Indian Public Health Standards (IPHS)

Guidelines for District Hospitals
(101 to 500 Bedded)

Revised 2012

Directorate General of Health Services
Ministry of Health & Family Welfare
Government of India

Indian Public Health Standards (IPHS)

Guidelines for District Hospitals
(101 to 500 Bedded)

Revised 2012

Directorate General of Health Services
Ministry of Health & Family Welfare
Government of India

CONTENTS

Annexures

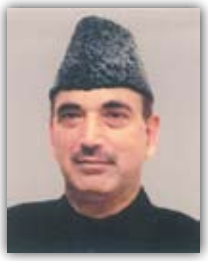
NATIONAL RURAL HEALTH MISSION
राष्ट्रीय ग्रामीण स्वास्थ्य मिशन

गुलाम नबी आज़ाद
GHULAM NABI AZAD

सत्यमेव जयते

स्वास्थ्य एवं परिवार कल्याण मंत्री
भारत सरकार
निर्माण भवन, नई दिल्ली-110108
Minister of Health & Family Welfare
Government of India
Nirman Bhavan, New Delhi-110108

MESSAGE



National Rural Health Mission (NRHM) was launched 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.

Our country has a large number of public health institutions in rural areas from sub-centres at the most peripheral level to the district hospitals at the district level. It is highly desirable that they should be fully functional and deliver quality care. I strongly believe that 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.

I call upon all States and UTs to adopt these IPHS guidelines for strengthening the Public Health Care Institutions and put in their best efforts to achieve high quality of health care for our people across the country.

(Ghulam Nabi Azad)

New Delhi
23.11.2011

P.K. PRADHAN
Secretary
Department of Health & FW
Tel.: 23061863 Fax : 23061252
e-mail : secyhfw@nic.in

सत्यमेव जयते

भारत सरकार
स्वास्थ्य एवं परिवार कल्याण मंत्रालय
निर्माण भवन, नई दिल्ली - 110108
GOVERNMENT OF INDIA
MINISTRY OF HEALTH & FAMILY WELFARE
NIRMAN BHAVAN, NEW DELHI - 110108

FOREWORD

As envisaged under National Rural Health Mission (NRHM), the public health institutions in rural areas are to be upgraded from its present level to a level of a set of standards called "Indian Public Health Standards (IPHS)". The Indian Public Health Standards are the benchmarks for quality expected from various components of public health care organizations and may be used for assessing performance of health care delivery system.

District Hospital is a hospital at the secondary referral level responsible for a district of a defined geographical area containing a defined population. 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 setting standards is a dynamic process, need was felt to update the IPHS keeping in view the changing protocols of existing National Health Programmes, introduction of new programmes & initiatives especially Non-Communicable Diseases and the prevailing epidemiological situation in the country. Three documents for District Hospitals (101-200 bedded, 201-300 bedded and 301-500 bedded) have been merged, indicating standards for 100, 200, 300, 400 and 500 bedded hospitals in one document. The revision has been carried out by a task force comprising of various stakeholders under the Chairmanship of Director General of Health Services. Subject experts, NGOs, State representatives, health workers working in the health facilities have also been consulted at different stages of revision.

This document will help the State Governments and Panchayati Raj Institutions, to monitor effectively as to how many of the District Hospitals are conforming to IPHS and strive to upgrade the remaining to the desired level.

I would like to acknowledge the efforts of the Directorate General of Health Services in preparing the guidelines. It is hoped that this document will be useful to all the stakeholders. Comments and suggestions for further improvements are most welcome.

(P.K.Pradhan)

Dr. Jagdish Prasad
M.S. M.Ch., FIACS
Prof. of Cardiac Surgery
VMMC P.G. Institute Safdarjung Hospital
Director General of Health Services

सत्यमेव जयते

निर्माण भवन, नई दिल्ली - 110 108
GOVERNMENT OF INDIA
MINISTRY OF HEALTH & FAMILY WELFARE
DIRECTORATE GENERAL OF HEALTH SERVICES
NIRMAN BHAWAN, NEW DELHI-110 108
Tel : 23061438, 23061063 (O), 23061924 (F), 26161026 (SJH)
E-mail : drj.prasad@nic.in, drjprasad2010@gmail.com
dghs@nic.in

PREFACE

Standards are a means of describing a level of quality that the health care organizations are expected to meet or aspire to achieve. For the first time under National Rural Health Mission (NRHM), an effort had been made to develop Indian Public Health Standards (IPHS) for a vast network of peripheral public health institutions in the country and the first set of standards was released in early 2007 to provide optimal specialized care to the community and achieve and maintain an acceptable standard of quality of care.

The IPHS for District Hospitals has been revised keeping in view the resources available with respect to functional requirements with minimum acceptable standards for such as building, manpower, instruments and equipment, drugs and other facilities etc. The task of revision was completed as a result of consultations held over many months with task force members, programme officers, Regional Directors of Health and Family Welfare, experts, health functionaries, representatives of Non-Government organizations, development partners and State/Union Territory Government representatives after reaching a consensus. The contribution of all of them is well appreciated.

In this revised IPHS document, services that a District Hospital is expected to provide have been grouped as Essential (Minimum Assured Services) and Desirable (which we should aspire to achieve). Besides the basic specialty services, due importance has been given to Newborn Care, Psychiatric services, Physical Medicine and Rehabilitation services, Accident and Trauma Services, Dialysis services, Anti-retroviral therapy and Patient Safety and Infection control norms. District Hospital should be in a position not only to provide all basic specialty services but 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.

I hope that this document will be of immense help to the States/Union Territories and other stakeholders in bringing up the health facilities to the level of Indian Public Health Standards.

Jprasad

(Dr. Jagdish Prasad)

ACKNOWLEDGEMENTS

The revision of the existing guidelines for Indian Public Health Standards (IPHS) for different levels of Health Facilities from Sub-Centre to District Hospitals was started with the formation of a Task Force under the Chairmanship of Director General of Health Services (DGHS). This revised document is a concerted effort made possible by the advice, assistance and cooperation of many individuals, Institutions, government and non-government organizations.

I gratefully acknowledge the valuable contribution of all the members of the Task Force constituted to revise Indian Public Health Standards (IPHS). The list of Task Force Members is given at the end of this document. I am thankful to them individually and collectively.

I am truly grateful to Mr. P.K. Pradhan, Secretary (H & FW) for the active encouragement received from him.

I also gratefully acknowledge the initiative, inspiration and valuable guidance provided by Dr. Jagdish Prasad, Director General of Health Services, Ministry of Health and Family Welfare, Government of India. He has also extensively reviewed the document while it was being developed.

I sincerely thank Miss K. Sujatha Rao, Ex-Secretary (H&FW) for her valuable contribution and guidance in rationalizing the manpower requirements for Health Facilities. I would specially like to thank Ms. Anuradha Gupta, Additional Secretary and Mission Director NRHM, Mr. Manoj Jhalani Joint Secretary (RCH), Mr. Amit Mohan Prasad, Joint Secretary (NRHM), Dr. R.S. Shukla Joint Secratary (PH), Dr. Shiv Lal, former Special DG and Advisor (Public Health), Dr. Ashok Kumar, DDG Dr. N.S. Dharm Shaktu, DDG, Dr. C.M. Agrawal DDG, Dr. P.L. Joshi former DDG, experts from NHSRC namely Dr. T. Sunderraman, Dr. J.N. Sahai, Dr. P. Padmanabhan, Dr. J.N. Srivastava, experts from NCDC Dr. R.L. Ichhpujani, Dr. A.C. Dhariwal, Dr. Shashi Khare, Dr. S.D. Khaparde, Dr. Sunil Gupta, Dr. R.S. Gupta, experts from NIHFW Prof. B. Deoki Nandan, Prof. K. Kalaivani, Prof. M. Bhattacharya, Prof. J.K. Dass, Dr. Vivekadish, programme officers from Ministry of Health Family welfare and Directorate General of Health Services especially Dr. Himanshu Bhushan, Dr. Manisha Malhotra, Dr. B. Kishore, Dr. Jagdish Kaur, Dr. D.M. Thorat and Dr. Sajjan Singh Yadav for their valuable contribution and guidance in formulating the IPHS documents.

I am grateful to the following State level administrators, health functionaries working in the health facilities and NGO representatives who shared their field experience and greatly contributed in the revision work; namely:

Dr. Manohar Agnani, MD NRHM from Government of MP Dr. Junaid Rehman from Government of Kerala.
Dr. Kamlesh Kumar Jain from Government of Chhattisgarh.

