away from direct sunlight), safe and dry environment.
- inflammable and hazardous material shall be secured and stored separately
- Near expiry drugs shall be segregated and stored separately
- Sufficient space with the storage cabins separately for AYUSH drugs be provided.

Dispensing cum store area: 3 m x 3 m

Infrastructure for AYUSH doctor

Based on the system of medicine being practiced, appropriate arrangements should be made for the provision of a doctor's room and a dispensing room cum drug storage.

Waste disposal pit

As per GOI/Central Pollution Control Board (CPCB) guidelines.

Cold Chain room Size: 3 m x 4 m

Logistics Room Size: 3 m x 4 m

Generator room Size: 3 m x 4 m

Office room 3.5 m x 3.0 m

Dirty utility room for dirty linen and used items

Boundary wall/Fencing

(Essential)

Boundary wall/fencing with Gate should be provided for safety and security.

Environment friendly features

(Desirable)

The PHC should be, as far as possible, environment friendly and energy efficient. Rain-Water harvesting, solar energy use and use of energy-efficient bulbs/ equipment should be encouraged.

Other amenities

(Essential)

Adequate water supply and water storage facility (overhead tank) with pipe water should be made available.

Computer

(Essential)

Computer with Internet connection should be provided for Management Information System (MIS) purpose.

Lecture Hall/Auditorium

(Desirable)

For training purposes, a Lecture Hall or a small Auditorium for 30 Person should be available. Public address system and a black board should also be provided.

The suggested layout of a PHC and Operation Theatre is given at **Figure 6** and **Figure 7** respectively. The Layout may vary according to the location and shape of the site, levels of the site and climatic conditions. The prescribed layout may be implemented in PHCs yet to be built, whereas those already built may be upgraded after getting the requisite alteration/additions. The funds may be made available as per budget provision under relevant strategies mentioned in NRHM/RCH-II program and other funding Projects/programs.

Residential Accommodation

(Essential)

Decent accommodation with all the amenities likes 24-hrs. Water supply, electricity etc. should be available for Medical Officer, nursing staff, pharmacist, laboratory technician and other staff.

If the accommodation cannot be provided due to any reason, then the staff may be paid house rent allowance, but in that case they should be staying in near vicinity of PHC so that they are available 24 × 7, in case of need.

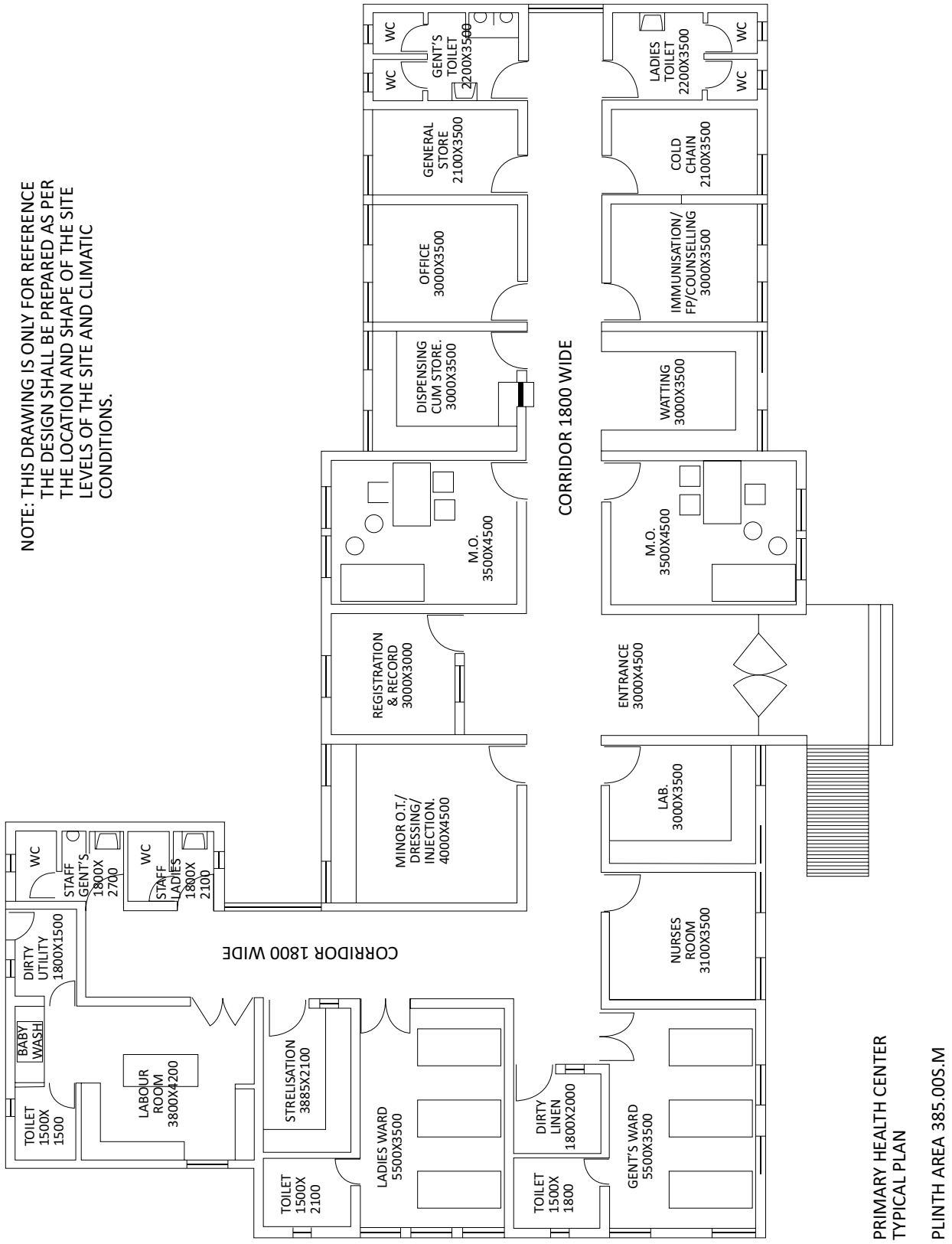


Figure 6 Typical Primary Health Centre (IPHS for Primary Health Centres, 2012)

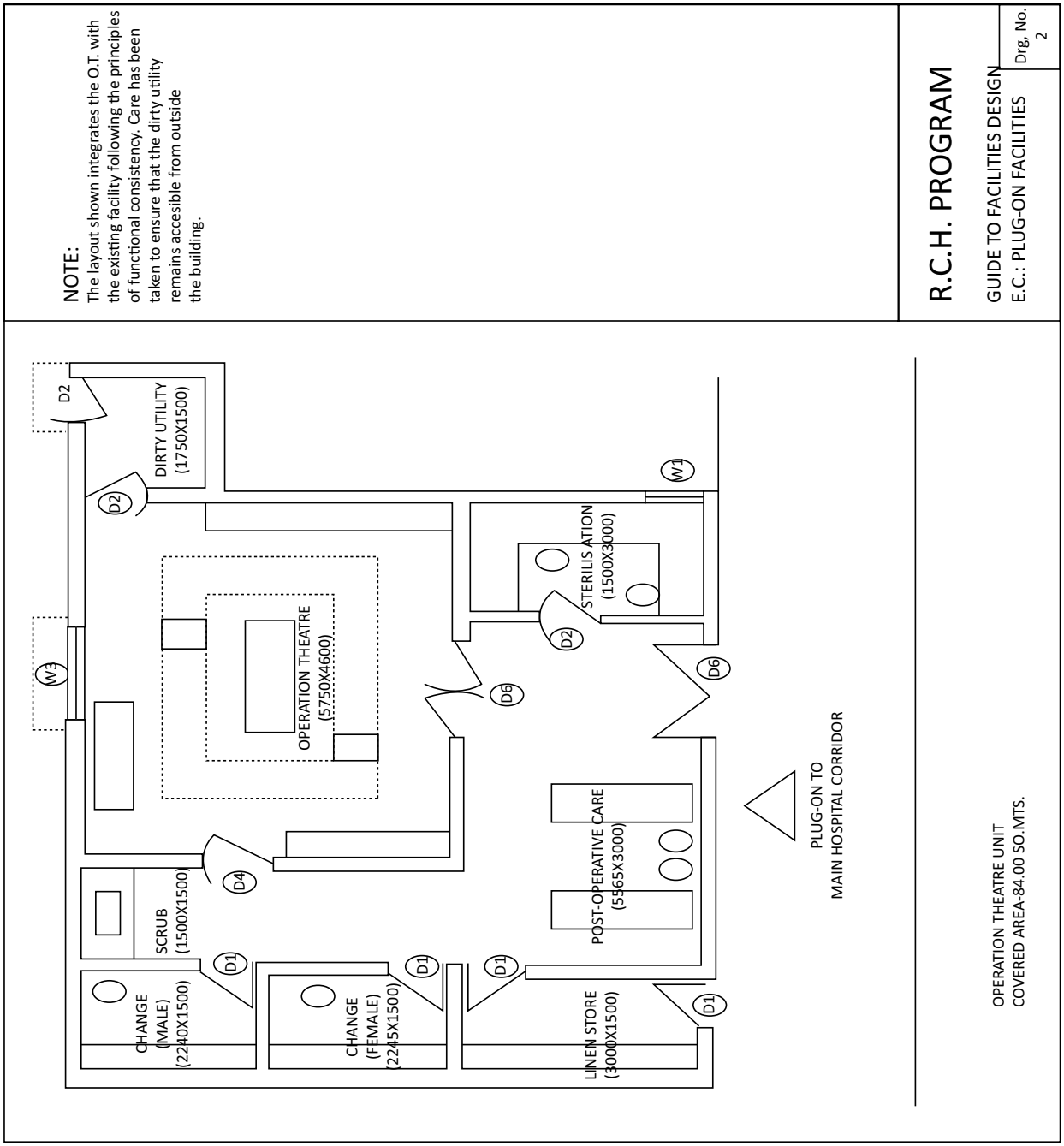


Figure 7 Typical Operation Theatre (IPHS for Primary Health Centres, 2012)

IPHS for Community Health Centres

(IPHS for Community Health Centres, 2012)

https://nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/community-health-centres.pdf

Introduction

Health care delivery in India has been envisaged at three levels namely primary, secondary and tertiary. The secondary level of health care essentially includes Community Health Centres (CHCs), constituting the First Referral Units (FRUs) and the Sub-district and District Hospitals. The CHCs were designed to provide referral health care for cases from the Primary Health Centres level and for cases in need of specialist care approaching the centre directly. 4 PHCs are included under each CHC thus catering to approximately 80,000 populations in tribal/hilly/desert areas and 1,20,000 population for plain areas. CHC is a 30-bedded hospital providing specialist care in Medicine, Obstetrics and Gynaecology, Surgery, Paediatrics, Dental and AYUSH.

There are 4535 CHCs functioning in the country as on March 2010 as per Rural Health Statistics Bulletin 2010. These centres are however fulfilling the tasks entrusted to them only to a limited extent. The launch of the National Rural Health Mission (NRHM) gives us the opportunity to have a fresh look at their functioning.

NRHM envisages bringing up the CHC services to the level of Indian Public Health Standards. Although there are already existing standards as prescribed by the Bureau of Indian Standards for 30-bedded hospital, these are at present not achievable as they are very resource intensive.

Under the NRHM, the Accredited Social Health Activist (ASHA) is being envisaged in each village to promote the health activities. With ASHA in place, there is bound to be a groundswell of demands for health services and the system needs to be geared to face the challenge. Not only does the system require up-gradation to handle higher patient load, but emphasis also needs to be given to quality aspects to increase the level of patient satisfaction. In order to ensure quality of services, the Indian Public Health Standards (IPHS) are being set up for CHCs so as to provide a yardstick to measure the services being provided there. This document provides the essential requirements for a Minimum Functional Grade of a Community Health Centre and the desirable requirements needed for an ideal situation.

Objectives of the Indian Public Health Standards for Community Health Centres

- To provide optimal expert care to the community.
- To achieve and maintain an acceptable standard of quality of care.
- To ensure that services at CHC are commensurate with universal best practices and are responsive and sensitive to the client needs/expectations.

Physical Infrastructure

The CHC should have 30 indoor beds with one Operation theatre, labour room, X-ray, ECG and laboratory facility. In order to provide these facilities, following are the guidelines.

Location of the centre

All the guidelines as below under this sub-head may be applicable only to centres that are to be newly established and priority is to be given to operationalise the existing CHCs.

- To the extent possible, the centre should be located at the centre of the block headquarter in order to improve access to the patients.
- The area chosen should have the facility for electricity, all weather road communication, adequate water supply, telephone etc.
- It should be well planned with the entire necessary infrastructure. It should be well lit and ventilated with as much use of natural light and ventilation as possible.
- CHC should be away from garbage collection, cattle shed, water logging area, etc.

Disaster Prevention Measures

(For all new upcoming facilities in seismic zone 5 or other disaster prone areas)

Building structure and the internal structure should be made disaster proof especially earthquake proof, flood proof and equipped with fire protection measures.

Earthquake proof measures:

- Structural and non-structural elements should be built in to withstand quake as per geographical/ state govt. guidelines. Non-structural features like fastening the shelves, almirahs, equipment etc are even more essential than structural changes in the buildings. Since it is likely to increase the cost substantially, these measures may especially be taken on priority in known earthquake prone areas.
- CHC should not be located in low lying area to prevent flooding.
- CHC should have dedicated, intact boundary wall with a gate. Name of the CHC in local language should be prominently displayed at the entrance which is readable in night too.

Fire fighting equipment

Fire extinguishers, sand buckets, etc. should be available and maintained to be readily available when needed. Staff should be trained in using firefighting equipment. Each CHC should develop a fire fighting and fire exit plan with the help of Fire Department. Regular mock drills should be conducted.

All CHCs should have a Disaster Management Plan in line with the District Disaster management Plan. All health staff should be trained and well conversant with disaster prevention and management aspects Surprise mock drills should be conducted at regular intervals. After each drill the efficacy of the Disaster Plan, preparedness of the CHC, and the competence of the staff should be evaluated followed by necessary changes in the Plan and training of the staff.

The CHC should be, as far as possible, environment friendly and energy efficient. Rain-Water harvesting, solar energy use and use of energy-efficient CFL bulbs/equipment should be encouraged. Provision should be made for horticulture services including herbal garden.

The building should have areas/space marked for the following:

Entrance Zone

Signage

- Prominent display boards in local language providing information regarding the services available and the timings of the institute. Directional and layout signages for all the departments and utilities (toilets, drinking water etc.) shall be appropriately displayed for easy access. All the signages shall be bilingual and pictorial.
- Citizen charter shall be displayed at OPD and Entrance in local language including patient's rights and responsibilities.
- On-the-way signages of the CHC & location should be displayed on all the approach roads.

- Safety, hazards and caution signs shall be displayed prominently at relevant places, e.g. radiation hazards for pregnant woman in X-Ray.
- Fluorescent Fire-Exit signages at strategic locations.
- Barrier free access environment for easy access to non-ambulant (wheel-chair stretcher), semi-ambulant, visually disabled and elderly persons as per "Guidelines and Space Standards for barrier-free built environment for Disabled and Elderly Persons" of Government of India. Ramp as per specification, Hand-railing, proper lightning etc must be provided in all health facilities and retrofitted in older one which lack the same.
- Registration cum Inquiry counters.
- Pharmacy for drug dispensing and storage.
- Clean Public utilities separate for males and females.
- Suggestion/complaint boxes for the patients/visitors and also information regarding the person responsible for redressal of complaints.

Outpatient Department

The facility shall be planned keeping in mind the maximum peak hour load and shall have scope for future expansion. Name of Department and doctor, timings and user fees/ charges shall be displayed.

Layout of the Out Patient Department shall follow the functional flow of the patients: e.g.

Enquiry→ Registration→ Waiting→ Sub-Wafting→ Clinic→ Dressing room/Injection Room→ Billing→ Diagnostics (lab/X-ray) → Pharmacy→ Exit

Clinics for Various Medical Disciplines

These clinics include general medicine, general surgery, dental, obstetrics and gynaecology, paediatrics and family welfare. Separate cubicles for general medicine and surgery with separate area for internal examination (privacy) can be provided if there are no separate rooms for each. The cubicles for consultation and examination in all clinics should provide for doctor's table, chair, and patient's stool, and follower's seat, wash basin with hand washing facilities, examination couch and equipment for examination.

- Room shall have, for the admission of light and air, one or more apertures, such as windows and fan lights, opening directly to the external air or into an open verandah.
- The windows should be in two opposite walls.

Family Welfare Clinic

- The clinic should provide educative, preventive, diagnostic and curative facilities for maternal, child health, school health and health education.
- Importance of health education is being increasingly recognized as an effective tool of preventive treatment. People visiting hospital should be informed of personal and environmental hygiene, clean habits, need for taking preventive measures against epidemics, family planning, non-communicable diseases etc. Treatment room in this clinic should act as operating room for IUCD insertion and investigation, etc. It should be in close proximity to Obstetrics & Gynaecology. Family Welfare counselling room should be provided.
- Waiting room for patients.
- The Pharmacy should be located in an area conveniently accessible from all clinics.

- The dispensary and compounding room should have two dispensing windows, compounding counters and shelves. The pattern of arranging the counters and shelves shall depend on the size of the room. The medicines which require cold storage and blood required for operations and emergencies may be kept in refrigerators.

Emergency Room/Casualty

- At the moment, the emergency cases are being attended in OPD during OPD hours and in inpatient units afterwards. It is recommended to have a separate earmarked emergency area to be located near the entrance of hospital preferably having 4 rooms (one for doctor, one for minor OT, one for plaster/dressing) and one for patient observation (At least 4 beds).

Treatment Room

- Minor OT
- Injection Room and Dressing Room
- Observation Room

Wards: Separate for Males and Females

Nursing Station

- The nursing station shall be cantered such that it serves all the clinics from that place. The nursing station should be spacious enough to accommodate a medicine chest/a work counter (for preparing dressings, medicines), hand washing facilities, sinks, dressing tables with screen in between and colour coded bins (as per IMEP guidelines for community health centres). It should have provision for Hub cutters and needle destroyers.
- Examination and dressing table.

Patient Area

- Enough space between beds.
- Toilets; separate for males and females.
- Separate space/room for patients needing isolation.

Ancillary rooms

- Nurses rest room.
- There should be an area separating OPD and Indoor facility.

Operation theatre/Labour room

- Patient waiting Area.
- Pre-operative and Post-operative (recovery) room.
- Staff area.
- Changing room separate for males and females.
- Storage area for sterile supplies.
- Operating room/Labour room.
- Scrub area.
- Instrument sterilization area.
- Disposal area.
- New-born care Corner

New-born Care Stabilization Unit:

Public utilities

Separate for males and female; for patient as well as for paramedical & Medical staff.

Disabled friendly, WC with wash basins as specified under Guidelines for disabled friendly environment should be provided.

Physical Infrastructure for Support Services

Central Sterilization Supply Department (CSSD):

Sterilization and Sterile storage.

Laundry

- Storage should be separate for dirty linen and clean linen.
- Outsourcing is recommended after appropriate training of washer man regarding segregation and separate treatment for infected and non-infected linen.

Engineering Services

- Electricity/telephones /water/civil Engineering may be outsourced.
- Maintenance of proper sanitation in toilets and other public utilities should be given utmost attention. Sufficient funding for this purpose must be kept and the services may be outsourced.

Water Supply

- Arrangements shall be made to supply 10,000 litres of potable water per day to meet all the requirements (including laundry) except firefighting. Storage capacity for 2 days requirements should be on the basis of the above consumption. Round the clock water supply shall be made available to all wards and departments of the hospital.
- Separate reserve emergency overhead tank shall be provided for operation theatre.
- Necessary water storage overhead tanks with pumping/boosting arrangement shall be made. The laying and distribution of the water supply system shall be according to the provisions of IS: 2065-1983 (a BIS standard). Cold and hot water supply piping should be run in concealed form embedded into wall with full precautions to avoid any seepage. Geyser in O.T. /L.R. and one in ward also should be provided.
- Wherever feasible solar installations should be promoted.

Emergency Lighting

Emergency portable/fixed light units should also be provided in the wards and departments to serve as alternative source of light in case of power failure. Generator back-up should be available in all facilities. Generator should be of good capacity. Solar energy wherever feasible may be used.

Generator

5 KVA with POL for Immunization Cold Chain maintenance.

Telephone

Minimum two direct lines with intercom facility should be available.

Administrative zone

Separate rooms should be available for:

- Office
- Stores

Residential Zone

- Minimum 8 quarters for Doctors.
- Minimum 8 quarters for staff nurses/ paramedical staff.
- Minimum 2 quarters for ward boys.
- Minimum 1 quarter for driver.

If the accommodation cannot be provided due to any reason, then the staff may be paid house rent allowance, but in that case they should be staying in near vicinity of CHC so that they are available for 24x7 in case of need.

Function & Space Requirement for Community Health Centre

It is suggested considering the land cost & availability of land, CHC building may be constructed in two floors.

Zone	Functions	Size for Each Sub-function in Mtrs.	Total Areas in Sq Mtrs
Entrance Zone	Registration & Record storage, Pharmacy (Issue counter/ Formulation/Drug storage) Public utilities & circulation space	Registration/Record Room 3.2 X 3.2 X 2 Queue area outside registration room 3.5 X 3 Pharmacy cum store 6.4 X 3.2 Pharmacy cum store for AYUSH 6.4 X 3.2	20.48 Sq Mtrs 10.50 Sq Mtrs 20.48 Sq Mtrs 20.48 Sq Mtrs
Ambulatory Zone (OPD)	Examination & Workup (Examination Room, sub waiting), Consultation (consultation room Toilets, sub waiting) Nursing station (Nurses desk, clean utility, dirty utility, treatment rooms, injection & dressing room), Cold Chain, Vaccines and Logistics area, ECG (with sub waiting) Casualty/ Emergency, public utilities, circulation space	Space for 4 General Doctor Room 3.2 X 3.2 X 4 Space for 2 AYUSH doctors Room 3.2 X 3.2 X 2 8 specialist room with attach toilets 3.7 X 3.2 X 8 Treatment room 3.7 X 3.2 Refraction room 3.2 X 3.2 Nursing Station 6.4 X 3.2 Casualty 6.4 X 6.4 Dress Room 3.2 X 3.2 Injection Room 3.2 X 3.2 Female injection room 3.2 X 3.2 Public Utility/Common Toilets Waiting Area Cold Chain Room 3.5 x 3 Vaccine and Logistics Room 3.5 x 3	40.96 Sq Mtrs 20.48 Sq Mtrs 94.72 Sq Mtrs 11.84 Sq Mtrs 10.24 Sq Mtrs 20.48 Sq Mtrs 40.96 Sq Mtrs 10.24 Sq Mtrs 10.24 Sq Mtrs 10.24 Sq Mtrs 9.50 Sq Mtrs 31.5 Sq Mtrs 10.5 Sq Mtrs 10.5 Sq Mtrs

Zone	Functions	Size for Each Sub-function in Mtrs.	Total Areas in Sq Mtrs
Diagnostic Zone	Pathology (Optional) Laboratory, sample collection, bleeding room, washing disinfectants storage, sub waiting, Imaging (radiology, radiography, ultrasound), Preparation, room, change room, toilet, control, Dark room, treatment room, sub waiting, public utilities	Area specification is recommended	180 Sq Mtrs

Zone	Functions	Area Requirement for Each Sub-function	Total Areas in Sq Mtrs
Intermediate Zone (inpatient Nursing units)	**Nursing station** (Nurse desk, clean utility, treatment room, pantry, store, sluice room, trolley bay)	Nursing station 6.4 X 6.4	40.96 Sq Mtrs
	Patient area (bed space, toilets, Day space, Isolation Space)	4 wards each with 6 beds (2 male wards & 2 female wards)size (6.2 X 6.2) X 4	153.76 Sq Mtrs
		4 private room (2 each for male & females) with toilets 6.2 X 3.2 X 4 2	79.36 Sq Mtrs
	Ancillary rooms (Doctor's rest room, Nurses duty room, Public utilities, circulation space.)	isolation rooms with toilet (one each for male & female) 6.2 X 3.2 X 2	39.68 Sq Mts
Critical Zone (Operational Theatre/Labour room	Patient area (Preparation, Paranaesthesia, post-operative resting) Staff area (Changing Resting) Supplies area (trolley bay, equipment storage, sterile storage) OT/Lr area (Operating/Labour room, scrub, instrument sterilization, Disposal) public utilities, circulation space	Area specification is recommended	240 Sq Mtrs

Zone	Functions	Area Requirement for Each Sub-function	Total Areas in Sq Mtrs
Service Zone	Dietary (Dry Store, Day Store, Preparation, Cooking, Delivery, pot wash, Utensil wash, Utensil store, trolley park) C.S.S.D. (Receipt, wash, assembly, sterilization, sterile storage, Issue) Laundry (Receipt, weigh, sluice/wash, Hydro extraction, tumble, calendar, press) Laundry (clean storage, Issue), Civil engineering (Building maintenance, Horticulture, water supply, drainage and sanitation), Electrical engineering (substation & generation, Illumination, ventilation), Mechanical engineering, Space for other services like gas store, telephone, intercom, fire protection, waste disposal, Mortuary.	Services like Electrical engineering /Mechanical engineering & Civil engineering can be privately hired to avoid permanent space in the CHC building	Area specification is recommended
Administrative Zone	General Administration, general store, public utilities circulation space	Area specification is recommended	60 Sq Mtrs
Total Circulation Area/Corridors			191.15 Sq Mtrs
Total Area			1503.32 Sq Mtrs

IPHS for Sub-District/Divisional Hospitals

(IPHS for Sub Distict Hospitals, 2012)

https://nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/sub-district-sub-divisional-hospital.pdf

Introduction

Sub-district (Sub-divisional) hospitals are below the district and above the block level (CHC) hospitals and act as First Referral Units for the Tehsil/Taluk/block population in which they are geographically located.

Specialist services are provided through these Sub district hospitals and they receive referred cases from neighbouring CHCs, PHCs and SCs. They have an important role to play as First Referral Units in providing emergency obstetrics care and neonatal care and help in bringing down the Maternal Mortality and Infant Mortality. They form an important link between SC, PHC and CHC on one end and District Hospitals on other end. It also saves the travel time for the cases needing emergency care and reduces the workload of the district hospital. In some of the states, each district is subdivided in to two or three sub divisions. A subdivision hospital caters to about 5-6 lakhs people. In bigger districts the Sub-district hospitals fills the gap between the block level hospitals and the district hospitals. There are about 1200 such hospitals in the country with a varying strength of number of beds ranging from 31 to 100 beds or more.

The Government of India is strongly committed to strengthen the health sector for improving the availability, accessibility of affordable quality health services to the people. In order to improve the quality and accountability of health services a set of standards need to be there for all health service institutions including Sub-district hospitals.

Standards are a means of describing the level of quality the health care organizations are expected to meet or aspire to. The key aim of standard is to underpin the delivery of quality services which are fair and responsive to client's needs, provided equitably and deliver improvements in health and well being of the population. Standards are the main driver for continuous improvements in quality. The performance of Sub-district hospitals can be assessed against a set of standards.

The Bureau of Indian standards (BIS) has developed standards for hospitals services for 30 bedded and 100 bedded hospitals. However, these standards are considered very resource intensive and lack the processes to ensure community involvement, accountability, the hospital management, and citizens' charter etc. peculiar to the public hospitals.

Setting standards is a dynamic process. This document contains the standards to bring the Sub-district/ Sub-divisional hospitals to a minimum acceptable functional grade (indicated as **Essential**) with scope for further improvement (indicated as **Desirable**) in it. Most of the existing hospitals below district level are located in older buildings in urbanized areas/ towns as compared to most Primary Health Centres/Sub-centres. The expansions already done have resulted in construction touching the boundaries walls with no scope of further expansions. As far as possible, States should not dislocate the said hospitals to a new location (in case of dislocating to a new location, the original client group will not be able to have same access to the desired health facilities).

Objectives of the Indian Public Health Standards for Sub-Centre

The overall objective of IPHS is to provide health care that is quality oriented and sensitive to the needs of the people of the district. The specific objectives of IPHS for Sub-district Hospitals are:

- To provide comprehensive secondary healthcare (specialist and referral services) to the community through the Sub-district Hospital.
- To achieve and maintain an acceptable standard of quality of care.
- To make the services more responsive and sensitive to the needs of the people of the Sub-district/Sub-Division and act as the First Referral Unit (FRU) for the hospitals/centres from which the cases are referred to the Sub-district hospitals.

Categorization

The size of a Sub-district hospital is a function of the hospital bed requirement, which in turn is a function of the size of the population it serves. In India the population size of a Sub-district varies from 1,00,000 to 5,00,000. Based on the assumptions of the annual rate of admission as 1 per 50 populations and average length of stay in a hospital as 5 days, the number of beds required for a Sub-district having a population of 5 lakhs will be around 100-150 beds. However, as the population of the Sub-district varies a lot, it would be prudent to prescribe norms by categorizing the size of the hospitals as per the number of beds.

For the purpose of classification, we have arbitrarily labelled Sub-district Hospitals as Category-I (31-50) and Category II (51-100). We presume that above 100 beds strength, health care facility will constitute

District Hospital Group.

Category I

Sub-district hospitals norms for 31-50 beds.

Category II

Sub-district hospitals norms for 51-100 beds.

Physical Infrastructure

Size of the hospital

The size of a Sub-district hospital is a function of the hospital bed requirement which in turn is a function of the size of the population serve. In India the usual population size of a Sub-district varies from 1,00,000 to 5,00,000. For the purpose of convenience the average size of the Sub district is taken in this document as 2,50,000 populations.

Based on the assumptions of the annual rate of admission as 1 per 50 populations. And average length of stay in a hospital as 5 days. The number of beds required for a Sub district having a population of 2,50000 will be as follows:

The total number of admissions per year	= 2,50,000 x 1/50 = 5,000
Bed days per year	= 5,000 x 5 = 25,000
Total number of beds required when occupancy is 100%	= 25000/365 = 69 beds
Total number of beds required when occupancy is 80%	= 25000/365 x 80/100 = 55 beds

Area of the hospital

An area of 65-85 m_2 per bed has been considered to be reasonable. The area will include the service areas such as waiting space, entrance hall, registration counter etc. In addition, Hospital Service buildings like Generators, Heat Ventilation and Air conditioning Plant (HVAC plant), Manifold Rooms, Boilers, Laundry, Kitchen and essential staff residences are required in the Hospital premises. In case of specific requirement of a hospital, flexibility in altering the area be kept.

Site information

Physical description of the area which should include bearings, boundaries, topography, surface area, land used in adjoining areas, limitation of the site that would affect planning, maps of vicinity and landmarks or centres, existing utilities, nearest city, port, airport, railway station, major bus stand, rain fall and data on weather and climate.

Hospital Management Policy should emphasize on quake proof, fire proof, protected, flood proof buildings and should be away from high tension wires. Infrastructure should be eco-friendly and disabled (physically and visually handicapped) friendly. Provision should be made for water harvesting, solar energy/power back-up, and horticulture services including herbal garden. Local agency Guidelines and By-laws should strictly be followed. A room for horticulture to store garden implements, seeds etc. will be made available.

Factors to be considered in locating a district/Sub-district hospital

- The location may be near the residential area.
- Too old building may be demolished and new construction done in its place.
- It should be free from dangers of flooding; it must not, therefore, be sited at the lowest point of the district.
- It should be in an area free of pollution of any kind, including air, noise, water and land pollution.
- It must be serviced by public utilities: Water, sewage and storm-water disposal, electricity, gas and telephone. In areas where such utilities are not available, substitutes must be found, such as a deep well for water, generators for electricity and radio communication for telephone.
- Necessary environmental clearance will be taken. Disability Act will be followed. Barrier free access environment for easy access to non-ambulant (wheel-chair, stretcher), semi-ambulant, visually disabled and elderly persons as per “Guidelines and Space Standards for barrier-free built environment for Disabled and Elderly Persons” of Government of India. This will ensure safety and utilization of space by disabled and elderly people fully and full integration into the society.

Site selection criteria

A rational, step-by-step process of site selection occurs only in ideal circumstances. In some cases, the availability of a site outweighs other rational reasons for its selection, and planners and architects are confronted with the job of assessing whether a piece of land is suitable for building a hospital. In the case of either site selection or evaluation of adaptability, the following items must be, considered: size, topography, drainage, soil conditions, utilities available, natural features and limitations.

- In the already existing structures of a district/Sub-district hospital, it should be examined whether they fit into the design of the recommended structure and if the existing parts can be converted into functional spaces to fit in to the recommended standards.
- If the existing structures are too old to become part of the new hospital, could they be converted to a motor pool, laundry, store or workshop or for any other use of the Sub-district hospital?
- If they are too old and dilapidated then they must be demolished and new construction should be put in place.

Building and Space Requirements

Signage

The building should have a prominent board displaying the name of the Centre in the local language at the gate and on the building. Colour coded guidelines and signage indicating access to various facilities at strategic points in the Hospital for guidance of the public should be provided.

Disaster Prevention Measures

(For all new upcoming facilities in seismic zone 5 or other disaster prone areas) Desirable

For prevention of disasters due to Earthquake, Flood and Fire , Building structure and the internal structure of Hospital should be made disaster proof especially earthquake proof, flood proof and equipped with fire protection measures.

Earthquake proof measures – structural and non-structural should be built in to withstand quake as per geographical/State Govt. Guidelines. Non-structural features like fastening the shelves, almirahs, equipment etc. are even more essential than structural changes in the buildings. Since it is likely to increase the cost substantially, these measures may especially be taken on priority in known earthquake prone areas. (For more details refer to '**Annexure VI**: Seismic safety of non-structural elements of Hospitals/Health facility').

Hospital should not be located in low lying area to prevent flooding.

Fire fighting equipment – fire extinguishers, sand buckets, etc. should be available and maintained to be readily available when there is a problem. There should be regular drill of the staff for use of these equipment.

All health staff should be trained and well conversant with disaster prevention and management aspects.

Environmental friendly features

The Hospital should be, as far as possible, environment friendly and energy efficient. Rain-Water harvesting, solar energy use and use of energy-efficient bulbs/ equipment should be encouraged.

Administrative Block

Administrative block attached to main hospital along with provision of MS Office and other staff will be provided.

Circulation Areas

Circulation areas like corridors, toilets, lifts, ramps, staircase and other common spaces etc. in the hospital should not be more than 55% of the total floor area of the building.

Floor Height

The room height should not be less than approximately 3.6 m measured at any point from floor to floor height.

Entrance Area

- Barrier free access environment for easy access to non-ambulant (wheel-chair, stretcher), semi-ambulant, visually disabled and elderly persons as per GOI guidelines.
- Ramp as per specification, Hand-railing, proper lightning etc. must be provided in the health facility and retrofitted in older one which lack the same.

Ambulatory Care Area (OPD)

Waiting Spaces

Registration, assistance and enquiry counter facility be made available in all the clinics along with proper sitting arrangement, drinking water, ceiling fans and toilet facility separate for male and female. Main entrance, general waiting and subsidiary waiting spaces are required adjacent to each consultation and treatment room in all the clinics.

Clinics

- The clinics should include general, medical, surgical, ophthalmic, ENT, dental, obstetrics and gynaecology, Post-Partum Unit, paediatrics, dermatology and venereology (Desirable), psychiatry (Desirable), neonatology, orthopaedic and social service department.
- The clinics for infectious and communicable diseases should be located in isolation, preferably, in remote corner, provided with independent access.
- Doctor chamber should have ample space to sit for 4-5 people.
- Chamber size of 12.0 sq meters is adequate.
- For National Health Programme, adequate space be made available.
- Immunization Clinic with waiting Room having an Area of 3 m x 4 m in PP centre/Maternity centre/Paediatric Clinic should be provided.
- One room for HIV/STI Counselling is to be provided.

Nursing Services

Various clinics under Ambulatory Care Area require nursing facilities in common which include dressing room, side laboratory, injection room, social service and treatment rooms, etc.

Nursing Station: Need based space required for Nursing Station in OPD for dispensing nursing services. (Based on OPD load of patient)

Diagnostic Services

Provision for following Space be made

- Separate room for doctors/consultants
- rooms for reporting
- space for technicians
- storage/records areas
- sufficient waiting areas

Imaging

Role of imaging department should be radio-diagnosis and ultrasound along with hire facilities depending on the bed strength.

- The department should be located at a place which is accessible to both OPD and wards and also to operation theatre department.
- The size of the room should depend on the type of instrument installed.
- The room should have a sub-waiting area with toilet facility and a change room facility, if required.
- Film developing and processing (dark room) shall be provided in the department for loading, unloading, developing and processing of X-ray films.
- Separate Reporting Room for doctors should be there.

Clinical Laboratory

- For quick diagnosis of blood, urine, etc., a small sample collection room facility shall be provided.
- Separate Reporting Room for doctors should be there.

Blood Storage Unit (Annexure VII)

- The area required for setting up the facility is only 10 square meters, well-lighted, clean and preferably air-conditioned.

Intermediate Care Area (Inpatient Nursing Units)

General

Nursing care should fall under following categories:

General Wards: Male/Female

Private Wards

Wards for Specialities

Location

Location of the ward should be such to ensure quietness and to control number of visitors.

Ward Unit

- It is desirable that up to 20 % of the total beds may be earmarked for the day care facilities, as many procedures can be done on day care basis in modern times.
- The basic aim in planning a ward unit should be to minimize the work of the nursing staff and provide basic amenities to the patients within the unit. The distances to be travelled by a nurse from bed areas to treatment room, pantry etc. should be kept to the minimum.
- Ward unit will include nursing station, doctors' duty room, pantry, isolation room, treatment room, nursing store along with wards and toilets as per the norms. On an average one nursing station per ward will be provided. It should be ensured that nursing station caters to around 40-45 beds, out of which half will be for acute patients and rest for chronic patients.

Private ward: Depending upon the requirement of the hospital and catchment area appropriate beds may be allocated for private facilities. However, 10% of the total bed strength is recommended as private wards beds.

Patient Conveniences

It is to be as per local byelaws.

Pharmacy (Dispensary)

- The pharmacy should be located in an area conveniently accessible from all clinics. The size should be adequate to contain 5 percent of the total clinical visits to the OPD in one session.
- Pharmacy should have component of medical store facility for indoor patients and separate pharmacy with accessibility for OPD patients.

Intensive Care Unit and High Dependency Wards

(Desirable)

General

In this unit, critically ill patients requiring highly skilled lifesaving medical aid and nursing care are concentrated. These should include major surgical and medical cases, head injuries, severe haemorrhage, acute coronary occlusion, kidney and respiratory catastrophe, poisoning etc. It should be the ultimate Medicare the hospital can provide with highly specialized staff and equipment. The number of patients requiring intensive care may be about 5 to 10 percent of total medical and surgical patients in a hospital. The unit shall not have less than 4 beds nor more than 12 beds. Number of beds for both the units will be restricted to 10% of the total bed strength. Out of these, they can be equally divided among ICU and High Dependency Wards. For example, in a 100 bedded hospital, total of 10 beds will be for critical care. Out of these 4 may be ICU beds and 6 will be allocated for high dependency wards. Changing room should be provided for. There should be clear-cut admission, discharge and referral policy.

Location

- This unit should be located close to operation theatre department and other essential departments, such as, X-ray and pathology so that the staff and ancillaries could be shared. Easy and convenient access from emergency and accident department is also essential.
- This unit will also need all the specialized services, such as, piped suction and medical gases, uninterrupted electric supply, heating, ventilation, central air conditioning and efficient life services.
- A good natural light and pleasant environment would also be of great help to the patients and staff as well.

Facilities

- Nurses Station
- Clean Utility Area
- Equipment Room

Accidents and emergency services

- These services are to be made available on 24x7 basis. Emergency should preferably have a distinct entry independent of OPD main entry so that a very minimum time is lost in giving immediate treatment to injured arriving in the hospital. There should be an easy ambulance approach with adequate space for free passage of vehicles and covered area for alighting patients.
- Emergency should have separate X-ray and basic laboratory facilities. Mobile X-ray, Plaster room and minor OT facilities are also to be provided. Separate emergency beds may be provided. Duty rooms for Doctors/nurses/paramedical staff and medico legal cases. Sufficient waiting area for relatives and located in such a way which does not disturb functioning of emergency services.

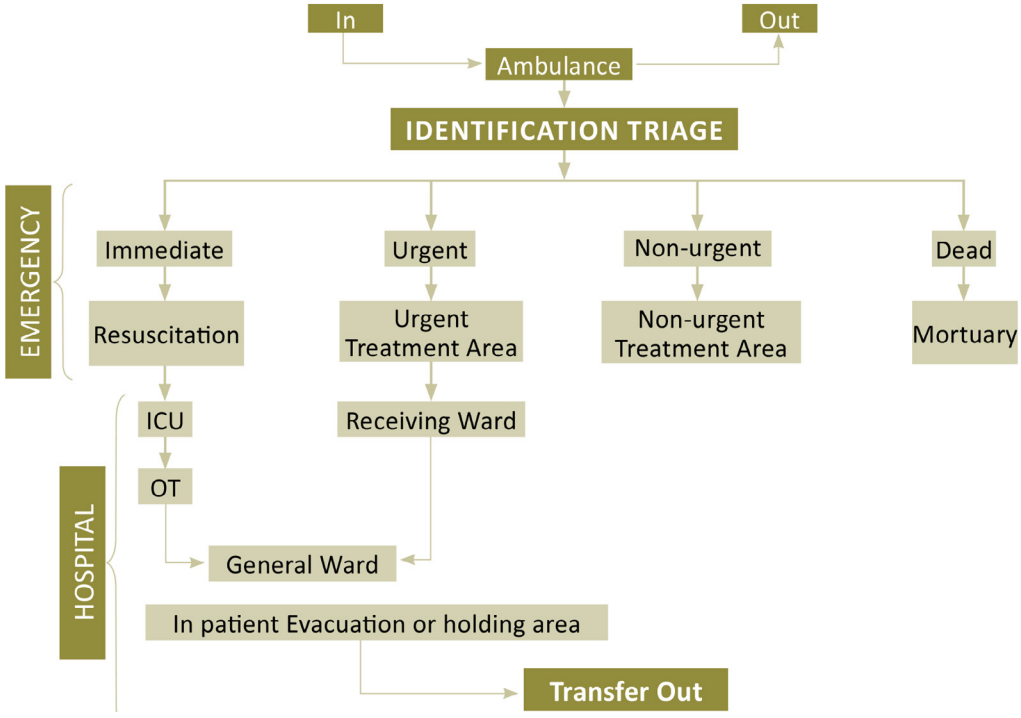


Figure 8 Flow Chart for Emergency Department

Operation Theatre

Operation theatre usually has a team of surgeons' anaesthetists, nurses and sometime pathologist and radiologist operate upon or care for the patients. The location of Operation theatre should be in a quite environment, free from noise and other disturbances, free from contamination and possible cross infection, maximum protection from solar radiation and convenient relationship with surgical ward, intensive care unit, radiology, pathology, blood bank and CSSD.

This unit also needs constant specialized services, such as, piped suction and medical gases, electric supply, heating, air-conditioning, ventilation and efficient life service, if the theatres are located on upper floors.

Zoning should be done to keep the theatres free from micro-organisms. There may be four well defined zones of varying degree of cleanliness namely, Protective Zone, Clean Zone, Aseptic or Sterile Zone and Disposal or Dirty Zone. Normally there are three types of traffic flow, namely, patients, staff and supplies. All these should be properly channelized. An Operation Theatre should also have Preparation Room, Pre-operative Room and Post-Operative Resting Room. Operating room should be made dust-proof and moisture proof. There should also be a Scrub-up room where operating team washes and scrub-up their hands and arms, put on their sterile gown, gloves and other covers before entering the operation theatre.

The theatre should have sink/photo sensors for water facility. Laminar flow of air is to be maintained in operation theatre. Central air conditioning facility in the OT is desirable. It should have a single leaf door with self-closing device and viewing window to communicate with the operation theatre. A pair of surgeon's sinks and elbow or knee operated taps are essential.

Operation Theatre should also have a Sub-Sterilizing unit attached to the operation theatre limiting its role to operating instruments on an emergency basis only.

Theatre refuse, such as, dirty linen, used instruments and other disposable/non disposable items should be removed to a room after each operation. Non disposable instruments after initial wash are given back to instrument sterilization and rest of the disposable items are disposed off and destroyed. Dirty linen is sent to laundry through a separate exit. The room should be provided with sink, slop sink, work bench and draining boards.

Delivery Suite Unit

The delivery suit unit be located near to operation theatre. It should include the facilities of accommodation for various facilities as given below:

- Reception and admission
- Examination and Preparation Room
- Labour Room (clean and a septic room)
- Neo-natal Room
- Sterilizing Rooms
- Sterile Store Room
- Scrubbing Room
- Dirty Utility
- New-born care corner in Labour room.
- New-born care Stabilization Unit

Post-Partum Unit

It is desirable that every Sub-district Hospital should have a Post-Partum Unit with dedicated staff and infrastructure to provide Post-natal services, all Family Planning Services, Safe Abortion services and immunization in an integrated manner. The focus will be to promote Post-Partum Sterilization and will be provided if the case load of the deliveries is more than 75 per month.

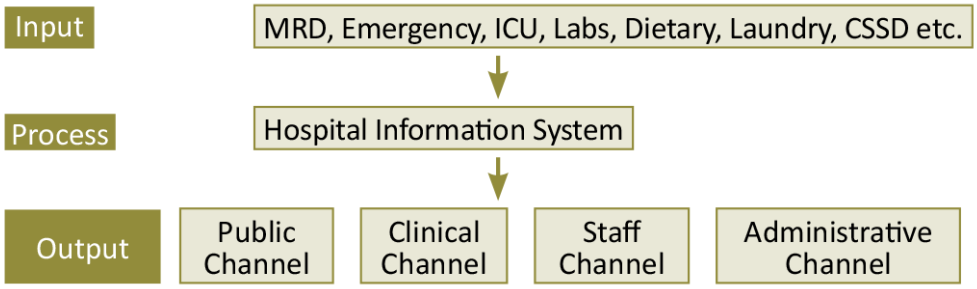
Physical Medicine and Rehabilitation (PMR)

The PMR department provides treatment facilities to patients suffering from crippling diseases and disabilities. The department is more frequently visited by out-patients but should be located at a place which may be at convenient access to both outdoor and indoor patients with privacy. It should also have a physical and electro-therapy rooms, gymnasium, office, store and toilets separate for male and female. Normative standards will be followed.

Hospital Services

Management Information System (MIS)

Computer with Internet connection is to be provided for MIS purpose. Provision of flow of Information from PHC/CHC to Sub-district hospital and from there to district and state health organization should be established. Relevant information with regards to emergency, outdoor and indoor patients be recorded and maintained for a sufficient duration of time as per state health policy.



Hospital Kitchen (Dietary Service)

The dietary service of a hospital is an important therapeutic tool. It should easily be accessible from outside along with vehicular accessibility and separate room for dietician and special diet. It should be located such that the noise and cooking odours emanating from the department do not cause any inconvenience to the other departments. At the same time location should involve the shortest possible time in delivering food to the wards.

Central Sterile Supply Department (CSSD)

As the operation theatre department is the major consumer of this service, it is recommended to locate the department at a position of easy access to operation theatre department. It should have a provision of hot water supply and steam. Efficiency of sterilization process would be tested periodically.

Hospital Laundry

It should be provided with necessary facilities for segregated collection, drying, pressing and storage of soiled and cleaned linens.

Medical and General Stores

The medical and general store should have vehicular accessibility and ventilation, security and firefighting arrangements. Inventory analysis (ABC/VED) should be undertaken periodically.

For Storage of Vaccines and other logistics

Cold Chain Room: 3.5 m x 3 m in size.

Every efforts will be undertaken to ensure that proper cold chain is maintained till point of delivery.

Vaccine & Logistics Room: 3.5 m x 3 m in size.

Minimum and maximum Stock (0.5 and 1.25 month respectively). Indent order and receipt of vaccines and logistics should be monthly. Cold Chain & Vaccine Logistic (CC & VL) Assistant will be responsible for timely receipt of required vaccines and Logistics from the District Stores.

Mortuary

It provides facilities for keeping of dead bodies and conducting autopsy (desirable). Facilities for proper illumination and hand washing should be available.

At least cold chamber for preservation of two dead bodies should be installed. It should be so located that the dead bodies can be transported unnoticed by the general public and patients.

Engineering Services

Electric Engineering

Sub Station and Generation: Electric substation and standby generator to cater for the full load of the Hospital should be provided.

Illumination: The illumination and lightning in the hospital should be done as per the prescribed standards.

Emergency Lighting: Shadow less light in operation theatre and delivery rooms should be provided.

Emergency portable light units should be provided in the wards and departments.

Call Bells (Desirable): Call bells with switches for all beds should be provided in all types of wards with indicator lights and location indicator situated in the nurses' duty room of the wards.

Ventilation: The ventilation in the hospital may be achieved by either natural supply or by mechanical exhaust of air.

Mechanical Engineering

All OTs, ICUs and NICUs, (heat stroke room, if required) will be air conditioned. Room heating in operation theatre and neo-natal units may also be provided depending upon weather condition.

Air coolers or hot air convectors may be provided for the comfort of patients, relatives and staff depending on the local needs.

Hospital should be provided with water coolers and refrigerator in wards and departments depending upon the local needs. Desirable – telephone booth, cable TV, cafeteria/tea shop.

Public Health Engineering

Water Supply: Arrangement should be made for round the clock piped water supply along with an overhead water storage tank with a provision to store at least 3 days water requirement. It should have pumping and boosting arrangements. Approximately 450 to 500 litres of water per bed per day is required for a 100 bedded hospital. Separate provision for firefighting and water softening plants be made available.

Drainage and Sanitation: The construction and maintenance of drainage and sanitation system for waste water, surface water, sub-soil water and sewerage shall be in accordance with the prescribed standards. Prescribed standards and local guidelines shall be followed.

Other Amenities

Disabled friendly, WC with basins wash basins as specified by Guidelines for disabled friendly environment should be provided.

Waste Disposal System

As per National guidelines on Bio-medical Waste (Management & Handling) Rules, 1998

Mercury Waste Disposal

- As mercury waste is a hazardous waste, the storage, handling, treatment and disposal practices should be in line with the requirements of Government of India's Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules 2008, which may be seen at website www.cpcb.nic.in.
- Mercury-contaminated waste should not be mixed with other biomedical waste or with general waste. It should not be swept down the drain and wherever possible, it should be disposed off at a hazardous waste facility or given to a mercury-based equipment manufacturer.
- Precaution should be taken not to handle mercury with bare hands and as far as possible; jewellery should be removed at the time of handling mercury. After handling mercury, hands must be carefully washed before eating or drinking. Appropriate personal protective equipment (rubber gloves, goggles/face shields and clothing) should be used while handling mercury.
- Mercury-containing thermometers should be kept in a container that does not have a hard bottom. Prefer a plastic container to a glass container, as the possibility of breakage will be less.
- In case of breakage, cardboard sheets should be used to push the spilled beads of mercury together. A syringe should be used to suck the beads of mercury. Mercury should be placed carefully in a container with some water. Any remaining beads of mercury will be picked up with a sticky tape and placed in a plastic bag, properly labelled.

Fire Protection

- Regular training, demonstration, awareness and drill.
- Placement of fire appliances and their periodical servicing.
- Escape plan – signage.

Telephone and Intercom

Medical Gas

- Cooking Gas: Liquefied petroleum gas (LPG).
- Laboratory Gas: Liquefied petroleum gas (LPG) and other specified gases.

Administrative Services

Two sections

- **General section** to deal with overall upkeep of the hospital and welfare of its staff and patients
- **Medical Records section.**

Committee Room: A meeting or a committee room for conferences, trainings with associated furniture.

Residential Quarters

All the essential medical and para-medical staff will be provided with residential accommodation. If the accommodation cannot be provided due to any reason, then the staff may be paid house rent allowance, but in that case they should be staying in near vicinity, so that essential staff is available 24 x 7 in case of need.

Building Maintenance

Provision for building maintenance staff and an office cum store will be provided to handle day to day maintenance work.

IPHS for District Hospitals

(IPHS for Distict Hospitals, 2012)

https://nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/district-hospital.pdf

Introduction

India's Public Health System has been developed over the years as a 3-tier system, namely primary, secondary and tertiary level of health care. District Health System is the fundamental basis for implementing various health policies, delivery of healthcare and management of health services for defined geographic area. District hospital is an essential component of the district health system and functions as a secondary level of health care which provides curative, preventive and promotive healthcare services to the people in the district. Every district is expected to have a district hospital linked with the public hospitals/health centres down below the district such as Sub-district/Sub-divisional hospitals, Community Health Centres, Primary Health Centres and Sub-centres.

The Government of India is strongly committed to strengthen the health sector for improving the health status of the population. A number of steps have been taken to that effect in the post-independence era. One such step is strengthening of referral services and provision of speciality services at district and sub-district hospitals. Various specialists like surgeon, physician, obstetrician and gynaecologist, paediatrician, orthopaedic surgeon, ophthalmologist, anaesthetist, ENT specialist and dentist have been placed in the district headquarter hospital.

The district hospitals cater to the people living in urban (district headquarters town and adjoining areas) and the rural people in the district. District hospital system is required to work not only as a curative centre but at the same time should be able to build interface with the institutions external to it including those controlled by non-government and private voluntary health organizations. In the fast changing scenario, the objectives of a district hospital need to unify scientific thought with practical operations which aim to integrate management techniques, interpersonal behaviour and decision making models to serve the system and improve its efficiency and effectiveness. By establishing a telemedicine link with district to referral hospital (Medical College) with video-conferencing facility (desirable), the quality of secondary and limited tertiary care can be improved considerably at district hospitals.

The current functioning of the most of the district hospitals in the public sector are not up to the expectation especially in relation to availability, accessibility and quality. The staff strength, beds strength, equipment supply, service availability and population coverage are not uniform among all the district hospitals.

Most of the district hospitals suffer from large number of constraints such as:

- Buildings are either very old and in dilapidated conditions or are not maintained properly, because of lack of convergence with maintenance department.
- The facilities at district hospitals require continued upgradation to keep pace with the advances in medical knowledge, diagnostic procedures, storage and retrieval of information.
- It has been observed that development of hospitals is not keeping pace with the scientific development.
- A typical district hospital lacks modern diagnostics and therapeutic equipment, proper emergency services, intensive care units, essential pharmaceuticals and supplies, referral support and resources.
- There is a lack of trained and qualified staff for hospital management and for the management of other ancillary and supportive services viz. medical records, central sterilization department, laundry, housekeeping, dietary and management of nursing services.

- There is lack of community participation and ownership, management and accountability of district hospitals through hospital management committees.

District Hospitals have come under constantly increasing pressure due to increased utilization as a result of rapid growth in population, increase in awareness among common consumers, biomedical advancement resulting in the use of sophisticated and advanced technology in diagnosis and therapies, and constantly rising expectation level of the use of the services. The need for evaluating the care being rendered through district hospitals has gained strength of late. There is a need to provide guidance to those concerned with quality assurance in district hospitals services to ensure efficiency and effectiveness of the services rendered.

Objectives of the Indian Public Health Standards for Sub-Centre

The overall objective of IPHS is to provide health care that is quality oriented and sensitive to the needs of the people of the district. The specific objectives of IPHS for District Hospitals are:

- To provide comprehensive secondary health care (specialist and referral services) to the community through the District Hospital.
- To achieve and maintain an acceptable standard of quality of care.
- To make the services more responsive and sensitive to the needs of the people of the district and the hospitals/centres from where the cases are referred to the district hospitals.

Grading of District Hospitals

The size of a district hospital is a function of the hospital bed requirement, which in turn is a function of the size of the population it serves. In India the population size of a district varies from 35,000 to 30,00,000

(Census 2001). Based on the assumptions of the annual rate of admission as 1 per 50 populations and average length of stay in a hospital as 5 days, the number of beds required for a district having a population of 10 lakhs will be around 300 beds. However, as the population of the district varies a lot, it would be prudent to prescribe norms by grading the size of the hospitals as per the number of beds.

- Grade I: District hospitals norms for 500 beds
- Grade II: District Hospital Norms for 400 beds
- Grade III: District hospitals norms for 300 beds
- Grade IV: District hospitals norms for 200 beds
- Grade V: District hospitals norms for 100 beds.

The disease prevalence in a district varies widely in type and complexities. It is not possible to treat all of them at district hospitals. Some may require the intervention of highly specialist services and use of sophisticated expensive medical equipment. Patients with such diseases can be transferred to tertiary and other specialized hospitals. A district hospital should however be able to serve 85-95% of the medical needs in the districts. It is expected that the hospital bed occupancy rate should be at least 80%.

Functions

A district hospital has the following functions:

- It provides effective, affordable health care services (curative including specialist services, preventive and promotive) for a defined population, with their full participation and in co-operation with agencies in the district that have similar concern. It covers both urban population

(district head quarter town) and the rural population in the district.

- Function as a secondary level referral centre for the public health institutions below the district level such as Sub-divisional Hospitals, Community Health Centres, Primary Health Centres and Sub-centres.
- To provide wide ranging technical and administrative support and education and training for primary health care.

Physical Infrastructure

Size of the hospital

The size of a district hospital is a function of the hospital bed requirement which in turn is a function of the size of the population it serves. In India the population size of a district varies from 50,000 to 15,00,000. For the purpose of convenience the average size of the district is taken in this document as one million population. Based on the assumptions of the annual rate of admission as 1 per 50 population and average length of stay in a hospital as 5 days, the number of beds required for a district having a population of 10 lakhs will be as follows:

The total number of admissions per year = 10,00,000 × 1/50 = 20,000

Bed days per year = 20,000 × 5 = 100,000

Total number of beds required when occupancy is 100% = 100000/365 = 275 beds

Total number of beds required when occupancy is 80% = 100000/365 × 80/100 = 220 beds

Requirement of beds in a District Hospital would also be determined by following factors:

- Urban and Rural demographics and likely burden of diseases
- Geographic terrain
- Communication network
- Location of FRUs and Sub-district Hospitals in the area
- Nearest Tertiary care hospital and its distance & travel time
- Facilities in Private and Not-for profit sectors
- Health care facilities for specialised population– Defence, Railways, etc.

Area and Space norms of the hospital

Land Area

Minimum Land area requirement are as follows:

Upto 100 beds = 0.25 to 0.5 hectare

Upto 101 to 200 beds = 0.5 hectare to 1 hectare

500 beds and above = 6.5 hectare (4.5 hectare for hospital and 2 hectare for residential)

Size of hospital as per number of Beds

General Hospital - 80 to 85 sq. M per bed to calculate total plinth area.
The area will include the service areas such as waiting space, entrance hall, registration counter etc. In addition, Hospital Service buildings like Generators, Manifold Rooms, Boilers, Laundry, Kitchen and essential staff residences are required in the Hospital premises.

In case of specific requirement of a hospital, flexibility in altering the area be kept.

Teaching Hospital - 100 to 110 sq.M per bed to calculate total plinth area.

Facilities

iii. Operation Theatre
   a. One OT for every 50 general in-patient beds
   b. One OT for every 25 surgical beds.
iv. ICU beds = 5 to 10 % of total beds
v. Floor space for each ICU bed = 25 to 30 sq m (this includes support services)
vi. Floor space for Paediatric ICU beds = 10 to 12 sq m per bed
vii. Floor space for High Dependency Unit (HDU) = 20 to 24 sq m per bed
viii. Floor space Hospital beds (General) = 15 to 18 sq m per bed
ix. Beds space = 7 sq m per bed
x. Minimum distance between centres of two beds = 2.5 m (minimum)
xi. Clearance at foot end of each bed = 1.2 m (minimum)
xii. Minimum area for apertures (windows/Ventilators opening in fresh air)
   a. = 20% of the floor area (if on same wall)
   b. = 15% of the floor area (if on opposite walls)

Site selection criteria

In the case of either site selection or evaluation of adaptability, the following items must be considered:

Physical description of the area which should include bearings, boundaries, topography, surface area, land used in adjoining areas, drainage, soil conditions, limitation of the site that would affect planning, maps of vicinity and landmarks or centres, existing utilities, nearest city, port, airport, railway station, major bus stand, rain fall and data on weather and climate.

Factors to be considered in locating a district hospital

- The location may be near the residential area.
- Too old building may be demolished and new construction done in its place.
- It should be free from dangers of flooding; it must not, therefore, be sited at the lowest point of the district.
- It should be in an area free of pollution of any kind including air, noise, water and land pollution.
- It must be serviced by public utilities: water, sewage and storm-water disposal, electricity and telephone. In areas where such utilities are not available, substitutes must be found, such as a deep well for water, generators for electricity and radio communication for telephone.
- Necessary environmental clearance will be taken

Site selection Process

A rational, step-by-step process of site selection occurs only in ideal circumstances. In some cases, the availability of a site outweighs other rational reasons for its selection, and planners and architects are confronted with the job of assessing whether a piece of land is suitable for building a hospital.

In the already existing structures of a district hospital

- It should be examined whether they fit into the design of the recommended structure and if the existing parts can be converted into functional spaces to fit in to the recommended standards.

- If the existing structures are too old to become part of the new hospital, could they be converted to a motor pool, laundry, store or workshop or for any other use of the district hospital?
- If they are too old and dilapidated then they must be demolished. And new construction should be put in place.

Hospital Building – Planning and Lay out

Hospital Management Policy should emphasize on hospital buildings with earthquake proof, flood proof and fire protection features. Infrastructure should be eco-friendly and disabled (physically and visually handicapped) friendly. Local agency Guidelines and Bylaws should strictly be followed.

Appearance and upkeep

- The hospital should have a high boundary wall with at least two exit gates.
- Building shall be plastered and painted with uniform colour scheme.
- There shall be no unwanted/outdated posters pasted on the walls of building and boundary of the hospital.
- There shall be no outdated/unwanted hoardings in hospital premises.
- There shall be provision of adequate light in the night so hospital is visible from approach road.
- Proper landscaping and maintenance of trees, gardens etc. should be ensured.
- There shall be no encroachment in and around the hospital.

Signage

- The building should have a prominent board displaying the name of the Centre in the local language at the gate and on the building. Signage indicating access to various facilities at strategic points in the Hospital for guidance of the public should be provided. For showing the directions, colour coding may be used.
- Citizen charter shall be displayed at OPD and Entrance in local language including patient rights and responsibilities.
- Hospital lay out with location and name of the facility shall be displayed at the entrance.
- Directional signages for Emergency, all the Departments and utilities shall be displayed appropriately, so that they can be accessed easily.
- Florescent Fire Exit plan shall be displayed at each floor.
- Safety, Hazard and caution signs displayed prominently at relevant places.
- Display of important contacts like higher medical centres, blood banks, fire department, police, and ambulance services available in nearby area.
- Display of mandatory information (under RTI Act, PNDT Act, MTP Act etc.).

General Maintenance

Building should be well maintained with no seepage, cracks in the walls, no broken windows and glass panes. There should be no growth of algae and mosses on walls etc. Hospital should have anti-skid and non-slippery floors.

Condition of roads, pathways and drains

- Approach road to hospital emergency shall be all weather motorable road.
- Roads shall be illuminated in the nights.
- There shall be dedicated parking space separately for ambulances, Hospital staff and visitors.

- There shall be no stagnation/over flow of drains.
- There shall be no water logging/marsh in or around the hospital premises.
- There shall be no open sewage/ditches in the hospital.

Environmental friendly features

- The Hospital should be, as far as possible, environment friendly and energy efficient. Rain-Water harvesting, solar energy use and use of energy-efficient bulbs/equipment should be encouraged. Provision should be made for horticulture services including herbal garden.
- A room to store garden implements, seeds etc. will be made available.

Barrier free access

For easy access to non-ambulant (wheel-chair, stretcher), semi-ambulant, visually disabled and elderly persons infrastructure as per "Guidelines and Space Standards for barrier-free built environment for Disabled and Elderly Persons" of Government of India, is to be provided. This will ensure safety and utilization of space by disabled and elderly people fully and their full integration into the society. Provisions as per 'Persons with Disability Act' should be implemented.

Administrative Block

Administrative block attached to main hospital along with provision of MS Office and other staff will be provided. Block should have independent access and connectivity to the main hospital building, wherever feasible.

Circulation Areas

Circulation areas comprise corridors, lifts, ramps, staircase and other common spaces etc. The flooring should be anti-skid and non-slippery.

Corridors – Corridors shall be at least 3M Wide to accommodate the daily traffic. Size of the corridors, ramps, and stairs shall be conducive for manoeuvrability of wheeled equipment. Corridors shall be wide enough to accommodate two passing trolley, one of which may have a drip attached to it. Ramps shall have a slope of 1:15 to 1:18. It must be checked for manoeuvrability of beds and trolleys at any turning point.

Roof Height

The roof height should not be less than approximately 3.6 m measured at any point from floor to roof.

Entrance Area

Barrier free access environment for easy access to non-ambulant (wheel-chair, stretcher), semi-ambulant, visually disabled and elderly persons as per "Guidelines and Space Standards for barrier-free built environment for Disabled and Elderly Persons" of CPWD/Min of Social Welfare, GOI.

Ramp as per specification, Hand- railing, proper lightning etc. must be provided in all health facilities and retrofitted in older one which lacks the same.

The various types of traffic shall be grouped for entry into the hospital premises according to their nature. An important consideration is that traffic moving at extremely different paces (e.g. a patient on foot and an ambulance) shall be separated. There can be four access points to the site, in order to segregate the traffic.

- **Emergency:** for patients in ambulances and other vehicles for emergency department.
- **Service:** for delivering supplies and collecting waste.

- **Service:** for removal of dead
- **Main**: for all others

Residential Quarters

All the essential medical and para-medical staff will be provided with residential accommodation. If the accommodation cannot be provided due to any reason, then the staff may be paid house rent allowance, but in that case they should be staying in near vicinity, so that essential staff is available 24 x 7.

Disaster Prevention Measures

(For all new upcoming facilities in seismic zone 5 or other disaster prone areas)

Building structure and the internal structure of Hospital should be made disaster proof especially earthquake proof, flood proof and equipped with fire protection measures.

Earthquake proof measures – structural and non-structural should be built in to withstand quake as per geographical/state Govt. guidelines. Non-structural features like fastening the shelves, almirahs, equipment etc. are even more essential than structural changes in the buildings. Since it is likely to increase the cost substantially, these measures may especially be taken on priority in known earthquake prone areas.

Firefighting equipment – fire extinguishers, sand buckets, etc. should be available and maintained to be readily available when there is a problem.

Every district hospital shall have a dedicated disaster management plan in line with state disaster management plan. Disaster plan clearly defines the authority and responsibility of all cadres of staff and mechanism of mobilization resources.

All health staff should be trained and well conversant with disaster prevention and management aspects.

Regular mock drill should be conducted. After each drill the efficacy of disaster plan, preparedness of hospital and competence of staff shall be evaluated followed by appropriate changes to make plan more robust.

Hospital communication

- 24x7 working telephone shall be available for hospital. Additional telephone lines with restricted access for priority messages should be installed especially with ISD facilities. All messages should be written down in the log book in details for follow up especially in case of disaster situations. Wireless Services with police assistance and hotline with the collector can be used in emergency. Fax should be used for communication of information like quantity of drugs, specification of equipment etc. so as to avoid errors.
- Internal communication system for connecting important areas of hospitals like Emergency, Wards, OT, Kitchen, Laundry, CSSD, administration etc. should be established.
- Central Information booth should be functional and competent person shall be available for answering the enquiries. The anxious excited friends and relatives want to know the welfare of their kith and kin and hospital authorities should calm them down, console them and provide them with detail information from time to time from information booth. List of patients may be displayed with their bed/ward location.
- Crowds should be controlled and only the authorized attendants/relatives with passes should be allowed entry

Departmental Lay Out

Clinical Services

Outdoor Patient Department (OPD)

The facility shall be planned keeping in mind the maximum peak hour patient load and shall have the scope for future expansion. OPD shall have approach from main road with signage visible from a distance.

a. **Reception and Enquiry**

- Enquiry/May I Help desk shall be available with competent staff fluent in local language.
- The service may be outsourced. Services available at the hospital displayed at the enquiry.
- Name and contacts of responsible persons like Medical superintendent, Hospital Manager, Causality Medical officer, Public Information Officer etc. shall be displayed.

b. **Waiting Spaces**

Waiting area with adequate seating arrangement shall be provided. Main entrance, general waiting and subsidiary waiting spaces are required adjacent to each consultation and treatment room in all the clinics. Waiting area at the scale of 1 sq ft/per average daily patient with minimum 400 sq ft of area is to be provided.

c. **Layout of OPD** shall follow functional flow of the patients, e.g.:

Enquiry➔ Registration➔ Waiting➔ Sub-waiting➔ Clinic➔ Dressing room/Injection Room➔ Billing➔ Diagnostics (lab/X-ray)➔ Pharmacy➔ Exit

d. **Patient amenities** (norms given in following pages)

- Potable drinking water.
- Functional and clean toilets with running water and flush.
- Fans/Coolers.
- Seating arrangement as per load of patient.

e. **Clinics**

The clinics should include general, medical, surgical, ophthalmic, ENT, dental, obstetrics and gynaecology,

Post-Partum Unit, paediatrics, dermatology and venereology, psychiatry, neonatology, orthopaedic and social service department. Doctor chamber should have ample space to sit for 4-5 people. Chamber size of 12.0 sq meters is adequate. The clinics for infectious and communicable diseases should be located in isolation, preferably, in remote corner, provided with independent access. For National Health Programme, adequate space be made available. Immunization Clinic with waiting Room having an area of 3 m × 4 m in PP centre/Maternity centre/Paediatric Clinic should be provided. 1 Room for HIV/STI counselling is to be provided. Pharmacy shall be in close proximity of OPD. All clinics shall be provided with examination table, X-ray- View box, Screens and hand wishing facility. Adequate number of wheelchairs and stretcher shall be provided.

f. **Nursing Services**

Various clinics under Ambulatory Care Area require nursing facilities in common which include dressing room, side laboratory, injection room, social service and treatment rooms etc.

Nursing Station: Need based space required for Nursing Station in OPD for dispensing nursing services. (Based on OPD load of patient)

g. Quality Assurances in Clinics

- Work load at OPD shall be studied and measures shall be taken to reduce the Waiting Time for registration, consultation, Diagnostics and pharmacy.
- Punctuality of staff shall be ensured.
- Cleanliness of OPD area shall be monitored on regular basis.
- There shall be provision of complaints/suggestion box. There shall be a mechanism to redress the complaints.
- Hospital shall develop standard operating procedures for OPD management, train the staff and implement it accordingly.
- Assessment of each patient shall be done in standard format.
- To avoid overcrowding hospital shall have patient calling systems (manual/Digital).

h. **Desirable Services**

- Air-cooling
- Patient calling system with electronic display
- Specimen collection centre
- Television in waiting area
- Computerized Registration
- Public Telephone booth
- Provision of OPD manager

Imaging

The department shall be located at a place which is accessible to both OPD and wards and also to operation theatre department. The size of the room shall depend on the type and size of equipment installed. The room shall have a sub-waiting area with toilet facility and a change room facility. Film developing and processing (dark room) shall be provided in the department for loading, unloading, developing and processing of X-ray films. Room shall be completely cut off from direct light. Exhaust fan, ventilators shall be provided. Room shall have a loading bench (with acid and alkali resistant top), processing tank, washing tank and a sink. Separate Reporting Room for doctors shall be there.

Ultrasound room shall contain a patient couch, a chair and adequate space for the equipment. The lighting must be dim for proper examination. Hand-washing facility and toilet shall be attached with ultrasound room.

Process requirement and Quality Assurance in Radiology

- Lay out and construction of X-Ray shall follow the AERB guidelines.
- Lead Aprons and **Thermo Luminescent Dosimeters (TLD)** badges shall be available with all the staff working in X-ray room. TLD badges should be sent to BARC on regular bases for assessment.
- Cycle Time for reporting shall not be more than 24 hours. Same day reporting would be more desirable.
- Hospital shall ensure availability of adequate number of X-ray films at all the times.
- Fixer solution used in film processing shall not be disposed in drains. It shall be auctioned.

- Mandatory information as per PNDT act shall be displayed at ultrasonography centre. Records shall also be maintained as per PNDT Act.
- Service provided by the department with schedule of charges shall be displayed at the entrance of department.
- Department shall develop standard operating procedures for safe transportation of the patient to the department, handling and safe disposal of radioactive material and efficient operation of the department.
- Department shall have a system of preventive maintenance, breakdown repairs and periodic calibration of equipment.

Clinical Laboratory

The department shall be situated such that it has easy access to IPD as well as OPD patients. The Laboratory shall have adequate space from the point of view of workload as well as maintenance of high level of hygiene to prevent the infection. Storage space shall be adequate (10% of total floor space) with separate storage space for inflammable items. The layout shall ensure logical flow of specimens from receipt to disposal. There shall be separate and demarcated areas for sample collection, sample processing, haematology, biochemistry, clinical pathology and reporting. The table top shall be acid and alkali proof.

Quality Assurance in Laboratory Services

External validation of lab reports shall be done on regular basis. Facility of emergency laboratory services shall be available. Service provided by the department with schedule of charges shall be displayed at the entrance of department. Timely reporting should be ensured.

Blood Bank

Blood bank shall be in close proximity to pathology department and at an accessible distance to operation theatre department, intensive care units and emergency and accident department. Blood Bank should follow all existing guidelines and fulfil all requirements as per the various Acts pertaining to setting up of the Blood Bank. Separate Reporting Room for doctors should be there.

Quality Assurance in blood bank

- Hospital should follow standard operating procedure for management of blood bank services including policy on rational use of blood and blood product promulgated by Central/State Government, selection of donors, counselling and examination of donors, consent for donation, issue and transport of blood, storage of blood, cross matching, blood transfusion, and safety precaution.
- Blood bank shall validate the test results from external labs on regular basis.
- Service provided by the department with schedule of charges shall be displayed at the entrance of department.
- Availability of blood group shall be displayed prominently in the blood bank.
- Blood bank shall adhere to NACO guidelines and drug and cosmetic act strictly.
- Blood bank shall practice first in first out policy for reduction of waste. Adequate measures shall be taken to prevent expiry of blood or blood components.
- Use of blood component shall be encouraged.

Intermediate Care Area (Indoor Patient Department)

General IPD beds shall be categorized as following

- Male Medical ward
- Male surgical ward
- Female Medical ward
- Female surgical ward
- Maternity ward
- Paediatric ward
- Nursery
- Isolation ward

As per need and infrastructure hospital have following wards

- Emergency ward/trauma ward
- Burn Ward
- Orthopaedic ward
- Post-operative ward
- Ophthalmology Ward
- Malaria Ward
- Infectious Disease Ward
- **Private ward:** Depending upon the requirement of the hospital and catchment area, appropriate beds may be allowed for private facility. 10% of the total bed strength is recommended as private wards beds.