Dr. Y.K. Gupta, Dr. Kiran Malik, Dr. Avdesh Kumar, Dr. Naresh Kumar, Smt. Prabha Devi Panwar, ANM and Ms. Pushpa Devi, ANM from Government of Uttar Pradesh.
Dr. P.N.S. Chauhan, Dr. Jayashree Chandra, Dr. S.A.S. Kazmi, Dr. L.B. Asthana, Dr. R.P. Maheshwari, Dr. (Mrs.) Pushpa Gupta, Dr. Ramesh Makwana and Dr. (Mrs.) Bhusan Shrivastava from Government of Madhya Pradesh.
Dr. R.S. Gupta, Dr. S.K. Gupta, Ms. Mamta Devi, ANM and Ms. Sangeeta Sharma, ANM from Government of Rajasthan.
Dr. Rajesh Bali from Government of Haryana.
NGO representatives: Dr. P.K. Jain from RK Mission and Dr. Sunita Abraham from Christian Medical Association of India.
Tmt. C. Chandra, Village Health Nurse, and Tmt. K. Geetha, Village Health Nurse from Government of Tamil Nadu.

I express my sincere thanks to Architects of Central Design Bureau namely Sh. S. Majumdar, Dr. Chandrashekhar, Sh. Sridhar and Sh. M. Bajpai for providing inputs in respect of physical infrastructure and building norms.

I am also extremely grateful to Regional Directors of Health and Family Welfare, State Health Secretaries, State Mission directors and State Directors of Health Services for their feedback.

I shall be failing in my duty if I do not thank Dr. P.K. Prabhakar, Deputy Commissioner, Ministry of Health and Family Welfare for providing suggestions and support at every stage of revision of this document.

Last but not the least the assistance provided by my secretarial staff and the team at Macro Graphics Pvt. Ltd. is duly acknowledged.

(Dr. Anil Kumar)
Member Secretary-Task force
CMO (NFSG)
Directorate General of Health Services
Ministry of Health & Family Welfare
Government of India

June 2012
New Delhi

EXECUTIVE SUMMARY

District Hospital is a hospital at the secondary referral level responsible for a district of a defined geographical area containing a defined population. 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 75 to 500 beds depending on the size, terrain and population of the district.

Service Delivery

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. In this IPHS document, Services that a District Hospital is expected to provide have been grouped as Essential (Minimum Assured Services) and Desirable (which we should aspire to achieve). The services include OPD, indoor and Emergency Service. Besides the basic specialty Services, due importance has been given to Newborn Care, Psychiatric services, Physical Medicine and Rehabilitation services, Accident and Trauma Services, Dialysis services and Anti-retroviral therapy. It is desirable that Super-specialties and related diagnostic facilities be made available, in more than 300 bedded hospitals. Every district hospital should provide facilities of Special Newborn Care Units (SNCU) with specially trained staff. Provisions for Patient Safety, infection control and Health Care workers Safety have been added. It is desirable that every District Hospital should have a Post Partum Unit with dedicated staff to provide Post natal services, all Family Planning Services, Safe Abortion services and immunization in an integrated manner.

Requirement for Delivery of the Above-mentioned Services

The requirements have been projected on the basis of estimated case load for hospital of this strength. The guidelines of hospital building, planning and layout, signage, disaster prevention measures for new facilities, barrier free access and environmental friendly features have been included. Provisions for quality assurance in clinics, laboratories, blood bank, ward unit, pharmacies, and accident & emergency services have been made. Manpower has been rationalized and additional manpower has been provided for Physical medicine and Rehabilitation Services, Dental, Radiotherapy, Immunization and young hearing impaired. National Guidelines on hospital waste management, Guidelines to reduce environmental pollution due to mercury waste, Surgical Safety Checklist for safety of Surgical Patients in ward and Operation Theatre, Management Information System format for monthly reporting, list

of statutory compliance and Seismic safety guidelines have been included.

A Charter of Patients' Rights for appropriate information to the beneficiaries, grievance redressal and constitution of Hospital Management Committee for better management and improvement of hospital services with involvement of Panchayati Raj Institutions (PRI) and NGOs have also been made as a part of the Indian Public Health Standards. The monitoring process and quality assurance mechanism are also included.

Standards are the main driver for continuous improvements in quality. The performance of District Hospital can be assessed against the set standards. This would help monitor and improve the functioning of the District Hospitals in the country.

GUIDELINES FOR DISTRICT HOSPITALS

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. However, at present there are 605 district hospitals in 640 districts of the country as per NRHM data as on 30-6-2010.

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.

As per Census 2001, the population of a district varies from as low as 32,000 (Yanam in Pondicherry, Lahaul & Spiti in Himachal Pradesh) to as high as 30 lakhs (Ludhiana, Amritsar districts). The bed strength also varies from 75 to 500 beds depending on the size, terrain and population of the district. The second phase

of the facility survey undertaken by the Ministry of Health & Family Welfare, Government of India, covering 370 district hospitals from 26 states has revealed that 59% of the surveyed district hospitals have tap water facility; the electricity facility is available in 97% of the districts with a stand by generator facility in 92% of the cases. Almost all the District Hospitals in India have one operation theatre and 48% of them have an OT specifically for gynaecological purpose. About 73% of the surveyed district hospitals have laboratories. A separate aseptic labour room is found in only 45% of the surveyed district hospitals. Only half of the total numbers of district hospitals have OPD facility for RTI/ STI. As regards manpower 10% of the district hospitals do not have O&G specialists and paediatricians. 80% of the District Hospitals have at least one pathologist and 83% at least one anaesthetist. General duty Medical officers, staff nurses, female health workers and laboratory technicians are available in almost all district hospitals. Only 68% of the district hospitals have linkage with the district blood banks.

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, house keeping, 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.

The Bureau of Indian standards (BIS) has developed standards for hospitals services for 30 bedded and 100 bedded hospitals with primary emphasis on structural component. 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. Of late NABH standards are in vogue, however they are mainly process based standards and lack the structural components. In this context a set of standards are being recommended for district hospitals called as **Indian Public Health Standards (IPHS) for District Hospitals.** This document contains the standards to bring the District Hospitals to a minimum acceptable functional grade (indicated as **Essential**) with scope for further improvement (indicated as **Desirable**) in it.

Objectives of Indian Public Health Standards (IPHS) for District Hospitals

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:

1. To provide comprehensive secondary health care (specialist and referral services) to the community through the District Hospital.
2. To achieve and maintain an acceptable standard of quality of care.
3. 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.

Definition

The term District Hospital is used here to mean a hospital at the secondary referral level responsible for a district of a defined geographical area containing a defined population.

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:

1. 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.
2. 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.
3. To provide wide ranging technical and administrative support and education and training for primary health care.

Services

Services that a District Hospital is expected to provide can be grouped as Essential (Minimum Assured Services) and Desirable (which we should aspire to achieve). The services include OPD, indoor and Emergency Services.

Essential	Desirable
General Specialties General Medicine General Surgery Obstetric & Gynaecology Services Family Planing services like Counseling, Tubectomy (Both Laparoscopic and Minilap), NSV, IUCD, OCPs, Condoms, ECPs, Follow up services Paediatrics including Neonatology and Immunization Emergency (Accident & other emergency) Critical care/Intensive Care (ICU) Anaesthesia Ophthalmology	**General Specialties** Dermatology and Venerology (Skin & VD) Radiotherapy Allergy De-addiction centre Physical Medicine and Rehabilitation services Tobacco Cessation Services Dialysis Services

Essential	Desirable
Otorhinolaryngology (ENT) Orthopaedics Radiology including Imaging Psychiatry Geriatric Services (10 bedded ward) Health promotion and Counseling Services Dental care District Public Health Unit DOT centre AYUSH Integrated Counseling and Testing Centre; STI Clinic; ART Centre Blood Bank Disability Certification Services[1] Services under Other National Health Programmes **Diagnostic and other Para clinical services regarding** Laboratory services including Pathology and Microbiology Designated Microscopy centre X-Ray, Sonography ECG Endoscopy Blood Bank and Transfusion Services Physiotherapy Dental Technology (Dental Hygiene) Drugs and Pharmacy **Ancillary and support services** Following ancillary services shall be ensured: Medico-legal/post mortem[2] Ambulance services Dietary services Laundry services Security services Waste management including Biomedical Waste Ware housing/central store Maintenance and repair Electric Supply (power generation and stabilization) Water supply (plumbing) Heating, ventilation and air-conditioning Transport Communication Medical Social Work Nursing Services CSSD - Sterilization and Disinfection Horticulture (Landscaping) Refrigeration Hospital Infection Control Referral Services	**Post Partum Unit**[3] with following services in an integrated manner ♦ Post Natal Services ♦ All Family Planning services i.e Counseling, Tubectomy (Both Laparoscopic and Minilap), NSV, IUCD, OCPs, Condoms, ECPs, Follow up services ♦ Safe Abortion Services ♦ Immunization **Super Specialties** (May be provided depending upon the availability of manpower in State/UT) Cardiology Cardio-thoracic and Vascular Surgery Gastro-enterology Surgical Gastro-enterology Plastic Surgery Electrophysiology Nephrology Urology Neurology Neurosurgery Oncology Endocrinology/Metabolism Medical oncology Surgical oncology Radiation oncology Nuclear medicine Specialist **Diagnostic and other Para clinical services regarding** Blood Bank with all allied facilities CT Scan MRI EEG NCV EMG VEP (visual evoked potential) Muscle Biopsy Angiography Echocardiography Occupational therapy

1 As per guidelines notified by state Government.

2 Standard procedures for medico-legal cases, management of dead body and post mortem services (if needed) to be followed.