Location

Location of the ward should be such to ensure quietness and to control number of visitors.

Ward Unit

It is desirable that up to 20 % of the total beds may be earmarked for the day care facilities, as many procedures can be done on day care basis in modern times

The basic aim in planning a ward unit should be to minimize the work of the nursing staff and provide basic amenities to the patients within the unit. The distances to be travelled by a nurse from bed areas to treatment room, pantry etc. should be kept to the minimum. Ward unit will include nursing station, doctors' duty room, pantry, isolation room, treatment room, nursing store along with wards and toilets as per the norms. On an average one nursing station per ward will be provided. It should be ensured that nursing station caters to around 40-45 beds, out of which half will be for acute patients and half for chronic patients.

The following quality parameters should be ensured:

- There shall be at least 2.5 metre between centres of two beds to prevent cross infection and allow bedside nursing care.
- Every bed shall be provided with IV stand, bed-side locker and stool for attendant. Screen shall be available for privacy.
- Dedicated toilets with running water facility and flush shall be provide for each ward.
- Dirty utility room with sluicing facility and janitors rooms shall be provided with in ward.
- All wards shall be provided with positive ventilation (except isolation ward) and fans.

Pharmacy (Dispensary)

The pharmacy should be located in an area conveniently accessible from all clinics. The size should be adequate to contain 5 percent of the total clinical visits to the OPD in one session. For every 200 OPD patients daily there should be one dispensing counter.

Pharmacy should have component of medical store facility for indoor patients and separate pharmacy with accessibility for OPD patients.

Hospital shall have standard operating procedure for stocking, preventing stock out of essential drugs, receiving, inspecting, handing over, storage and retrieval of drugs, checking quality of drugs, inventory management (ABC & VED), storage of narcotic drugs, checking pilferage, date of expiry, pest and rodent control etc.

Patient Conveniences

Number of toilets etc. to be provided as per number of beds of Hospital/OPD load.

Sl. No.	Fitments	Hospital for indoor patients wards For male & female	Hospital with outdoor patient		Administrative building	
			Male	Female	Male	Female
1	Water closet	One for every 6 beds	One for every 100 persons	Two per 100 persons	One for every 25 persons	One for every 15 persons
2	Wash basins	Two for upto 24 persons, add one for every additional 24 beds	One for every 100 persons	One for every 100 persons	One for every 25 persons	One for every 25 persons
3	Baths with shower	One bath with shower for every 6 beds	-	-	One on each floor	One on each floor
4	Bed pan washing sinks	One for each six beds ward	-	-	-	-
5	Cleaners sink	One for each ward	One per floor minimum	One per floor minimum	One per floor minimum	One per floor minimum
6	Kitchen sinks and dish washers	One per ward	-	-	-	-
7	Urinals	One per 20 persons.	One per 50 persons	-	One/20 persons, add one per additional 20 persons. From 101 to 200 persons add @ 3% and over 200 persons add 2.5%	

Figure 9 Norms of Fitment of Public Conveniences

Dharamshala

It is a premises providing temporary accommodation for short duration. The area shall be minimum 0.25 hectares of land adjoining or within the Hospital premises.

Intensive Care Unit and High Dependency Wards

General

In this unit, critically ill patients requiring highly skilled lifesaving medical aid and nursing care are concentrated. These should include major surgical and medical cases, head injuries, severe haemorrhage, acute coronary occlusion, kidney and respiratory catastrophe, poisoning etc. It should be the ultimate Medicare the hospital can provide with highly specialized staff and equipment. The number of patients requiring intensive care may be about 5 to 10 percent of total medical and surgical patients in a hospital. The unit shall not have less than 4 beds nor more than 12 beds. Number of beds may be restricted to 5% of the total bed strength initially but should be expanded

to 10% gradually. Out of these, they can be equally divided among ICU and High Dependency Wards. For example, in a 500-bedded hospital, total of 25 beds will be for Critical Care. Out of these, 13 may be ICU beds and 12 will be allocated for High Dependency Wards. Changing room should be provided for.

Location

This unit should be located close to operation theatre department and other essential departments, such as,

X-ray and pathology so that the staff and ancillaries could be shared. Easy and convenient access from emergency and accident department is also essential. This unit will also need all the specialized services, such as, piped suction and medical gases, uninterrupted electric supply, heating, ventilation, central air conditioning and efficient life services. A good natural light and pleasant environment would also be of great help to the patients and staff as well.

Facilities

- Nurses Station
- Clean Utility Area
- Equipment Room

Accident and Emergency Services

- 24 x 7 operational emergency with dedicated emergency room shall be available with adequate man power.
- It should preferably have a distinct entry independent of OPD main entry so that a very minimum time is lost in giving immediate treatment to causalities arriving in the hospital. There should be an easy ambulance approach with adequate space for free passage of vehicles and covered area for alighting patients.
- Lay out shall follow the functional flow.
- Signage of emergency shall be displayed at the entry of the hospital with directional signage at key points.
- Emergency shall have dedicated triage, resuscitation and observation area. Screens shall be available for privacy.
- Separate provision for examination of rape/sexual assault victim should be made available in the emergency as per guidelines of the Supreme Court.
- Emergency should have mobile X-ray/laboratory, side labs/plaster room/and minor OT facilities. Separate emergency beds may be provided. Duty rooms for Doctors/nurses/paramedical staff and medico legal cases. Sufficient separate waiting areas and public amenities for patients and relatives and located in such a way which does not disturb functioning of emergency services.
- Emergency block to have ECG, Pulse Oximeter, Cardiac Monitor with Defibrillator, Multi-parameter Monitor, Ventilator also.
- Stretcher, wheelchair and trolley shall be available at the entrance of the emergency at designated area.

Operation Theatre

Operation theatre usually have a team of surgeons anaesthetists, nurses and sometime pathologist and radiologist operate upon or care for the patients. The location of Operation theatre should

be in a quite environment, free from noise and other disturbances, free from contamination and possible cross infection, maximum protection from solar radiation and convenient relationship with surgical ward, intensive care unit, radiology, pathology, blood bank and CSSD. This unit also needs constant specialized services, such as piped suction and medical gases, electric supply, heating, air-conditioning, ventilation and efficient lift service, if the theatres are located on upper floors. Zoning should be done to keep the theatres free from micro-organisms. There may be four well defined zones of varying degree of cleanliness/asepsis namely,

Protective Zone, Clean Zone, Aspectic or Sterile Zone and Disposal or Dirty Zone. Normally there are three types of traffic flow, namely, patients, staff and supplies. All these should be properly channelized.

An Operation Theatre should also have Preparation Room, Pre-operative Room and Post-Operative Resting Room. Operating room should be made dustproof and moisture proof. There should also be a Scrub-up room where operating team washes and scrub-up their hands and arms, put on their sterile gown, gloves and other covers before entering the operation theatre. The theatre should have sink/photo sensors for water facility. Laminar flow of air be maintained in operation theatre. It should have a single leaf door with self-closing device and viewing window to communicate with the operation theatre.

A pair of surgeon's sinks and elbow or knee operated taps are essential. Operation Theatre should also have a Sub-Sterilizing unit attached to the operation theatre limiting its role to operating instruments on an emergency basis only.

Theatre refuse, such as, dirty linen, used instruments and other disposable/non disposable items should be removed to a room after each operation. Non-disposable instruments after initial wash are given back to instrument sterilization and rest of the disposable items are disposed off and destroyed. Dirty linen is sent to laundry through a separate exit. The room should be provided with sink, slop sink, work bench and draining boards.

Delivery Suite Unit

The delivery suit unit be located near to operation theatre & located preferably on the ground floor.

The delivery Suit Unit should include the facilities of accommodation for various facilities as given below:

- Reception and admission
- Examination and Preparation Room
- Labour Room (clean and a septic room)
- Delivery Room
- Neo-natal Room
- Sterile Store Room
- Scrubbing Room
- Dirty Utility
- Doctors Duty Room
- Nursing Station
- Nurses changing Room
- Group C & D Room
- Eclampsia Room

Post-Partum Unit

It is desirable that every District Hospital should have a Post-Partum Unit with dedicated staff and infrastructure to provide Post-natal services, all Family Planning Services, Safe Abortion services and immunization in an integrated manner. The focus will be to promote Post-Partum Sterilization and will be provided if the case load of the deliveries is more than 75 per month.

Physical Medicine and Rehabilitation (PMR)

The PMR department provides treatment facilities to patients suffering from crippling diseases and disabilities. The department is more frequently visited by out-patients but should be located at a place which may be at convenient access to both outdoor and indoor patients with privacy. It should also have a physical and electro-therapy rooms, gymnasium, office, store and toilets separate for male and female. Normative standards will be followed.

Hospital Administrative and Support Services

Management Information System (MIS)

Computer with Internet connection is to be provided for MIS purpose. Provision of flow of Information from PHC/CHC to district hospital and from there to district and state health organization should be established. Relevant information with regards to emergency, outdoor and indoor patients be recorded and maintained for a sufficient duration of time as per state health policy.

Hospital Kitchen (Dietary Service)

The dietary service of a hospital is an important therapeutic tool. It should easily be accessible from outside along with vehicular accessibility and separate room for dietician and special diet. It should be located such that the noise and cooking odours emanating from the department do not cause any inconvenience to the other departments. At the same time location should involve the shortest possible time in delivering food to the wards. Apart from normal diet diabetic, semi solid diets and liquid diet shall be available Food shall be distributed in covered container. Quality and quantity of diet shall be checked by competent person on regular basis.

Central Sterile Supply Department (CSSD)

As the operation theatre department is the major consumer of this service, it is recommended to locate the department at a position of easy access to operation theatre department. It should have a provision of hot water supply. Department shall develop and implement the Standard Operating Procedures (SOPs) for transfer of unsterile and sterile items between CSSD and departments, sterilization of different items, complete process cycle, validation of sterilization process, recall, labelling, first in first out, calibration and maintenance of instruments.

Hospital Laundry

It should be provided with necessary facilities for drying, pressing and storage of soiled and cleaned linens. It may be outsourced.

Medical and General Stores

Medical and general stores should have vehicular accessibility and ventilation, security and firefighting arrangements. Hospital shall have standard operating procedure for local purchase, indent management, storage preparation of monthly requirement plan and Inventory analysis.

For Storage of Vaccines and other logistics

Cold Chain Room: 3.5 m × 3 m in size

Vaccine & Logistics Room: 3.5 m × 3 m in size

Minimum and maximum Stock shall be 0.5 and 1.25 month respectively. Indent order and receipt of vaccines and logistics should be monthly. Timely receipt of required vaccines and Logistics from the District Stores, should be ensured.

Mortuary

It provides facilities for keeping of dead bodies and conducting autopsy. The Mortuary shall be located in separate building near the Pathology on the Ground Floor, easily accessible from the wards, Accident and emergency Department and Operation Theatre. It shall be located away from general traffic routes used by public.

Post-mortem room shall have stainless steel autopsy table with sink, a sink with running water for specimen washing and cleaning and cup-board for keeping instruments. Proper illumination and air conditioning shall be provided in the post mortem room.

A separate room for body storage shall be provided with at least 2 deep freezers for preserving the body. There shall be a waiting area for relatives and a space for religious rites.

Engineering Services

Electric Engineering Sub Station and Generation

Electrical load requirement per bed = 3 KW to 5 KW.

Electric substation and standby generator room should be provided.

Illumination

The illumination and lightning in the hospital should be done as per the prescribed standards.

Sl. No.	Department	Illumination (lux)
1	Reception and waiting room	150
2	Wards	
2a	General	100
2b	Beds	150
3	Operation Theatre	
3a	General	300
3b	Tables	Special Lighting
4	Laboratories	300
5	Radiology	100
6	Casualty and Outpatient Departments	150
7	Stairs and corridor	100
8	Dispensaries	300

Figure 10 BIS Illumination Standards for Hospitals

Emergency Lighting

Shadow less light in operation theatre and delivery rooms should be provided. Emergency portable light units should be provided in the wards and departments.

Call Bells

Call bells with switches for all beds should be provided in all types of wards with indicator lights and location indicator situated in the nurses' duty room of the wards.

Ventilation

The ventilation in the hospital may be achieved by either natural supply or by mechanical exhaust of air.

Mechanical Engineering

Air-conditioning and Room Heating in operation theatre and neo-natal units should be provided. Air coolers or hot air convectors may be provided for the comfort of patients and staff depending on the local needs. Hospital should be provided with water coolers and refrigerator in wards and departments depending upon the local needs.

Public Health Engineering

Water Supply

Arrangement should be made for round the clock piped water supply along with an overhead water storage tank with pumping and boosting arrangements.

Water requirement per bed per day = 450 to 500 litres

(Excluding requirements for AC, Fire-fighting, Horticulture and steam).

Drainage and Sanitation

The construction and maintenance of drainage and sanitation system for waste water, surface water, subsoil water and sewerage shall be in accordance with the prescribed standards. Prescribed standards and local guidelines shall be followed.

Other Amenities

Disabled friendly, WC with basins wash basins as specified by Guidelines for disabled friendly environment should be provided.

Waste Disposal System

As per National guidelines on Bio-medical Waste (Management & Handling) Rules, 1998

Mercury Waste Disposal

- As mercury waste is a hazardous waste, the storage, handling, treatment and disposal practices should be in line with the requirements of Government of India's Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules 2008, which may be seen at website www.cpcb.nic.in.
- Mercury-contaminated waste should not be mixed with other biomedical waste or with general waste. It should not be swept down the drain and wherever possible, it should be disposed off at a hazardous waste facility or given to a mercury-based equipment manufacturer.
- Precaution should be taken not to handle mercury with bare hands and as far as possible; jewellery should be removed at the time of handling mercury. After handling mercury, hands must be carefully washed before eating or drinking. Appropriate personal protective equipment (rubber gloves, goggles/face shields and clothing) should be used while handling mercury.
- Mercury-containing thermometers should be kept in a container that does not have a hard bottom. Prefer a plastic container to a glass container, as the possibility of breakage will be less.

In case of breakage, cardboard sheets should be used to push the spilled beads of mercury together. A syringe should be used to suck the beads of mercury. Mercury should be placed

Housekeeping services

Hospital shall develop and implement standard operating procedure for cleaning techniques, pest control, frequency and supervision of housekeeping activities.

Medical Gas

All gases may preferably be supplied through manifold system.

Cooking Gas

Liquefied petroleum gas (LPG) will be used for cooking.

Building Maintenance

Provision for building maintenance staff and an office cum store will be provided to handle day to day maintenance work.

Record Maintenance (Medical Record Department)

Hospital shall have dedicated medical record department to store patient's record and other data pertaining to hospital**.**

Committee Room

A meeting or a committee room for conferences, trainings with associated furniture.

Hospital Transport Services

- Hospital shall have well equipped Basic Life support (BLS) and desirably one Advanced Life Support (ALS) ambulance.
- Ambulances shall be provided with communication system.
- There shall be separate space near emergency for parking of ambulances.
- Serviceability and availability of equipment and drugs in ambulance shall be checked on daily basis.

National AYUSH Mission

National AYUSH Mission

(National AYUSH Mission, 2011)

http://ayush.gov.in/sites/default/files/4197396897-Charakasamhita%20ACDP%20%20english_0.pdf

AYUSH stands for Ayurveda, Yoga, Unani, Siddha and Homeopathy.

Introduction

Department of AYUSH, Ministry of Health and Family Welfare, Government of India has launched National AYUSH Mission (NAM) during 12th Plan for implementing through States/UTs. The basic objective of NAM is to promote AYUSH medical systems through cost effective AYUSH services, strengthening of educational systems, facilitate the enforcement of quality control of Ayurveda, Siddha and Unani & Homeopathy (ASU&H) drugs and sustainable availability of ASU&H raw materials.

It envisages flexibility of implementation of the programmes which will lead to substantial participation of the State Governments/UT. The NAM contemplates establishment of a National Mission as well as corresponding Missions in the State level. NAM is likely to improve significantly the Department's outreach in terms of planning, supervision and monitoring of the schemes.

Vision

- To provide cost effective and equitable AYUSH health care throughout the country by improving access to the services.
- To revitalize and strengthen the AYUSH systems making them as prominent medical streams in addressing the health care of the society.
- To improve educational institutions capable of imparting quality AYUSH education
- To promote the adoption of Quality standards of AYUSH drugs and making available the sustained supply of AYUSH raw-materials.

Objectives

- To provide cost effective AYUSH Services, with a universal access through upgrading AYUSH Hospitals and Dispensaries, co-location of AYUSH facilities at Primary Health Centres (PHCs), Community Health Centres (CHCs) and District Hospitals (DHs).
- To strengthen institutional capacity at the state level through upgrading AYUSH educational institutions, State Govt. ASU&H Pharmacies, Drug Testing Laboratories and AYUSH enforcement mechanism.
- Support cultivation of medicinal plants by adopting Good Agricultural Practices (GAPs) so as to provide sustained supply of quality raw materials and support certification mechanism for quality standards, Good Agricultural/Collection/Storage Practices.
- Support setting up of clusters through convergence of cultivation, warehousing, value addition and marketing and development of infrastructure for entrepreneurs.

Minimum space for provision of quality AYUSH health care facilities at

1. Primary Health Centre (PHC) level

One doctor Room- 3.2 X 3.2 X2 Mtrs

Pharmacy cum store for AYUSH- 6.4 X 3.2 Mtrs.

2. Community Health Centre (CHC) level

(a) Doctor Room- 3.2 X 3.2 X2 Mtrs for 2 AYUSH Doctors,
Pharmacy cum store for AYUSH- 6.4 X 3.2 Mtrs.

(b) In addition to the above, space required for specialized therapy follows:

1. Panchkarma/ Thokkanam Therapy Centre

i. 4 therapy rooms (each of 200 Sq. ft. area x 4) 800 Sq. ft.
ii. 10 beds in pre-existing wards or space for accommodating 5 male and 5 female patients- 500 Sq. ft
iii. Kitchen- 200 Sq.ft.
iv. Office cum record room- 200 Sq. ft.

Total: 1700 Sq. ft

2. Kshar sutra Therapy Centre

i. Operation theatre 200 Sq. ft
ii. Sterilization room (existing one can be used) 200 Sq. ft.
iii. Recovery room 200 Sq. ft.
iv. 10 beds in pre-existing wards or space for accommodating 5 male and 5 female patients 500 Sq.ft.
v. Office cum record room 200 Sq. ft.

Total: 1300 Sq. ft.

3. Regimental Therapy of Unani (Ilaj Bil Tadbeer) Centre

i. Therapy section (4 rooms each of 200 Sq ft. area) 800 Sq. ft.
ii. 10 beds in pre-existing wards or space for accommodating 5 male and 5 female patients- 500 Sq.
iii. Office cum record room 200 Sq.

Total: 1500 Sq. ft.

4. Yoga & Naturopathy Therapy Centre

i. Yoga hall 1200 Sq. ft.
ii. Therapy section 600 Sq. ft.
iii. Office cum record room 200 Sq. ft.
iv. Kitchen- 200 Sq. ft.

Total: 2200 sq. ft.

3. District Hospital level

i. 6 therapy rooms (each of 200 Sq. ft. area x 6) 1200 Sq. ft. ii) 2 OPD rooms 200 Sq. ft.
ii. 10 beds in pre-existing wards or space for accommodating 5 male & 5 female patients- 500 Sq. ft.
iii. Kitchen (existing kitchen may be can be utilized) 200 Sq. ft.
iv. Office cum record room 200 Sq. ft.

Total: 2300 Sq. ft. (National Ayush Mission, 2019)

Building Specification for upto 50 bedded Integrated AYUSH Hospital

Sl. No.	PARTICULARS	CARPET AREA in Sq. Ft. for 50 bed
1.	**ADMINISTRATIVE BLOCK**	1000
2.	Hospital Superintendent	250
3.	**RMO**	150
4.	Administrative Officer	150
5.	Record Room & Office	600
6.	Sanitary block (M/F)	150x2
	OPD & IPD	
1.	CMO office room with attached toilet	300 (150x2)
2.	Canteen, Kitchen & store	500
3.	Statistics Deptt. with computer facilities with Central Medical Record section	200
4.	Clinical laboratory for investigation	300
5.	OT Complex (1 theaters + side Theatre + wash + Changing + Autoclave + Staff + recovery room)	1000
6.	Labor room +Duty Room	200 +150=350
7.	Panchakarma/Thokkanam/Ilaj-bid-Tadbir Theatre (Therapy block) (Toilet, bath & circulation area)	1000 (500x2) M/F + 500=1500
8.	Central store for linen etc.	300
9.	Medicine store for Ayurveda/Homoeopathy/Unani/Siddha	1000
10.	Dispensing room for Ayurveda/ Homoeopathy/Unani/Siddha.	300
11.	Residents doctors Duty Rooms with Toilets	600 (150 X 4)
12. .	4 wards of 10 beds each and Private Rooms (10 Nos.)	2000 (500x4) + 2000(10x200)=4000
13.	Nurses duty room	100
14.	Laboratory for pathological examinations	200
15.	Store room for linen and equipment	200
16.	Accommodation for Rehabilitation therapies including Physiotherapy and Occupational therapy, Electrotherapy, Diathermy, Ultraviolet and Infrared treatment, Hydrotherapy.	200
17.	Separate adequate area for Yoga and Naturopathy practice + Toilets	400 +100
18.	Registration & Record room	200
19.	Waiting hall for patients and attendants	600
20.	Examination rooms(Cubicles) and case demonstration room for Ayurveda and Homoeopathy in the outdoors	150 each x10 (6Ayurveda, 4 Homeopathy)
21.	Staff room with lockers	200
22.	Dressing Room	100
23.	Audiometry room	100
24.	Optometry Room	150
25.	Central Casualty Department accommodation for Resuscitation services (2 Beds)	400

Figure 11 Specifications for 50 Bedded Ayush Hospital (National Ayush Mission, 2019)

List of Equipments for 50 beds Integrated AYUSH Hospital:-

A. Panchakarma

1. Droni/Massage Table: Minimum 7ft.X2.5 ft. (wood or Fibre)
2. Appropriate stand to fix droni: 2.5 ft. height
3. Swedana/Sudation chamber and nadi swedan yantra
4. Footstool – 1
5. Stool – 1
6. Arm Chair - 1
7. Heating facilities
8. Heating Pan
9. Shirodhara stand and shirodhara table
10. Basti yantra
11. Uttara Basti Yantra for males and females
12. Bedpan (male and female)
13. Vamana set
14. Kidney trays
15. Nasyakarma set
16. Stethoscope – 1
17. Sphygmomanometer – 1
18. Thermometer – 1
19. Hot water – bath
20. Pressure cooker (5 litres) – 1
21. Small pillows covered with rexin sheet- 2
22. Small almirah – 1
23. Plastic aprons, gloves and masks
24. Knife and scissor – 1 each
25. Clock – 1 and stop watch – 1
26. Hot water facility
27. Exhaust fans – minimum 1
28. Sufficient light and ventilation
29. Autoclave equipment for sterilization

B. Ksharasutra:-

1. Ksharasutra Cabinet
2. Autoclave
3. OT instruments
4. OT table
5. Linen, cotton, Apron
6. OT light
7. Consumables

C. Uttarbasti:-

1. Sterilizer or autoclave
2. Hot water bag
3. Kidney tray
4. Sims speculum
5. Anterior vaginal wall retractor
6. Vulsellum
7. Uterine sound
8. Swab holder
9. Artery forceps
10. Toothed forceps
11. Metallic or disposable insemination canula
12. Good light source
13. Table having bars for giving lithotomy position
14. Disposable syringes
15. Sterilized gloves
16. Sterilized Gauze
17. Foley's catheter (Various sizes as per requirement)
18. Sterilized cotton
19. Sterilized tampons
20. Sterilized medicine (Medicated Ghee or oil or decoction used for treatment of Uttarbasti)

D. Raktamokshana (Leech Therapy):-

1. Storage Aquarium for fresh leeches: 20-25 litres capacity (May be with partitions)
2. Glass container (1 litre capacity) for: 5-10 (for each patient requires separate container and the may vary according to the number of patients
3. Leeches: (As per the requirement usually 3-5 leeches per patient/treatment period
4. Surgical table: 02
5. Surgical trolley: 04
6. Surgical tray: 05
7. nstrument: Different types of Forceps, Scissors, Needles, Suturing material etc. (As per the requirement)
8. Dressing tray with gloves, Bandage: (As per the requirement) Cloth Bandages etc.
9. Materials: Turmeric, Saindhavalavan, Jatyadi Ghrita, honey (As per the requirement)

(National Ayush Mission, 2019)

Bureau of Indian Standards (BIS)

Bureau of Indian Standards (BIS)

(Bureau of India Standards (BIS), 2003)

IS: 10905 1984 Recommendations for Basic Requirements of General Hospital Buildings

Part I : Administrative and Hospital Services Department Buildings

This Indian Standard was adopted by the Indian Standards Institution on 15 March 1984, after the draft finalized by the Functional Requirements in Buildings Sectional Committee had been approved by the Civil Engineering Division Council. The main purpose of these standards was not to offer design solutions for a medical care facility, but to lay down optimum requirements for both spatial and environmental needs of the various sections of a hospital building.

The considerations in planning a hospital building should, no doubt, ensure the design of each section for its individual efficiency. Nevertheless, the hospital building as a whole, would function efficiently and economically only if all the sections are coordinated by arranging them in appropriate places based on their functional relationships. This could be achieved by compact and efficient planning, functionally correct and operationally efficient, economical relationship and disposition of various components, functionary logical internal detailing of departments to save on time, money and efforts.

To facilitate planning and framing of the structural grid, a usable space planning module of 14 sq. m. based on basic space unit of 3.5 sq. m. has been stipulated in order to rationalize the requirements for various facilities in the hospital. This space planning module is derived by assuming planning grid of 1.6 m. Six such grid units, that is, 32 x 4.8 m will lead to a carpet area of about 14 sq. m. after deducting the space taken by walls. All floor space requirements recommended for various facilities in respective table of the various sections of general hospital are based on above basic space unit.

(Bureau of India Standards (BIS), 2003)

TABLE 1 PROVISION FOR VARIOUS FLOOR AREAS IN ADMINISTRATIVE UNIT

S No.	FACILITY	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
GENERAL											
a)	Medical Supdt (M.S) room with toilet	-------		-------		1	21	1	35	1	42
c)	Dy/Asstt. Medical Supdt. room with toilet	1	14	1	14	1	17.5	1	21	1	21
d)	P. S. to Medical Supdt/ Dy MS./ Asstt. M.S.	1	10.5	1	10.5	1	10.5	1	10.5	1	10.5
e)	Admn Officer	1	10.5	1	10.5	1	10.5	1	10.5	1	10.5
f)	Waiting room	-------		-------		1	10.5	1	10.5	1	10.5
g)	Library-cum-Conference room	-------		-------		-------		1	10.5	1	10.5

h)	Nursing Officer's room with toilet	-------		1	14	1	21	1	28	1	28
i)	Accounts Officer	-------		-------		1	10.5	1	10.5	1	10.5
j)	Cashier	-------		-------		1	10.5	1	10.5	1	10.5
k)	Purchase Officer	-------		1	7.0	1	10.5	1	10.5	1	10.5
l)	Clerical Staff	-------		1	14	1	21	1	28	1	35
m)	Reception cum Enquiries	-------		1	10.5	1	10.5	1	14	1	17.5
n)	Welfare/Labour Officer	-------		-------		1	14	1	21	1	21
o)	Stationery/Records	1	10.5	1	21						
p)	Security Officer	1	21	1	21	2	21	3	21	4	21
q)	Lavatory for staff (Separate for male and female)	-------		1	28	1	28	1	35	1	35
MEDICAL RECORDS DEPTT.											
	Medical Records Store a) Active (up to 2 years)	-------		-------		1	28	1	42	1	56
	b) Inactive (Between 2 to 10 years)	-------		-------		1	84	1	126	1	140
	Medical Records Officer with toilet	-------		-------		1	21	1	17.5	1	17.5
	Staff Office with toilet	-------		-------				1	17.5	1	17.5
	Medical Record Processing area	-------		-------		1	21	1	28	1	35
	Doctors Record Completion room	-------		-------		1	21	1	14	1	14
	Room for various automations	-------		-------				1	14	1	14
	Printed Stationery store	-------		-------		1	17.5	1	10.5	1	14
	General store	-------		-------				1	10.5	1	14

TABLE 2 PROVISION FOR VARIOUS FLOOR AREAS IN CENTRAL STERILIZATION AND SUPPLY DEPARTMENT

S No.	FACILITY	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
GENERAL											
a)	Bulk storage	-------		-------		1	10.5	3	14	3	17.5
b)	Officer-in-charge with toilet	-------		-------		1	17.5	1	21	1	17.5
c)	Technicians room with toilet	-------		-------		-------		1	14	1	17.5

d)	Receipt counter	1	21	1	28	1	28	1	10.5	1	10.5
e)	Dissembling and Decontamination							1	14	1	10.5
f)	Washing and cleaning							1	14	1	10.5
g)	Assembly and Set packing room							1	21	1	28
h)	Gloves preparation room and Gauze cutting area					1	21	1	14	1	17.5
i)	Autoclave area	1	14	1	17.5	1	21	1	28	1	28
j)	Hot air-oven room		-------	1	7.0	1	10.5	1	10.5	1	10.5
k)	Sterile store	1	14	1	17.5	1	28	1	28	1	35
l)	Issue counter							1	10.5	1	17.5
m)	Class IV room		-------		-------	1	10.5	1	10.5	1	10.5
n)	Trolley bay	- - - - - - -		- - - - - - -		1	10.5	1	10.5	1	10.5
o)	Switch room	- - - - - - -		- - - - - - -		1	7.0	1	7.0	1	10.5

TABLE 3 PROVISION FOR VARIOUS FLOOR AREAS IN DIETARY UNIT

S No. (1)	FACILITY (2)	CATEGORY A ROOM (NO.) (3)	Area (m2) (4)	CATEGORY B ROOM (NO.) (5)	Area (m2) (6)	CATEGORY C ROOM (NO.) (7)	Area (m2) (8)	CATEGORY D ROOM (NO.) (9)	Area (m2) (10)	CATEGORY E ROOM (NO.) (11)	Area (m2) (12)
FUNCTIONAL AREAS											
a)	Reception area	1	28	1	14	1	28	1	35	1	42
b)	Cooking area			1	35	1	56	1	70	1	84
c)	Therapeutic diet preparation and cooking area			1	10.5	1	10.5	1	14	1	17.5
d)	Dietitian with toilet		-------	1	14	1	14	1	17.5	1	17.5
	Stewards and Staff with toilet		-------		-------	1	14	1	17.5	1	17.5
e)	Trolley loading		-------	1	10.5	1	10.5	1	14	1	14
f)	Walk in cold storage		-------	1	7.0	1	10.5	1	10.5	1	10.5
g)	Dry ration storage	1	10.5	1	7.0	1	7.0	1	10.5	1	10.5
h)	Washing areas	1	21	1	28	1	35	1	10.5	1	14
	a) Pots							1	14	1	17.5
	b) Trolleys										
	c) Dishes							1	14	1	17.5
i)	Garbage collection area	1	3.5	1	7.0	1	7.0	1	10.5	1	10.5
j)	Switch room		-------		-------		-------	1	10.5	1	10.5

TABLE 4 PROVISION FOR VARIOUS FLOOR AREAS IN LAUNDARY UNIT

S No. (1)	FACILITY (2)	CATEGORY A ROOM (NO.) (3)	Area (m2) (4)	CATEGORY B ROOM (NO.) (5)	Area (m2) (6)	CATEGORY C ROOM (NO.) (7)	Area (m2) (8)	CATEGORY D ROOM (NO.) (9)	Area (m2) (10)	CATEGORY E ROOM (NO.) (11)	Area (m2) (12)
a)	Dirty clothes receiving and sorting area (with weighing facility)	1	10.5	1	14	1	21	1	35	1	42
			-------		-------	1	14	1	21	1	28
b)	Sluice and autoclaving machine area		-------	1	10.5	1	10.5	1	14	1	14
c)	Washing area	By use of Dhobi Ghats (Manual washing)				1	28	1	42	1	56
d)	Hydro extractor area					1	28	1	42	1	56
e)	Drying tumbler area					1	28	1	42	1	56
f)	Calendaring machine area					1	17.5	1	28	1	28
g)	Tailor desk		-------		-------	1	10.5	1	10.5	1	14
h)	Steam pressing		-------		-------	1	14	1	21	1	28
i)	Manual press area	1	14	1	21	1	14	1	21	1	28
j)	Clean clothes storage area	1	10.5	1	14		-------	1	28	1	35
k)	Issue area					1	17.5	1	21	1	28
l)	Boiler room		-------		-------	1	14	1	21	1	21
m)	Trolley bay		-------		-------	1	10.5	1	14	1	14
n)	Store		-------		-------	1	10.5	1	14	1	21
o)	Laundry supervisor office with toilet		-------		-------	1	14	1	17.5	1	17.5
p)	Laundry staff room with toilet		-------		-------	1	14	1	21	1	21
q)	Switch room		-------		-------	1	3.5	1	3.5	1	7.0

TABLE 5 PROVISION FOR VARIOUS FLOOR AREAS IN HOSPITAL STORE

S No. (1)	FACILITY (2)	CATEGORY A ROOM (NO.) (3)	Area (m2) (4)	CATEGORY B ROOM (NO.) (5)	Area (m2) (6)	CATEGORY C ROOM (NO.) (7)	Area (m2) (8)	CATEGORYD ROOM (NO.) (9)	Area (m2) (10)	CATEGORY E ROOM (NO.) (11)	Area (m2) (12)
a)	Receipt of stores (weighing, pection, testing)		-------		-------	1	14	1	21	1	28
b)	Medical store	1	24.5	1	35	1	45.5	1	70	1	91
c)	General store	1	21	1	35	1	21	1	31.5	1	42
d)	Linen store	1	21	1	35	1	28	1	42	1	56
e)	Furniture store	1	14	1	21	1	42	1	63	1	84
f)	Surgical store	1	21	1	35	1	28	1	42	1	56
g)	Equipment store					1	42	1	63	1	84

h)	Areas for storage of mechanical transport spares	1	17.5	1	17.5	1	42	1	63	1	84
i)	Area for storage of articles awaiting condemnation					1	20	1	42	1	56
j)	Store office room with toilet	1	21	1	28	1	14	1	17.5	1	17.5
k)	Office					1	28	1	42	1	56
l)	Stationery store	-------		-------		1	14	1	21	1	28

TABLE 6 PROVISION FOR VARIOUS FLOOR AREAS FOR WORKSHOP

S No.	FACILITY	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
a)	Office	-------		-------		1	10.5	1	14	1	14
b)	Painting area	-------		-------		1	14	1	21	1	28
c)	Carpentry area	-------		-------		1	10.5	1	14	1	17.5
d)	Electrician	-------		-------		1	10.5	1	14	1	17.5
e)	Blacksmith	-------		-------		1	10.5	1	14	1	17.5
f)	Store receipt	-------		-------		1	10.5	1	14	1	17.5
g)	Stores for repaired equipment	-------		-------		1	10.5	1	14	1	17.5
h)	Store room	-------		-------		1	14	2	14	2	14

TABLE 7 PROVISION FOR VARIOUS FLOOR AREAS FOR WORKSHOP

S No.	FACILITY	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
a)	Ambulance	1	21	1	21	3	21	5	21	7	21
b)	Mortuary van	-------		-------		1	21	1	21	1	21
c)	Tempo	-------		1	21	1	21	1	21	1	21
d)	Staff car	-------				1	21	1	21	2	21

TABLE 8 PROVISION FOR VARIOUS AREAS FOR COMMUNITY SERVICES

S No. (1)	FACILITY (2)	CATEGORY A ROOM (NO.) (3)	CATEGORY A Area (m2) (4)	CATEGORY B ROOM (NO.) (5)	CATEGORY B Area (m2) (6)	CATEGORY C ROOM (NO.) (7)	CATEGORY C Area (m2) (8)	CATEGORY D ROOM (NO.) (9)	CATEGORY D Area (m2) (10)	CATEGORY E ROOM (NO.) (11)	CATEGORY E Area (m2) (12)
a)	Central admission office and hospital enquiry		-------		-------	1	10.5	1	14	1	14
b)	Parking area a) Milk van, trucks, etc. b) Cars c) Scooters d) Cycles	Adequate		Adequate		Adequate		Adequate		Adequate	
c)	Community centre a) Chemist shop b) Provision store	1	14	1	21	1	28	1	17.5	1	21
								1	17.5	1	21
d)	Canteen		-------	1	21	1	14	1	21	1	28
e)	Snack bar	1	14			1	14	1	21	1	28
f)	Fruit & Flower shop		-------		-------	1	10.5	1	14	1	14
g)	News stand		-------		-------	1	10.5	1	14	1	14
h)	Community hall		-------		-------	1	42	1	56	1	70
i)	Bank		-------		-------	1	21	1	28	1	42
j)	Post office		-------		-------			1	21	1	28
k)	Library for patients		-------		-------	1	21	1	28	1	35

TABLE 9 PROVISION FOR VARIOUS FLOOR AREAS FOR MORTUARY AREAS

S No. (1)	FACILITY (2)	CATEGORY A ROOM (NO.) (3)	CATEGORY A Area (m2) (4)	CATEGORY B ROOM (NO.) (5)	CATEGORY B Area (m2) (6)	CATEGORY C ROOM (NO.) (7)	CATEGORY C Area (m2) (8)	CATEGORY D ROOM (NO.) (9)	CATEGORY D Area (m2) (10)	CATEGORY E ROOM (NO.) (11)	CATEGORY E Area (m2) (12)
FUNCTIONAL AREAS											
a)	Cold room for body store	1 (4 BODIES)	10.5	1 (4 BODIES)	10.5	1 (4 BODIES)	14	1 (4 BODIES)	14	1 (4 BODIES)	10.5
b)	Post mortem area		-------	1	14	1	17.5	1	21	1	28
c)	Autopsy store		-------			1	7.0	1	10.5	1	14
d)	Body wash and prayer room		-------	1	10.5	1	14	1	21	1	28
e)	Relative waiting area with toilet and drinking water facility	1	14	1	14	1	17.5	1	21	1	28
f)	Doctor's office with toilet	1	14	1	14	1	17.5	1	17.5	1	17.5
								1	17.5	1	17.5
g)	Staff room with toilet							1	10.5	1	10.5
h)	office			1	10.5	1	10.5	1	10.5	1	10.5
i)	Stores							1	10.5	1	10.5
j)	Janitors closet	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5
k)	Trolley bay	-------		-------		1	10.5	1	10.5	1	10.5

(Bureau of India Standards (BIS), 2003)

IS: 10905 1984 Recommendations for Basic Requirements of General Hospital Buildings

Part II: Medical Services Department Buildings

This Indian Standard was adopted by the Indian Standards Institution on 15 March 1984, after the draft finalized by the Functional Requirements in Buildings Sectional Committee had been approved by the Civil Engineering Division Council. The main purpose of these standards was not to offer design solutions for a medical care facility, but to lay down optimum requirements for both spatial and environmental needs of the various sections of a hospital building.

The considerations in planning a hospital building should, no doubt, ensure the design of each section for its individual efficiency. Nevertheless, the hospital building as a whole, would function efficiently and economically only if all the sections are coordinated by arranging them in appropriate places based on their functional relationships. This could be achieved by compact and efficient planning, functionally correct and operationally efficient, economical relationship and disposition of various components, functionary logical internal detailing of departments to save on time, money and efforts.

To facilitate planning and framing of the structural grid, a usable space planning module of 14 sq. m. based on basic space unit of 3.5 sq. m. has been stipulated in order to rationalize the requirements for various facilities in the hospital. This space planning module is derived by assuming planning grid of 1.6 m. Six such grid units, that is, 32 x 4.8 m will lead to a carpet area of about 14 sq. m. after deducting the space taken by walls. All floor space requirements recommended for various facilities *in* respective table of the various sections of general hospital are based on above basic space unit.

TABLE 1 PROVISION FOR VARIOUS FLOOR AREAS IN OUT PATIENT DEPARTMENT (OPD)

S No.	FACILITY	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
GENERAL											
a)	Entrance hall with enquiry counter, cash counter and record area	1	28	1	56	1	98	1	126	1	154
b)	Officer-in-charge with toilet	1	17.5	1	17.5	1	17.5	1	17.5	1	17.5
c)	Nurse-in-charge with toilet		--------		-------	1	17.5	1	17.5	1	17.5
d)	Sanitary inspector room		--------		-------	1	14	1	14	1	14
e)	Key room (security)		--------		-------		--------	1	14	1	14
f)	OPD medical record room		--------	1	28	1	35	1	49	1	70
g)	Canteen	1	14	1	17.5	1	28	1	35	1	49

h)	Lavatories separately for gents and ladies (common for patients and staff)	2	17.5	2	28	2	35	2	42	2	49
i)	Janitor closet	1	3.5	1	3.5	1	7	1	7	1	10.5
MEDICAL CLINIC											
a)	Consultation and examination room	1	17.5	2	17.5	3	17.5	4	17.5	4-8	17.5
b)	Cardiographic examination	1	10.5	1	10.5	1	14	1	17.5	1	17.5
c)	waiting	1	21	1	35	1	49	1	63	1	84
SURGICAL CLINIC											
a)	Consultation and examination room	1	17.5	2	17.5	3	17.5	4	17.5	4-6	17.5
b)	Treatment ,dressing or surgery	1	10.5	1	10.5	1	14	1	28	1	35
c)	waiting	1	21	1	35	1	49	1	63	1	84
ORTHOPAEDIC CLINIC											
a)	Plaster and splint storage	To be shared in common with surgical clinic		1	17.5	1	17.5	2	17.5	2-3	17.5
b)	Fracture and treatment			---		1	14	1	17.5	1	17.5
c)	Plaster cutting room			1	17.5	1	17.5	1	17.5	1	17.5
d)	Recovery room			1	14	1	14	1	17.5	1	21
e)	waiting			1	28	1	35	1	49	1	63
EYE CLINIC											
a)	Consultation and examination and refraction room	1	17.5	1	28	1 1	28 17.5	1 1	28 17.5	1 2	28 17.5
b)	Minor surgery and treatment room	1	17.5	1	17.5	1	17.5	1	17.5	1	17.5
c)	Orthoptic-cum-tonography		---		---		---		---	1	17.5

TABLE 2 PROVISION FOR VARIOUS FLOOR AREAS IN OUT PATIENT DEPARTMENT (OPD)

S No. (1)	FACILITY (2)	CATEGORY A ROOM (NO.) (3)	Area (m2) (4)	CATEGORY B ROOM (NO.) (5)	Area (m2) (6)	CATEGORY C ROOM (NO.) (7)	Area (m2) (8)	CATEGORY D ROOM (NO.) (9)	Area (m2) (10)	CATEGORY E ROOM (NO.) (11)	Area (m2) (12)
d)	Dark room	--------		1	10.5	1	14	1	17.5	1	17.5
e)	waiting	1	14	1	14	1	21	1	28	1	42
ENT CLINIC											
a)	Consultation and examination room	To be shared in common with surgical clinic		1	28	1 1	28 17.5	1 1	28 17.5	1 2	28 17.5
b)	Treatment room			1	14	1	14	1	17.5	1	17.5
c)	Audiometric room			--------		1	14	1	17.5	1	17.5
d)	Electronystagmography			--------		--------		--------		1	17.5
e)	Waiting			1	14	1	21	1	28	1	42
DENTAL CLINIC											
a)	Consultation and examination room	--------		1	17.5	1	17.5	2	17.5	3	17.5
b)	Dental hygeinist room	--------		1	10.5	1	14	2	17.5	3	17.5
c)	Recovery room	--------		--------		1	14	1	21	1	28
d)	Dental workshop	--------		--------		1	17.5	2	17.5	3	17.5
e)	Processing room for x-ray	--------		--------		--------		--------		1	10.5
f)	waiting	--------		1	14	1	21	1	28	1	35
OBSTETRIC AND GYNAECOLOGICAL CLINIC											
a)	Reception and registration	1	14	1	14	1	17.5	1	17.5	1	21
b)	consultation and examination	1	17.5	1	17.5	2	17.5	2	17.5	3	17.5
c)	Treatment	1	17.5	1	17.5	1	17.5	1	17.5	1	21
d)	Clinical laboratories			1	10.5	1	14	1	17.5	1	21
e)	Toilet-cum-changing	1	10.5	1	10.5	1	10.5	1	10.5	1	10.5
f)	Mother craft demonstration	--------		--------		--------		--------		--------	
g)	Waiting	1	21	1	21	1	28	1	35	1	42
FAMILY PLANNING CLINIC											
a)	Consultation and examination	1	17.5	1	17.5	1	17.5	2	17.5	2	17.5
b)	treatment	1	10.5	1	14	1	17.5	2	17.5	2	17.5
c)	Health educator and social worker room	--------		--------		1	17.5	1	17.5	1	17.5
d)	recovery	--------		--------		1	14	1	21	1	28
e)	waiting	1	10.5	1	14	1	21	1	28	1	35

PAEDIATRIC CLINIC									
a)	Consultation and examination	1	17.5	1	17.5	2	17.5	2	17.5	3	17.5
b)	dressing treatment and dispensing	1	14	1	14	1	17.5	2	17.5	2	21
c)	therapy room		--------		--------		--------	1	10.5	1	17.5
d)	immunisation room	1	14	1	14	1	17.5	1	17.5	1	21
e)	recreation and play		--------		--------		--------	1	14	1	17.5

TABLE 3 PROVISION FOR VARIOUS FLOOR AREAS IN OUT PATIENT DEPARTMENT (OPD)

S No. (1)	FACILITY (2)	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.) (3)	Area (m2) (4)	ROOM (NO.) (5)	Area (m2) (6)	ROOM (NO.) (7)	Area (m2) (8)	ROOM (NO.) (9)	Area (m2) (10)	ROOM (NO.) (11)	Area (m2) (12)
	room										
f)	waiting	1	14	1	21	1	28	1	35	1	42
SKIN & STD CLINIC											
a)	Consultation and examination	--------		--------		1	17.5	2	17.5	2	17.5
b)	Treatment rooms	--------		--------		2	17.5	3	17.5	3	17.5
c)	biopsy room	--------		--------		--------		1	10.5	1	10.5
d)	Superficial therapy	--------		--------		1	14	1	17.5	1	17.5
e)	Skin laboratory	--------		--------		1	21	1	28	1	28
f)	Barber's room	--------		--------		-------		1	7	1	7
g)	waiting	--------		--------		1	21	1	28	1	35
PSYCHIATRIC CLINIC											
a)	Consultation and examination	--------		--------		1	17.5	2	17.5	2	17.5
b)	ECT room	--------		--------		1	21	1	17.5	1	17.5
c)	recovery	--------		--------		1	17.5	1	17.5	1	17.5
d)	Psychologist room	--------		--------		1	17.5	1	17.5	1	17.5
e)	Social worker room	--------		--------		1	17.5	1	17.5	1	17.5
f)	Electroencephalography room	--------		--------		--------		--------		1	17.5
g)	Occupational therapy room	--------		--------				--------		1	28
h)	Waiting	--------		--------		1	21	1	28	1	35
SUPPORTING FACILITIES											
a)	Central injection room	1	14	1	14	1	14	1	17.5	1	21
b)	Specimen collection room	1	14	1	14	1	17.5	1	17.5	1	21
c)	Clinical laboratory							1	17.5	1	21
d)	Social worker room	--------		--------		1	14	1	17.5	1	17.5
e)	waiting	1	10.5	1	14	1	21	1	28	1	35

TABLE 4 PROVISION FOR VARIOUS FLOOR AREAS IN THE BLOOD BANK

S No. (1)	FACILITY (2)	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.) (3)	Area (m2) (4)	ROOM (NO.) (5)	Area (m2) (6)	ROOM (NO.) (7)	Area (m2) (8)	ROOM (NO.) (9)	Area (m2) (10)	ROOM (NO.) (11)	Area (m2) (12)
GENERAL											
a)	Reception and waiting	--------		1	10.5	1	17.5	1	21	1	28
b)	Bleeding area	--------		1	17.5	1	21	1	17.5	1	17.5
c)	Donors rest room with kitchenette	--------						1	17.5	1	17.5
d)	Laboratory and blood storage area	--------		1	14	1	21	1	28	1	28
e)	office	--------		-------		1	10.5	1	10.5	1	10.5
f)	stores	--------		-------		1	10.5	2	10.5	2	10.5
g)	Bottle washing area	--------		--------		1	10.5	1	14	1	17.5
h)	Doctors room with toilet	--------		1	17.5	1	17.5	1	17.5	1	17.5
i)	Social worker room	--------									
j)	lavatory	--------		1	7.0	1	7.0	1	10.5	1	10.5
k)	Janitors closet	--------		--------		1	3.5	1	3.5	1	3.5

TABLE 5 PROVISION FOR VARIOUS FLOOR AREAS FOR THE PHARMACY DEPARTMENT

S No. (1)	FACILITY (2)	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.) (3)	Area (m2) (4)	ROOM (NO.) (5)	Area (m2) (6)	ROOM (NO.) (7)	Area (m2) (8)	ROOM (NO.) (9)	Area (m2) (10)	ROOM (NO.) (11)	Area (m2) (12)
PHARMACY											
a)	Office with toilet			-------		1	10.5	1	14	1	17.5
b)	Dispensing area with issuing counter					1	21	1	28	1	17.5
c)	Preparation and compounding area	1	17.5	1	28	1	17.5	1	14	1	17.5
d)	Bottle washing area							1	10.5	1	14
e)	Queuing area			-------		Adequate		Adequate		Adequate	
f)	Pharmacistsroom with toilet			1	14	1	14	1	17.5	1	17.5
g)	Pre-packaging area			1	14	2	14	1	14	1	17.5
h)	stores							2	14	2	17.5
i)	Janitors closet			--------		1	3.5	1	3.5	1	3.5
j)	Trolley bay			--------		1	10.5	1	10.5	1	14

TABLE 6 PROVISION FOR VARIOUS FLOOR AREAS IN THE ACCIDENT AND EMERGENCY DEPARTMENT

S No.	FACILITY	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
EMERGENCY DEPARTMENT											
a)	Drive in ambulance		-------		-------	1	17.5	1	17.5	1	17.5
b)	Doctors duty room with toilet	1	10.5	2	10.5	3	10.5	4	10.5	4-6	10.5
c)	Examination cubicle		-------		-------	1	10.5	1	10.5	1	10.5
d)	Medico legal specimen and record room		-------		-------	1	10.5	1	10.5	1	10.5
e)	Brought in dead room		-------	1	10.5	1	10.5	1	14	1	17.5
f)	Retiring room for ambulance driver and nursing assistant		-------	1	10.5	1	14	1	14	1	14
g)	ECG room		-------	1	10.5	1	14	1	14	1	14
h)	Fracture treatment room with plaster preparation		-------	1	17.5	1	17.5	1	17.5	1	17.5
i)	Treatment room		-------		--------	1	14	1	14	1	14
	Operation theatre unit										
j)	OT	1	17.5	1	21	2	21	1	33	1	33
k)	Instrument sterilization	1	7.0	1	7.0	1	10.5	1	10.5	1	10.5
l)	Scrub-up		-------	1	7.0	1	7.0	1	10.5	1	10.5
m)	Dirty wash		-------	1	7.0	1	7.0	1	10.5	1	10.5
n)	Anaesthesia room		-------		-------	1	10.5	1	10.5	1	10.5
o)	Resuscitation room		-------	1	21	1	35	1	42	1	63
p)	X-ray with dark room facilities		-------	1	21	1	28	1	35	1	35
q)	Clinical laboratory	1	17.5	1	17.5	1	17.5	1	21	1	21
r)	Blood storage area		-------		-------	1	10.5	1	10.5	1	10.5
s)	Drug dispensing facility		-------		-------	1	10.5	1	10.5	1	10.5
t)	stores		-------		-------	1	14	2	14	3	14
u)	Sluice room and janitor closet		-------	1	10.5	1	10.5	1	10.5	1	10.5
v)	Nurses station with toilet		-------		-------	1	17.5	1	17.5	1	17.5
w)	Observation room	1	14	1	21	1	28	1	35	1	52.5
x)	Emergency ward		-------	1	8BEDS	1	12 BEDS	1	20 BEDS	1	14 BEDS
y)	pantry		-------	1	10.5	1	10.5	1	10.5	1	10.5

TABLE 7 PROVISION FOR VARIOUS FLOOR AREAS OF THE DIAGNOSTIC DEPARTMENT

S No. (1)	FACILITY (2)	CATEGORY A ROOM (NO.) (3)	CATEGORY A Area (m2) (4)	CATEGORY B ROOM (NO.) (5)	CATEGORY B Area (m2) (6)	CATEGORY C ROOM (NO.) (7)	CATEGORY C Area (m2) (8)	CATEGORY D ROOM (NO.) (9)	CATEGORY D Area (m2) (10)	CATEGORY E ROOM (NO.) (11)	CATEGORY E Area (m2) (12)
FUNCTIONAL AREAS											
a)	X-ray room (spl. Studies) with toilet			1	36						
b)	x-ray room std. including chest stands			1	27						
c)	MRI Room			1	45						
d)	CT scan Room			1	45						
e)	Mammography room			1	27						
f)	Bone densitometery room			1	27						
g)	Ultrasound room attatched with toilet			1	18						
h)	Ultrasound room std.			1	18						
i)	Control room for MRI scanner			1	9						
j)	Control room for CT Scanner			1	9						
k)	Control room for x-ray			1	9						
l)	Examination room scanner			1	9						
m)	Dressing booth			15	4.5						
n)	Dark room			1	9						
o)	Film viewing room			1	18						
p)	Machine room			1	9						
q)	Patient preparation area			1	9						
SUPPORT AREAS											
a)	reception and business office			1	9						
b)	record room			1	18						
c)	waiting room			1	9						
d)	Consultants office			1	13.5						
e)	Chief technician office			1	27						
f)	Secretaries room			1	13.5						
g)	Locker change room for staff			1	13.5						

h)	General store		1	9			
i)	Janitors closet		1	9			
j)	Staff toilet		2	9			
k)	Public toilets		1	9			

TABLE 8 PROVISION FOR VARIOUS FLOOR AREAS OF THE DEPARTMENT OF PATHOLOGY

S No.	FACILITY	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
FUNCTIONAL AREAS											
a)	the stat lab			1	9						
b)	clinical pathology lab			1	9						
c)	the haemotology and coagulation area			1	9						
d)	bio-chemistry lab			1	9						
CLINICAL MICROBIOLOGY LAB											
a)	media kitchen			1	4.5						
b)	autoclave area			1	4.5						
c)	incubation area			1	9						
d)	staining area			1	9						
e)	microscopy area			1	9						
HISTOPATHOLOGY LAB											
a)	preservation & grossing & preparation area			1	9						
b)	section and staining area			1	13.5						
c)	microscopy area			1	13.5						
d)	slide store			1	9						
SPECIAL ANALYTICAL LABORATORIES OTHER AREAS											
a)	Sample collection area			1	18						
b)	FNAC room cum examination area			1	9						
c)	Sample receiving area			1	9						
d)	Glassware cleaning area			1	9						
e)	Glassware cleaning area			1	9						
f)	Terminal sterilisation area			1	9						

SUPPORT AREAS						
a)	reception and business office		1 9			
b)	record room		1 9			
c)	waiting room		1 9			
d)	Consultants office		1 9			
e)	Chief technician office		1 9			
f)	Secretaries room		1 9			
g)	Locker change room for staff		5 9			
h)	Record office library and documentation office		1 9			
i)	General store		1 9			
j)	Janitors closet		1 9			
k)	Staff toilet		2 9			
l)	Public toilets		1 9			
m)	Electric room		1 9			

TABLE 9 PROVISION FOR VARIOUS FLOOR AREAS FOR THE OPERATION THEATRE

S No.	FACILITY	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
ZONE A											
a)	OT reception bay	-------		1	10.5	1	10.5	1	10.5	1	10.5
b)	Relatives waiting room (including 2 toilets of 3'5 ma each)	-------		1	21						
c)	Officer-in-charge of OT with toilet	-------		1	17.5	1	17.5	1	17.5	1	17.5
d)	Doctor's change room	1	10.5	1	17.5	1	21	2	14	2	14
e)	Nurses change room	-------		1	17.5	1	21	2	14	2	14
f)	Technician change room	-------		1	10.5	1	10.5	1	14	1	17.5
g)	Class IV staff change room	-------		1	10.5	1	10.5	1	14	1	17.5
h)	Sterile storage area	1	10.5	1	17.5	1	21	1	28	1	35
i)	Instrument and linen room	-------		1	17.5	1	21	1	28	1	35
j)	Trolley bay	-------		1	10.5	1	14	1	14	1	14
k)	Gas cylinder storage	-------		-------		1	10.5	1	10.5	1	10.5

l)	Switch room	-------		-------		1	10.5	1	10.5	1	14
ZONE B											
a)	Fracture-cum Casualty theatre a) Instrument sterilization b) Scrub up c) Dirty wash up	-------		-------		1	28	1	28	1	28
		-------		-------		1	10.5	1	10.5	1	10.5
		-------		-------		1	10.5	1	10.5	1	10.5
		-------		-------		1	10.5	1	10.5	1	10.5
b)	Plaster preparation	-------		-------		1	10.5	1	10.5	1	10.5
c)	Splint store	-------		-------		1	10.5	1	10.5	1	10.5
d)	Pre-operative room with toilet	-------		1	14	1	21	1	28	1	28
e)	Recovery room	1 (2	21 BEDS)	1 (4	35 BEDS)	1 (6	52.5 BEDS)	1 (10	87.5 BEDS)	1 (12	10.5 BEDS)
f)	Nurses duty room			1	10.5	1	10.5	1	14	1	14
g)	Theatre pack preparation room	-------		1	10.5	1	14	1	14	1	17.5
h)	Frozen section	-------		-------		1	10.5	1	10.5	1	10.5
i)	X-ray with dark room	-------		1	10.5	1	14	1	14	1	14
j)	Pantry	-------		-------		1	10.5	1	10.5	1	10.5
ZONE C											
k)	a) Operation theatres (Major)	1	35	2	35	3-4	35	4-6	35	6-8	35
	b) Operation theatres (Minor)	1	20	1	28	2	28	2-3	28	3-5	28
l)	Instrument sterilization	1	10.5	2	10.5	3	10.5	3-5	10.5	5-7	10.5
m)	Scrub up	1	10.5	2	10.5	3	10.5	3-5	10.5	5-7	10.5
n)	Anesthetist room	-------		1	14	1	14	1	14	2	14
o)	Anesthetic storage	-------		-------		1	10.5	1	10.5	1	10.5
p)	Anesthesia room	-------		1	21	2	21	2	21	3	21
q)	Doctor's work room	1	10.5	1	17.5	1	21	2	14	2	17.5
r)	Nurses work room	-------				1	10.5	1	14	1	17.5
ZONE D											
a)	Janitor room	1	10.5	2	10.5	3	10.5	3-5	10.5	5-7	10.5
b)	Soiled utility room	-------		1	7.0	1	7.0	1	10.5	1	10.5

TABLE 10 PROVISION FOR VARIOUS FLOOR AREAS FOR PATHOLOGY DEPARTMENT

S No.	FACILITY	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
FUNCTIONAL AREAS											
a)	Reception and specimen collection/ distribution	-------		1	21	1	28	1	35	1	42
b)	Patient waiting area with toilet	-------		1	21	1	28	1	35	1	42
c)	Pathologist laboratory with toilet	-------		2	17.5	3	17.5	4	17.5	4	17.5
d)	Office and record	-------		1	17.5	1	14	1	14	1	21
e)	Technician's room with toilet	-------				1	14	1	14	1	21
f)	Stores	-------		2	10.5	3	10.5	4	10.5	4	14
g)	Biochemistry	-------		1	21	1	28	1	35	1	42
h)	Microbiology with incubator	-------		1	17.5	1	28	1	35	1	42
i)	Media room	-------		1	10.5	1	14	1	14	2	14
j)	Clinical pathology and hematology	1	14	1	17.5	1	28	1	35	2	28
k)	Photometry and other electronic equipment room	-------		-------		-------		-------		1	14
l)	Histology and cytology	-------		-------		1	14	1	21	1	28
m)	Microphotography	-------		-------		-------		-------		1	14
n)	Washing and sterilizing area	-------		1	10.5	1	14	1	14	1	21
o)	Serology laboratory	-------		-------		1	10.5	1	14	1	21
p)	Animal room with washing ,weighing and feeding facilities	-------		-------		1	17.5	1	21	1	28
q)	Janitor closet	-------		1	3.5	1	3.5	1	3.5	1	3.5
r)	Specimen disposal and sluice room	-------		1	7.0	1	7.0	1	10.5	1	10.5

TABLE 11 PROVISION FOR VARIOUS FLOOR AREAS IN PHYSIOTHERAPY

S No.	FACILITY	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
FUNCTIONAL AREAS											
a)	Reception with waiting area and toilets		-------	1	21	1	28	1	35	1	42
b)	2. Physical and electric therapy										
	a) Diathermy		-------	1	10.5	1	10.5	1	10.5	1	10.5
	b) Ultra violet c) Infra-red	2	7.0	2	7.0	3	7.0	3	7.0	6	7.0
	d) Radiant heat		-------	1	10.5	1	10.5	1	10.5	1	10.5
	e) Selective/ combined treatment		-------		-------	1	10.5	1	10.5	1	10.5
	f) Traction g) Wax bath		-------		-------		-------	1	10.5	1	10.5
c)	Hydro-therapy comprising of a tank, shower and dressing cubicles		-------		-------	1	28	1	35	1	35
d)	Gymnasium	1	21	1	28	1	42	1	63	1	91
e)	Occupational therapy		-------		-------		-------	1	35	1	42
f)	Physiotherapist office including toilet of 3.5 m2		-------	1	17.5	1	17.5	1	21	1	21
g)	Store		-------	1	14	1	21	1	28	1	28

TABLE 12 PROVISION FOR VARIOUS FLOOR AREAS IN DELIVERY SUITE UNIT

S No.	FACILITY	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
FUNCTIONAL AREAS											
a)	Reception and admission with waiting area		-------		-------	1	21	1	35	1	42
c)	Examination and preparation room with toilet	1	14	1	14	1	17.5	1	21	1	21
d)	Doctor's change room	1	10.5	1	10.5	1	10.5	1	10.5	1	10.5
e)	Nurses change room	1	10.5	1	10.5	1	10.5	1	10.5	1	10.5

f)	Class IV change room	-------		-------		1	10.5	1	10.5	1	10.5
g)	Technician change room	-------		-------		-------		1	10.5	1	10.5
h)	Sterile storage	-------		1	14	1	21	1	28	1	28
i)	Instrument linen store	-------		-------		1	10.5	1	10.5	1	10.5
j)	Trolley bay	-------		-------		1	10.5	1	10.5	1	10.5
k)	Switch room	-------		1	7.0	1	10.5	1	10.5	1	10.5
l)	Recovery room	-------		1	14	1	21	1	28	1	35
m)	Pack preparation room	-------		1	10.5	1	10.5	1	14	1	17.5
n)	Anaesthesia room	-------		-------		1	14	1	21	1	21
o)	Labour room	1	10.5	1	21						
p)	Delivery room	1	21	1	21	2	21	3	21	4	21
q)	Operating delivery room	-------		1	28	1	28	1	35	1	35
r)	Instrument sterilizing	-------		1	10.5	1	14	1	17.5	1	17.5
s)	Scrub up	-------		1	7.0	2	7.0	2	10.5	3	10.5
t)	Children birth	-------		1	7.0	1	10.5	1	10.5	1	10.5
u)	Eclampsia room	-------		-------		-------		1	14	1	21
v)	Dirty utility	1	7.0	1	10.5	1	10.5	1	14	1	17.5
w)	Janitors closet	-------		1	3.5	1	3.5	1	7.0	1	7.0
i)	Bank	-------		-------		1	21	1	28	1	42
j)	Post office	-------		-------				1	21	1	28
k)	Library for patients	-------		-------		1	21	1	28	1	35

TABLE 13 PROVISION FOR VARIOUS FLOOR AREAS IN WARD UNIT AND WARD ANCILLARIES

S No.	FACILITY	CATEGORY A		CATEGORY B		CATEGORY C	
		8-15 Beds		16-23 Beds		24-30 Beds	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GENERAL WARD							
c)	Nursing station with work area and toilet	1	14	1	17.5	1	17.5
d)	Doctor's duty room with toilet	-------		1	17.5	1	17.5
e)	Treatment room	1	10.5	1	10.5	1	14
f)	Laboratory	1	10.5	1	7	1	7
g)	Ward pantry	1	10.5	1	10.5	1	10.5
h)	Ward store	1	10.5	1	10.5	1	14
j)	Trolley bay	-------		-------		1	10.5
k)	Sluice room	1	10.5	1	10.5	1	14

l)	Janitor's closet	-------		1	3.5	1	3.5
l)	Day space	-------		1	14	1	14
m)	Patient's relatives waiting area with toilets	1	14	1	17.5	1	17.5
n)	Sanitary annexe	Refer to table no. 16					
ADDITIONAL FOR PAEDIATRIC WARD							
p)	Formula room	1	10.5	1	10.5	1	10.5
q)	Clothes room	-------		1	14	1	14
r)	Play room	1	10.5	1	14	1	21
s)	Dining room	-------		-------		1	10.5
t)	Class room	-------		1	10.5	1	10.5
ADDITIONAL FOR ANTENATAL WARD							
v)	Additional to Play room	1	7.0	1	7.0	1	7.0
w)	Additional to Dining room	1	7.0	1	7.0	1	7.0

TABLE 14 PROVISION FOR VARIOUS FLOOR AREAS IN WARD UNIT AND WARD ANCILLARIES

S No. (1)	FACILITY (2)	UPTO 32 MATERNITY BEDS		OVER 32 MATERNITY BEDS	
		ROOM (NO.)	Area (m2)	ROOM (NO.)	Area (m2)
NEONATAL UNIT					
a)	Nursery Premature Septic Normal	 1 1 1	 10.5 10.5 10.5	 1 1 1	 21 14 14
b)	Nurses station with toilet	1	14	1	17.5
c)	Doctor's duty - room with toilet	-------	-------	1	17.5
d)	Formula cum breast feeding room	1	10.5	1	10.5
e)	Store	1	7.0	1	10.5
f)	Phototherapy room	1	7.0	1	10.5
g)	Sluice room	1	7.0	1	10.5

TABLE 15 REQUIREMENTS FOR SANITARY FITMENTS IN HOSPITALS FOR PATIENTS

S No.	FITMENTS	REQUIREMENTS In-Patient Wards Or Nursing Units (For Males and Females)
1.	Water-closets	1 for every 8 beds or part thereof (male) 1 for every 6 beds or part thereof (female)
2.	Ablution taps	1 for each water-closet plus one water tap with draining arrangements in the vicinity of water closets
3.	Urinals	1 for every 12 beds or part thereof (males only)
4.	Wash basins	1 for every 2 beds or part thereof
5.	Baths	1 bath with shower for every 12 beds or part thereof
6.	Bed pan washing sinks Cleaner's sinks and sink/slab for cleaning mackintosh	1 for each ward 1 for each ward in dirty utility and sluice room

7.	Kitchen sinks and dishwashers	1 for each ward in ward pantry	
		Outdoor-Patient and Other Department (Lavatory Block)	
		For males	For females
8.	Water-closets	1 for every 40 persons or part thereof	2 for every 50 persons or part thereof
		Plus 1 water tap with draining arrangement shall be provided in the vicinity of water-closet and urinals per lavatory block	
9.	Urinals	1 for every 25 persons or part - thereof	
10.	Wash basins	1 for every 50 persons or part thereof	1 for every 50 persons or part thereof
Note 1 some of water closets may be European style if desired Note 2 additional and special fitments for specific needs of hospital may be provided			

TABLE 16 PROVISION FOR VARIOUS FLOOR AREAS IN RADIOLOGY DEPARTMENT

S No. (1)	FACILITY (2)	CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		CATEGORY E	
		ROOM (NO.) (3)	Area (m2) (4)	ROOM (NO.) (5)	Area (m2) (6)	ROOM (NO.) (7)	Area (m2) (8)	ROOM (NO.) (9)	Area (m2) (10)	ROOM (NO.) (11)	Area (m2) (12)
RADIO DIAGNOSTIC UNIT											
a)	Reception registration with waiting area and toilet	-------		-------		1	10.5	1	14	1	14
b)	Radiography and fluoroscopy (X-ray rooms) with waiting area, toilet and dressing facility 17.5 m2 per X-ray room : 100 mA Units 200 mA Units 500 mA Units 700 mA Units	1	28	1	28	1	28	1	28	2	28
		-------		-------		1	42	1	24	2	42
		-------		-------		-------		1	56	1	56
		-------		-------		-------		1	70	1	70
c)	Film developing and processing area (common for two X-ray rooms)	1	10.5	1	10.5	1	10.5	2	10.5	3	10.5
d)	Film drying room	-------		-------		1	10.5	1	10.5	2	10.5
e)	Contrast studies and preparation room	-------		-------		1	10.5	1	10.5	2	10.5
f)	Stores i) Film storage ii) Chemical store	-------		1	10.5	1	17.5	1	10.5	1	14
g)	X-ray record room	-------		1	14	1	21	1	28	1	35

h)	Radiologists office with toilet	-------	1 17.5	1 17.5	1 17.5	2 17.5
i)	Technicians room with toilet	-------		1 14	1 14	1 17.5
j)	Nurses room with toilets	-------	-------	1 14	1 14	1 17.5
k)	Film viewing room	-------	-------	1 10.5	1 10.5	1 14
	Office	-------	-------	1 10.5	1 14	1 17.5
	Trolley bay	-------	-------	1 10.5	1 10.5	1 10.5
	Switch room	-------	1 7.0	1 10.5	1 17.5	1 21
	Janitors closet	-------	1 3.5	1 3.5	1 3.5	1 3.5
RADIO THERAPY UNIT						
	Contact therapy (45 kV)	1 14	1 14	1 14	1 14	1 14
	Superficial therapy (100 kV)	-------	-------	1 14	1 14	1 14
	Intermediary therapy with dressing cubicles and control desk 3.5 m2 each	-------	-------	1 14	1 14	1 14
Deep therapy (200 kV)		-------	-------	-------	1 28	1 35

TABLE 17 PROVISION FOR VARIOUS FLOOR AREAS IN RADIOLOGY DEPARTMENT

S No. (1)	FACILITY (2)	CATEGORY A ROOM (NO.) (3)	Area (m2) (4)	CATEGORY B ROOM (NO.) (5)	Area (m2) (6)	CATEGORY C ROOM (NO.) (7)	Area (m2) (8)	CATEGORY D ROOM (NO.) (9)	Area (m2) (10)	CATEGORY E ROOM (NO.) (11)	Area (m2) (12)
RADIO DIAGNOSTIC UNIT											
a)	Cobalt therapy with dressing cubicle 3.5 m2 and control room 7 m2. Room height to be 4.5 m2 including thickness	-------		-------		-------		1	70	1	70
b)	Megavol tage therapy (12 Mev) with dressing cubicle 3.5 m2 and control room 7 m2 and transformer room wherever required. Room height to be 4.5 m including thickness	-------		-------		-------		1	91	1	91
c)	Radiotherapists room with examination room and toilet facility	-------		-------		-------		1	28	1	28

d)	Physicist room with laboratory and toilet	-------	-------	1	21	1	42	1	42
e)	Mould room	-------	-------	-------		1	21	1	21
f)	Simulator room withcontrol room 7 m2 and waiting area 14 m2	-------	-------	-------		1	35	1	35
g)	Treatment planning system (TPS) room	-------	-------	-------		1	17.5	1	17.5
h)	CT Scanner control room with computer 10.5 m2	-------	-------	-------		1	17.5	1	17.5
i)	Transformer room	-------	-------	-------		1	7	1	7
j)	Dressing room/ preparation room with dark room facility	-------	-------	-------		1	10.5	1	10.5
k)	Records room	-------	-------	-------		1	42	1	42
l)	Reception and waiting with toilet	-------	-------	1	21	1	56	1	56

Medical Council of India (MCI)

Medical Council of India (MCI)

Minimum Standard Requirements for Medical College (50 Intake Annual)

(Medical Council of India. 2017)

https://www.mciindia.org/CMS/wp-content/uploads/2017/10/Minimum-Standard-Requirements-for-50-Admissions.pdf

Introduction

The medical college or medical institution shall be housed in a unitary campus near its teaching hospital having room for future expansion. However the existing medical colleges shall make efforts to have their teaching hospital within a radius of five kilometer of the campus (For the medical colleges/Institutions established up to 30.11.2008). The medical college or medical institution shall be housed in a unitary campus of not less than 25 acres of land. However, this may be relaxed in a place especially in urban areas where the population is more than 25 lakhs, hilly areas, and notified tribal areas where the land shall not be in more than two pieces and the distance between the two pieces shall not be more than 10 kms. The hospital, college building including library and hostels for the students, interns, PGs/Residents and nurses shall be in one piece of land which shall not be less than 10 acres. Other facilities may be housed in the other piece of land. Proper landscaping should be done. (For the medical colleges/Institutions established from 01.12.2008 to 12.11.2009).