3 If the case load of deliveries is more than 75 per month

Essential	Desirable
Administrative services (i) Finance[4] (ii) Medical records (Provision should be made for computerized medical records with anti-virus facilities whereas alternate records should also be maintained) (iii) Procurement (iv) Personnel (v) Housekeeping and Sanitation (vi) Education and training (vii) Inventory Management (viii) Hospital Information System (ix) Grievances redressal Services **Services under various National Health and Family Welfare Programmes.** **Epidemic Control and Disaster Preparedness** Integrated Disease surveillance, epidemic investigation and emergency response	**Ancillary and support services** Counseling services for domestic violence, gender violence, adolescents, etc. Gender and socially sensitive service delivery be assured. Telemedicine 24 × 7 ambulance with advance life support systems Lift and vertical transport

Note: Facilities for training of candidates who will be enrolled in the proposed Bachelor of Rural Health Care (BRHC of three and half year) shall be provided, as per the guidelines, once implemented. As per the proposal, the facilities with more than 300 beds can enroll 50 candidates, and those with 150 to 300 can enroll 25 candidates for the proposed course (BRHC).

Financial powers of Head of the Institution: Medical Superintendent to be authorized to incur expenditure from Rs. 20 lakhs to Rs. 25.00 lakhs depending upon bed strength for repair/upgrading of impaired equipment/ instruments with the approval of executive committee of Rogi Kalyan Samiti/Hospital Management Society.

All equipment should have annual maintenance contract for regular servicing and repair to ensure that they are in optimum working conditions and no equipment/instruments should remain non-functional for unreasonably long time. Outsourcing of services like laundry, ambulance, dietary, housekeeping and sanitation, waste disposal etc. should be preferably arranged by hospital itself. Manpower and outsourcing work could be done through local tender mechanism.

Self evaluation of hospital services at defined frequency should be done.

4 Financial accounting and auditing be carried out as per the rules along with timely submission of Statement of Expenditures/Utilization Certificates.

Patient Safety and Infection Control

Essential

1. Hand washing facilities in all OPD clinics, wards, emergency, ICU and OT areas.
2. Safe clinical practices as per standard protocols to prevent health care associated infections and other harms to patients.
3. There shall be proper written handing over system between health care staff.
4. Formation of Infection control team and provision of trained Infection Control nurses. Hospital shall develop standard operating procedure for aseptic procedures, culture surveillance and determination of hospital acquired infections.
5. Safe Injection administration practices as per prescribed protocols.
6. Safe Blood transfusion practices need to be implemented by the hospital administrators.
7. Ensuring Safe disposal of Bio-medical waste as per rules (National Guidelines to be followed, may be seen at **Annexure II A**).

8. For Disposal of Mercury, guidelines may be seen at **Annexure II B.**
9. Regular Training of Health care workers in Patient safety, infection control and Bio-medical waste management.
10. Compliance to correct method of hand hygiene by health care workers should be ensured.

Desirable

1. Provision of locally made Hand rub solution in critical care areas like ICU, Nursery, Burns ward etc. to ensure Hand Hygiene by Health care workers at the point of care.
2. Use of safe Surgery check lists in the ward and operation Theatre to minimize the errors during surgical procedures. (for the detailed checklist refer to **Annexure IV**).
3. A culture of encouraging reporting of Adverse Events happening in the hospital to a hospital committee should be developed to find out the cause of the adverse event and taking the corrective steps to prevent them in future. Committee should also have patient and community representatives as members.
4. Guidelines for Airborne Infection Control as given in **Annexure III** should be followed.
5. **Antibiotic Policy –** Hospital shall develop its own antibiotic policy to check indiscriminate use of antibiotics and reduce the emergence of resistant strains**.**

Health Care Workers Safety

1. Provision of Protective gears like gloves, masks, gowns, caps, personal protective equipment, lead aprons, dosimeters etc. and their use by Health Care workers as per standard protocols.
2. Promotion of Hand Hygiene and practice of Universal precautions by Health care workers.
3. Display Standard operating procedures at strategic locations in the hospitals.
4. Implementation of Infection control practices and Safe BMW Management.
5. Regular Training of Health care workers in Universal precautions, Patient safety, infection control and Bio-medical waste management.

Desirable

1. Immunization of Health care workers against Tetanus and Hepatitis B.
2. Provision of round the clock Post exposure prophylaxis against HIV in cases of needle sticks injuries.

Service Mix of Procedures in Medical and Surgical Secialities

Following services mix of procedures in medical and surgical specialties would be available. The list is only indicative and not exhaustive. The diseases prevalent in the district should be treated.

Sl. No.	Name of the Procedure
Medical	
1	Pleural Aspiration
2	Pleural Biopsy
3	Bronchoscopy
4	Lumbar Puncture
5	Pericardial tapping
6	Skin scraping for fungus/AFB
7	Skin Biopsies
8	Abdominal tapping
9	Liver Biopsy
10	Liver Aspiration
11	Fibroptic Endoscopy
12	Peritoneal dialysis
13	Hemodialysis
14	Bone Marrow Biopsy
OPD Procedures (Including IPD)	
1	Dressing (Small, Medium and Large)
2	Injection (I/M & I/V)
3	Catheterisation
4	Nebulization
5	Cut down (Adult)
6	Enema
7	Stomach Wash
8	Douche
9	Sitz bath
10	CVP Line
11	Blood Transfusion
12	Hydrotherapy
13	Bowel Wash
Skin Procedures	
1	Chemical Cautery
2	Electro Cautery

Sl. No.	Name of the Procedure
3	Intra Lesional Injection
4	Biopsy
Paediatric Procedures	
1	Immunization (As per National Immunization Schedule)
2	**Services related to Newborn care**
2.1	- only cradle
2.2	- Incubator
2.3	- Radiant Heat Warmer
2.4	- Phototherapy
2.5	- Gases (Oxygen)
2.6	- Pulse Oxymeter
2.7	- Lumbar Puncture
2.8	- Bone Marrow
2.9	- Exchange Transfusion
2.10	- Cut down
2.11	- Plural/Ascites Tap
2.12	- Ventilator
2.13	- Live Biopsy u/s guided
2.14	- Care of LBW newborns <1800 gm
2.15	- Neonatal Resuscitation
2.16	- Care of Sick New Born
2.17	- Vit K for Premature Babies
2.18	- Antenatal Corticosteroid to mother in case of pre term babies
2.19	- Zero Day immunization
2.20	- Management of complications through SNCU
Cardiology Procedures and Diagnostic Tests	
1	ECG
2	TMT
3	Holter
4	Thrombolytic Therapy
5	CVP Line
6	Defibrilator Shock
7	NTG/Xylocard Infusion
8	ECHO Cardiography
9	Angiography (Desirable)
10	Angiography (Desirable)
Endoscopic Specialised Procedures and Diagnostic	
1	Upper GI Endoscopy (Oesophagus, stomach, duodenum) (Diagnostic and Therapeutic)
2	Sigmoidoscopy and Colonoscopy
3	Bronchoscopy and Foreign Body Removal
4	Arthros copy (Diagnostic and Therapeutic)
5	Laproscopy (Diagnostic and Therapeutic)

Sl. No.	Name of the Procedure
6	Colposcopy
7	Hysteroscopy
Psychiatry Services	
1	Modified ECT
2	Narcoanalysis
PMR Services	
1	**With Electrical Equipment**
1.1	- Computerised Tractions (Lumbar & Cervical)
1.2	- Short wave diathermy
1.3	- Electrical Stimulator with TENS
1.4	- Electrical Stimulator
1.5	- Ultra Sonic Therapy
1.6	- Paraffin Wax Bath
1.7	- Infra Red Lamp (Therapy)
1.8	- UV (Therapeutic)
1.9	- Electric Vibrator
1.10	- Vibrator Belt Massage
2	**With Mechanical Gadgets/Exercises**
2.1	- Mechanical Tractions (Lumber & Cervical)
2.2	- Exercycle
2.3	- Shoulder Wheel
2.4	- Shoulder Pulley
2.5	- Supinator Pronator Bar
2.6	- Gripper
2.7	- Visco Weight Cuffs
2.8	- Walking Bars
2.9	- Post Polio Exercise
2.10	- Obesity Exercises
2.11	- Cerebral Palsy – Massage
2.12	- Breathing Exercises & Postural Drainage
3	Disability Certification Services
Eye Specialist Services (Ophthalmology)	
1	**OPD Procedures**
1.1	- Refraction (by using snellen's chart)
1.2	- Refraction (by auto refrectro meter)
1.3	- Syringing and Probing
1.4	- Foreign Body Removal (conjuctival)
1.5	- Foreign Body Removal (Corneal)
1.6	- Epilation
1.7	- Suture Removal
1.8	- Sub-conjuctival Injection
1.9	- Retrobular Injection (Alcohol etc.)