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Administrative Block				
Principal/Dean's Office		36	36	
Staff Room		54	54	
College Council Room		80	80	
Officer Superintendent's Room		10	10	
Office		150	150	
Record Room		100	100	
Examination hall		500	500	
Common Room – Boys		50	50	
Girls		50	50	
Cafeteria		100	100	
Central Library		1000	1000	
Lecture Theatres	4	250	250	250 Seating Capacity
	1	350	350	350 Seating Capacity
Auditorium	1	2000	2000	500-700 Seating Capacity
Common Laboratories	6	375	375	
	2	120	240	

Central Research Laboratory	1	100	100	
Central photographic section				
Central workshop				
Animal house				

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Gas plant				As per requirement
Statistical unit				As per requirement
Medical education unit				As per requirement
Research work				As per requirement
Intercom network				As per requirement
Playground and gymnasium				As per requirement
Electricity				As per requirement
Sanitation and water supply				As per requirement
Training of teacher in medical education unit				As per requirement
Rural health training centre				As per requirement
Department Total				
DEPARTMENT OF ANATOMY				
Lecture Theatre				As per item A.1.5.
Demonstration Room	2	30	60	Students
Dissection Hall	1	175	175	Accommodate at least 150 Students
Museum		50	50	Accommodate 25 students to study in the museum
Research		50	50	
Histology		100	100	
Departmental Library		30	30	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	1	20	20	
Tutor/Demonstrators	1	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Physiology including Bio-physics				
Demonstration Room	1	30	30	Accommodate at least 25-30 Students
Lecture Theatre				As per item A.1.5.
Practical rooms				125 students
Amphibian laboratory		100	100	Preparation room 14 sqm
Mammalian laboratory		40	40	Preparation room 14 sqm
Human Laboratories				
Haematology Lab.		100	100	Preparation room 14 sqm
Clinical Physiology Laboratory		40	40	Preparation room 14 sqm
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	1	15	15	
Tutor/Demonstrators	1	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
BIOCHEMISTRY				
Demonstration Room	1	30	30	Accommodate at least 25-30 Students
Lecture Theatre				As per item A.1.5
Practical rooms	1	100	100	Two Ante rooms (14 Sq.m. area) each

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Accommodation for Staff				

Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	1	12	12	
Tutor/Demonstrators	1	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
PATHOLOGY				
Demonstration Room	1	25	25	Accommodate at least 25-30 Students
Practical Laboratories				
Blood bank	1	100	100	Two Ante rooms (14 Sq.m. area) each
Departmental Library		30	30	at least 80-100 books with 2 copies
Histopathogy/cytopathology	1	200	200	For 90 students
haematology	1	200	200	
Separate service library	3	25	25	
Research		50	50	
Museum		60	60	
Autopsy Block		400	400	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	1	14	14	
Tutor/Demonstrators	1	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Department Total			1302	
Microbiology				
Service Laboratory	7	25	175	Each for Bacteriology,
				Serology, Virology,
				Parasitology, Mycology,
				Tuberculosis and

				Immunology
Lecture Theatre				As per item A.1.5.
Demonstration room	1	30	30	
Practical laboratories		100	100	a preparation room (14 sq. m. area)
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Museum		40	40	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asstt. Prof./Lecturer	1	12	12	
Tutor/Demonstrators	1	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
PHARMACOLOGY				
Demonstration Room	1	30	30	Accommodate at least 25-30
				Students
Lecture Theatre				As per item A.1.5.
Practical laboratories		300	300	
Departmental Library		30	30	at least 80-100 books ,2 copies of each
Practical laboratories				
Experimental pharmacology		100	100	one ante-room (14 sq.m. area) for technicians
Clinical pharmacology		100	100	
Research		50	50	
Museum		75	75	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	1	12	12	
Tutor/Demonstrators	1	15	15	

Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
Forensic Med. Including Toxicology				
Demonstration room	1	30	30	Accommodate at least 25-30
Lecture Theatre				As per item A.1.5.
Autopsy Block	1	400	400	
Museum		100	100	
laboratories		250	250	
Department library		30	30	At least 100 books with 2 copies
research		50	50	
Laboratory		100	100	

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	1	12	12	
Tutor/Demonstrators	1	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
Community Medicine				
Demonstration Room	1	30	120	Accommodate at least 25-30 Students
Department library		30	30	At least 100 books with 2 copies
research		50	50	
Museum		75	75	
Primary Health Centre/Rural				
Laboratory		100	100	
Health Training Centre				
Urban Health Training Centre				
Accommodation for Staff				

Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	1	15	15	
Statistician-cum-Lecturer	1	12	12	
Epidemiologist-cum-Lecturer	1	12	12	
Tutor/Demonstrators	1	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	15	15	
Department Total				
COLLEGE TOTAL				

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Dean's Room		36	36	
Medical Superintendent's Room		36	36	
Hospital offices for the supportive		150	150	
staff				
Central medical record section		150	150	
Reception store rooms waiting space for visitors enquiry office drinking water facility toilet facilities		300	300	For 250 persons
Central Medical Record Section		250	250	
Linen Rooms				
Hospital & Staff Committee Room		50	50	
Central Lecture Theatre of Gallery Type				Seating capacity of 300
Central Registration and Statistics Department				
Central Laboratories				
Central Casualty Department				
(Incl. Minor O.T.)				
Central Hospital Pharmacy				
Central Kitchen				

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
CLINICAL DEPARTMENTS INDOOR				
General ward	30			As per 10905 (Part-2) 1984 in table for provision for various floor areas in out patient department (OPD)
Nurses station	21			
Examination room				
Treatment room				
Store room				
Resident doctors				
Students duty room				
Clinical demonstration room				
HOD room				
Other unit staff				
Clinical demonstration room				
OPERATION THEATRE				
waiting area				Two such units may be provided for General Surgery, one for ENT; one for Orthopaedics; one for Ophthalmology and one for Obstetrics and Gynaecology and one for septic cases. Areas as per 10905 (Part-2) 1984 in table for provision for various floor areas in Operation Theatre
preparation room				
OT				
post OT				
soiled linen room				
Instrument room				
Sterilisation room				
Nurses room				
Surgeon's and anesthatic room (sep. M and F)				
Assistant room				
Observatory gallery for students				
stores				
Washing room for surgeons and assistants				
Students washing up and dressing up room				
ADDITIONAL SPACE FOR ENDOSCOPY				
Minor OT				

CENTRAL STERILISATION SERVICES				
LAUNDRY				
DEPARTMENT OF RADIO-DIAGNOSIS				
Ultrasound Room		15	15	
Room for 300mA, 500mA, 600mA. I.I.T.V. System, Fluroscopy System		36	36	
Mobile X-ray system		15	15	
CT Scan		80	80	
Magentic Resonance Imaging (MRI) system		As per std. specification	As per std. specification	
Store room for X-Ray films		15	15	
Museum		25	25	
Waiting room				
demonstration room				
DEPARTMENT OF ANAESTHESIOLOGY				
HOD office				
Staff room				
Clinical demonstration room				
Departmental library-cum-seminar room		30	30	
DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION 2500sqm				

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Waiting area				As per 10905 (Part-2) 1984 in table for provision for various floor areas in out patient department (OPD)
Enquiry and record room				
Four examination cubicle				
dispensary				
Dressing room				
Ophthalmic section				
Refraction room				
Dark room				
Dressing room				
Orthopaedic room				
ENT				
Sound proof Audiometry room				
Eng laboratory				
Speech therapy				
paediatric				
Child Welfare including Immunization				
Clinic child guidance clinic				
Child rehabilitation clinic				
Obstetric and gynaecology				
Antenatal,family welfare clinic				
Clinic sterility clinic				
Cancer detection clinic				
Additional students room attatched to labour rooms				
Dental section				
Dental surgery				
Prosthetic dentistry				
Reception and waiting hall				
Seminar room				

BUILT UP AREA REQUIREMENTS(50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Central laboratories				As per 10905 (Part-1) 1984 in Part 1: Administrative and hospital services department buildings
Cenral casualty department				
Central hospital pharmacy				
Dispensary				
Drug and poison information service				
Central kitchen				
Hospital waste management				
Staff quarters				
Central hospital stores				
Hostel for students				

Clinical Departments in the Hospital (No. of Beds requried for 50 admission annual is 300):-

		Beds/Units	
General Medicine		72/3	
Paediatrics		24/2	
TB & Respiratory Diseases		8/1	
DVL		8/1	
Psychiatry		8/1	
General Surgery		90/3	
Orthopaedics		30/2	
Opthalmology		10/1	
ENT		10/1	
Obstetrics		25	
Gynaecology		15	
		40/2	7 Sq. M. per bed
			1.5 m. distance b/w 2 beds;
			Bed width 1m’
Department Total		300/17	

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Clinical Departments - Indoor				
Accommodation for Nurses				
Duty Room		20	20	As per 10905 (Part-2) 1984 in table for Part 2: Medical services department buildings
Laboratory for routine examinations		15	15	
Examination and treatment room		15	15	
Ward pantry		15	15	
Store room for linen and other equipments		15	15	
Residents Doctors & Students duty room		20	20	
Office for Heads of each department & Heads of Units		20	20	
Room for Other Unit Staff		20	20	
Clinical Demonstration Rooms(at least one for each department		20	20	
Operation Theatre Unit				
Waiting room for patients Preparation		15	15	As per 10905 (Part-2) 1984 in table for Part 2: Medical services department buildings As per table of OT
Preparation room		15	15	
Operation Theatre				
Post-operative recovery		75	75	
Soiled Linen room		30	30	
Instrument Room		15	15	
Sterilisation Room		15	15	
Nurses Room		15	15	
Surgeon's and Anaesthetist's room	2	20	40	
Assistant's Room		20	20	
Observation Gallery for students Store rooms		60	60	
Store rooms		15	15	
Dressing up room		10	10	

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Washing room		10	10	
Central Sterilisation Unit		10	10	
Laundary		10	10	
Labour Room				
Waiting room for patients Preparation		15	15	As per 10905 (Part-2) 1984 in table for Part 2: Medical services department buildings As per table of Obstetric and gynaenocolgy
Preparation room Labour Room		15	15	
Labour Room		100	100	
Post Partum Recovery		75	75	
Soiled Linen room		15	15	
Instrument Room		15	15	
Sterilisation Room		15	15	
Nurses Room		20	20	
Surgeon's and Anaesthetist's room	2	20	40	
Assistant's Room		20	20	
Observation Gallery for students Store rooms		30	30	
Store rooms		15	15	
Dressing up room		10	10	
Washing room		10	10	
Eclampsia Room		75	75	
Laundary		10	10	
Total for Labour Room				

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Accommodation for the Anaesthesia Department in Operation Theatres				
Office for HOD & Heads of Units		20	20	
Accommodation for other unit		20	20	
staff				
Clinical Demonstration Rooms		20	20	
Departmental library		30	30	50 students seating capacity
Department Total				
Optional Departments				
Radiotherapy				
Teletharapy Unit		100	100	
Intracavitory Treatment room		50	50	
Endocavitory surface mould therapy room		50	50	
Mould room		50	50	
Planning Room		50	50	
Room for metalling treatment		50	50	
Record room		100	100	
Medical physical laboratory		50	50	
Outpatient waiting room		200	200	
Indoor bed (30 beds)		200	200	
daycare		70	70	
Department Total				
Physical Medicine & rehabilitation		2000	2000	

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS & 300 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Clinical Departments - Outdoor				
Enquiry and record room				For each department As per 10905 (Part-2) 1984 in table for Part 2: Medical services department buildings
waiting /reception space for patients and attendants				
Examination rooms and case				
demonstration rooms for each	4			
Dispensary				
Dressing room in surgery & its specialities				
Refraction rooms,				
dark rooms				
dressing rooms in Opthalmic Deptt.				
Plaster room				
plaster cutting room in Orthopaedics Deptt.				
Sound proof audiometry room				
ENG Lab				
speech therapy rooms in ENT Deptt.				
Child welfare,				
immunization room etc. in paediatrics Deptt.				
Antenatal				
family welfare				
sterility cancer detection				
clinics in OBG Deptt.				
Dental Section				
A seminar room for students				
Reception and waiting hall for patients				
OPD TOTAL				
HOSPITAL TOTAL				
Residential Quarters/Hostels				
Qtrs. @20% teaching				
Qtrs. @ 20% Non teaching				
Nurses @ 20%				

Residents @ 100 %				
Interns @ 100 %				
Hostels for 825 students (i.e. @ 75% of 525)				
TOTAL RESIDENTAIL				
COMPLEX				
TOTAL				
ADD 15 %				
GRAND TOTAL				

Minimum Standard Requirements for Medical College (100 Intake Annual)

(Medical Council of India, 2017)

https://www.mciindia.org/CMS/wp-content/uploads/2017/10/Minimum-Standard-Requirements-for-100-Admissions.pdf

Introduction

The medical college or medical institution shall be housed in a unitary campus near its teaching hospital having room for future expansion. However the existing medical colleges shall make efforts to have their teaching hospital within a radius of five kilometer of the campus (For the medical colleges/Institutions established up to 30.11.2008). The medical college or medical institution shall be housed in a unitary campus of not less than 25 acres of land. However, this may be relaxed in a place especially in urban areas where the population is more than 25 lakhs, hilly areas, and notified tribal areas where the land shall not be in more than two pieces and the distance between the two pieces shall not be more than 10 kms. The hospital, college building including library and hostels for the students, interns, PGs/Residents and nurses shall be in one piece of land which shall not be less than 10 acres. Other facilities may be housed in the other piece of land. Proper landscaping should be done. (For the medical colleges/Institutions established from 01.12.2008 to 12.11.2009).

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Administrative Block				
Principal/Dean's Office		36	36	
Staff Room		54	54	
College Council Room		80	80	
Officer Superintendent's Room		10	10	
Office		150	150	
Record Room		100	100	
Examination room		300	300	
Common Room – Boys		100	100	
Girls		100	100	
Cafeteria		200	200	
Central Library		1600	1600	
Lecture Theatres	3	330	990	120 Seating Capacity
	1	660	660	250 Seating Capacity
Auditorium	1	800	800	500-700 Seating Capacity
Common Laboratories	6	170	1020	
	2	75	150	
Central Research Laboratory	1	100	100	

Department Total				
DEPARTMENTS Anatomy				
Demonstration Room	2	45	90	Students
Dissection Hall	1	250	250	Accommodate at least 100 Students
Museum		150	150	Accommodate 25 students to study in the museum
Research		100	100	
Histology		150	150	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	2	15	30	

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Asst. Prof./Lecturer	3	20	40	
Tutor/Demonstrators	4	15	60	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
Physiology including Bio-physics				
Demonstration Room	1	45	45	Accommodate at least 50-60 Students
Lecture Theatre				As per item A.1.5.
Practical rooms	60			
Amphibian laboratory		150	150	Preparation room 14 sqm
Mammalian laboratory		60	60	Preparation room 14 sqm
Human Laboratories				
Haematology Lab.		150	150	Preparation room 14 sqm
Clinical Physiology Laboratory		60	60	Preparation room 14 sqm
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	2	20	40	

Tutor/Demonstrators	4	15	60	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
Biochemistry				
Demonstration Room	1	45	45	Accommodate at least 50-60 Students
Lecture Theatre				As per item A.1.5
Practical rooms	1	150	150	Two Ante rooms (14 Sq.m. area) each

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	1	12	12	
Tutor/Demonstrators	4	15	60	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
PATHOLOGY				
Demonstration Room	1	45	45	Accommodate at least 50-60 Students
Practical Laboratories				
Histopathology/ Cytopathology	1	9150		Two Ante rooms (14 Sq.m. area) each
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Museum	25	60	60	
Autopsy Block	20-25	400	400	
Accommodation for Staff				
Professor & Head	1	18	18	

Asso. Prof./Reader	2	15	30	
Asst. Prof./Lecturer	3	12	36	
Tutor/Demonstrators	5	15	75	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Blook Bank (includes)		100	100	
Registration & Medical Examination Room				
Blood Collection Room				
Room for Laboratory for Blood Group Serology				
Room for Lab. For Transmissible diseases like Hepatitis, Syphilis, Malaria, HIV antibodies, etc.				
Sterilisation and Washing Room				
Refreshment Room				
Microbiology				
Service Laboratory	7	25	175	Each for Bacteriology,
				Serology, Virology,
				Parasitology, Mycology,
				Tuberculosis and
				Immunology
Lecture Theatre				As per item A.1.5.
Demonstration room	50-60	45	45	
Practical laboratories	60	150	150	a preparation room (14 sq. m. area)
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Museum	25	60	60	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	

Asst. Prof./Lecturer	2	12	24	
Tutor/Demonstrators	3	15	45	
Department Office/Clerical Room	1	12	12	

BUILT UP AREA RE○QUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Non-teaching staff room	1	12	12	
Department Total				
Pharmacology				
Demonstration Room	1	45	45	Accommodate at least 50-60
				Students
Lecture Theatre				
Practical laboratories				
Experimental Pharmacology	50-60	150	150	one ante-room (14 sq.m. area) for technicians
Clinical Pharmacology and Pharmacy	50-60	150	150	one ante-room (14 sq.m. area) for technicians
Departmental Library		30	30	at least 80-100 books, 2 copies of each
Museum		50	50	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	2	12	24	
Tutor/Demonstrators	2	15	30	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
Forensic Med. IncludingToxicology				
Demonstration room	1	45	45	Accommodate at least 50-60
				Students
Autopsy Block	1	400	400	

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Museum	20-25	150	150	
laboratories		150	150	
Department library		30	30	At least 100 books with 2 copies
research		50	50	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	1	12	12	
Tutor/Demonstrators	2	15	30	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
Community Medicine				
Museum		150	150	
Primary Health Centre/Rural				
Health Training Centre				
Urban Health Training Centre				
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	2	15	30	
Asst. Prof./Lecturer	2	15	30	
Statistician-cum-Lecturer	1	12	12	
Epidemiologist-cum-Lecturer	1	12	12	
Tutor/Demonstrators	1	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	15	15	
Department Total				
COLLEGE TOTAL				
TEACHING HOSPITAL				

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Dean's Room		36	36	
Medical Superintendent's Room		36	36	
Hospital offices for the supportive		150	150	
staff				
Waiting space for visitors		300	300	
Enquiry office		50	50	
Reception		300	300	
Store Rooms		500	500	
Central Medical Record Section		200	200	
Linen Rooms		500	500	
Hospital & Staff Committee Room		60	60	

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Central Lecture Theatre of Gallery	1	330	330	Seating capacity of 150
Type				persons
Central Registration and Statistics		200	200	
Department				
Central Laboratories		150	150	
Central Casualty Department		150	150	
(Incl. Minor O.T.)				
Central Hospital Pharmacy		100	100	
Central Kitchen		200	200	
Incinerating Plant		40	40	
Common Facilities				
CLINICAL DEPARTMENTS INDOOR				

General ward	30			As per 10905 (Part-2) 1984 in table for Part 2: Medical services department buildings As per table of inpatient department
Nurses station	21			
Examination room				
Treatment room				
Store room				
Resident doctors				
Students duty room				
Clinical demonstration room				
HOD room				
Other unit staff				
Clinical demonstration room				
OPERATION THEATRE				
waiting area				Two such units may be provided for General Surgery, one for ENT; one for Orthopaedics; one for Ophthalmology and one for Obstetrics and Gynaecology and one for septic cases.
preparation room				
OT				
post OT				
soiled linen room				
Instrument room				
Sterilisation room				
Nurses room				
Surgeon's and anesthatic room (sep. M and F)				
Assistant room				
Observatory gallery for students				
stores				
Washing room for surgeon;s and assistants				
Students washing up and dressing up room				
ADDITIONAL SPACE FOR ENDOSCOPY				
Minor OT				
CENTRAL STERILISATION SERVICES				
LAUNDRY				
DEPARTMENT OF RADIO-DIAGNOSIS				
Ultrasound Room		15	15	
Mobile X-ray system		15	15	
CT Scan		80	80	

Magentic Resonance Imaging (MRI) system		As per std.	As per std.	
Store room for X-Ray films		20	20	
Museum				
Waiting room				
demonstration room		60	60	
DEPARTMENT OF ANAESTHESIOLOGY				
HOD office				
Staff room				
Clinical demonstration room				
Departmental library-cum-seminar room				

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Waiting area				As per 10905 (Part-2) 1984 in table for Part 2: Medical services department buildings From table 1 for OPD
Enquiry and record room				
Four examination cubicle				
dispensary				
Dressing room				
Ophthalmic section				
Refraction room				
Dark room				
Dressing room				
Orthopaedic room				
ENT				
Sound proof Audiometry room				
Eng laboratory				
Speech therapy				
paediatric				
Child Welfare including Immunization				
Clinic child guidance clinic				
Child rehabilitation clinic				
Obstetric and gynaecology				
Antenatal,family welfare clinic				
Clinic sterility clinic				
Cancer detection clinic				
Additional students room attatched to labour rooms				
Dental section				
Dental surgery				
Prosthetic dentistry				
Reception and waiting hall				
Seminar room				

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Central laboratories				As per 10905 (Part-1) 1984 in table for Part 1: administrative and hospital services department buildings
Cenral casualty department				
Central hospital pharmacy				
Dispensary				
Drug and poison information service				
Central kitchen				
Hospital waste management				
Staff quarters				
Central hospital stores				
Hostel for students				

Clinical Departments in the Hospital (No. of Beds requried for 100 admission annual is 500):-

		Beds/Units	
General Medicine		120/4	
Paediatrics		60/2	
TB & Respiratory Diseases		20/1	
DVL		10/1	
Psychiatry		10/1	
General Surgery		120/4	
Orthopaedics		60/2	
Opthalmology		20/1	
ENT		20/1	
Obstetrics	35		
Gynaecology	20		
Postpartum	5	60/2	7 Sq. M. per bed (1.5 m.
			distance b/w 2 beds; Bed
			width 1m')
Department Total			

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Clinical Departments - Indoor				
Accommodation for Nurses				
Duty Room		20	20	As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services
Laboratory for routine examinations		15	15	
Examination and treatment room		15	15	
Ward pantry		15	15	
Store room for linen and other equipments		15	15	
Residents Doctors & Students duty room		20	20	
Office for Heads of each department & Heads of Units		20	20	
Room for Other Unit Staff		20	20	
Clinical Demonstration Rooms(at least one for each department		20	20	
Total for 14 Wards/12				
Operation Theatre Unit				
Waiting room for patients Preparation		15	15	As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services as per table for operation theatre
Preparation room Operation Theatre		15	15	
Post-operative recovery		75	75	
Soiled Linen room		30	30	
Instrument Room		15	15	
Sterilisation Room		15	15	
Nurses Room		15	15	
Surgeon's and Anaesthetist's room	2	20	40	
Assistant's Room		20	20	
Observation Gallery for students Store rooms		60	60	
Store rooms		15	15	
Dressing up room		10	10	

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Washing room		10	10	
Central Sterilisation Unit		10	10	
Laundary		10	10	
Total for 10 O.T.s				
Labour Room				
Waiting room for patients Preparation		15	15	As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services as per table for beds for obstetric and gynae
Preparation room Labour Room		15	15	
Labour Room		100	100	
Post Partum Recovery		75	75	
Soiled Linen room		15	15	
Instrument Room		15	15	
Sterilisation Room		15	15	
Nurses Room		20	20	
Surgeon's and Anaesthetist's room	2	20	40	
Assistant's Room		20	20	
Observation Gallery for students Store rooms		30	30	
Store rooms		15	15	
Dressing up room		10	10	
Washing room		10	10	
Eclampsia Room		75	75	
Laundary		10	10	
Total for Labour Room				

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Room for 300mA, 500mA,		36	36	
800mA				
IITV System, Fluroscopy System		15	15	
Ultrasound room		15	15	
Room for 60mA Mobile X-Ray		15	15	

System				
Accommodation for CT Scan		20	20	
System				
Store Room		25	25	
Museum		25	25	
Waiting Room		40	40	
Department Total				
Anaesthesiology				

Accommodation for the Anaesthesia Department in Operation Theatres

Office for HOD & Heads of Units		20	20	
Accommodation for other unit		20	20	
staff				
Clinical Demonstration Rooms		20	20	
Department Total				
Optional Departments				
Radiotherapy				
Teletharapy Unit		100	100	
Intracavitory Treatment room		50	50	
Endocavitory surface mould		50	50	
therapy room				
Planning Room		50	50	
Room for metalling treatment		50	50	

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Record Room		100	100	
Medical Physics Lab.		50	50	
Out patient waiting room		200	200	
Day care ward for short		70	70	
chemotherapy/radiotherapy				
Department Total				
Physical Medicine &		1500	1500	
rehabilitation				
Clinical Departments - Outdoor				

Enquiry and record room				For each department As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services
waiting /reception space for patients and attendants				
Examination rooms and case				
Demonstration rooms for each	4			
Dispensary				
Dressing room in surgery & its specialities				
Refraction rooms,				
dark rooms				
Dressing rooms in Opthalmic Deptt.				
Plaster room				
plaster cutting room in Orthopaedics Deptt.				
Sound proof audiometry room				
ENG Lab				
speech therapy rooms in ENT Deptt.				
Child welfare,				
Immunization room etc. in paediatrics Deptt.				

BUILT UP AREA REQUIREMENTS (100 ADMISSIONS & 500 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Antenatal				
family welfare				
sterility cancer detection				
Clinics in OBG Dept.				
Dental Section				
OPD TOTAL				
HOSPITAL TOTAL				
Residential Quarters/Hostels				
Qtrs. @20% teaching 20% of				
Qtrs. @ 20% Non-teaching 20% of				
Nurses @ 20%				
Residents @ 100 %				
Interns @ 100 %				

Hostels for 375 students (i.e. @ 75% of 500)				
TOTAL RESIDENTAIL				
COMPLEX				
TOTAL				
ADD 15 %				
GRAND TOTAL				

Minimum Standard Requirements for Medical College (150 Intake Annual)

(Medical Council of India 2015)

https://www.mciindia.org/CMS/wp-content/uploads/2017/10/Minimum-Standard-Requirements-for-150-Admissions.pdf

Introduction

The medical college or medical institution shall be housed in a unitary campus near its teaching hospital having room for future expansion. However the existing medical colleges shall make efforts to have their teaching hospital within a radius of five kilometer of the campus. *Companies registered under Company Act may also be allowed to open medical colleges. Permission shall be withdrawn if the colleges resort to commercialization.

*As per the terms of Notification published on 15.07.2009 in the Gazette of India. *The medical college or medical institution shall be housed in a unitary campus of not less than 20 acres of land except in metropolitan and A class cities (Ahmedabad, Hyderabad, Pune, Bangalore and Kanpur). However, this may be relaxed in a place especially in Urban areas where the population is more than 25 lakhs (**other than the nine cities mentioned in the Clause), hilly areas, notified tribal areas, North Eastern States, Hill states and Union Territories of Andaman & Nicobar Islands, Daman & Diu & Dadra & Nagar Haveli **and Lakshadweep, where the land shall not be in more than two pieces and the distance between the two pieces shall not be more than 10 kms. The hospital, college building including library and hostels for the students, interns, PGs/Residents and nurses shall be in one piece of land which shall not be less than 10 acres. Other facilities may be housed in the other piece of land. Proper landscaping should be done.

However, in metropolitan cities and “A” class cities (Ahmedabad, Hyderabad, Pune, Bangalore and Kanpur), the permissible FAR/FSI would be the criterion for allowing the medical colleges provided that the total built up area required for adequate infrastructure including medical college, hospital, hostels, residential quarters, and other infrastructure required as per Minimum Standard requirement Regulations is made available in an area of not less than 10 acres based upon the permissible FAR/FSI allowed by the competent authority.

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Administrative Block				
Principal/Dean’s Office		36	36	
Staff Room		54	54	
College Council Room		80	80	
Officer Superintendent’s Room		10	10	
Office		150	150	
Record Room		100	100	
Examination hall		250	250	
Common Room – Boys		150	150	

Girls		150	150	
Cafeteria		300	300	
Central Library		2400	2400	
Lecture Theatres	4	250	250	250 Seating Capacity
Auditorium	1	2000	2000	500-700 Seating Capacity
Common Laboratories	6	375	375	
Central Research Laboratory	1	100	100	
Central photographic section				
Central workshop				
Animal house				

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
incinerator				
Gas plant				
Statistical unit				
Medical education unit				
Research work				
Intercom network				
Playground and gymnasium				
electricity				
Sanitation and water supply				
Training of teacher in medical education unit				
Rural health training centre				
Department Total				
DEPARTMENTSANATOMY				
Lecture Theatre				As per item A.1.5.
Demonstration Room	2	60	120	Students
Dissection Hall	1	325	325	Accommodate at least 150 Students
Museum		200	200	Accommodate 25 students to study in the museum
Research		50	50	
Histology		200	200	
Departmental Library		30	30	
Accommodation for Staff				

Professor & Head	1	18	18	
Asso. Prof./Reader	2	15	30	
Asst. Prof./Lecturer	2	20	40	
Tutor/Demonstrators	1	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Physiology including Bio-physics				
Demonstration Room	2	60	120	Accommodate at least 60-75 Students
Lecture Theatre				As per item A.1.5.
Practical rooms				125 students
Amphibian laboratory		80	80	Preparation room 14 sqm
Mammalian laboratory		80	80	Preparation room 14 sqm
Human Laboratories				
Haematology Lab.		200	200	Preparation room 14 sqm
Clinical Physiology Laboratory		120	120	Preparation room 14 sqm
Departmental Library		90	90	at least 80-100 books with 2 copies
Research		50	50	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	2	15	45	
Asst. Prof./Lecturer	1	20	80	
Tutor/Demonstrators	1	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
BIOCHEMISTRY				
Demonstration Room	2	60	120	Accommodate at least 50-60 Students
Lecture Theatre				As per item A.1.5
Practical rooms	1	200	200	Two Ante rooms (14 Sq.m. area) each

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	2	15	30	
Asst. Prof./Lecturer	4	12	12	
Tutor/Demonstrators	1	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
PATHOLOGY				
Demonstration Room	2	60	60	Accommodate at least 75-100 Students
Practical Laboratories				
Blood bank	1	100	100	Two Ante rooms (14 Sq.m. area) each
Departmental Library		30	30	at least 80-100 books with 2 copies
Histopathogy/cytopathology	1	200	200	For 90 students
haematology	1	200	200	
Separate service library	1	30	30	
Research		50	50	
Museum		90	90	
Autopsy Block		400	400	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	4	15	60	
Asst. Prof./Lecturer	3	14	42	
Tutor/Demonstrators	3	15	45	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Department Total			1302	
Microbiology				
Service Laboratory	7	35	225	Each for Bacteriology,
				Serology, Virology,
				Parasitology, Mycology,
				Tuberculosis and
				Immunology
Lecture Theatre				As per item A.1.5.
Demonstration room	2	60	120	
Practical laboratories		200	200	a preparation room (14 sq. m. area)
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Museum		80	80	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asstt. Prof./Lecturer	2	12	12	
Tutor/Demonstrators	2	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
PHARMACOLOGY				
Demonstration Room	2	60	120	Accommodate at least 60-75
				Students
Lecture Theatre				As per item A.1.5.
Practical laboratories		300	300	
Experimental Pharmacology		150	150	one ante-room (14 sq.m. area) for technicians

Departmental Library		30	30	at least 80-100 books, 2 copies of each
Practical laboratories				
Experimental pharmacology		200	200	
Clinical pharmacology		200	200	
Research		50	50	
Museum		125	125	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	2	15	30	
Asst. Prof./Lecturer	2	12	24	
Tutor/Demonstrators	2	15	30	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
Forensic Med. IncludingToxicology				
Demonstration room	2	60	60	Accommodate at least 60-75
Lecture Theatre				As per item A.1.5.
Autopsy Block	1	400	400	
Museum		175	175	
laboratories		250	250	
Department library		30	30	At least 100 books with 2 copies
research		50	50	
Laboratory		200	200	

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	2	15	30	
Asst. Prof./Lecturer	1	12	12	
Tutor/Demonstrators	1	15	15	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
Community Medicine				

Demonstration Room	2	60	120	Accommodate at least 60-75 Students
Department library		30	30	At least 100 books with 2 copies
research		50	50	
Museum		125	125	
Primary Health Centre/Rural				
Health Training Centre				
Urban Health Training Centre				
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	2	15	30	
Asst. Prof./Lecturer	1	15	15	
Statistician-cum-Lecturer	1	12	12	
Epidemiologist-cum-Lecturer	1	12	12	
Tutor/Demonstrators	2	15	30	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	15	15	
Department Total				
COLLEGE TOTAL				
TEACHING HOSPITAL				

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Dean's Room		36	36	
Medical Superintendent's Room		36	36	
Hospital offices for the supportive		150	150	
staff				
Central medical record section				
Reception store rooms waiting space for visitors enquiry office drinking water facility toilet facilities		400	400	For 250 persons
Central Medical Record Section		250	250	
Linen Rooms				
Hospital & Staff Committee Room		80	80	

Central Lecture Theatre of Gallery Type				Seating capacity of 300
Central Registration and Statistics Department				
Central Laboratories				
Central Casualty Department				
(Incl. Minor O.T.)				
Central Hospital Pharmacy				
Central Kitchen				
Incinerating Plant				

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
CLINICAL DEPARTMENTS INDOOR				
General ward	30			As per 10905 (Part-2) 1984 in table for Part 2: Medical and hospital services
Nurses station	21			
Examination room				
Treatment room				
Store room				
Resident doctors				
Students duty room				
Clinical demonstration room				
HOD room				
Other unit staff				
Clinical demonstration room				
OPERATION THEATRE				

waiting area				Two such units may be provided for General Surgery, one for ENT; one for Orthopaedics; one for Ophthalmology and one for Obstetrics and Gynaecology and one for septic cases.
preparation room				
OT				
post OT				
soiled linen room				
Instrument room				
Sterilisation room				
Nurses room				
Surgeon's and anesthatic room (sep. M and F)				
Assistant room				
Observatory gallery for students				
stores				
Washing room for surgeons and assistants				
Students washing up and dressing up room				
ADDITIONAL SPACE FOR ENDOSCOPY				
Minor OT				
CENTRAL STERILISATION SERVICES				
LAUNDRY				
DEPARTMENT OF RADIO-DIAGNOSIS				
Ultrasound Room		15	15	
Room for 300mA, 500mA, 600mA. I.I.T.V. System, Fluroscopy System		36	36	
Mobile X-ray system		15	15	
CT Scan		80	80	
Magentic Resonance Imaging (MRI) system		As per std. specification	As per std. specification	
Store room for X-Ray films		15	15	
Museum		25	25	
Waiting room				
demonstration room				
DEPARTMENT OF ANAESTHESIOLOGY				
HOD office				
Staff room				
Clinical demonstration room				
Departmental library-cum-seminar room		30	30	
DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION 2500sqm				

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Waiting area				As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services
Enquiry and record room				
Four examination cubicle				
dispensary				
Dressing room				
Ophthalmic section				
Refraction room				
Dark room				
Dressing room				
Orthopaedic room				
ENT				
Sound proof Audiometry room				
Eng laboratory				
Speech therapy				
paediatric				
Child Welfare including Immunization				
Clinic child guidance clinic				
Child rehabilitation clinic				
Obstetric and gynaecology				
Antenatal,family welfare clinic				
Clinic sterility clinic				
Cancer detection clinic				
Additional students room attatched to labour rooms				
Dental section				
Dental surgery				
Prosthetic dentistry				
Reception and waiting hall				
Seminar room				

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Central laboratories				As per 10905 (Part-1) 1984 in table for Part 1 :administrative and hospital services
Cenral casualty department				
Central hospital pharmacy				
Dispensary				
Drug and poison information service				
Central kitchen				
Hospital waste management				
Staff quarters				
Central hospital stores				
Hostel for students				

Clinical Departments in the Hospital (No. of Beds requried for 150 admission annual is 500):-

		Beds/Units	
General Medicine		150/6	
Paediatrics		90/3	
TB & Respiratory Diseases		30/1	
DVL		15/1	
Psychiatry		15/1	
General Surgery		150/6	
Orthopaedics		90/3	
Opthalmology		30/1	
ENT		30/1	
Obstetrics		60	
Gynaecology		40	
		700/26	7 Sq. M. per bed
			1.5 m. distance b/w 2 beds;
			Bed width 1m’
Department Total		700/26	

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Clinical Departments - Indoor				
Accommodation for Nurses				
Duty Room		20	20	As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services As per Inpatient department table
Laboratory for routine examinations		15	15	
Examination and treatment room		15	15	
Ward pantry		15	15	
Store room for linen and other equipments		15	15	
Residents Doctors & Students duty room		20	20	
Office for Heads of each department & Heads of Units		20	20	
Room for Other Unit Staff		20	20	
Clinical Demonstration Rooms(at least one for each department		20	20	
Operation Theatre Unit				
Waiting room for patients Preparation		15	15	As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services As per operation theatre
Preparation room		15	15	
Operation Theatre				
Post-operative recovery		75	75	
Soiled Linen room		30	30	
Instrument Room		15	15	
Sterilisation Room		15	15	
Nurses Room		15	15	
Surgeon's and Anaesthetist's room	2	20	40	
Assistant's Room		20	20	
Observation Gallery for students Store rooms		60	60	
Store rooms		15	15	
Dressing up room		10	10	

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Washing room		10	10	
Central Sterilisation Unit		10	10	
Laundary		10	10	
Total for 10 O.T.s				
Labour Room				
Waiting room for patients Preparation		15	15	As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services As per Inpatient department table
Preparation room Labour Room		15	15	
Labour Room		100	100	
Post Partum Recovery		75	75	
Soiled Linen room		15	15	
Instrument Room		15	15	
Sterilisation Room		15	15	
Nurses Room		20	20	
Surgeon's and Anaesthetist's room	2	20	40	
Assistant's Room		20	20	
Observation Gallery for students Store rooms		30	30	
Store rooms		15	15	
Dressing up room		10	10	
Washing room		10	10	
Eclampsia Room		75	75	
Laundary		10	10	
Total for Labour Room				

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Accommodation for the Anaesthesia Department in Operation Theatres				
Office for HOD & Heads of Units		20	20	
Accommodation for other unit		20	20	
staff				
Clinical Demonstration Rooms		20	20	
Departmental library		30	30	50 students seating capacity
Department Total				
Optional Departments				
Radiotherapy				
Teletharapy Unit		100	100	
Intracavitory Treatment room		50	50	
Endocavitory surface mould therapy room		50	50	
Mould room		50	50	
Planning Room		50	50	
Room for metalling treatment		50	50	
Record room		100	100	
Medical physical laboratory		50	50	
Outpatient waiting room		200	200	
Indoor bed (30 beds)		200	200	
daycare		70	70	
Department Total				
Physical Medicine & rehabilitation		2000	2000	

BUILT UP AREA REQUIREMENTS (150 ADMISSIONS & 700 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Clinical Departments - Outdoor				
Enquiry and record room				For each department
waiting /reception space for patients and attendants				
Examination rooms and case				
demonstration rooms for each	4			
Dispensary				
Dressing room in surgery & its specialities				
Refraction rooms,				
dark rooms				
dressing rooms in Opthalmic Deptt.				As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services
Plaster room				
plaster cutting room in Orthopaedics Deptt.				
Sound proof audiometry room				
ENG Lab				
speech therapy rooms in ENT Deptt.				
Child welfare,				
immunization room etc. in paediatrics Deptt.				
Antenatal				
family welfare				
sterility cancer detection				
clinics in OBG Deptt.				
Dental Section				
A seminar room for students				
Reception and waiting hall for patients				
OPD TOTAL				
HOSPITAL TOTAL				
Residential Quarters/Hostels				
Qtrs. @20% teaching				
Qtrs. @ 20% Non teaching				
Nurses @ 20%				

Residents @ 100 %				
Interns @ 100 %				
Hostels for 825 students (i.e. @ 75% of 525)				
TOTAL RESIDENTAIL				
COMPLEX				
TOTAL				
ADD 15 %				
GRAND TOTAL				

Minimum Standard Requirements for Medical College (200 Intake Annual)

(Medical Council of India, 2015)

https://www.mciindia.org/CMS/wp-content/uploads/2017/10/Minimum-Standard-Requirements-for-200-Admissions.pdf

Introduction

The medical college or medical institution shall be housed in a unitary campus of not less than 25 acres of land except in metropolitan and A class cities (Ahmedabad, Hyderabad, Pune, Bangalore and Kanpur). However, this may be relaxed in a place especially in Urban areas where the population is more than 25 lakhs, hilly areas, notified tribal areas, North Eastern States, Hill states and Union Territories of Andaman & Nicobar Islands, Daman & Diu & Dadra & Nagar Haveli, where the land shall not be in more than two pieces and the distance between the two pieces shall not be more than 10 kms. The hospital, college building including library and hostels for the students, interns, PGs/Residents and nurses shall be in one piece of land which shall not be less than 10 acres. Other facilities may be housed in the other piece of land. Proper landscaping should be done.

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Administrative Block				
Principal/Dean's Office		36	36	
Staff Room		54	54	
College Council Room		80	80	
Officer Superintendent's Room		10	10	
Office		150	150	
Record Room		100	100	
Examination room		300	300	
Common Room – Boys		100	100	
Girls		100	100	
Cafeteria		200	200	
Central Library		3200	3200	
Lecture Theatres	6	240	1200	120 Seating Capacity
	1	500	500	500 Seating Capacity
Auditorium	1	1600	1600	500-700 Seating Capacity
Common Laboratories	6	300	1800	
	2	120	240	
Central Research Laboratory	1	100	100	
Department Total				

DEPARTMENTS ANATOMY				
Demonstration Room	3	75	225	Students
Dissection Hall	1	400	400	Accommodate at least 200 Students
Museum		150	150	Accommodate 25 students to study in the museum
Research		50	50	
Histology		150	150	
Departmental Library		30	30	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	2	15	30	
Asst. Prof./Lecturer	3	20	40	
Tutor/Demonstrators	4	15	60	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Physiology including Bio-physics				
Demonstration Room	3	75	225	Accommodate at least 50-60 Students
Lecture Theatre				As per item A.1.5.
Practical rooms	60			
Amphibian laboratory		250	250	Preparation room 14 sqm
Mammalian laboratory		100	100	Preparation room 14 sqm
Human Laboratories				
Haematology Lab.		250	250	Preparation room 14 sqm
Clinical Physiology Laboratory		120	120	Preparation room 14 sqm
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	2	15	30	
Asst. Prof./Lecturer	4	12	48	

Tutor/Demonstrators	5	20	100	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
BIOCHEMISTRY				
Demonstration Room	3	75	225	Accommodate at least 50-60 Students
Lecture Theatre				As per item A.1.5
Practical rooms	1	150	150	Two Ante rooms (14 Sq.m. area) each

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	3	20	20	
Tutor/Demonstrators	5	12	60	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
PATHOLOGY				
Demonstration Room	3	75	225	Accommodate at least 60-75 Students
Practical Laboratories				
Blood bank	1	100	100	Two Ante rooms (14 Sq.m. area) each
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Museum		120	120	
Autopsy Block		450	450	
Accommodation for Staff				

Professor & Head	1	18	18	
Asso. Prof./Reader	3	15	45	
Asst. Prof./Lecturer	5	20	100	
Tutor/Demonstrators	7	20	140	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Microbiology				
Service Laboratory	7	35	245	Each for Bacteriology,
				Serology, Virology,
				Parasitology, Mycology,
				Tuberculosis and
				Immunology
Lecture Theatre				As per item A.1.5.
Demonstration room	3	75	225	
Practical laboratories		300	300	a preparation room (14 sq. m. area)
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Museum		100	100	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asstt. Prof./Lecturer	2	12	24	
Tutor/Demonstrators	3	15	45	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
PHARMACOLOGY				
Demonstration Room	3	75	225	Accommodate at least 60-75
				Students
Lecture Theatre				
Practical laboratories				
Experimental Pharmacology		150	150	one ante-room (14 sq.m. area) for technicians
Departmental Library		30	30	at least 80-100 books, 2 copies of each
Practical laboratories		300	300	
Research		50	50	
Museum		150	150	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	2	15	30	
Asst. Prof./Lecturer	3	20	60	
Tutor/Demonstrators	4	20	80	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
Forensic Med. IncludingToxicology				
Demonstration room	3	75	225	Accommodate at least 60-75
				Students
Autopsy Block	1	450	450	
Museum		200	200	
laboratories		250	250	
Department library		30	30	At least 100 books with 2 copies
research		50	50	
Lecture Theatre				As per item A.1.5.

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	3	20	60	
Tutor/Demonstrators	4	20	80	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
Community Medicine				
Demonstration Room	3	75	225	Accommodate at least 60-75 Students
Department library		30	30	At least 100 books with 2 copies
research		50	50	
Museum		150	150	
Primary Health Centre/Rural				
Health Training Centre				
Urban Health Training Centre				
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	2	15	30	
Asst. Prof./Lecturer	4	12	48	
Statistician-cum-Lecturer	1	12	12	
Epidemiologist-cum-Lecturer	1	12	12	
Tutor/Demonstrators	5	20	20	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
COLLEGE TOTAL				
TEACHING HOSPITAL				

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Dean's Room		36	36	
Medical Superintendent's Room		36	36	
Hospital offices for the supportive		150	150	
staff				
Central medical record section				For 250 persons
Reception store rooms waiting space for visitors enquiry office drinking water facility toilet facilities		500	500	
Central Medical Record Section		300	300	
Linen Rooms				
Hospital & Staff Committee Room		100	100	

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Central Lecture Theatre of Gallery	1	450	450	Seating capacity of 250
Type				persons
Central Registration and StatisticsDepartment				
Central Laboratories		150	150	
Central Casualty Department		150	150	
(Incl. Minor O.T.)				
Central Hospital Pharmacy		100	100	
Central Kitchen		200	200	
Incinerating Plant		40	40	
Common Facilities				
CLINICAL DEPARTMENTS INDOOR				

General ward	30			As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services As per Inpatient department table
Nurses station	21			
Examination room				
Treatment room				
Store room				
Resident doctors				
Students duty room				
Clinical demonstration room				
HOD room				
Other unit staff				
Clinical demonstration room				
OPERATION THEATRE				
waiting area				Two such units may be provided for General Surgery, one for ENT; one for Orthopaedics; one for Ophthalmology and one for Obstetrics and Gynaecology and one for septic cases.
preparation room				
OT				
post OT				
soiled linen room				
Instrument room				
Sterilisation room				
Nurses room				
Surgeon's and anesthatic room (sep. M and F)				
Assistant room				
Observatory gallery for students				
stores				
Washing room for surgeons and assistants				
Students washing up and dressing up room				
ADDITIONAL SPACE FOR ENDOSCOPY				
Minor OT				
CENTRAL STERILISATION SERVICES				
LAUNDRY				
DEPARTMENT OF RADIO-DIAGNOSIS				
Ultrasound Room		15	15	
Room for 300mA, 500mA, 600mA. I.I.T.V. System, Fluroscopy System		36	36	

Mobile X-ray system		15	15	
CT Scan		80	80	
Magentic Resonance Imaging (MRI) system		As per std. specification	As per std. specification	
Store room for X-Ray films		15	15	
Museum		25	25	
Waiting room				
demonstration room				
DEPARTMENT OF ANAESTHESIOLOGY				
HOD office				
Staff room				
Clinical demonstration room				
Departmental library-cum-seminar room		30	30	
DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION 2500sqm				

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Waiting area				As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services As per Outpatient department table
Enquiry and record room				
Four examination cubicle				
dispensary				
Dressing room				
Ophthalmic section				
Refraction room				
Dark room				
Dressing room				
Orthopaedic room				
ENT				
Sound proof Audiometry room				
Eng laboratory				
Speech therapy				
paediatric				
Child Welfare including Immunization				
Clinic child guidance clinic				
Child rehabilitation clinic				
Obstetric and gynaecology				
Antenatal,family welfare clinic				
Clinic sterility clinic				
Cancer detection clinic				
Additional students room attatched to labour rooms				
Dental section				
Dental surgery				
Prosthetic dentistry				
Reception and waiting hall				
Seminar room				

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Central laboratories				As per 10905 (Part-1) 1984 in table for Part 1 : administration and hospital building
Cenral casualty department				
Central hospital pharmacy				
Dispensary				
Drug and poison information service				
Central kitchen				
Hospital waste management				
Staff quarters				
Central hospital stores				
Hostel for students				

Clinical Departments in the Hospital (No. of Beds requried for 200 admission annual is 500):-

		Beds/Units	
General Medicine		210/7	
Paediatrics		120/4	
TB & Respiratory Diseases		30/1	
DVL		15/1	
Psychiatry		15/1	
General Surgery		210/7	
Orthopaedics		120/4	
Opthalmology		40/2	
ENT		20/1	
Obstetrics		60	
Gynaecology		40	
Postpartum		20	7 Sq. M. per bed
		120/4	1.5 m. distance b/w 2 beds;
			Bed width 1m’
Department Total		900/32	

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Clinical Departments - Indoor				
Accommodation for Nurses				
Duty Room		20	20	
Laboratory for routine examinations		15	15	
Examination and treatment room		15	15	
Ward pantry		15	15	
Store room for linen and other equipments		15	15	
Residents Doctors & Students duty room		20	20	
Office for Heads of each department & Heads of Units		20	20	
Room for Other Unit Staff		20	20	
Clinical Demonstration Rooms(at least one for each department		20	20	
Operation Theatre Unit		15		
Waiting room for patients Preparation		15	15	
Preparation room			15	
Operation Theatre		75		
Post-operative recovery		30	75	
Soiled Linen room		15	30	
Instrument Room		15	15	
Sterilisation Room		15	15	
Nurses Room		20	15	
Surgeon's and Anaesthetist's room	2	20	40	
Assistant's Room		60	20	
Observation Gallery for students Store rooms		15	60	
Store rooms		10	15	
Dressing up room			10	

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Washing room		10	10	
Central Sterilisation Unit		10	10	
Laundary		10	10	
Total for 10 O.T.s				
Labour Room				
Waiting room for patients Preparation		15	15	
Preparation room Labour Room		15	15	
Labour Room		100	100	
Post Partum Recovery		75	75	
Soiled Linen room		15	15	
Instrument Room		15	15	
Sterilisation Room		15	15	
Nurses Room		20	20	
Surgeon's and Anaesthetist's room	2	20	40	
Assistant's Room		20	20	
Observation Gallery for students Store rooms		30	30	
Store rooms		15	15	
Dressing up room		10	10	
Washing room		10	10	
Eclampsia Room		75	75	
Laundary		10	10	
Total for Labour Room				

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Accommodation for the Anaesthesia Department in Operation Theatres				
Office for HOD & Heads of Units		20	20	
Accommodation for other unit		20	20	
staff				
Clinical Demonstration Rooms		20	20	
Departmental library		30	30	50 students seating capacity
Department Total			90	
Optional Departments				
Radiotherapy				
Teletharapy Unit		100	100	
Intracavitory Treatment room		50	50	
Endocavitory surface mould therapy room		50	50	
Mould room		50	50	
Planning Room		50	50	
Room for metalling treatment		50	50	
Record room		100	100	
Medical physical laboratory		50	50	
Outpatient waiting room		200	200	
Indoor bed (30 beds)		200	200	
daycare		70	70	
Department Total			720	
Physical Medicine & rehabilitation		2500	2500	

BUILT UP AREA REQUIREMENTS (200 ADMISSIONS & 900 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Clinical Departments - Outdoor				
Enquiry and record room				For each department As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services As per Outpatient department table
waiting /reception space for patients and attendants				
Examination rooms and case				
demonstration rooms for each	4			
Dispensary				
Dressing room in surgery & its specialities				
Refraction rooms,				
dark rooms				
dressing rooms in Opthalmic Deptt.				
Plaster room				
plaster cutting room in Orthopaedics Deptt.				
Sound proof audiometry room				
ENG Lab				
speech therapy rooms in ENT Deptt.				
Child welfare,				
immunization room etc. in paediatrics Deptt.				
Antenatal				
family welfare				
sterility cancer detection				
clinics in OBG Deptt.				
Dental Section				
A seminar room for students				
Reception and waiting hall for patients				
OPD TOTAL				
HOSPITAL TOTAL				
Residential Quarters/Hostels				
Qtrs. @20% teaching				

Qtrs. @ 20% Non teaching				
Nurses @ 20%				
Residents @ 100 %				
Interns @ 100 %				
Hostels for 750 students (i.e. @ 75% of 1000)				
TOTAL RESIDENTAIL				
COMPLEX				
TOTAL				
ADD 15 %				
GRAND TOTAL				

Minimum Standard Requirements for Medical College (250 Intake Annual)

(Medical Council of India 2015)

https://www.mciindia.org/documents/informationDesk/STANDARD-FOR-250.pdf

Introduction

The medical college or medical institution shall be housed in a unitary campus of not less than 25 acres of land. However, this may be relaxed in a place especially in Urban areas where the population is more than 25 lakhs, hilly areas, and notified tribal areas where the land shall not be in more than two pieces and the distance between the two pieces shall not be more than 10 kms. The hospital, college building including library and hostels for the students, interns, PGs/Residents and nurses shall be in one piece of land which shall not be less than 10 acres. Other facilities may be housed in the other piece of land. Proper landscaping should be done.

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Administrative Block				
Principal/Dean's Office		36	36	
Staff Room		54	54	
College Council Room		80	80	
Officer Superintendent's Room		10	10	
Office		150	150	
Record Room		100	100	
Examination hall		250	250	
Common Room – Boys		200	200	
Girls		200	200	
Cafeteria		400	400	
Central Library		4000	4000	
Lecture Theatres	6	300	1800	300 Seating Capacity
	1	650	650	650 Seating Capacity
Auditorium	1	2000	2000	500-700 Seating Capacity
Common Laboratories	6	375	375	
Central Research Laboratory	1	100	100	
Central photographic section				
Central workshop				
Animal house				

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
incinerator				
Medical education unit				
Research work				
Intercom network				
Playground and gymnasium				
electricity				
Sanitation and water supply				
Training of teacher in medical education unit				
Rural health training centre				
Department Total				
DEPARTMENT OF ANATOMY				
Demonstration Room	4	90	360	Students
Dissection Hall	1	500	500	Accommodate at least 200 Students
Museum		300	300	Accommodate 25 students to study in the museum
Research		50	50	
Histology		150	150	
Departmental Library		30	30	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	3	15	45	
Asst. Prof./Lecturer	4	20	80	
Tutor/Demonstrators	6	20	120	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Physiology including Bio-physics				
Demonstration Room	4	90	360	Accommodate at least 60-75 Students
Lecture Theatre				As per item A.1.5.
Practical rooms				125 students
Amphibian laboratory		300	300	Preparation room 14 sqm
Mammalian laboratory		120	120	Preparation room 14 sqm
Human Laboratories				
Haematology Lab.		250	250	Preparation room 14 sqm
Clinical Physiology Laboratory		120	120	Preparation room 14 sqm
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	3	15	45	
Asst. Prof./Lecturer	4	20	80	
Tutor/Demonstrators	6	20	120	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
BIOCHEMISTRY				
Demonstration Room	4	90	360	Accommodate at least 50-60 Students
Lecture Theatre				As per item A.1.5
Practical rooms	1	375	375	Two Ante rooms (14 Sq.m. area) each

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Accommodation for Staff				

Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	3	20	20	
Tutor/Demonstrators	5	12	60	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
PATHOLOGY				
Demonstration Room	4	90	360	Accommodate at least 60-75 Students
Practical Laboratories				
Blood bank	1	100	100	Two Ante rooms (14 Sq.m. area) each
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Museum		150	150	
Autopsy Block		500	500	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	4	15	60	
Asst. Prof./Lecturer	5	20	100	
Tutor/Demonstrators	8	20	160	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Blood bank		100	100	
Histopathology/cytopathology		375	375	

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Separate service laboratory		40	40	
Department Total				
Microbiology				
Service Laboratory	7	40	280	Each for Bacteriology,
				Serology, Virology,
				Parasitology, Mycology,
				Tuberculosis and

				Immunology
Lecture Theatre				As per item A.1.5.
Demonstration room	4	90	360	
Practical laboratories		375	375	a preparation room (14 sq. m. area)
Departmental Library		30	30	at least 80-100 books with 2 copies
Research		50	50	
Museum		120	120	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	3	15	45	
Asstt. Prof./Lecturer	3	20	60	
Tutor/Demonstrators	6	20	120	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
PHARMACOLOGY				
Demonstration Room	4	90	360	Accommodate at least 60-75
				Students
Lecture Theatre				As per item A.1.5.
Practical laboratories		300	300	
Experimental Pharmacology		150	150	one ante-room (14 sq.m. area) for technicians
Departmental Library		30	30	at least 80-100 books, 2 copies of each
Practical laboratories		300	300	
Research		50	50	
Museum		175	175	
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	3	15	45	
Asst. Prof./Lecturer	3	20	60	
Tutor/Demonstrators	5	20	100	
Department Office/Clerical Room	1	12	12	

Non-teaching staff room	1	12	12	
Department Total				
Forensic Med. IncludingToxicology				
Demonstration room	4	90	360	Accommodate at least 60-75
				Students
Autopsy Block	1	500	500	
Museum		225	225	
laboratories		250	250	
Department library		30	30	At least 100 books with 2 copies
research		50	50	
Lecture Theatre				As per item A.1.5.

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	1	15	15	
Asst. Prof./Lecturer	3	20	60	
Tutor/Demonstrators	4	20	80	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
Community Medicine				
Demonstration Room	4	90	360	Accommodate at least 60-75 Students
Department library		30	30	At least 100 books with 2 copies
research		50	50	
Museum		175	175	
Primary Health Centre/Rural				
Health Training Centre				
Urban Health Training Centre				
Accommodation for Staff				
Professor & Head	1	18	18	
Asso. Prof./Reader	3	15	45	
Asst. Prof./Lecturer	4	12	48	

Statistician-cum-Lecturer	1	12	12	
Epidemiologist-cum-Lecturer	1	12	12	
Tutor/Demonstrators	6	20	120	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total				
COLLEGE TOTAL				
TEACHING HOSPITAL				

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
Dean's Room		36	36	
Medical Superintendent's Room		36	36	
Hospital offices for the supportive		150	150	
staff				
Central medical record section				
Reception store rooms waiting space for visitors enquiry office drinking water facility toilet facilities		600	600	For 250 persons
Central Medical Record Section		350	350	
Linen Rooms				
Hospital & Staff Committee Room		120	120	
Central Lecture Theatre of Gallery Type				Seating capacity of 300
Central Registration and Statistics Department				
Central Laboratories				
Central Casualty Department				
(Incl. Minor O.T.)				
Central Hospital Pharmacy		100	100	
Central Kitchen		200	200	
Incinerating Plant		40	40	

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. m.) Each	(Sq. m.)	
(1)	(2)	(3)	(4)	(5)
CLINICAL DEPARTMENTS INDOOR				
General ward	30			As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services As per Inpatient department table
Nurses station	21			
Examination room				
Treatment room				
Store room				
Resident doctors				
Students duty room				
Clinical demonstration room				
HOD room				
Other unit staff				
Clinical demonstration room				
OPERATION THEATRE				
waiting area				Two such units may be provided for General Surgery, one for ENT; one for Orthopaedics; one for Ophthalmology and one for Obstetrics and Gynaecology and one for septic cases.
preparation room				
OT				
post OT				
soiled linen room				
Instrument room				
Sterilisation room				
Nurses room				
Surgeon's and anesthatic room (sep. M and F)				
Assistant room				
Observatory gallery for students				
stores				
Washing room for surgeons and assistants				
Students washing up and dressing up room				
ADDITIONAL SPACE FOR ENDOSCOPY				
Minor OT				
CENTRAL STERILISATION SERVICES				
LAUNDRY				

DEPARTMENT OF RADIO-DIAGNOSIS				
Ultrasound Room		15	15	
Room for 300mA, 500mA, 600mA. I.I.T.V. System, Fluroscopy System		36	36	
Mobile X-ray system		15	15	
CT Scan		80	80	
Magentic Resonance Imaging (MRI) system		As per std. specification	As per std. specification	
Store room for X-Ray films		15	15	
Museum		25	25	
Waiting room				
demonstration room				
DEPARTMENT OF ANAESTHESIOLOGY				
HOD office				
Staff room				
Clinical demonstration room				
Departmental library-cum-seminar room		30	30	
DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION 2500sqm				

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. M.)	(Sq.	
		Each	m.)	
(1)	(2)	(3)	(4)	(5)
Waiting area				As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services As per Outpatient department table
Enquiry and record room				
Four examination cubicle				
dispensary				
Dressing room				
Ophthalmic section				
Refraction room				
Dark room				
Dressing room				
Orthopaedic room				
ENT				
Sound proof Audiometry room				
Eng laboratory				
Speech therapy				
paediatric				
Child Welfare including Immunization				
Clinic child guidance clinic				
Child rehabilitation clinic				
Obstetric and gynaecology				
Antenatal,family welfare clinic				
Clinic sterility clinic				
Cancer detection clinic				
Additional students room attatched to labour rooms				
Dental section				
Dental surgery				
Prosthetic dentistry				
Reception and waiting hall				
Seminar room				

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. M.)	(Sq.	
		Each	m.)	
(1)	(2)	(3)	(4)	(5)
Central laboratories				As per 10905 (Part-1) 1984 in table for Part 1 : Admistrative and hospital building
Cenral casualty department				
Central hospital pharmacy				
Dispensary				
Drug and poison information service				
Central kitchen				
Hospital waste management				
Staff quarters				
Central hospital stores				
Hostel for students				

Clinical Departments in the Hospital (No. of Beds requried for 250 admission annual is 500):-

		Beds/Units	
General Medicine		240/8	
Paediatrics		120/4	
TB & Respiratory Diseases		50/2	
DVL		30/1	
Psychiatry		30/1	
General Surgery		240/8	
Orthopaedics		150/5	
Opthalmology		60/2	
ENT		30/1	
Obstetrics		70	
Gynaecology		60	
Postpartum		20	7 Sq. M. per bed
		150/5	1.5 m. distance b/w 2 beds;
			Bed width 1m’
Department Total		1100/37	

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. M.)	(Sq.	
		Each	m.)	
(1)	(2)	(3)	(4)	(5)
Clinical Departments - Indoor				
Accommodation for Nurses				
Duty Room		20	20	
Laboratory for routine examinations		15	15	
Examination and treatment room		15	15	
Ward pantry		15	15	
Store room for linen and other equipments		15	15	
Residents Doctors & Students duty room		20	20	
Office for Heads of each department & Heads of Units		20	20	
Room for Other Unit Staff		20	20	
Clinical Demonstration Rooms(at least one for each department		20	20	
Operation Theatre Unit				
Waiting room for patients Preparation		15	15	
Preparation room		15	15	
Operation Theatre				
Post-operative recovery		75	75	
Soiled Linen room		30	30	
Instrument Room		15	15	
Sterilisation Room		15	15	
Nurses Room		15	15	
Surgeon's and Anaesthetist's room	2	20	40	
Assistant's Room		20	20	
Observation Gallery for students Store rooms		60	60	
Store rooms		15	15	
Dressing up room		10	10	

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. M.)	(Sq.	
		Each	m.)	
(1)	(2)	(3)	(4)	(5)
Washing room		10	10	
Central Sterilisation Unit		10	10	
Laundary		10	10	
Total for 10 O.T.s				
Labour Room				
Waiting room for patients Preparation		15	15	
Preparation room Labour Room		15	15	
Labour Room		100	100	
Post Partum Recovery		75	75	
Soiled Linen room		15	15	
Instrument Room		15	15	
Sterilisation Room		15	15	
Nurses Room		20	20	
Surgeon's and Anaesthetist's room	2	20	40	
Assistant's Room		20	20	
Observation Gallery for students Store rooms		30	30	
Store rooms		15	15	
Dressing up room		10	10	
Washing room		10	10	
Eclampsia Room		75	75	
Laundary		10	10	
Total for Labour Room				

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. M.)	(Sq.	
		Each	m.)	
(1)	(2)	(3)	(4)	(5)
Accommodation for the Anaesthesia Department in Operation Theatres				
Office for HOD & Heads of Units		20	20	
Accommodation for other unit		20	20	
staff				
Clinical Demonstration Rooms		20	20	
Departmental library		30	30	50 students seating capacity
Department Total				
Optional Departments				
Radiotherapy				
Teletharapy Unit		100	100	
Intracavitory Treatment room		50	50	
Endocavitory surface mould therapy room		50	50	
Mould room		50	50	
Planning Room		50	50	
Room for metalling treatment		50	50	
Record room		100	100	
Medical physical laboratory		50	50	
Outpatient waiting room		200	200	
Indoor bed (30 beds)		200	200	
daycare		70	70	
Department Total				
Physical Medicine & rehabilitation		2500		

BUILT UP AREA REQUIREMENTS (250 ADMISSIONS & 1100 BEDDED)

ITEM DETAILS	No.	AREA	Total	Remarks
		(Sq. M.)	(Sq.	
		Each	m.)	
(1)	(2)	(3)	(4)	(5)
Clinical Departments - Outdoor				
Enquiry and record room				For each department As per 10905 (Part-2) 1984 in table for Part 2 : Medical and hospital services As per Outpatient department table
waiting /reception space for patients and attendants				
Examination rooms and case				
demonstration rooms for each	4			
Dispensary				
Dressing room in surgery & its specialities				
Refraction rooms,				
dark rooms				
dressing rooms in Opthalmic Deptt.				
Plaster room				
plaster cutting room in Orthopaedics Deptt.				
Sound proof audiometry room				
ENG Lab				
speech therapy rooms in ENT Deptt.				
Child welfare,				
immunization room etc. in paediatrics Deptt.				
Antenatal				
family welfare				
sterility cancer detection				
clinics in OBG Deptt.				
Dental Section				
A seminar room for students				
Reception and waiting hall for patients				
OPD TOTAL				
HOSPITAL TOTAL				
Residential Quarters/Hostels				
Qtrs. @20% teaching				
Qtrs. @ 20% Non teaching				

Nurses @ 20%				
Residents @ 100 %				
Interns @ 100 %				
Hostels for 825 students (i.e. @ 75% of 1100)				
TOTAL RESIDENTAIL				
COMPLEX				
TOTAL				
ADD 15 %				
GRAND TOTAL				

Minimum Standard Requirements for General Nursing & Midwifery (GNM)

(Indian Nursing Council, 2018)

https://www.indiannursingcouncil.org/pdf/guidelines-for-ANM.pdf

The following Establishments / Organizations are eligible to Establish / Open a General Nursing and Midwifery School of Nursing (GNM School).

a. Central Government/State Government/Local body;
b. Registered Private or Public Trust;
c. Organisations Registered under Societies Registration Act including Missionary Organisations;
d. Companies incorporated under section 8 of Company's Act;

The eligible Organizations / Establishments should have their own 100 bedded Parent Hospital. Provided that in respect of Tribal and Hilly Area the requirement of own Parent Hospital is exempted.

- Tribal area – Scheduled notified area; [Areas as the President of India may by order declare to be Scheduled Areas;]
- Hilly area – North East States, Jammu & Kashmir, Himachal Pradesh & Uttarakhand.

S. No.	TEACHING BLOCK	AREA
1.	Class rooms	As per std.
2.	Laboratories	As per std.
3.	Multipurpose hall	As per std.
4.	Library	As per std.
	a. Principal's Office	As per std.
	b. Office for V ice-Principal	As per std.
	c. Faculty Room	As per std.
	d. Staff Room	As per std.
5.	Common Rooms	As per std.
6.	Audio-Visual Aids Room & Store Room	As per std.
7.	Other Facilities	As per std.
8.	Garage	As per std.
9.	Fire Extinguisher	As per std.
10.	Playground	As per std.
11.	Faculty Room	As per std.
12.	Provisions for Toilets	As per std.

Teaching Block

The School of Nursing should have a separate building/teaching block. For a School with an annual admission capacity of 40-60 students, the constructed area of the School should be 20000 square feet. The School of Nursing can be in a rented/leased building for first two years.

After two years institute shall have own building in an institutional area. Otherwise Rs.50, 000 penalty has to be paid for every year for 3 years.

During the penalty period if the institute is not able to construct own building the permission/ suitability will be withdrawn and will be taken as a fresh proposal.

Adequate hostel/residential accommodation for students and staff should be available in addition to the above mentioned built up area of the Nursing School respectively. The details of the constructed area are given below for admission capacity of 40-60 students.

S. No.	TEACHING BLOCK	AREA (FIGURES IN Sq feet)
1.	Lecture Hall	3 @ 900 = 2700
2.	(i) Nursing foundation lab	1500
3.	(ii) CHN & Nutrition Lab	900
4.	(iii) Advance Nursing Skill Lab	900
5.	(iv) OBG and Paediatrics lab	900
6.	(v) Pre-clinical science lab	900
7.	(vi) Computer Lab	1500
8.	Multipurpose Hall	3000
9.	Common Room (Male & Female)	1000
10.	Staff Room	1000
11.	Principal Room	300
12.	Vice Principal Room	200
13.	Library	1800
14.	A.V. Aids Room	600
15.	Faculty Room	1800
16.	Provisions for Toilets	1000
	Total	20000 Sqr. Ft.

Hostel Block

Hostel Provision is Mandatory and shall also be owned by the institute within the period of two years.

S. No.	Hostel block	Area (figures in Sq feet)
1.	Single Room	9000 (50 sq.ft. for each students)
	Double Room	
2.	Sanitary	One WC & One Bath room (for 60 students) – 600 x 3 = 1800
3.	Visitor Room	500
4.	Reading Room	250
5.	Store	500
6.	Recreation Room	500
7.	Dining Hall	3000
8.	Kitchen & Store	1500
9.	Warden's Room	450
	Total	17500 Sqr. Ft.

Grand Total (total requirement for the nursing programme) : -

20000 (Teaching Block) + 17500 (Hostel Block) = 37500 Sqr. Ft.

Nursing Teaching Faculty

Qualification of Teaching Staff for General Nursing and Midwifery programme with 40 students intake:

S. No.	Teaching Faculty	Qualification & experience	No. Required
1.	Principal	M.Sc. Nursing with 3 years of 1 teaching experience or B.Sc. Nursing (Basic) / Post Basic with 5 years of teaching experience.	1
2.	Vice-Principal	M.Sc. Nursing or B.Sc. 1 Nursing (Basic) / Post Basic with 3 years of teaching experience.	1
3.	Tutor	M.Sc. Nursing or B.Sc. Nursing (Basic/Post Basic) or Diploma in Nursing Education and Administration with 2 years of professional experience.	10
4.	Additional Tutor for Interns	M.Sc. Nursing or B.Sc. 2 Nursing (Basic/Post Basic) or Diploma in Nursing Education and Administration with 2 years of professional experience.	2
		Total	14

Clinical Establishment (Registration & Regulation) Act, 2010

Clinical Establishment (Registration & Regulation) Act, 2010

Introduction

The Clinical Establishments (Registration and Regulation) Act, 2010 has been enacted by the Central Government to provide for registration and regulation of all clinical establishments in the country with a view to prescribe the minimum standards of facilities and services provided by them. The Act has taken effect in the four States namely, Arunachal Pradesh, Himachal Pradesh, Mizoram, Sikkim, and all Union Territories except the NCT of Delhi since 1st March, 2012 vide Gazette notification dated 28th February, 2012. The States of Uttar Pradesh, Uttarakhand, Rajasthan, Bihar, Jharkhand, Assam and Haryana have adopted the Act under clause (1) of article 252 of the Constitution.

The Ministry has notified the National Council for Clinical Establishments and the Clinical Establishments (Central Government) Rules, 2012 under this Act vide Gazette notifications dated 19th March, 2012 and 23rd May, 2012 respectively.

The Act is applicable to all types (both therapeutic and diagnostic types) of Clinical Establishments from the public and private sectors, belonging to all recognized systems of medicine, including single doctor clinics. The only exception is Clinical Establishments run by the Armed forces.

One can acquire the minimum standard requirements for various healthcare facilities from the following links:

For Allopathic Healthcare Facilities

http://clinicalestablishments.gov.in/En/1070-draft-minimum-standards.aspx

These include the following Facilities:

- Health Checkup Centre
- Integrated Counselling Centre
- Dietetics
- Hospital (Level 1)
- Hospital(Level 2)
- Hospital(Level 3)
- Mobile Clinic Only Consultation
- Mobile Clinic With Procedure
- Mobile Dental Van
- Dental Lab
- Physiotherapy Centre
- Clinic/Polyclinic Only Consultation
- Clinic/Polyclinic With Diagnostic Support

For Speciality/Super Speciality Specific

http://clinicalestablishments.gov.in/En/1076.aspx

These include the following:

- Anesthesiology
- Pediatrics(Hospital)
- Pediatric(Clinic)

- Burn Care Facility(Hospital)
- Plastic Surgery(Hospital)
- Plastic Surgery(Clinic)
- Cardiology(Hospital)
- Cardiology Services(Clinic)
- Dental Set Up -Stand Alone/Hospital Set Up
- Dermatology(Hospital)
- Dermatology(Clinic)
- STD Clinic
- Gastroenterology(Hospital)
- Gastroenterology Services(Clinic)
- Gi Surgery(Hospital)
- Gi Surgery(Clinic)
- General Surgery(Hospital)
- General Surgery(Clinic)
- Medicine And Geriatric(Hospital)
- Medicine And Geriatric (Clinic)
- Endocrinology(Hospital)
- Endocrinology(Clinic)
- Neurology(Hospital)
- Neurology(Clinic)
- Neurosurgery(Hospital)
- Neurosurgery Services(Clinic)
- Gynae And Obstetrics Indoor Services(Hospital)
- Gynae And Obstetrics (Clinic)
- Orthopedic(Hospital)
- Orthopedic Services (Clinic)
- Otorhinolaryngology (Hospital)
- Otorhinolaryngology Services (Clinic)
- Deaf And Dumb Clinic
- Psychiatry Services (Hospital)
- Psychiatry Services (Clinic)
- Deaddiction Centre
- Ophthalmology (Hospital)
- Ophthalmology Services (Clinic)
- Optometrist Services
- Urology (Hospital)
- Urology Services (Clinic)
- Nephrology (Hospital)
- Nephrology (Clinic)

- Dialysis Centre
- CTVS (Hospital)
- CTVS(Clinic)
- Radiotherapy
- Medical Diagnostic Laboratories
- Imaging Centres - X-Ray Clinic / Cath lab / DSA / OPG And Dental / DEXA Scan
- Imaging Centres - Sonography (Color Doppler) Clinic
- Imaging Centres - CT Scan Centre / PET CT Scan
- Imaging Centres - MRI
- Rheumatology
- Rheumatology Clinic Polyclinic
- Pulmonology
- Pulmonology Clinic
- Medical Oncology Clinical Hematology
- Medical Oncology Clinical Hematology Clinic Policlinic
- Gynecological Oncology
- Gynecological Oncology Clinic Polyclinic
- Surgical Oncology
- Surgical Oncology Clinic Polyclinic
- Neonatology
- Neonatology Clinic
- Pediatric Surgery
- Pediatric Surgery Clinic Polyclinic
- PMR Clinic
- Palliative Care
- Annexure for Hospital and Clinical
- Annexure for Dental Clinical Establishments

For AYUSH Healthcare Facilities

http://clinicalestablishments.gov.in/En/1075-ayush.aspx

These include the following:

- Ayurveda
- Homeopathy
- Naturopathy
- Siddha
- Sowa-Rigpa
- Unani
- YOGA

Green Building Ratings: Relevant Recommendations

Green Building Ratings: Relevant Recommendations

Green Building Recommendations for Hospitals

Sustainable development is the necessity for the very existence of human beings. Buildings consume large resources, both during construction and their operational period. Therefore, sustainable approach must be considered while planning, constructing and maintaining buildings.

With changing climatic conditions and increasing energy load, it becomes absolutely necessary for the buildings to be energy efficient. The recent few years have seen a rise in Green Buildings in the country. The concept generally includes energy efficiency, water efficiency and comfort level for the occupants. This id defined through efficient architectural design, sustainable building materials, energy efficient equipment, indoor air quality, water conservation and prevention of wastage.

Now there are many Green Building Ratings in the market i.e. CPWD's Green Rating Manual, GRIHA, LEED, IGBC and GEM Sustainability Certification.