Sl. No.	Name of the Procedure
1.10	- Tonometry
1.11	- Biometry/Keratometry
1.12	- Automated Perimetry
1.13	- Pterygium Excision
1.14	- Syringing & Probing
1.15	- I & C of chalazion
1.16	- Wart Excision
1.17	- Stye
1.18	- Cauterization (Thermal)
1.19	- Conjuctival Resuturing
1.20	- Corneal Scarping
1.21	- I & D Lid Abscess
1.22	- Uncomplicated Lid Tear
1.23	- Indirect Opthalmoscopy
1.24	- Retinoscopy
2	**IPD Procedures**
2.1	- Examination under GA
2.2	- Canthotomy
2.3	- Paracentesis
2.4	- Air Injection & Resuturing
2.5	- Enucleation with Implant
2.6	- Enucleaion without Implant
2.7	- Perforating Coneo Scleral Injury Repair
2.8	- Cataract Extraction with IOL
2.9	- Glaucoma (Trabeculectomy)
2.10	- Cutting of Iris Prolapse
2.11	- Small Lid Turnour Excision
2.12	- Conjuctival Cyst
2.13	- Capsulotomy
2.14	- Ant. Chamber Wash
2.15	- Evisceration
ENT Services	
1	**OPD Procedures**
1.1	- Foreign Body Removal (Ear and Nose)
1.2	- Stitching of CLW's
1.3	- Dressings
1.4	- Syringing of Ear
1.5	- Chemical Cauterization (Nose & Ear)
1.6	- Eustachian Tube Function Test
1.7	- Vestibular Function Test/Caloric Test
2	**Minor Procedures**
2.1	- Therapeutic Removal of Granulations (Nasal, Aural, Oropharynx)

Sl. No.	Name of the Procedure
2.2	- Punch Biopsy (Oral Cavity & Oropharynx)
2.3	- Cautrization (Oral, Oropharynx, Aural & nasal)
3	**Nose Surgery**
3.1	- Nasal Endoscopy & Endoscopic Sinus Surgery
3.2	- Packing (Anterior & Posterior Nasal)
3.3	- Antral Punchure (Unilateral & Bilateral)
3.4	- Inter Nasal Antrostomy (Unilateral & Bilateral)
3.5	- I & D Septal Abscess (Unilateral & Bilateral)
3.6	- SMR
3.7	- Septoplasty
3.8	- Fracture Reduction Nose
3.9	- Fracture Reduction Nose with Septal Correction
3.10	- Transantral Procedures (Biopsy, Excision of cyst and Angiofibroma Excision)
3.11	- Transantral Biopsy
3.12	- Rhinoplasty
3.13	- Septoplasty with reduction of turbinate (SMD)
4	**Ear Surgery**
4.1	- Mastoid Abscess I & D
4.2	- Mastoidectomy
4.3	- Stapedotomy
4.4	- Examination under Microscope
4.5	- Myringoplasty
4.6	- Tympanoplasty
4.7	- Myringotomy
4.8	- Ear Piercing
4.9	- Hearing Aid Analysis and Selection
5	**Throat Surgery**
5.1	- Adenoidectomy
5.2	- Tonsillectomy
5.3	- Adenoidectomy + Tonsillectomy
5.4	- Tongue Tie excision
6	**Endoscopic ENT Procedures**
6.1	- Direct Laryngoscopy
6.2	- Hypopharyngoscopy
6.3	- Direct Laryngoscopy & Biopsy
6.4	- Broncoscopic Diagnostic
6.5	- Broncoscopic & F B Removal
7	**General ENT Surgery**
7.1	- Stiching of LCW (Nose & Ear)
7.2	- Preauricular Sinus Excision
7.3	- Tracheostomy

Sl. No.	Name of the Procedure
8	**Audiometry**
8.1	- Audiogram (Pure tone and Impedence)
Obstetric & Gynecology Specialist Services	
1	Forceps delivery
2	Craniotomy-Dead Fetus/Hydrocephalus
3	Caesarean section
4	Female Sterilization (Mini Laparotomy & Laparoscopic)
5	D&C
6	MTP (Medical Method & Surgical Methods)
7	IUCD services (Insertion & Removal)
	Contraceptives including emergency contraceptives
8	Bartholin Cyst Excision
9	Suturing Perineal Tears
10	Ovarian Cystectomy/Oophrectomy
11	Vaginal Hysterectomy
12	Haematocolpes Drainage Colpotomy
13	Caesarian Hysterectomy
14	Assisted Breech Delivery
15	Cervical Biopsy
16	Cervical Cautery (Electro/cryocautery)
17	Normal Delivery
18	PPTCT
19	EUA
20	Midtrimestor Abortion
21	Ectopic Pregnancy Ruptured Rupteured & Unruptured
22	Retain Placenta
23	Suturing Cervical Tear
24	Assisted Twin Delivery
25	Colposcopy
26	Hysteroscopy
27	Laparoscopy Diagnostic/Operative
28	Vaccum Delivery
29	Endometria Biospsy
30	ECC
31	Cervical Biopsy
32	Endometiral Aspiration
33	Hysterotomy
34	Sling Operation

Sl. No.	Name of the Procedure
35	Tuboplasty
36	Emergency & Exploratory Laparotomy (Uterine perforation, septic abortion, Twisted Ovarian, Pelvic abscess, ectopic pregnancy)
37	FNAC
38	Management of Severe Anaemia
Dental Services	
1	Dental Caries/Dental Abscess/Gingivitis
2	Periodontitis → Cleaning / Surgery
3	Minor Surgeries, Impaction, Flap
4	Malocclusion
5	Prosthodontia (Prosthetic Treatment)
6	Trauma including Vehicular Accidents
7	Maxillo Facial Surgeries
8	Neoplasms
9	Sub Mucus Fibrosis (SMF)
10	Scaling and Polishing
11	Root Canal Treatment
12	Extractions
13	Light Cure
14	Amalgum Filling (Silver)
15	Sub Luxation and Arthritis of Temporomandibular Joints
16	Pre Cancerous Lesions and Leukoplakias
17	Intra oral X-ray
18	Fracture wiring
19	Apiscectomy
20	Gingivectomy
21	Removal of Cyst
22	Complicated Extractions (including suturing of gums)
Surgical	
1	Abscess drainage including breast & perianal
2	Wound Debridement
3	Appendicectomy
4	Fissurotomy or fistulectomy
5	Hemorrohoidectomy
6	Circumcision
7	Hydrocele surgery
8	Herniorraphy
9	Suprapubic Cystostomy
10	Urethral Dilatation

Sl. No.	Name of the Procedure
11	Cystoscopy
12	Endoscopy
13	Diagnostic Laparoscopy
14	Colonoscopy
15	Sigmoidoscopy
16	Colposcopy
17	Hysteroscopy
18	Arthroscopy
19	Tonsillectomy
20	Mastoidectomy
21	Stapedotomy
22	Craniotomy (Neurosurgical)
23	Forceps delivery
24	Craniotomy-Dead Fetus/Hydrocephalus
25	Caesarean section
26	Female Sterilization (Mini Laparotomy & Laparoscopic)
27	Vasectomy
28	D&C
29	MTP
30	FNAC
31	Superficial & Total Parotidectomy
32	Intra-oral removal of submandibular duct Calculous
33	Excision Branchial Cyst or Fistula/sinus
34	Excision of Lingual Thyroid
35	Hemithyroidectomy (Sub total Thyroidectomy/ Lobectomy)
36	Cysts and Benign Tumour of the Palate
37	Excision Submucous Cysts
Breast	
1	Excision fibroadenoma – Lump
2	Simple Mastectomy
3	Modified Radical Mastectomy
4	Sectoral Mastectomy/Microdochectomy/ Lumpectomy
5	Wedge Biopsy
6	Excision Mammary Fistula
Hernia	
1	Ingunial Hernia repair
2	Ingunial Hernia repair with mesh
3	Femoral Hernia repair
4	Epigastric/Ventral Hernia repair