CII's Technical Bulletin on Green Buildings talks about Green Healthcare Facilities.

https://igbc.in/igbc/html_pdfs/technical/Green%20Hospitals.pdf

(IGBC, 2012)

Some of its key recommendations are as follows:

Benefits of green hospital

- Can reduce patient recovery time.
- Eliminate sick building syndrome (SBS).
- Reduce stress levels in hospital workers, thus improving quality of care.
- Lower energy and water consumption.

Focus areas of green hospital design

- Lighting
- Indoor air quality-passive and active measures.
- Green house keeping
- Clean and green cleaner building, material.
- Gardens and landscape.

Lighting

A good hospital design should maximize the daylight and optimize the artificial lighting requirement.

Daylighting is the controlled admission of natural light from the sky, (direct and diffused) into a building, so as to reduce the use of electrical energy for lighting.

Artificial lighting is required in the sensitive areas of the hospital-including OTs, medical dispensaries- interior corridor and passages .however with energy costs and high initial investment, it is imperative to reduce operational cost of lighting in hospital – by combining natural lighting and efficient artificial lighting.

Benefits of lightings and views in hospital:

- Daylighting has been proven to have a positive effects on the patients in hospital.

- Enhance health and well-being of the patients and reduce the stress level of hospital employees, thus improving quality of care.
- Combats seasonal effective disorder, or winter depression, through view connectivity to natural vistas.
- Improves facility's overall operational efficiency.

Few of the passive design aspects to enhance natural lighting in hospitals:

- Design glazing facade so as to have both view and daylight.
- Install translucent skylight having soothing colours.
- Have transparent and operable opening to green courtyards.
- Consider ledge seating at windows - engaging nature in the curative process.

Few of the design aspects to enhance efficiency of artificial lightings in hospitals.

- Use occupancy sensors in passage-ways, storage rooms, labs, etc.
- Install low energy LED lighting to save on indoor lighting energy cost up to 40%.
- Use task lightings to provide illuminations in task areas like consulting rooms, labs, wards.

Type of Room	LPD (Lighting Power Density) (W/sq.ft)
Emergency	2.7
Recovery	0.8
Nurse Station	1.0
Examination /Treatment	1.5
Pharmacy	1.2
Patient Room	0.7
Operating Room	2.2
Nursery	0.6
Medical Supply	1.4
Physical Therapy	0.9
Radiology	0.4
Laundry-Washing	0.6

Figure 12 Recommended Lighting Levels for Hospitals (ASHRAE 90.1-2007)

Indoor Air Quality

As restoring and safeguarding is the main purpose of healthcare facilities, indoor air quality is considered critical to green hospital.

The following parameters may be followed for good indoor environment:

- Install permanent entry ways systems to capture dust particle like slotted systems, gates or grills at the primary entrances.
- Use certain species of indoor plants which not only produce oxygen but also reduce indoor pollutants like VOCs from air.
- Improve fresh air by providing courtyard spaces with native and adaptive plant species, which are free from any allergic effects.
- Use zero VOC indoor material.

Applications	Estimated Occupancy/ 100 Sq.m	Outdoor Air Requirements		Comments
		CFM/ Person	CFM/ Sq.ft	
Patient Rooms	10	25		Procedures generating contaminants may require higher rates
Medical Procedure	20	15		
Operating Rooms	20	30		
Recovery and ICU	20	15		
Autopsy Rooms	20		0.5	Air shall not be re-circulated into other spaces
Physical Therapy	20	15		

Figure 13 Outdoor Fresh Air requirements for Ventilation of Health Care Facilities (In Cubic Feet per Minute-CFM)

Green Housekeeping

Accumulation of dust, soil and microbial contaminants on surfaces is a potential source of nosocomial (hospital borne) diseases. Effective and efficient cleaning methods and schedule are therefore necessary to maintain a clean and healthy environment in healthcare buildings.

Today housekeeping policies and procedures increasingly bring in a focus in making a positive environmental impact. Typical measures include:

- Insist on cleaning products that meet environmental standards
- Provide personnel training for safe handling and disposal of Hospital waste
- Consider water recycling, wherever feasible

Clean and Green Interior Building Materials

Hospitals may inadvertently contribute to illness by exposing patients and staff to a host of pathogenic germs and toxins that enter the hospital premises through the medium of a large number of infected patients.

- Ensure that the hospital surfaces have the property of repelling or resisting the growth of pathogenic germs and bacteria. Patented interior surfaces are now available which resists bacterial and fungal growth. These include countertops, tiles, vinyl flooring, etc.
- Use indoors and flooring which do not emit/absorb/re-release indoor pollutants such as VOCs and dust.

Gardens and Landscaping

Gardens and Landscapes are an aesthetic delight and promotes wellness of patients in hospitals. Persons exposed to plants have higher levels of positive feelings (pleasantness, calm) as opposed to negative feelings (anger, fear).

IGBC Green Healthcare rating system

https://igbc.in/igbc/html_pdfs/abridged/IGBC%20Green%20Healthcare%20Facilities%20Rating%20System-%20Pilot%20Version.pdf

(IGBC, 2016)

It addresses green features under the following categories:

- Indoor Environmental Quality
- Sanitization & Hygiene
- Energy Efficiency
- Water Conservation
- Site Selection and Planning
- Building Materials and Resources
- Innovation in Design ProcessGr

IGBC Green Healthcare Rating- Checklist

Indoor Environmental Quality & Well being

Module		New Health Care Facility	Existing Health Care Facility
IEQ Mandatory Requirement 1	Minimum Fresh Air Ventilation	Required	Required
IEQ Mandatory Requirement 1	Tobacco Smoke Control	Required	Required
IEQ Credit 1.1	Healing Architecture- Day lit Spaces	2	2
IEQ Credit 1.2	Healing Architecture- Connectivity to Nature	2	2
IEQ Credit 1.3	Healing Architecture- Green Open Spaces	2	2
IEQ Credit 1.4	Healing Architecture- Healing Garden	2	2
IEQ Credit 1.5	Healing Architecture- Colour Psychology	2	2
IEQ Credit 2	Acoustical Design	3	3
IEQ Credit 3	Ergonomics	2	2
IEQ Credit 4	Stress Relieving Spaces	2	2
IEQ Credit 5	Low Emitting Materials	4	4
IEQ Credit 6	Building Flush out, During Construction & Before Occupancy	1	NA
IEQ Credit 7	Air Quality Monitoring & Testing, After Occupancy	1	2
		23	23

Sanitation & Hygiene

Module		New Health Care Facility	Existing Health Care Facility
SH Mandatory Requirement 1	Municipal Solid Waste Management, Post Occupancy	Required	Required
SH Mandatory Requirement 1	Bio Medical Waste Management, Floor & Centralized Level	Required	Required
SH Credit 1	Infection Control within the spaces	5	5
SH Credit 2	Isolation Room	2	2
SH Credit 3	Sanitation Design & Cleaning Practices	3	3
SH Credit 4	Automated Solid Waste Management System	2	NA
SH Credit 5	Organic Waste Management	2	2
		14	12

Energy Efficiency

Module		New Health Care Facility	Existing Health Care Facility
EE Mandatory Requirement 1	Ozone Depleting Substances	Required	Required
EE Mandatory Requirement 2	Minimum Energy Efficiency	Required	Required
EE Mandatory Requirement 3	Commissioning Plan for Building Equipment & Systems	Required	NA
EE Credit 1	Eco-friendly refrigerants	1	1
EE Credit 2	Enhanced Energy Efficiency	12	12
EE Credit 3	On-site Renewable Energy	5	5
EE Credit 4	Off-site Renewable Energy	2	2
EE Credit 5	Commissioning, Post-installation of Equipment & Systems	1	NA
EE Credit 6	Energy Metering & Management	2	2
		23	22

Water Conservation

Module		New Health Care Facility	Existing Health Care Facility
WC Mandatory Requirement 1	Rainwater Harvesting, Roof & Non-Roof	Required	Required
WC Mandatory Requirement 2	Water Efficient Plumbing Fixtures	Required	Required
WC Credit 1	Rainwater Harvesting, Roof & Non-Roof	3	3
WC Credit 2	Water Efficient Plumbing Fixtures	5	5

WC Credit 3	Landscape Design	2	2
WC Credit 4	Management of Irrigation Systems	1	1
WC Credit 5	Waste Water Treatment and Reuse	3	3
WC Credit 6	Water Metering	1	1
		15	15

Building Materials and Resources

Module		New Health Care Facility	Existing Health Care Facility
BMR Mandatory Requirement 1	Handling of Waste materials during Construction	Required	NA
BMR Credit 1	Sustainable Building Materials	3	NA
BMR Credit 2	Certified Green Building Materials, Products & Equipment	5	5
BMR Credit 3	Eco-friendly Furniture and Medical Furnishing	1	1
		9	6

Site Selection and Planning

Module		New Health Care Facility	Existing Health Care Facility
SSP Mandatory Requirement 1	Local Building Regulations and Safety Compliance	Required	Required
SSP Mandatory Requirement 2	Soil Erosion Control	Required	Required
SSP Credit 1	Integrated Design Process	1	NA
SSP Credit 2	Passive Architecture	2	NA
SSP Credit 3	Value Added Services	1	1
SSP Credit 4	Proximity to Public Transport	1	1
SSP Credit 5	Low Emitting Vehicles	1	1
SSP Credit 6	Heat Island Reduction, Non Roof	1	1
SSP Credit 7	Heat Island Reduction, Roof	1	1
SSP Credit 8	Outdoor Light Pollution Reduction	1	1
SSP Credit 9	Universal Design	1	1
SSP Credit 10	Basic Facilities for Construction Workforce	1	NA
		11	7

Innovation in Design Process

Module		New Health Care Facility	Existing Health Care Facility
IEQ Credit 1.1	Innovation in Design Process	1	1
IEQ Credit 1.2	Innovation in Design Process	1	1
IEQ Credit 1.3	Innovation in Design Process	1	1
IEQ Credit 1.4	Innovation in Design Process	1	1
IEQ Credit 2	IGBC Accredited Professional	1	1
		5	5
	GRAND TOTAL	100	90

Master Plan of Delhi (MPD 2021): Relevant Provisions

Master Plan of Delhi (MPD 2021): Relevant Provisions

(Delhi Development Authority, 2007)

Social Infrastructure (Health)

The capital city is strategically located and has many specialised health facilities, which serve the city population as well as that of the region, and in many respects the country as a whole. As per available statistics, there are 23 types of health units (facilities) in Delhi. The total numbers of health units are 1914 and the number of beds is 30,667.

The existing bed density per thousand population in Delhi works out to only 2.2. The World Health Organization (WHO) has recommended a norm of 5 beds per thousand population. It is estimated that the total number of beds required in the year 2021 will be about 1,15,000.

The following broad strategies are proposed in order to meet the requirements of health related infrastructure:

i. Shortfall in the availability of number of beds per 1000 population is proposed to be met through
   - Enhancement in FAR for various levels of health facilities;
   - Promoting rebuilding of the existing old hospitals and;
   - Shifting of contagious diseases hospitals from existing urban areas to the proposed urban extension with proper seclusion facilities and connectivity, and using the space thus made available for general hospitals.

ii. Essential provisions shall be made for Old Age Home-cum-Care Centres for Senior Citizens and Mentally Challenged by way of specialised / target group oriented facilities, which will also relieve the pressure on general hospitals to some extent.

iii. Premises earmarked for health facilities should also include other medical streams like Ayurvedic / Homeopathic medicine, governed by any statutory code / body.

iv. Complementary health facilities at par should be developed in the NCR to reduce burden on Delhi.

There shall be following 5-tiers health facilities for the city population:

i. Hospitals category:
   a. Category A- 501 beds and above;
   b. Category B- 201 beds to 500 beds;
   c. Category C- 101 beds to 200 beds;
   d. Category D- Upto 100 beds
   e. Other health facilities, which include maternity home, nursing home, family welfare centre, polyclinic, paediatrics centre, geriatric centre, diagnostic centre, etc.

ii. For health care of animals and pets the following 3 tier of health facilities has been proposed:
   a. Veterinary Hospitals for pet / domestic animals and birds shall be provided as per need.
   b. Dispensary for pet animals and birds shall be provided in all the zones at Community Level.
   c. Pet clinic is permitted in all land use zones except in Recreational use zone.

Sl. No.	Category	Population / Unit	Plot Area (approx.)
1	Hospital A (501 beds & above)	5.0 lakh	2.5 ha to 4.5 ha
2	Hospital B (201 beds to 500 beds)	2.5 lakh	1.5 ha to 2.5 ha
3	Hospital C (101 beds to 200 beds)	1.00 lakh	0.5 ha to 1.0 ha
4	Hospital D (Upto 100 beds)	1.00 lakh	0.25 ha to 0.5 ha
5.	Other Health Facilities		
	a. i) Maternity Home ii) Nursing Home / Polyclinic iii) Dispensary	1 per 50000 1 per 50000 1 per 10000	1000 sqm to 2000 sqm 1000 sqm to 2000 sqm 800 sqm to 1200 sqm
	b. i) Family Welfare Centre ii) Pediatric Centre iii) Geriatric Centre iv) Diagnostic Centre.	1 each per 50000	500 sqm to 800 sqm each
6	a. Veterinary Hospital for pet animals and birds	1 per 5.0 lakh	2000 sq m. (Subject to availability of land)
	b. Dispensary for pet animals and birds	1 per 1.0 lakh	300 sq m.
7	a. Medical College	1 per 10 lakh	As per norms of Medical Council of India / Regulatory Body (subject to availability of land)
	b. Nursing and Paramedic Institute	1 per 10 lakh	2000 sqm (Subject to Nursing Council of India / Ministry of Health norms).
	c. Veterinary Institute	As per requirement	As per the Veterinary Council of India / Ministry norms (subject to availability of land)

Figure 14 Planning Norms and Standards for Health Facilities (MPD 2021)

Sl. No.	Category	Maximum			Other Controls
		Ground Coverage	FAR	Height	
1	Hospital A (501 & above)	30% + additional 5% for multi level parking (not to be included in FAR)	200	37 m.	1. Upto 15% of max. FAR can be utilized for residential use of essential staff. 2. Upto 10% of max. FAR to be kept for dormitory / hostel for attendants of the patients, Crèche etc. 3. Parking standard @ 2.0 ECS / 100 sq m of floor area.
2	Hospital B (201 to 500)				
3	Hospital C (101 to 200)				
4	Hospital D (Upto 100)				
5	Other Health Facilities a. i) Maternity Home ii) Nursing Home / Polyclinic / Dispensary b. i) Family Welfare Centre ii) Pediatric Centre iii) Geriatric Centre iv) Diagnostic Centre.	30%	150	26 m	Parking Standard @ 2.0 ECS/ 100 sqm of floor area.
6	a. Veterinary Hospital for pet animals and birds	30%	150	26 m	Parking standard @ 1.33 ECS / 100 sq m of floor area.
	b. Dispensary for pet animals and birds	35%	100	26 m	Parking standard @ 1.33 ECS / 100 sq m of floor area.
7	a. Medical College	As per norms of Medical Council of India / Regulatory Body			
	b. Nursing and Paramedic Institute	30%	150	26 m	Parking standard @ 2 ECS/100 sqm. of floor area.
	c. Veterinary Institute	As per the Veterinary Council of India / Ministry norms			

Figure 15 Development Controls for Health Facilities (MPD 2021)

Fire Safety in Hospitals

Fire Safety in Hospitals

(National Disaster Management Authority, Govt of India, 2016)

https://ndma.gov.in/images/guidelines/Guidelines-Hospital-Safety.pdf

Scope

Provisions laid down in this chapter shall establish the minimum requirements for a reasonable degree of safety from fire emergencies in hospitals, such that the probability of injury and loss of life from the effects of fire are reduced. All healthcare facilities shall be so designed, constructed, maintained and operated as to minimize the possibility of a Fire emergency requiring the evacuation of occupants, as safety of hospital occupants cannot be assured adequately by depending on evacuation alone. Hence measures shall be taken to limit the development and spread of a fire by providing appropriate arrangements within the hospital through adequate staffing & careful development of operative and maintenance procedures consisting of:

1. Design and Construction;
2. Provision of Detection, Alarm and Fire Extinguishment;
3. Fire Prevention
4. Planning and Training programs for Isolation of Fire; and,
5. Transfer of occupants to a place of comparative safety or evacuation of the occupants to achieve ultimate safety.

Expected Levels of Fire Safety In Hospitals

Hospitals shall provision for two levels of safety within their premises:

1. Comparative Safety: which is protection against heat and smoke within the hospital premises, where removal of the occupants outside the premises is not feasible and/or possible. Comparative Safety may be achieved through:
    a. Compartmentation
    b. Fire Resistant wall integrated in the Flooring
    c. Fire Resistant Door of approved rating
    d. Pressurized Lobby, Corridor, Staircase
    e. Pressurized Shaft (All vertical openings)
    f. Refuge Area
    g. Independent Ventilation system
    h. Fire Dampers
    i. Automatic Sprinkler System
    j. Automatic Detection System
    k. Manual Call Point
    l. First Aid
    m. Fire Fighting Appliances
    n. Fire Alarm System
    o. Alternate Power Supply
    p. Public Address System
    q. Signage
    r. Fire Exit Drills and orders
2. Ultimate Safety: which is the complete removal of the occupants from the affected area to an assembly point outside the hospital building. Ultimate Safety may be achieved through:
    a. Compartmentation

b. Fire Resistant Door of approved rating
c. Protected Lobby, Corridor, Staircase and Shaft
d. Public Address System
e. Signage
f. Fire Drills and orders

Structural Elements of Fire Safety

Open Spaces

1. Hospitals shall make provisions for sufficient open space in and around the hospital building to facilitate the free movement of patients and emergency/fire vehicles.
2. These open spaces shall be kept free of obstructions and shall be motorable.
3. Adequate passage way & clearance for fire fighting vehicles to enter the hospital premises shall be provided.
4. The width of such entrances shall be not be less than 4.5 mtrs with clear head room not less than 5 mtrs.
5. The width of the access road shall be a minimum of 6 mtrs.
6. A turning radius of 9 mtrs shall be provided for fire tender movement.
7. The covering slab of storage/static water tank shall be able to withstand the total vehicular load of 45 tone equally divided as a four point load (if the slab forms a part of path/drive way).
8. The open space around the building shall not be used for parking and/or any other purpose.
9. The Set back area shall be a minimum 4.5 mtrs.
10. The width of the main street on which the hospital building abuts shall not be less than 12 mtrs & when one end of that street shall join another street, the street shall not be less than 12 mtr wide.
11. The roads shall not be terminated in dead ends.

Basements

1. Basements, if provided shall be of type-1 construction and material used shall conform to class A material.
2. Basements shall be used only for parking vehicles and shall be protected with automatic sprinkler systems.
3. Each basement shall be separately ventilated.
4. Each vent shall have a cross-sectional area (aggregate) not less than 2.5% of the floor area spread evenly round the perimeter of the basement.
5. A system of air inlets and smoke outlets shall be provided & clearly marked as “AIR INLET” & “SMOKE OUTLET”.
6. Clear headroom of minimum 2.4 mtrs shall be provided for the entire basement.
7. A minimum ceiling height of any basement shall be 0.9 mtrs and maximum 1.2 mtrs above the average surrounding ground level.
8. The access to the basement shall be separate from the main and alternative staircase providing access and exit from higher floors. Where the staircase continues, in the case of buildings served by more than one staircase, the same shall be of enclosed type serving as a Fire Separation between the basement and higher floors.
9. Open ramps shall be permitted if they are constructed within the building line and surface drainage does not enter the basement.

10. The staircase of the basement shall be of enclosed type having fire resistance not less than 02 hrs & shall be situated at the periphery of the basement to be entered at ground level from the open air and in such a position that smoke from any fire in the basement shall not obstruct any exit serving the ground & upper stores of the building. The staircase shall communicate with the basement through a lobby provided with fire resisting, self closing doors of 02 hrs resistance. Additional stairs shall be provided if travel distance does not meet specifications given in Table 22 of the NBC.
11. For multi-storey basements, one intake duct may serve all basement levels, but each level & basement compartment shall have a separate smoke outlet duct or ducts. The ducts shall have the same fire resistance rating as the compartment itself.
12. Mechanical extractors for smoke venting system from lower basement levels shall also be provided. The actuation of the system shall be incorporated with the detection and sprinkler systems. The performance of the system shall be superior than standard units. (13) Mechanical extractors shall have an interlocking arrangement, so that extractors shall continue to operate and supply fans shall stop automatically with the actuation of fire detection system.
13. Mechanical extractors shall be designed to permit 30 air changes per hour in case of a fire emergency.
14. Mechanical extractors shall have an alternate source of electricity supply.
15. Ventilation ducts shall be integrated with the structure of the building and shall be made out of brick masonry or reinforced cement concrete as far as possible. Wherever this duct intersects the transformer area or an electrical switch board, fire dampers shall be provided.
16. The basement shall not be permitted below the ward block of a hospital.
17. No cut outs to upper floors shall be permitted in the basement.
18. An openable window on the external wall shall be fitted with locks that can be easily opened.
19. All floors shall be compartmented by a separation wall with 2 hrs fire rating, such that
20. each compartment shall have a surface area not exceeding 750 sq. mtr. Floors which are fitted with sprinkler systems may have their surface areas increased by 50%. In long building fire separation wall shall be at distances not exceeding 40 mtrs.
21. Lift/Elevators shall not normally communicate with basements; if, however, Lifts are in communication, the lift lobby of the basement shall be pressurized. A positive pressure between 25 & 30 Pascal (Pa), shall be maintained in the lobby & a positive pressure of 50 Pa shall be maintained in the Lift shaft. The mechanism for pressurization shall act automatically with the Fire Alarm. Provision shall be made to operate the system manually as well. The Lift car door shall have a Fire resistance rating equal to the Fire resistance of lift enclosure. The material used for interior finishing shall conform to class-1 materials.

Means of Escape/Egress

A means of escape/egress is a continuous and unobstructed way to exit from any point in a building or structure to a public way. Three separate and distinct parts of an escape/egress are:

a. The Exit access,
b. The Exit, and
c. The Exit discharge.
    1. A means of Escape/egress comprises the vertical and horizontal travel and shall include intervening room spaces, doorways, hallways, corridors, passageways, balconies, ramps, stair enclosures, lobbies, and horizontal exits leading to an adjoining building at the same level.

2. The exits in Healthcare facilities should be limited to doors leading directly outside the building, internal staircases and smoke proof enclosures, ramps, horizontal exits, external exits and exit passage.
3. Exits shall be so arranged that they may be reached without passing through another occupied unit.
4. Vertical evacuation of occupants within a health care facility is difficult and time consuming. Therefore, horizontal movement of patient is of primary importance. Because of the time required to move patients, exit access routes should be protected against Fire effects. Spaces open to the corridors shall neither be used for patients' sleeping, as treatment rooms nor for storing hazardous material.

Internal Staircases

1. Internal staircases shall be constructed with non-combustible materials
2. Internal stairs shall be constructed as self-contained units along an external wall of the building constituting at least one of its sides and shall be completely closed
3. A staircase shall not be arranged around a Lift shaft.
4. Hollow combustible construction shall not be permitted
5. The construction material shall have 02 hrs fire resistance.
6. Minimum width of stairs shall be 2 mtrs.
7. Width of the tread shall not be less than 300 mm.
8. The height of the riser shall not be less than 150 mm and the number of stairs per flight shall not exceed 15
9. Handrails shall be provided at a height of 1000 mm, which is to be measured from the base of the middle of the treads to the top of the handrails.
10. Banisters or railings shall be provided such that the width of staircase is not reduced.
11. Minimum head room in a passage under the landing of a staircase and under the staircase shall be 2.2 mtrs.
12. The staircase shall be continuous from ground floor to the terrace and the exit door at the ground level shall open directly to the open spaces or a large lobby.
13. The number of people in between floor landings of staircases shall not be less than the population on each floor for the purpose of the design of the staircase.
14. Fire/Smoke check doors shall be provided for a minimum of 2 hrs fire resistance rating.
15. (15) Lift openings and any other openings shall not be permitted.
16. (16) No electrical shaft and panel, AC ducts or gas pipelines, etc. shall pass through or open onto the staircases.
17. No combustible material shall be used for decoration/wall panelling in the staircases.

Protected Staircases

Provisions given for internal staircases shall apply to protected staircases. Also, additional safeguards shall be provided as under:

1. The staircases shall be enclosed by walls having 02 hrs fire resistance
2. The external exit doors at ground floor shall open directly onto open spaces or a lobby and Fire & Smoke check doors shall be provided.
3. Protected staircases shall be pressurized. Under no circumstances shall they be connected to a corridor, lobby and staircase which is unpressurized.

4. Pressurization systems shall be incorporated in protected staircases where the floor area is more than 500 sq. mtr. The difference in pressurization levels between staircase and lobby/ corridor shall not be greater than 5 Pa. Where 2 stage pressurization system is in use the pressure difference shall be as under:
   a. In normal conditions - Minimum 8Pa to 15 Pa.
   b. In emergency conditions - 50 Pa.
5. The pressurization system shall be interconnected with the automatic/manual fire alarm system for actuation.

External Staircases

1. External staircases serving as a required means of egress shall be of permanent fixed construction.
2. External staircases shall be protected by a railing or guard. The height of such a guard/railing shall not be less than 1200 mm.
3. External staircases shall be separated from the interior of the building by walls that are fire resistant and have fixed or self closing opening protectives', as required for enclosed stairs. External staircases shall extend vertically from the ground to a point 3 meters above the topmost landing of the stairway or the roof line whichever is lower, and atleast 3 meters horizontally.
4. All openings below and outside the external staircases shall be protected with requisite fire resistance rating.
5. External staircases shall be so arranged to avoid any discomfort/obstruction for persons with a fear of heights, from using them.
6. External staircases shall be so arranged to ensure a clear direction of egress to the street.
7. External staircases shall be continuous from the ground floor to the terrace level
8. The entrance to the external staircases shall be separate and remote from internal staircases.
9. External staircases shall have a straight flight with a width not less than 2 mtrs, a tread not less than 300 mm, a riser not more than 150 mm and the number of risers shall be limited to 15 per flight.
10. The handrail shall have a height not less than 1000 mm and not exceeding 1200 mm.
11. Banisters shall be provided with a maximum gap of 150 mm.
12. Stair treads shall be uniformly slip resistant and shall be free of projections or lips that could trip stair users
13. External staircases used as fire escapes shall not be inclined at an angle greater than 45o from the horizontal
14. Unprotected steel frame staircases shall not be acceptable means of egress; however steel staircases in an enclosed compartment with a fire resistance of 2 hrs will be accepted as means of escape.
15. Elevators constitute a desirable supplementary facility though they are not counted as required exits. Patient's lifts shall have sufficient space for Stretcher trolley.

Horizontal Exits

A horizontal exit implies that the occupants will be transferred from one side of a partition to the other. Essential fire safety provisions for horizontal exits are as follows:

1. Width of the horizontal exits shall be same as the exit doorways.

2. A horizontal exit shall be equipped with at least one fire/smoke door of minimum 2 hrs fire resistance of self closing type. Further they shall have direct access to the fire escape staircase for evacuation.
3. A refuge area of 15 Sq. Mtr. or an area equivalent to 0.3 Sq Mtr. per person for the number of occupants in two consecutive floors, whichever is more, shall be provided on the periphery of the floor or preferably on an open air cantilever projection with at least one side protected with suitable railings/guards with a height not less than 1 mtr.
4. Within the aggregated area of corridors, patient rooms, treatment rooms, lounges, dining area and other low hazards areas on each side of the horizontal exit, a single door may be used in a horizontal exit given that the exit serves one direction only. Such doors shall be swinging doors or a horizontal sliding door.
5. Where there is a difference in the level between areas connected by a horizontal exit, ramps not more than 1 in 10 mtr slope shall be provided. The steps shall not be used.
6. Doors shall be accessible at all times from both sides.
7. A horizontal exit involving a corridor 8 ft or more in width serving as a means of egress from both sides of the doorway shall have the opening protected by a pair of swinging doors arranged to swing in the opposite direction from each other.
8. An approved vision panel is required in each horizontal exit. Center mullions are prohibited.
9. The total exit capacity of other exits (stairs, ramps, doors leading outside the building) shall not be reduced to below one third of the amount that is required for entire area of the building.

Exit Doors

1. Every door and every principal entrance that also serves as an exit shall be so designed and constructed that the way of Exit travel is obvious and direct.
2. Width of the doors shall be minimum 2 mtr and other requirements of the door shall comply with the NBC.
3. Doors shall not be equipped with a latch or lock that requires the use of tool and/or key from the egress side. Mental hospitals are permitted for door locking arrangements.
4. Where door locking arrangements are provided, provision shall be made for the rapid removal of patients by such reliable means as remote control of locks or the keys of all locks made readily available to staff who are in constant attendance.
5. Doors in fire resistant walls shall be so installed that they may be normally kept in an open position, but shall close automatically. Corridor doors opening into the smoke barrier shall be not less than 2000 mm in width. Provision shall also be made for double swing single/double leaf type doors.
6. The fire resistance rating of doors shall meet fire resistance rating of construction material.

Corridors and Passageways

1. The minimum width and height of corridors and passage ways shall be 2.4 mtr. The exit corridor and passage ways shall have a width not less than the aggregate required width of Exit doorways leading from them in the direction of travel to the exterior. Corridors shall be adequately ventilated.
2. Corridor walls shall form a barrier to limit the transfer of smoke,toxic gases and heat.
3. Transfer grills, regardless of whether protected by fusible link operated dampers, shall not be used in corridor walls or doors.
4. Openings if required in corridor walls for specific use, shall be suitably protected.

5. Fixed wired glass opening vision panel shall be permitted in corridor walls, provided they don't exceed 0.84 Sq Mtr in area and are mounted in steel or other approved metal frames.

Compartmentation

1. In buildings or sections occupied by bed ridden patients where the floor area is over 280 Sq Mtr., facilities shall move patients in Hospital beds to the other side of a smoke barrier from any part of such a building or section not directly served by approved horizontal exits from the floor of a building to outside.
2. Any section of the building more than 500 Sq.Mtr. shall be suitably compartmented with fire resistance of not less than 2 hrs.
3. Every storey used by inpatients for sleeping or treatment shall be divided into not less than two smoke compartments
4. Every storey having an occupant load 50 or more persons, regardless of use, shall be divided into two smoke compartments.
5. The size of each smoke compartment shall not exceed 500 Sq Mtrs.

Ramps

1. All ramps shall comply with the applicable requirements for stairways regarding enclosure, capacity and limiting dimensions except in certain cases where steeper slopes may be permitted with inclination less than 1 in 8 (under no condition shall the slopes greater than 1 in 8 be used).
2. Ramps shall be surfaced with approved non skid & non slippery material.

Service Shafts/Ducts

1. Service shafts/ducts shall be enclosed by walls with 2 hr and doors with 1 hr fire resistance rating. All such ducts/shafts shall be properly shielded and facilities shall be available to control fires along these shafts/ducts at all levels.
2. A vent opening at the top of a service shaft shall have an area between one fourth and half of the area of the shaft.
3. Refuge chutes shall have openings at least 1 mtr above the roof level for venting purpose and they shall have an enclosure wall of non combustible material with fire resistance rating of 2 hrs. They shall not be located within the staircase enclosure or service shaft and be as far away from the exit as possible.
4. The inspection panels and doors of air conditioning shafts shall be well fitted, with a fire resistance rating of 1 hr.

Openings in Separation Walls and Floors

1. At the time of designing openings in separation walls and floors particular attention shall be paid to all factors that will help limit the spread of fire through these openings and the fire ratings of these structural members shall be maintained.
2. For type 1 to 3 construction, a door way or opening in a separation wall on any floor shall be limited to 5.6 Sq.Mtr. in area with a maximum height/width of 2.75 mtr. Every wall opening shall be protected with fire resistant doors having the fire rating of not less than 2 hrs. in accordance with accepted standards.
3. Every vertical opening between the floors of a building shall be suitably enclosed or protected as necessary to prevent the spread of fire, smoke and fumes such that there is a reasonable level of safety for the occupants using the means of egress. It shall be ensured to provide a clear height of 2100 mm in the passage/escape path of occupants and thereby limitation of damage to the building and its contents.

Fire Stop or Enclosure of Openings

1. Where openings are permitted for external walls they shall not exceed 3/4th the area of the wall and shall be protected with fire resisting assemblies or enclosures with a fire resistance equivalent to that of the wall in which these are situated. Such assembles and enclosures shall also be capable of preventing the spread of smoke and fumes through the openings so as to facilitate the safe evacuation of building in case of a fire.
2. All openings in the floors shall be protected by vertical enclosures extending above and below such openings. The walls of such enclosures shall have a Fire resistance of not less than 2 hrs. and all openings therein shall be protected with a fire resisting assembly.
3. For type 4 constructions, openings in separation walls or floors shall be fitted with 2 hrs fire resisting assemblies.
4. Openings in the walls and floors which provide access to building services like cables, electrical wiring, telephone cables, plumbing pipe etc. shall be protected by enclosures in the form of ducts/shafts with a fire resistance of not less than 2 hrs.
5. The inspection doors for electrical shafts and ducts shall have fire resistance rating not be less than 2 hrs and all other service shafts and ducts shall have a fire resistance rating not less than 1 hr.
6. Medium and low voltage wiring in shafts/ducts shall either be armoured or run through a metal conduit. The space in between the conduit pipes and the walls/slabs shall be filled by a filler material that has a fire resistance rating of not less than 1 hr. The above parameters shall not be applied on patients and goods lift well opening.

Non-Structural Elements of Fire Safety

Underground Static Water Tank for Fire Fighting

Provisions shall be made for a dedicated fire fighting tank, of suitable capacity as per NBC P-IV, that shall remain full at all times. However, special attention shall be given to calculating the actual capacity of the water tank to ensure its compatibility to the installed fire fighting system.

1. A four way collecting head shall be provided at an easily accessible location near the tank.

Fire Pump Room

1. Provisions shall be made to have a centralized room to house the pumps that supply water to the various fire fighting systems. The pumps shall be as per NBC P-IV.
2. The following pumps shall be installed:
    a. Jockey Pump: An electrically driven centrifugal single/two stage pump of 280 LPM capacity shall be installed to maintain the system pressure upto 7 kg/cm2. They shall be activated automatically whenever the pressure falls below 5.5 kg/cm2.
    b. Main Fire Pump: An electrically driven centrifugal Multi stage pump of 2850 LPM capacity shall be installed to feed the Fixed Fire Fighting System. Provisions shall be made for an alternate electric supply with a changeover switch for this pump.
    c. Diesel Fire Pump: A diesel driven prime mover multi stage pump of 2850 LPM capacity shall be installed to feed the Fixed Fire Fighting system in case of failure to main Fire Pump.

Yard Hydrant

1. Provision shall be made to install a yard hydrant throughout the premises. The distance between two successive hydrants shall not exceed 45 mtr.

Wet Rising Mains

1. A vertical rising main of G.I. C class steel pipeline with an internal diameter of 100 mm shall be provided from the ground floor to the top most floor of the hospital along with hydrant outlets fitted at the height of 0.9 mtr from the flooring at each floor.
2. First Aid hose reels with a diameter of 25 mm and length of 45mtrs, shall be provided at each floor fitted with a 6.5mm diameter shut off type nozzle.
3. An air release valve shall be provided at the top of the rising main.
4. A Fire service inlet shall be provided at the ground floor.

Hose Box

1. A glass front cabinet containing two RRL type delivery hoses, each 15 mtrs in length and with a diameter of 63mm instantaneous coupling fitted with associated branch pipe, shall be provided.

Automatic Sprinkler System

1. The entire building including the basements shall be fitted with sprinklers connected to a gong bell/fire detection panel, which shall be located in the central control room.
2. The entire building including the basement shall be fitted with an Automatic Fire Detection and Alarm system comprising of smoke detectors, and manual call points which shall be connected to the fire alarm panel in the central control room.
3. The sprinkler, fire detection and alarm systems shall be provided with an alternative source of power supply.
4. Initiation of required fire alarm system shall be by manual means or by means of any detection device.
5. An internal audible alarm shall be incorporated.
6. Pre-signal systems are prohibited.
7. Corridors shall have an approved automatic detection system.

Emergency and Escape Lighting

1. Emergency lighting shall be powered from a source independent of the normal lighting system.
2. Emergency lights shall clearly and unambiguously indicate the escape routes.
3. Emergency lighting shall provide adequate illumination along escape routes to allow the safe movement of persons towards and through the exits.
4. Emergency lighting shall be provided in a manner to ensure that fire alarm call points and fire fighting equipments provided along the escape routes are readily located.
5. The horizontal luminance at floor level on the center line of an escape route shall be not less than 10 lux. Additionally, for escape routes that are upto 2 mtrs in width, 50% of the route width shall be lit to a minimum of 5 lux.
6. The emergency lighting shall be activated within one second of the failure of the normal lighting.
7. The luminaries shall be mounted as low as possible but at least 2 mtrs above the floor level.
8. Emergency lighting shall be designed to ensure that a fault or failure in any open luminaries does not further reduce the effectiveness of the system.
9. Emergency lighting luminaries and their fittings shall be of non flammable type.
10. The emergency lighting system shall be capable of continuous operation for a minimum of 1 and a half hours (90 minutes).