Sl. No.	Name of the Procedure
5	Recurrent Ingunial Hernia repair
6	Ventral Hernia repair with mesh
7	Operation of Strangulated Ventral, Inguinal or Incisional Hernia
8	Recurrent Incisional Hernia Repair
9	Diaphragmatic Hernia Repair
Abdomen	
1	Exploratory Laparotomy
2	Gastrostomy or Jejunostomy
3	Simple Closure of Perforated Ulcer
4	Ramstedt's Operation
5	Gastro-Jejunostomy
6	Vagotomy & Drainage Procedure
7	Adhesonolysis or division of bands
8	Mesenteric Cyst
9	Retroperitoneal Tumour Excision
10	Intussuception (Simple Reduction)
11	Burst Abdomen Repair
Spleen and Portal Hypertension	
1	Splenectomy
Pancreas	
1	Drainage of Pseudopancreatic Cyst (Cystogastrectomy)
2	Retroperitoneal Drainage of Abscess
Appendix	
1	Emergency Appendicectomy
2	Interval Appendicectomy
3	Appendicular Abscess Drainage
Small Intestine	
1	Resection and Anastomosis
2	Intussusception
3	Intestinal Fistula
4	Multiple Resection and Anaestomosis
5	Intestinal Performation
Liver	
1	Open Drainage of liver abscess
2	Drainage of Subdiaphragmatic Abscess/Perigastric Abscess
3	Hydatid Cyst Excision
Biliary System	
1	Cholecystostomy
2	Cholecystectomy: Open and Laparoscopic

Sl. No.	Name of the Procedure
3	Cholecystectomy, Choledocholithotomy & Choledochoduodenostomy
Colon, Rectum and Anus	
1	Fistula in ano low level
2	Fistula in ano high level with Stenosis
3	Colostomy
4	Perianal Abscess Drainage
5	Ischiorectal Abscess
6	Ileostomy or colostomy alone
7	Sigmoid Myotomy
8	Right Hemicolectomy
9	Sigmoid & Descending Colectomy
10	Haemorrhoidectomy
11	Sphincterotomy and Fissurectomy
12	Tube Caecostomy
13	Closure of loop colostomy
14	Rectal Prolapse Repair
15	Anal Sphincter Repair after injury
16	Thiersch's operation
17	Volvulus of colon
18	Resection anastomosis
19	Imperforate anus with low opening
20	Pilonidal Sinus
Penis, Testes, Scrotum	
1	Circumcision
2	Partial amputation of Penis
3	Total amputation of Penis
4	Orchidopexy (Unilateral & Bilateral)
5	Orchidectomy (Unilateral & Bilateral)
6	Hydrocele (Unilateral & Bilateral)
7	Excision of Multiple sebaceous cyst of scrotal skin
8	Reduction of Paraphimosis
Other Procedures	
1	Suturing of large laceration
2	Suturing of small wounds
3	Excision of sebaceous cyst
4	Small superficial tumour
5	Large superficial tumour
6	Repair torn ear lobule each
7	Incision and drainage of abscess
8	Lymph node biopsy
9	Excision Biopsy of superficial lumps

Sl. No.	Name of the Procedure
10	Excision Biopsy of large lumps
11	Injection Haemorrhoids/Ganglion/Keloids
12	Removal of foreign body (superficial)
13	Removal of foreign body (deep)
14	Excision Biopsy of Ulcer
15	Excision Multiple Cysts
16	Muscle Biopsy
17	Tongue Tie
18	Debridment of wounds
19	Excision carbuncle
20	Ingroving Toe Nail
21	Excision Soft Tissue Tumour Muscle Group
22	Diabetic Foot and carbuncle
Urology	
1	Pyelolithotomy
2	Nephrolithotomy
3	Simple Nephrostomy
4	Implantation of ureters
5	Vesico-vaginal fistula
6	Nephrectomy
7	Uretrolithotomy
8	Open Prostectomy
9	Closure of Uretheral Fistula
10	Cystolithotomy Suprapubic
11	Dilatation of stricture urethra under GA
12	Dilatation of stricture urethra without anaesthesia
13	Meatotomy
14	Testicular Biopsy
15	Trocar Cystostomy
Plastic Surgery	
1	Burn Dressing Small, medium (10% to 30%), large 30% to 60%, extensive > 60%
2	Ear lobules repair one side (bilateral)
3	Simple wound
4	Complicated wound
5	Face Scar – Simple
6	Cleft Lip – One side
7	Small wound skin graft
8	Simple injury fingers
9	Finger injury with skin graft
10	Multiple fingers injury
11	Crush injury hand

Sl. No.	Name of the Procedure
12	Full thickness graft
13	Congenitial Deformity (Extra digit, Syndactly, Constriction rings)
14	Reconstruction of Hand (Tendon Repair)
15	Polio Surgery
16	Surgery concerning disability with Leprosy
17	Surgery concerning with TB
Paediatric Surgery	
1	Minor Surgery, I & D, Prepuceal Dilatation, Meatotomy
2	Gland Biopsy, Reduction Paraphimosis, small soft Tissue tumour (Benign)
3	Rectal Polyp removal, deep abscess
4	Big soft tissue tumour
5	Branchial cyst/fistula/sinus, Throglossal cyst and fistula
6	Ingunial Herniotomy (Unilateral & Bilateral)
7	Orchidopexy (Unilateral & Bilateral)
8	Pyloric Stenosis Ramstad operation
9	Exploratory Laprotomy
10	Neonatal Intestinal Obstruction/Resection/Atresia
11	Gastrostomy, colostomy
12	Umbilical Hernia/Epigastric Hernia
13	Sacrocaccygeal Teratoma
14	Torsion of Testis
15	Hypospadius single stage (first stage)
Orthopaedic Surgery	
1	**Hip Surgery**
2	Femoral Neck nailing with or without plating replacement prosthesis/Upper Femoral Osteotomy; Innominate Osteotomy/Open Reduction of Hip disclocation; DHS/Richard Screw Plate
3	Synovial or bone biopsy from Hip
4	Girdle stone Arthoplasty
5	Arthroscopy
6	Total Hip Replacement (Desirable)
7	Total Knee Replacement (Desirable)
Fractures	
1	Open reductuin int. fixation or femur, tibia, B. Bone, Forearm Humeras inter-condylar fracture of humerus and femur and open reduction and int. Fixation bimaleolar fracture and fracture dislocation of ankle montaggia fracture dislocation
2	Medical concyle of humerus, fracture lateral condyle of humerus, Olecranen fracture, head of radius lower end of radius, medial malleolus patella fracture and fracture of calcaneum talus single forearm, bone fracture
3	External Fixation Application Pelvis femur, tibia humerus forearm
4	Ext. fixation of hand & foot bones
5	Tarsals, Metatarsals, Phalanges carpals, Metacarples, excision head fibula, lower end of ulna
6	Drainage of fracture
7	Interlocking nailing of long bones
8	Debridement & Secondary closure
9	Percutaneous Fixation (small and long bones)
Closed Reduction	
1	Hand, Foot bone and cervical
2	Forearm or Arm, Leg, Thigh, Wrist, Ankle
3	Dislocation elbow, shoulder, Hip, Knee
4	Closed Fixation of hand/foot bone
Open Reduction and Others	
1	Shoulder dislocation, knee dislocation
2	Acromiocalvicular or stemoclavicular Jt., Clavicle
3	Ankle Bimalleolar Open reduction, Ankle Trimalleolar open reduction
4	Wrist dislocation on intercarpal joints
5	MP & IP Joints
6	Knee Synovectomy/Menisectomy
7	Fasciotomy leg/forearm
8	High Tibial Osteotomy
9	Arthodesis (Shoulder/Knee Ankle, Triple/elbow, Wrist/Hip)
10	Arthodesis – MP & IP Joints
11	Excision Exostosis long bones, single/two
12	Curretage Bone Grafting of Bone Tumour of femur/tibia Humerus & forearm
13	Surgery tumours of small bone hand and foot
14	Debridement primary closure of compounds fracture of tibia, femur forearm without fixation
15	Debridement of hand/foot
16	Debridement primary closure of compound fractures of tibia, femur forearm with fixation
17	Tendon surgery soft tissue release in club foot
18	Internal fixation of small bone (Single, Two, More than two)

Sl. No.	Name of the Procedure
19	Tendon Surgery (Repair and Lengthening)
20	Surgery of chronic Osteomyelitis (Saucerization, Sequentrectomy of femur, Humerus, Tibia)
21	Fibula Radius Ulna (Clavicle) and Wrist, Ankle, Hand foot
22	Amputation (Thigh or arm, leg or forearm, feet or hand, digits)
23	Disarticulation of hip or shoulder (Disarticulation of knee elbow/wrist/ankle; Fore-quarter or hind-quarter)
24	POP Application (Hip Spica, Shoulder spica POP Jacket; A-K/A-E POP; B-K/B-E POP)
25	Corrective Osteotomy of long bones
26	Excision Arthoplasty of elbow & other major joints; Excision Arthoplasty of small joints
27	Operation of hallus valgus
28	Bone Surgery (Needle biopsy, Axial Skelton, Non-Axial)
29	Removal K Nail AO Plates

Sl. No.	Name of the Procedure
30	Removal Forearm Nail, Screw, Wires
31	Skeletal Traction Femur, Tibia, Calcanium, Elbow
32	Bone Grafting (small grafting and long bone)
33	Ingrowing toe-nail
34	Soft tissue Biopsy
35	Skin Graft (small, medium and large)
36	Patellectomy
37	Olacranon fixation
38	Open Ligament repair of elbow, Ankle & Wrist
39	Arthrotomy of hip/shoulder/elbow
40	Carpal Tunnel Release
41	Dupuytrens contracture
42	Synovectomy of major joint shoulder/hip/Elbow
43	Repair of ligaments of knee
44	Closed Nailing of long bones
45	External fixator readjustment dynamisation removal of external fixation/removal of implant
46	Excision of soft tissue tumour muscle group

Recommended Service Mix (suggested actions) for different illnesses concerning different specialities

Obstetric and Gyneacology

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Bleeding during first trimester & **Hyperemesis**	Treat
2	Bleeding during second trimester	Treat
3	Bleeding during third trimester **(APH/Placenta Previa)**	Treat & refer if Necessary
3a	**Placenta Accreta/increta/percreta**	**Investigate and refer if necessary**
4	Normal Delivery (**Induction of labor)**	Yes
5	Abnormal labour (Mal presentation, prolonged labour, **Pre-Term Labour, IUGR, Mal Position, Cord Prolapse** PROM, Obstructed labour)	Treat
6	PPH	Treat
7	Puerperal Sepsis	Treat
8	Ectopic Pregnancy	Treat
9	**Hypertentive disorders (Severe preeclampsia & Eclampsia)**	**Investigate, treat and refer if necessary**

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
10	Septic abortion & **Incomplete Abortion**	Treat
11	Medical disorders complicating pregnancy (heart disease, diabetes, hepatitis, **Renal disorders, Respitatory Disorders, Tuberculosis, Anemia, RH negative Pregnancy**)	**Investigate, treat and refer if necessary**
12	**Bronchial asthma**	**Treat**
13	**Gestational Trophoblastic diseases**	**Investigate, treat and refer if necessary**
14	**Intra-Uterine Death**	**Investigate, treat and refer if necessary**
15	**Surgical Disorders with pregnancy (Prev. LSCS/Fibroid uterurs/Ovarian mass)**	**Investigate, treat and refer if necessary**
16	**Bleeding Disorders in Pregnacy**	**Refer at the earliest**
Gynaecology		
1	RTI/STI	Treat
2	Dysfunctional Uterine Bleeding	Treat
3	Benign disorders (fibroid, prolapse, ovarian masses **& Torsion, endometriosis)** Initial investigation at PHC/Gr III level	Treat
4	Breast Tumors	Investigate, treat and refer if necessary
5	Cancer Cervix **Endometrial, Ovarian, Vulval, Vaginal screening** Initial investigation at PHC/Grade III level	Collection of PAP SMEAR and biopsy, Endometrial Aspiration, ECC, D&C, Colposcopy, hysteroscopy **Repairing Cytology & Hispothalogy**
6	Cancer cervix/ovarian Initial investigation at PHC/Gr III level	Treat
7	Infertility	Treat
8	Prevention of MTCT	Pretest and post test and counselling and treatment
9	MTP/MVA services	Treat
10	Tubectomy **(Mini-lap, Laparoscopic)**	Yes
11	Medico-Legal Cases (Rape, Sexual Assault)	Registration, Examination, Sample collection, Treat, Provision of emergency contraception (as per Supreme Court order)

General Medicine

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Fever a) Short duration (<1 week)	Basic investigation and Treatment
	b) Long duration (>1 week)	Investigation and treatment
	c) Typhoid	Treat
	d) Malaria/Filaria.	Treat
	e) Pulmonary Tuberculosis.	Treat
	f) Viral Hepatitis	Treat If HBs, Ag +ve refer to tertiary care
	g) Leptospirosis/Meningitis and Haemorrhagic fever	Confirm by MAT/CSF Analysis and treat
	h) Malignancy	Confirm diagnosis refer to tertiary care

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
2	**Common Respiratory Ilnesses**	
	Bronchial Asthma/Pleural effusion/Pneumonia/ Allergic Bronchitis/COPD	Diagnose and Treat
3	**Common Cardiac Problems**	
	a) Chest pain (IHD)	Treat and decide further management
	b) Giddiness (HT)	Diagnose and treat
4	**G I Tract**	
	a) G I Bleed/Partial hypertension/Gallbladder disorder	Investigate and treat
	b) AGE/Dysentery/Diarrhoreas	Treat
5	**Neurology**	
	a) Chronic Headache	Investigate, treat & decide further
	b) Chronic Vertigo/CVA/TIA/Hemiplegia/Paraplegia	Treat
6	**Haematology**	
	a) Anaemia	Basic investigation and Treatment
	b) Bleeding disorder	Stabilise Ref. To tertiary
	c) Malignancy	Treat & decide further
7	**Communicable Diseases**	
	Cholera Measles Mumps Chickenpox	Treat
8	**Psychological Disorders**	
	Acute psychosis/Obsession/Anxiety neurosis	Treat
9	**Poisonings**	Management National Poisoning Centre (at AIIMS,New Delhi) may be consulted if required. Poisoning centers at state level with helpline numbers may be established to guide the management

Paediatrics

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	ARI/Bronchitis Asthmatic	Investigate Diagnose Nebulizator Oxygen
2	Diarrohoeal Diseases	Diagnose Treat ORT Center

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
3	Protein Energy Malnutrition and Vitamin Deficiencies	Investigate, then refer & then supportive treatment in liaison with the specialized centre Diagnose Treat with help of Dietician
4	Pyrexia of unknown origin	Diagnose Treat
5	Bleeding Disorders	Investigate & Treat
6	Diseases of Bones and Joints	Investigate & Treat
7	Childhood Malignancies	Investigate then refer & then supportive treatment in liaison with the specialized centre & manage
8	Liver Disorders	Investigate & Manage
9	Paediatric Surgical Emergencies	Investigate & Manage
10	Poisoning, Sting, Bites	Treat

Neonatology

Sl. No.	Name of The Illness	Recommended Service Mix (suggested actions)
1	Attention at birth (to prevent illness)	5 cleans warm chain
2	Hypothermia	Warm chain
3	Birth asphyxia	Resuscitation And Treatment
4	Hypoglycemia	Investigate & Treat
5	Meconium aspiration syndrome	Treat
6	Convulsions (seizures)	Investigate & Treat
7	Neonatal Sepsis	Investigate & Treat
8	LBW	Investigate & Treat
9	Neonatal Jaundice	Treat
10	Preterm	Warm chain, feeding, kangaroo care, Treat
11	Congenital malformations	Manage
12	R.D.S. ARI	Manage, CPAP
13	Seriously ill baby	Identify and manage **& refer appropriately**
14	Feeding Problems	Identify and manage
15	Neonatal diarrhoea	Diagnosis and manage
16	Birth injury	Manage
17	Neonatal Meningitis	Manage
18	Renal problems/Congenital heart disease/Surgical emergencies	Refer
19	HIV/AIDS	Exclusive breast feeding & manage
20	Hypocalcemia	Manage
21	Metabolic Disorders	Manage
22	Hyaline Membrane diseases	Diagnose & treat with CPAP
23	Neonatal Malaria	Manage
24	Blood disorders	Manage
25	Developmental Delays	CBR
26	UTIs	Manage & refer
27	Failure to Thrive	Manage & Refer

Dermatology

Sl. No.	Name of The Illness	Recommended Service Mix (suggested actions)
1	**Infections** **a) Viral** - HIV - Verrucca Molluscum Contagiosa Pityriasis Rosea LGV HIV	Treat
	b) Bacteria Pyoderma Chancroid Gonorrhea Leprosy Tuberculosis	Treat
	c) Fungal Sup. Mycosis Subcut - Mycetoma	Treat
	d**) Parasitic Infestation** Scabies/Pediculosis/Larva Migrans	Treat
	e) Spirochaetes Syphilis	Diagnosis and Treat
2	**Papulosquamous** Psoriasis (classical)-uncomplicated/Lichen Planus	Treat
3	**Pigmentary Disorder** Vitiligo	Treat
4	**Keratinisation Disorder** Ichthyosis/Traumatic Fissures	Treat
5	**Autoimmune** Collagen Vascular DLE, Morphea	Treat/ Refer
6	**Skin Tumors,** Seb. Keratosis, Soft Fibroma, Benign Surface, Tumors/Cysts, Appendageal Tumors	Treat
7	**Miscellaneous** a) Acne Vulgaris, Miliaria, Alopecia, Nail disorder, Toxin induced	Treat
	b) Leprosy - Resistant/ Complications/reaction Allergy - EMF/SJS/TEN Psoriasis/Collagen Vascular/ Auto immune Disorders	Treat
	c) Deep Mycosis, STD Complications	Treat
	d) Genetically Determined Disorders	Treat