International Health Facilities Guidelines: Recommendations

International Health Facilities Guidelines: Recommendations

(iHFG, 2017)

http://healthfacilityguidelines.com/Guidelines/FullIndex/iHFG/Part%20B%20-%20Health%20Facility%20Briefing%20and%20Design

iHFG (International Standards)

Healthcare facilities need to be efficiently planned, appropriately briefed, competently designed and quickly delivered. They need to be sustainable in every respect as an essential public service. Therefore they need to carefully balance the required features and standards against capital and operational costs without compromising the quality of care. Sustainability demands that the precious knowledge of healthcare design be shared rather than wasted after every successful project. These guidelines bring that shared knowledge to the world to achieve these key objectives:

- Establish the minimum acceptable standards
- Maintain public confidence in the facilities which comply with these guidelines
- Provide a basis for the approval and licensing of healthcare facilities
- Provide guidance to designers on the special needs of healthcare facilities
- Consider the wellbeing, safety, privacy and dignity of patients, staff and visitors
- Eliminate design features that result in unacceptable practices
- Allow Health Authorities to require compliance with these guidelines
- Provide a knowledge base to inform future healthcare design consultants

Structure of IHF Guidelines:

Part A – Administrative Provisions

This part outlines the licensing process for healthcare facilities and prequalification process for design consultants

Part B – Health Facility Briefing and Design

This part includes Planning & Design guidelines including Functional Planning Units (FPUs) or Departments. Each FPU provides a Description, Models of Care, Functional Relationships and generic Schedules of Accommodation (SOA). Unique room types are defined as Standard Components and provided as Room Data Sheets (RDS) and Room Layout Sheets (RLS).

Part C – Access, Mobility, OH&S

This part includes the requirements for Access, Mobility, Occupational Health, Safety and Security.

Part D – Infection Control

This part details the Infection Control requirements of healthcare facilities.

Part E – Engineering

This part focuses on the acceptable International engineering guidelines and standards for Mechanical, Electrical, Plumbing, Fire and other building services.

Part F – Feasibility Planning & Costing Guidelines

This part includes feasibility planning, capital costing, financial appraisal and procurement strategy.

Part Q – Equipment Planning Guidelines

This part covers the methodology for the planning, procurement & placement the Furniture Fittings, Fixtures & Equipment (FF&FE) both Medical and Non-medical.

Part S – Health Service Planning Guidelines

This part includes catchment identification, service definition, needs assessment, demand projections, gap analysis and service profiling.

Part W – Wayfinding Guidelines

This part provides an introduction to wayfinding and design principles.

Planning

Site Development

The location and development of the site shall be in accordance with the requirements of the Urban Planning Council and the local Municipality. Below we have summarised the main criteria to be considered when developing a site, accommodating a health facility.

Environmental Impact

The aesthetics and form of a health facility shall be sympathetic with its immediate environment, either built or natural; for example domestic scale and treatments where built in a residential area.

The building should enhance the streetscape.

Note: This is not a mandatory requirement but is highly recommended.

Consideration should also be given to the siting of a health facility to ensure that it is accepted as an asset by the community, and not thought of as an imposition and inconvenience on the neighbourhood.

Landscaping

A suitable landscaping scheme shall be provided to ensure that the outdoor spaces are pleasant areas in which patients, visitors and staff may relax. The scheme should also ensure that the buildings blend into the surrounding environment, built or natural.

Water conservation should be a consideration when designing layouts and selecting plants. The use of mains water for reticulation is restricted. The local authority on water supply should be consulted for current regulations.

Site Grading

The balance of a health facility site not covered by buildings should be graded to facilitate safe movement of the public and staff. Where this is not possible, access should be restricted.

Public Utilities

Impact on existing local service networks may be substantial. In establishing a health facility on any site, the requirements and regulations of authorities regulating water, electricity, gas, telephones, sewerage and any other responsible statutory or local authority must be complied with.

Structural requirements

If the site is low lying, on the side of a hill, or partly consists of rock then structural engineering advice should be sought at an early stage to minimise future drainage or settlement problems.

Masterplan Development

Planning relationships and the use of planning models

The planning of health facilities requires general knowledge of the appropriate relationships between the various components. Certain components (also referred to as Functional Planning Units or FPUs) need to be adjacent or close to other components. Most components must be accessible independently without having to go through other components. In short, the planning of a health facility requires a certain logic which is derived from the way the facility functions.

Good Planning Relationships:

- Increase the efficiency of operation
- Promote good practice and safe health care delivery
- Minimise recurrent costs
- Improve privacy, dignity and comfort
- Minimise travel distances
- Support a variety of good operational policy models
- Allow for growth and change over time.

Inappropriate Planning Relationships:

- Result in duplication and inefficiency
- May result in unsafe practices
- Increase running costs
- May result in reduced privacy, dignity and comfort
- Increases travel distance or force un-necessary travel
- Result in lack of flexibility to respond to future growth and change
- May limit the range of operational possibilities.

Planning Models:

The planning of a complex health facility is based on applying commonly recognised “good relationships” as well as taking into consideration site constraints and conformity with various codes and guidelines. In theory it is possible to go back to the basics every time. In practice however, designers soon discover that this is an inefficient way of arriving at appropriate planning solutions. Just as in other buildings types e.g. hotels and shopping centres, health facilities have over time evolved around a number of workable Planning Models. These can be seen as templates, modules, prototypes or patterns for the design of new facilities.

These Guidelines include a number of flow diagrams, also referred to as Functional Relationship Diagrams which represent Planning Models for various Functional Planning Units (FPUs). The flow diagrams are referred to in the appropriate sections of these Guidelines. They cover not only internal planning and relationships within the FPUs, but also relationships between FPUs. Designers may use these diagrams to set out the various components and then manipulate them into the appropriate shapes to suit the site constraints.

Designers are encouraged to see the overall design as a model. A good health facility plan usually can be reduced to a basic flow diagram. If the diagram has clarity, is simple and logical, as demonstrated in the FPUs in these Guidelines, it probably has good potential for development. A skilled designer will use these planning models to assemble the requirements of a health facility on the site without compromising functionality.

If on the other hand the model is too hard to reduce to a simple, clear and logical flow diagram, it should be critically examined. It is not sufficient to satisfy immediate or one-to-one relationships. Similarly, it may not be sufficient to satisfy only a limited, unusual or temporary operational policy. It is more important to incorporate planning relationships that can satisfy multiple operational policies due to their inherent simplicity and logic.

Masterplanning

In the health care industry, the term "Masterplan" has different meanings in different contexts. The most common use of the term "Masterplan" refers to words, diagrams and drawings describing the "global arrangement of activities" in a health facility with particular emphasis on land use, indicating growth and change over time.

Under the above definition, a Masterplan is a fundamental planning tool to identify options for the current needs as well as projected future needs. Its purpose is to guide decision making for clients and designers. Health facility owners and designers are encouraged to prepare a Masterplan before any detailed design is undertaken. A Masterplan can be prepared in parallel with detailed briefing, so that valuable feedback can be obtained regarding real world opportunities and constraints. Ideally, a successful Masterplan will avoid wrong long term strategic decisions, minimise abortive work, prevent future bottlenecks and minimise expectations that cannot be met in the given circumstances.

A Masterplan diagram is typically a simplified plan showing the following:

- The overall site or section of the site relating to the development
- Departmental boundaries for each level related to the development
- Major entry and exit points to the site and the relevant departments
- Vertical transportation including stairs and lifts
- Main inter-departmental corridors (arterial corridors)
- Location of critical activity zones within departments but without full detail
- Likely future site development
- Areas (if any) set aside for future growth and change
- Arrows and notes indicating major paths of travel for vehicles, pedestrians, goods and beds
- Services masterplan showing the engineering impact, plant locations, availability of services and future demand.

Masterplan diagrams and drawings should be prepared for several options (typically 3) to an equal level of resolution and presentation so that each option reaches its maximum potential. Only then a decision maker is in a position to compare options on equal terms. The above diagrams and drawings are typically accompanied by a report covering the following headings as a minimum:

- Project description
- Outline brief
- Opportunities and constraints
- Options considered

- Evaluation criteria
- Evaluation of the options including cost impact (if any)
- Recommended option
- Executive summary and recommendation.

The exact deliverables for a Masterplan can adapted to the nature of the project. The most typical additional deliverables are listed below, allowing clients to refer to them by name and by reference to these Guidelines:

- Stacking Plans- This is typically used for locating departments in major multistorey developments where the shell is already well defined.
- Master Concept plan - This is typically used as a further development of the preferred Masterplan option so that the design implications can be further tested and priced.
- Staging Plan - A staging plan shows a complete Masterplan defined for each stage of the development rather than simply a zone allocation for future works.
- Strategic Plan - A Strategic Plan refers to higher level "what if" studies, providing a range of development scenarios. These may include the use of alternate sites, private-public collocation, purchase versus lease, alternative operational policies etc.

Planning Policies

Planning policies refer to a collection of non-mandatory guidelines that may be adopted by health facility designers or owners. These policies generally promote good planning, efficiency and flexibility.

The planning policies below are included in these Guidelines so that in the process of briefing, designers or clients can simply refer to them by name or require compliance from others.

Loose Fit

Loose Fit is the opposite of Tight Fit. This policy refers to a type of plan which is not so tightly configured around only one operational policy that it is incapable of adapting to another.

In Health Care, operational policies change frequently. The average cycle seems to be around 5 years. It may be a result of management change, government policy change, turn-over of key staff or change in the market place. On the other hand, major health facilities are typically designed for 30 years but tend to last more than 50 years.

This immediately presents a conflict. If, for example, a major hospital is designed very tightly around the operational policies of the day or the opinion of a few individuals that may leave at any time, then a significant investment may be at risk of early obsolescence.

The Loose Fit Planning Policy refers to planning models which can not only adequately respond to today's operational policy but have the inherent flexibility to adapt to a range of alternative, proven and forward looking policies.

At macro Level, many of the commonly adopted health facility planning models, including those in the enclosures to these Guidelines, have proven flexible in dealing with multiple operational policies.

At micro level, designers should consider simple, well proportioned, regular shaped rooms with good access to simple circulation networks that are uncomplicated by a desire to create interest. Interior features should not be achieved by creating unnecessary complexity.

Change by Management

This concept refers to plans which allow for changes in operating mode as a function of management rather than physical building change. For example, two Inpatient Units can be designed back to back so that a range of rooms can be shared. The shared section may be capable of isolation from one or the other Inpatient Unit by a set of doors. This type of sharing is commonly referred to as Swing Beds. It represents a change to the size of one Inpatient Unit without any need to expand the unit or make any physical changes.

The same concept can be applied to a range of planning models to achieve greater flexibility for the management. Also see other planning policies in this section.

Overflow Design

Some functions can be designed to serve as overflow for other areas that are subject to fluctuating demand. For example, a waiting area for an Emergency Unit may be designed so that it can overflow into the hospital's main entrance waiting area.

An Emergency Unit Procedure Room or a Birthing Room may be designed specifically to provide an emergency operating room for caesarean sections in case the standard allocated operating room is not available.

Any area that includes bed bays such as an Emergency Unit may be designed to absorb the available open space and provide room for additional beds in case of natural disasters.

Progressive Shutdown

Even large facilities may be subject to fluctuating demand. It is desirable to implement a Progressive Shutdown policy to close off certain sections when they are not in use. This allows for savings in energy, maintenance and staff costs.

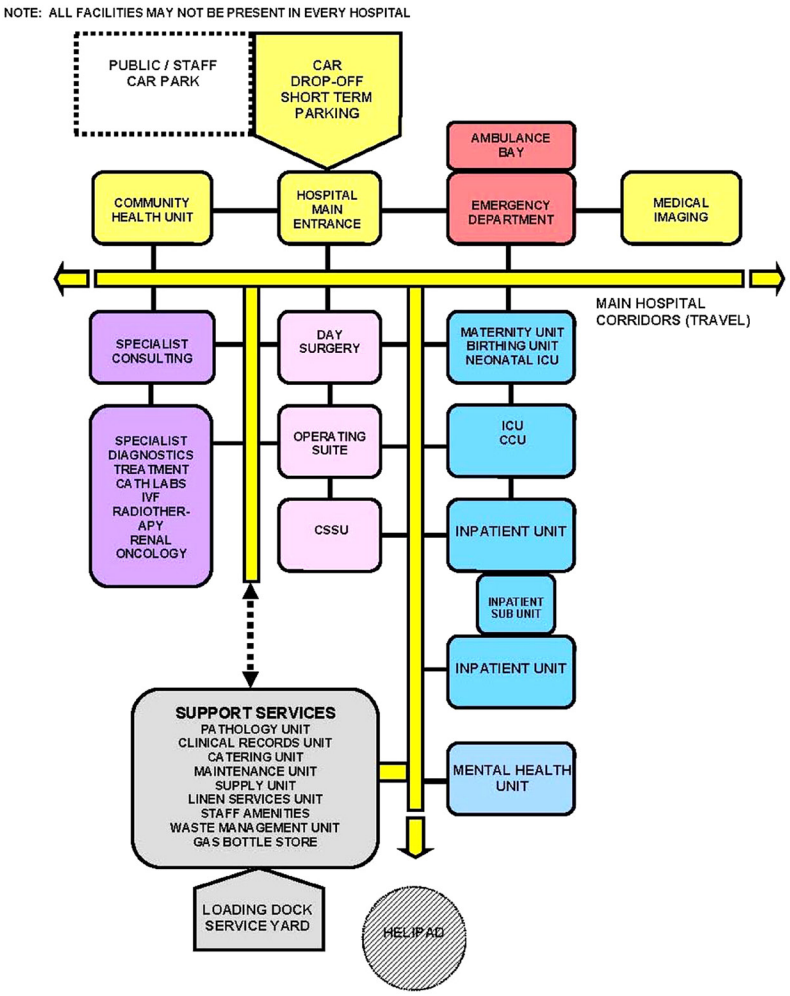
It also concentrates the staff around patients and improves communication and security. In designing for progressive shutdown, designers must ensure:

- None of the requirements of these Guidelines are compromised in the remaining open sections
- The open sections comply with other statutory requirements such as fire egress
- The open patient care sections maintain the level of observation required by these guidelines
- In the closed sections, lights and air-conditioning can be shut off independently of other areas
- The closed sections are not required as a thoroughfare for access to other functions
- Nurse Call and other communication systems can adapt to the shut-down mode appropriately
- The shut-down strategy allows access to items requiring routine maintenance.

Open Ended Planning

A health facility designed within a 'finite' shape, where various departments and functions are located with correct internal relationships may look and function very well at first; however, any expansion will be difficult. Some expansion requirements can be accommodated in new external buildings with covered links; but over time the site will become complicated with random buildings and long walkways.

The opposite of this scenario is to use "Open Ended Planning": planning models and architectural shapes that have the capability to grow, change and develop additional wings (horizontally or vertically) in a controlled way. As an example, a typical health facility flow diagram which promotes open ended planning is represented below.



Below are some of the concepts involved in Open Ended Planning Policies:

- Major corridors should be located so that they can be extended outside the building.
- As far as possible, FPUs should have one side exposed to the outside to permit possible expansion.
- If a critical FPU must be internal, it should be adjacent to other areas that can be relocated, such as large stores or administration areas.
- External shapes should not be finite.
- External shapes should be capable of expansion.
- Finite shapes may be reserved for one-off feature elements such as a Main Entrance Foyer.
- Roof design should consider expansion in a variety of directions.
- Avoid FPUs that are totally land-locked between major corridors.
- Stairs should not be designed to block the end of major corridors.
- The overall facility flow diagram should be capable of linear or radial expansion whilst keeping all the desirable relationships intact.
- Fixed internal services such as plant rooms, risers, service cupboards should be placed along major corridors rather than in the centre of FPUs.

Open Ended Planning Policies can be applied to entire facilities as well as individual FPUs.

Modular Design

This is the concept of designing a facility by combining perfectly designed standard components. For example a designer may create a range of Patient Bedrooms, a range of utility rooms and other common rooms that are based on a regular grid such as 600 mm. These rooms can then be combined to create larger planning units such as an Inpatient Unit. The Inpatient Unit can then be used as a module and repeated a number of times as required.

This approach, in the hands of a skilled designer has many benefits. Modules can be designed only once to perfection and repeated throughout the facility. No redesign is necessary to adjust to different planning configurations. Instead the plan is assembled to adapt to the modules. Errors in both design and construction can therefore be minimised.

The opposite to this approach is to start from a different architectural shape for each FPU, divide it into various shapes for the rooms, then design the interior of each room independently. This approach, in the hands of a skilled designer can also result in satisfactory solutions, but at a higher risk of errors and at a greater cost. For example, in a typical health facility, one might find 10 Dirty Utility Rooms which are entirely different.

Modular Design should not necessarily be seen as a limitation to the designer's creativity, but a tool to achieve better results. Designers are encouraged to consult with clients and user groups to agree on perfect modules, and then adopt them across all FPUs.

Universal Design

This concept is similar to Modular Design. Universal Design refers to Modules (or standard components) designed to perform multiple functions by management choice.

For example, a typical patient single bedroom can be designed to suit a variety of disciplines including Medical/ Surgical/ Maternity and Orthopaedics. Such a room can be standardised across all compatible Inpatient Units. This will permit a change of use between departments if the need arises. Such Universal Design must take into account the requirements of all compatible uses and allow for all of them. The opposite of this policy is to "specialise" the design of each component to the point of inflexibility.

Other examples of Universal Design are as follows:

- Universal Operating Rooms which suit a range of operations
- Bed cubicles in Day Surgery which suit both Pre-op and Post-op
- Offices which are standardised into only a limited number of types for example 9 m2 and 12 m2
- Toilets may all be designed for disabled access or as unisex.

The main point of Universal Design is to resist unnecessary variation in similar components, where the change in functionality can be accommodated in one standard design.

Single Handing

It is common design practice to design identical and adjoining planning modules in mirror image. This is most common in the assembly of Patient Bedrooms with Ensuites. It is commonly believed that this is also more economical.

The concept of Single Handing is the exact opposite. Single Handing refers to situations where mirror image (Handing) may not be necessary.

In areas requiring a high level of staff training, such as in operating suites, it may be more appropriate to "hand" all key rooms in identical manner. This makes the task of staff training easier and may

also reduce the possibility of mistakes.

In a hypothetical example, a staff member entering any operating room, regardless of its location and approach from corridor will find the service panel on the left, X-ray viewer on the right and the door to the Sterile Stock Room in the front.

In another example, at micro level, medical gases may always be located to the left side of patient's bedhead regardless of the direction of approach.

Note: Single Handing is a matter of individual choice and may not suit all conditions.

Natural Disaster

All health facilities should be capable of continued operation during and after a natural disaster, except in instances where a facility sustains primary impact. This means that special design consideration is needed to protect essential services such as emergency power generation, heating and/or cooling systems, water supply (if applicable), etc. Typical problems such as disruption to public utilities such as water or sewer mains and energy supplies, may affect the operation of onsite services.

Appropriate construction detailing and structural provision shall be made to protect occupants and to ensure continuity of essential services in areas where there is a history of earthquakes, cyclones, flooding, bushfires or other natural disasters.

Consideration shall be given to possible flood effects when selecting and developing a site. Where possible, facilities shall NOT be located on designated flood plains. Where this is unavoidable, take extra care when selecting structural and construction methodology, and incorporate protective measures against flooding into the design.

Facilities shall be designed and constructed to withstand the minimum earthquake design loads on structures.

In cyclonic areas, special attention shall be given, not only to protection against the effects of the direct force of wind (structural detailing, special cladding fixings, cyclonic glazing etc.), but also against such things as wind generated projectiles (trees, cladding, fencing etc.) and localised flooding.

In all cases, effective long range communications systems, which do not rely on ground lines to function, are essential.

Consultation with Emergency Services is recommended to ensure arrangements are in place for emergency long range communications assistance in the event of emergency situations or a major disaster.

Local Design Regulations

Typical Design factors for Health facilities depending on local customs and traditions may include the following

- Access to Recovery areas for relatives
- Separation of male and female recovery areas
- Separation of male and female waiting areas
- Larger family waiting areas
- Prayer room on each floor
- Independent male and female Inpatient Unit accommodation.

Prayer Rooms

The typical hospital facility should respect the local customs of the population. Prayer rooms on each floor may be required. Separate prayer rooms for male and female may be required. The following consideration should be given to prayer rooms.

- Location of the prayer room should be in an accessible area but away from noise, distraction and heavy clinical traffic.
- Orientation of the prayer room is important; appropriate location of entry into the prayer room is essential.
- Airlock to the prayer room is desirable; this may accommodate hand basin for ablution, shoe racks, bag lockers and coat hooks as deemed necessary.
- Appropriate finish on the floor and walls is desirable
- Windows are desirable.

Floor Area Measurement Methodology, Definitions and Diagrams

Within these Guidelines, Room areas, Departmental boundaries, Travel and Engineering are defined and calculated according to the following standards.

How to measure floor areas

To measure drawings, the following measurement technique will apply.

Rooms

Room areas are measured as follows:

- To the inside face of outside walls
- To centre of walls to adjoining rooms
- To the full thickness of corridor walls facing rooms
- To the centre of departmental boundary walls (except where boundary wall adjoins a corridor).

Areas not included are:

- Circulation % (represented by Departmental corridors)
- Service risers, Service cupboards and Plant Rooms
- Fire Hose Reels, Fire Stairs, Lift Shafts.

Departments

The gross FPU (Departmental) area is the sum of the room areas within the FPU plus circulation – internal corridors, measured as follows:

- FPU areas are measured to the face of corridor walls
- To the inside face of outside walls.

Areas not included are:

- Service Risers, Service Cupboards and Plant Rooms
- Fire Hose Reels, Fire Stairs
- Lift Shafts.

Travel

Travel includes:

- Corridors between Departments (FPUs), measured as follows:
- To the face of corridor walls
- To the inside face of outside walls
- Stairs including Fire Stairs

- Internal Fire Stairs and ramps.

Areas not included are:

- Service risers and cupboards
- Fire Hose Reels, Lift Shafts
- Plant Rooms.

Engineering

Engineering includes:

- Plant Rooms, Fire Hose Reels and Service Cupboards measured as follows:
- To the centre of adjoining walls
- To the inside face of outside walls
- To the full thickness of riser walls.

Areas not included are Lift Shafts (the void area).

Impact of wall thickness

The minimum room sizes in these Guidelines assume wall thicknesses of 100 mm. For wall thicknesses of more than 120 mm, the minimum area of the room (as measured in accordance with these Guidelines) shall be increased to compensate for the greater wall thickness. Refer to Area Measurement Diagrams attached below for a visual representation of these area measurements.

Gross Floor Area

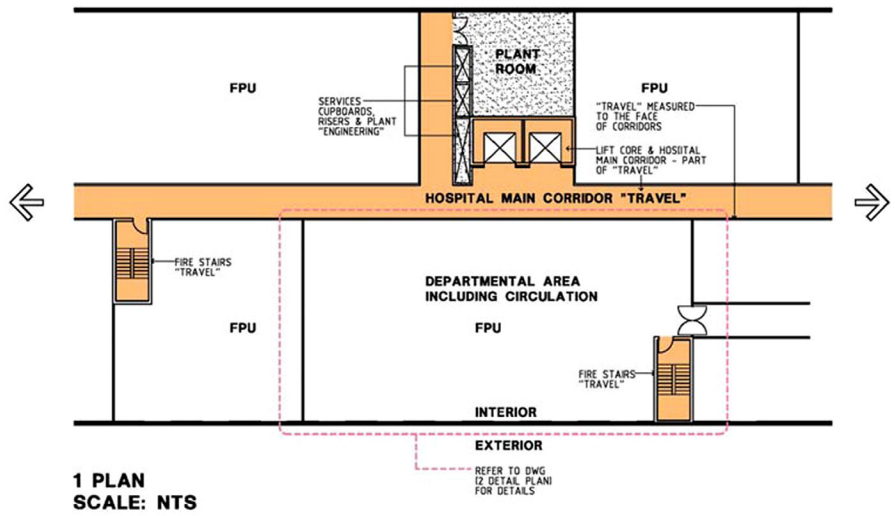
Gross Floor Area (GFA) represents the sum of the Departmental areas on the floor, measured as described in Departments above plus Travel (measured as described in Travel above) plus Engineering areas (measured as described in Engineering above).

Area Measurement Diagrams

The above measurement descriptions are represented below diagrammatically

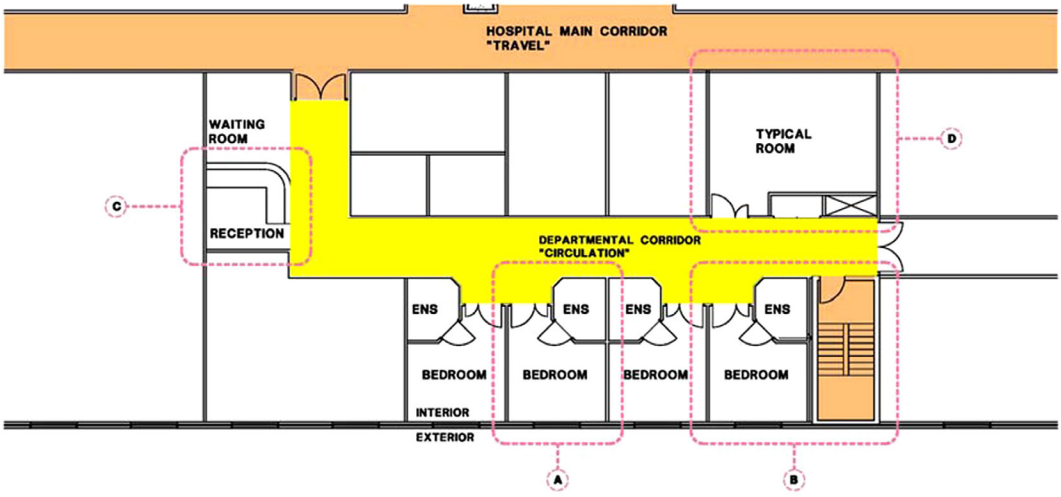
Measurement of Departments, Travel

Plan of Departmental Area



1 PLAN
SCALE: NTS

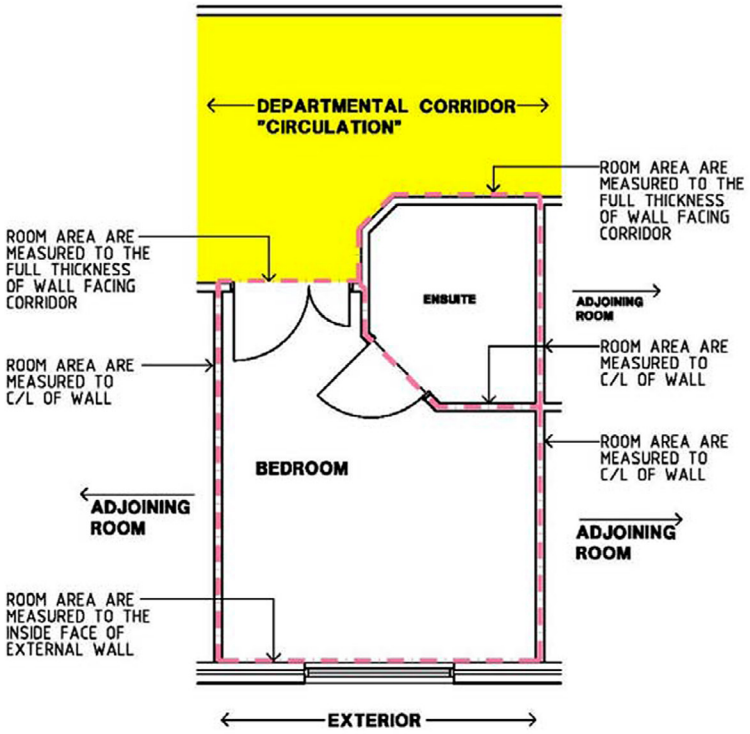
Detail of Typical Department



2 DETAIL PLAN

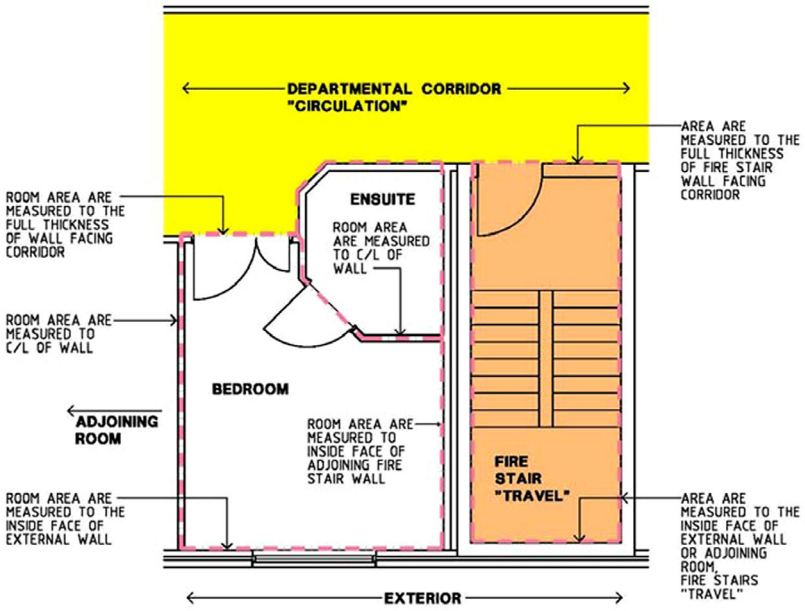
Measurement of Rooms, Corridors, Travel

A – Typical Room adjoining Departmental Corridor



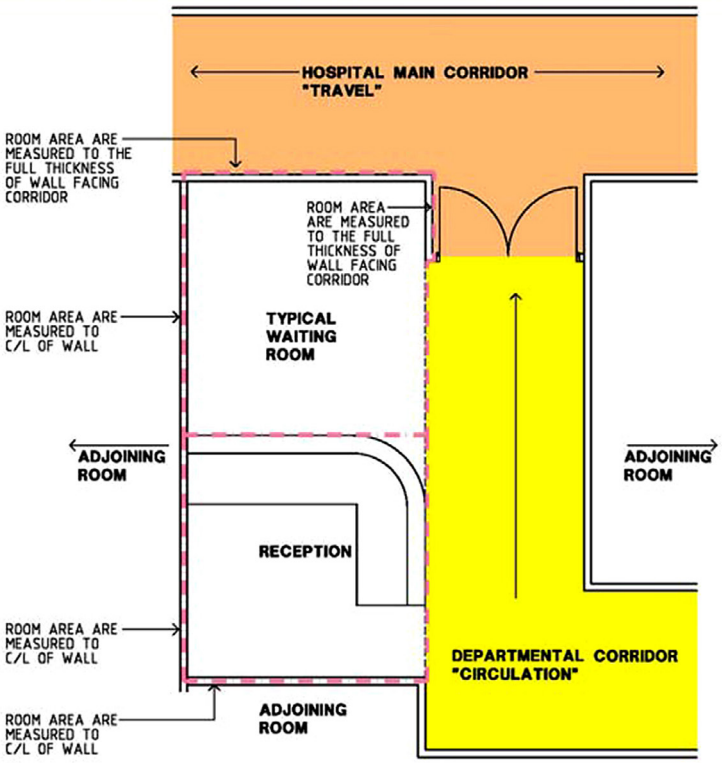
A - PART PLAN
SCALE: NTS

B – Typical Room adjoining Departmental Corridor with adjacent Travel Area



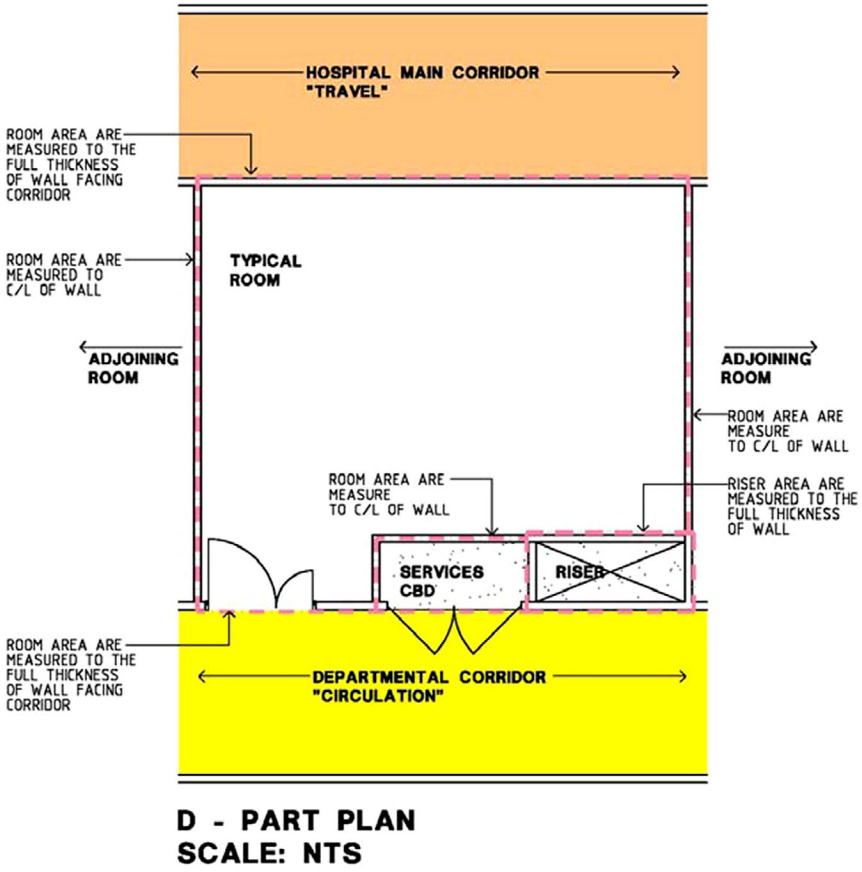
B - PART PLAN
SCALE: NTS

C – Typical Room adjoining Circulation and Travel Corridors



C - PART PLAN
SCALE: NTS

D – Typical Room between Circulation and Travel Corridors



Parking and Vehicular Access

Introduction

In a new health facility development, planned parking and vehicular access is essential and should be provided based on health facility functions, available staff, community needs and space available.

The parking should provide an adequate number of spaces for vehicles including cars, commercial vehicles, emergency vehicles and 2-wheelers such as motorcycles, scooters and bicycles. Access to and from parking areas should meet applicable disability standards and other relevant local and safety standards.

General Design Guidelines

Physical Location

Various circumstances may dictate the location of the parking such as

- Location of the Emergency department
- Location of the Main Waiting area
- Proximity to Staff, patients and other users.
- Practicality of consolidated parking versus spread out parking.
- Transport policy objectives determined by the local Road Transportation Authority.
- Any other specific services offered at the health facility.

Physical Characteristics

The physical characteristics of a car park must meet the needs of the different types of vehicles in use or expected to be in use.

For private and emergency vehicles, the car park or drop off areas should adhere to local building authority guidelines. For emergency areas, designated ambulance drop-off and parking is essential for the safety and well-being of patients and staff. Clear access ways and designated parking spots shall be demarcated to avoid misuse.

For commercial and service vehicles such as delivery and waste management trucks, loading docks should be designed compatible with the type of vehicles to be used or expected to be used in the future. Traffic controls may need to be provided to segregate vehicles according to their use. For example loading/ unloading areas for a 'Clean' delivery truck and a 'Dirty' waste management truck. Similarly access points and access ways through the site need to be designed such that patient access does not interfere with emergency and service vehicle access.

Disabled Access Parking

All access to and from the car park will need to adhere to applicable disability guidelines. Parking spaces for use by people with disabilities should be in accordance with such guidelines. A parking space for a person with disability should consist of an unobstructed area having a firm and level surface with a fall not exceeding minimum requirements of the local disability code. Space width and overlap allowances also need to be in accordance with such codes.

A continuous, accessible path of travel should be provided between each parking space to an accessible entrance/lift. Parking spaces should be identified by a sign incorporating the international symbol of access for people with disabilities.

Community Safety

Car parking and vehicular access ways should provide a safe environment for its users. Clear sightlines should be provided throughout the car parking areas to enhance safety and avoid confusion. Car parks should be directly linked to accessible pedestrian pathways linking directly to the main building or reception areas. Adequate lighting is essential after hours for patients and staff to access their vehicles. Communication and security systems may be installed in large car parks depending on the location, function and layout. Adequate traffic controls may be required to safely navigate pedestrian and vehicular traffic through the parking area. This could be achieved through signage or other electronic controls.

Access ways and parking spots for emergency vehicles should kept clear of any public interference for the well-being of both patients and the general public. Loading and unloading areas should follow minimum applicable standards for Occupation and Health Safety. This shall include adequate lighting, clear access ways and designated parking spots. Communications and security systems may be installed to monitor such areas that have low frequency of visitors or vehicular access.

Landscaping and Signage

Car parks should generally be attractive and pleasant spaces that are aesthetically designed for public and private use. To avoid unattractive expanses of paving, vegetation may be used to soften the visual impact. The landscaping should generally respect the terrain of the land.

Trees may be utilised to provide greenery as well as shade during summer months. Plants should be selected that have vigorous growth, longevity, minimal maintenance and ample shade. Care

should be taken that sub-soil drainage is provided for all trees and adequate drainage is provided for surface water run-off from paved areas.

Way finding and signage are important elements that safely guide patients and staff to and from the health facility. Signage should prominently highlight pedestrian/disabled access ways. Clear directions to the nearest stairwell or lift well should be posted at prominent locations or at proper intervals.

Proper signage also helps visitors to identify a particular location so that they are able to access their vehicles in an easy and timely manner. Care should be taken that exit and direction signs are clearly visible to avoid incidents. Security systems may be installed to discourage miscreants.

Maintenance

The design of car parks and vehicular access ways should aim to achieve minimum maintenance. Elements such as signs, landscape, barriers, etc. should be designed to ensure minimal maintenance and discourage vandalism. For example sealed pavement may be used instead of gravel that requires constant maintenance.

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