Chest Diseases

Sl. No.	Name of The Illness	Recommended Service Mix (suggested actions)
1	Fever	Investigation and Treatment
2	Cough with Expectoration/Blood Stained	Treatment CT Scan if necessary
3	Hemoptysis	CT scan Bronchoscopy Treatment
4	Chest Pain	Investigation and Treatment
5	Wheezing	Treatment, PFT
6	Breathlessness	Investigation and Treatment Chest Physiotherapy

Psychiatry

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Schizophrenia	Treatment and Follow up If Possible (IP) Management
2	Affective/Bipolar disorders	Treatment and Follow up If Possible (IP) Management
3	Obsessive compulsive disorders	Treatment and Follow up If Possible (IP) Management
4	Anxiety Disorders	Treatment and Follow up If Possible (IP) Management
5	Childhood Disorders including Mental Retardation	Treatment and Follow up If Possible (IP) Management
6	Somatoform and conversion disorders	Treatment and Follow up If Possible (IP) Management
7	Alcohol and Drug Abuse	Treatment and Follow up If Possible (IP) Management
8	Dementia	Treatment and Follow up If Possible (IP) Management

Diabetology

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Diabetes	Screening, Diagnose and Treat
2	Gestational Diabetes/DM with Pregnancy	Diagnose and Treat
3	DM with HT	Screening, Diagnose and Treat
4	Nephropathy/Retinopathy	Diagnose and Treat
5	Neuropathy with Foot Care	Diagnose and Treat
6	Emergency :- i) Hypoglycemia ii) Ketosis iii) Coma	Diagnose and Treat

Nephrology

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Uncomplicated UTI	Treat
2	Nephrotic Syndrome - Children/Acute Nephritis	Treat
3	Nephrotic Syndrome - Adults	Refer to Tertiary, follow up care
4	HT, DM	Treat
5	Asymptomatic Urinary Abnormalities	Treat
6	Nephrolithiasis	Treat
7	Acute Renal Failure/Chronic Renal Failure	Treat
8	Tumors	Refer to Tertiary

Neuro Medicine and Neuro Surgery

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Epilepsy	Investigate and Treat
2	C. V. A.	Investigate and Treat
3	Infections	Investigate and Treat
4	Trauma	Investigate and Treat
5	Chronic headache	Investigate and Treat
6	Chronic Progressive Neurological disorder	Investigate and Treat

General Surgery

Sl. No.	Name of the Illness		Recommended Service Mix (suggested actions)
1	**Basic Techniques**	**a. Minor Cases** under LA Abscess I&D/Suturing, Biopsy/Excision of Lipoma/Ganglion/Lymph Node/Seb-Cyst/ Dermoid/Ear Lobe Repair/Circumcision	Treat
		b. FNAC Thyroid, Breast Lumps, Lymphnodes, Swelling	Investigate/Diagnosis/Treatment
2	**Elective Surgeries**	**a. Genitourinary tract** Hydrocele, Hernia, Circumcision, Supra pubic cysostomy	Treat
		b. Gastrointestinal disorder Appendicitis/ Anorectal abcesses/Rectal prolapse/Liver abscess/Haemorrhoids/Fistula	Treat
3	**Emergency Surgeries**	Assault injuries/Bowel injuries/Head injuries/ Stab injuries/Multiple injuries/Perforation/ Intestinal obstruction	Treat
4	**Benign/Malignant Diseases**	Breast/Oral/GI tract/Genitourinary (Penis, Prostate, Testis)	Treat
5	**Others**	**Thyroid, Varicose veins**	Treat
6	**Burns**	**Burns** < 15% >15%	 Treat Treat

Sl. No.	Name of the Illness		Recommended Service Mix (suggested actions)
7	**Medico legal**	a) Assault/RTA	AR Entry/Treat
		b) Poisonings	AR Entry/Treat
		c) Rape	AR Entry/Treat
		d) Postmortem	To be Done

Opthalmology

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Superficial Infection	Treatment with drugs
2	Deep Infections	Treat
3	Refractive Error	Treat
4	Glaucoma	Treat
5	Eye problems following systemic disorders	Treat
6	Cataract	Treat
7	Foreign Body and Injuries	Treat
8	Squint and Amblyopia/Corneal Blindness (INF, INJ, Leucoma)/Oculoplasty	Treat
9	Malignancy/Retina Disease	Treat
10	Paediatric Opthalmology	Treat

Ear, Nose, Throat

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
Ear		
1	ASOM/SOM/CSOM	Treat/Surgical if needed
2	Otitis External/Wax Ears	Treat
3	Polyps	Surgical Treatment
4	Mastoiditis	Treatment Surgery if needed
5	Unsafe Ear	Surgery
Throat		
1	Tonsillitis/Pharyngitis/Laryngitis	Treat
2	Quinsy	Surgery
3	Malignancy Larynx	Biopsy/Treat
4	Foreign Body Esophagus	Treat (removal)
5	Foreign Body Bronchus	Treat

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
Nose		
1	Epistaxis	Treat
2	Foreign Body	Treat
3	Polyps	Treat (Removal)
4	Sinusitis	Treat (surgery if needed)
5	Septal Deviation	Treat (surgery if needed)

Orthopadics

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Osteo-myelitis	Surgery
2	Rickets/Nutritional Deficiencies	Manage with Physiotherapy
3	Poliomyelitis with residual Deformities/JRA/RA	Joint Replacement/Rehab for Polio
4	RTA/Poly trauma	Manage

Urology

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
Children		
1	Hydronephrosis	Diagnose and refer
2	Urinary Tract Injuries	Diagnose and refer
3	(PUV)/Posterior Urethral Valve	Diagnose and refer
4	Cystic Kidney	Diagnose and refer
5	Urinary Obstruction	Urethrral Catheter Insertion SPC and Referral
6	Undesended Testis	Diagnose and refer
7	Hypospadias and Epispadias	Diagnose and refer
8	Mega Ureter	Diagnose and refer
9	Extrophy	Diagnose and refer
10	Tumours - Urinary Tact	Diagnose and refer
Adult		
	All above and	
1	Stricture Urethra	Treatment
2	Stone Diseases	Treatment/Referral
3	Cancer - Urinary and Genital Tract	Treatment/Referral
4	Trauma Urinary Tact	Treatment/Referral
5	Genito Urinary TB	Treatment/Referral/Follow up
Old Age		
1	Prostate Enlargement and Urinary Retention	Treatment/Referral
2	Stricture Urethra	Treatment
3	Stone	Treatment/Referral
4	Cancer (Kidney, Bladder, Prostate, Testis, Penis and Urethra)	Treatment/Referral
5	Trauma Urinary Tract	Treatment/Referral

Dental Surgery

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Dental Caries/Dental Abscess/Gingivitis	Treat
2	Periodontitis → Cleaning / Surgery	Treat
3	Minor Surgeries, Impaction, Flap	Treat
4	Malocclusion	Treat with appliances
5	Prosthodontia (Prosthetic Treatment)	Treat with appliances
6	Trauma	Treat (wiring and plating)
7	Maxillo Facial Surgeries	Treat and refer
8	Neoplasms	Treat and Refer if necessary

Health Promotion and Counselling

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	CHD/M.I.	Counselling/Diet advice Safe Life Style changes
2	Diabetes	Life Style Modifications/Physiotherapy
3	Substance Abuse	Vocational Rehabilitation Safe Style
4	HIV/AIDS	HIV Counselling
5	Tobaccoism	Tobacco cessation

Community Health Services

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Communicable & Vaccine Preventable Diseases	Health Promotional Activities like ORT Canon, Immunization Camps
2	Non-communicable Diseases	Epidemiological Health Investigation, Promotion & Counselling Activities
3	Adolescent & School Health	Adolescent & school health promotional activities
4	Family Planning	Counselling services, camps, follow up of contraceptive users
5	HIV/AIDS	HIV Counseling and Testing; STI testing; Blood safety; ART, Training

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:

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

Area and Space norms of the hospital

Land Area

(Desirable)

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

a. General Hospital - 80 to 85 sqm per bed to calculate total plinth area. **(Desirable)**.

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.

b. Teaching Hospital - 100 to 110 sqm per bed to calculate total plinth area.

Following facilities/area may also be considered while planning hospital.

(Desirable)

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

i) Appearance and upkeep

a. The hospital should have a high boundary wall with at least two exit gates.

b. Building shall be plastered and painted with uniform colour scheme.

c. There shall be no unwanted/outdated posters pasted on the walls of building and boundary of the hospital.

d. There shall be no outdated/unwanted hoardings in hospital premises.

e. There shall be provision of adequate light in the night so hospital is visible from approach road.

f. Proper landscaping and maintenance of trees, gardens etc. should be ensured.

g. There shall be no encroachment in and around the hospital.

ii) Signage

a. 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.

b. Citizen charter shall be displayed at OPD and Entrance in local language including patient rights and responsibilities.

c. Hospital lay out with location and name of the facility shall be displayed at the entrance.

d. Directional signages for Emergency, all the Departments and utilities shall be displayed appropriately, so that they can be accessed easily.

e. Florescent Fire Exit plan shall be displayed at each floor.

f. Safety, Hazard and caution signs displayed prominently at relevant places.

g. Display of important contacts like higher medical centres, blood banks, fire department, police, and ambulance services available in nearby area.

h. Display of mandatory information (under RTI Act, PNDT Act, MTP Act etc.).

iii) 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.

iv) Condition of roads, pathways and drains

a. Approach road to hospital emergency shall be all weather motorable road.

b. Roads shall be illuminated in the nights.

c. There shall be dedicated parking space separately for ambulances, Hospital staff and visitors.
d. There shall be no stagnation/over flow of drains.
e. There shall be no water logging/marsh in or around the hospital premises.
f. There shall be no open sewage/ditches in the hospital.

v) 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.

vi) 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.

vii) 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.

viii) 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 3 m 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.

ix) Roof Height

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

x) 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.

1. **Emergency:** for patients in ambulances and other vehicles for emergency department.
2. **Service:** for delivering supplies and collecting waste.
3. **Service:** for removal of dead
4. **Main**: for all others

xi) Residential Quarters

All the essential medical and para-medical staff will be provided with residential accommodation. If the accommodation can not 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)

Desirable

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 IX.**)

Fire fighting 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

I) 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, obsetetric 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/Pediatric Clinic should be provided. 1 Room for HIV/STI counseling 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

1. Air-cooling
2. Patient calling system with electronic display
3. Specimen collection centre
4. Television in waiting area
5. Computerized Registration
6. Public Telephone booth
7. Provision of OPD manager

II) 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 of 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

1. Lay out and construction of X-Ray shall follow the AERB guidelines.
2. 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.
3. Cycle Time for reporting shall not be more than 24 hours. Same day reporting would be more desirable.
4. Hospital shall ensure availability of adequate number of X-ray films at all the times.
5. Fixer solution used in film processing shall not be disposed in drains. It shall be auctioned.
6. Mandatory information as per PNDT act shall be displayed at ultrasonography centre. Records shall also be maintained as per PNDT Act.
7. Service provided by the department with schedule of charges shall be displayed at the entrance of department.
8. 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.

9. Department shall have a system of preventive maintenance, breakdown repairs and periodic calibration of equipment.

III) 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, hematology, 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.

IV) 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 fulfill 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

1. 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, safety precaution.
2. Blood bank shall validate the test results from external labs on regular basis.
3. Service provided by the department with schedule of charges shall be displayed at the entrance of department.
4. Availability of blood group shall be displayed prominently in the blood bank.
5. Blood bank shall adhere to NACO guidelines and drug and cosmetic act strictly.
6. 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.
7. Use of blood component shall be encouraged.

V) Intermediate Care Area (Indoor Patient Department)

General IPD beds shall be categorized as following

1. Male Medical ward
2. Male surgical ward
3. Female Medical ward
4. Female surgical ward
5. Maternity ward
6. Paediatric ward
7. Nursery
8. Isolation ward

As per need and infrastructure hospital have following wards

1. Emergency ward/trauma ward
2. Burn Ward
3. Orthopaedic ward
4. Post operative ward
5. Ophthalmology Ward
6. Malaria Ward
7. Infectious Disease Ward
8. **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 upto 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 traveled 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.

VI) 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.

VII) Patient Conveniences

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

VIII) 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.

IX) Intensive Care Unit and High Dependency Wards

General

In this unit, critically ill patients requiring highly skilled life saving 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

Norms for Fitments

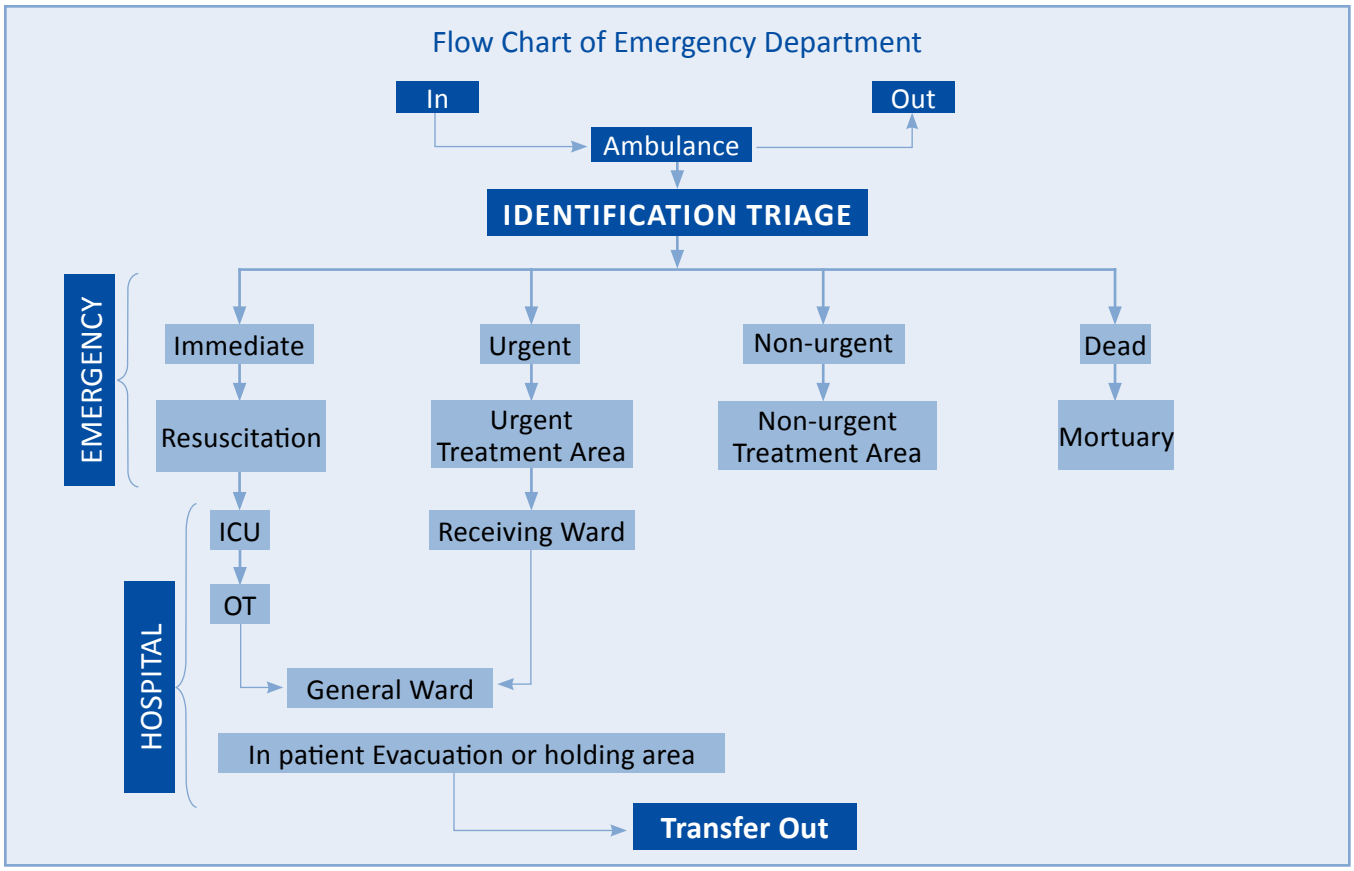
Sl. No.	Fitments	Hospital for indoor patients wards For male & female	Hospital with outdoor patient		Administrative building	
			Male	Female	Male	Female
1	Water closet	One for every 6 beds	One for every 100 persons	Two per 100 persons	One for every 25 persons	One for every 15 persons
2	Wash basins	Two 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%	

X) Accident and Emergency Services

1. 24 x 7 operational emergency with dedicated emergency room shall be available with adequate man power.
2. 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 casualities 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.
3. Lay out shall follow the functional flow.
4. Signage of emergency shall be displayed at the entry of the hospital with directional signage at key points.
5. Emergency shall have dedicated triage, resuscitation and observation area. Screens shall be available for privacy.
6. Separate provision for examination of rape/ sexual assault victim should be made available in the emergency as per guidelines of the Supreme Court.
7. 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.
8. Emergency block to have ECG, Pulse Oxymeter, Cardiac Monitor with Defibrillator, Multiparameter Monitor, Ventilator also.
9. Stretcher, wheelchair and trolley shall be available at the entrance of the emergency at designated area.

XI) Operation Theatre

Operation theatre usually have a team of surgeons anesthetists, 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 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 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.

XII) 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

Sterilizing Rooms
Sterile Store Room
Scrubbing Room
Dirty Utility
Doctors Duty Room
Nursing Station
Nurses changing Room
Group C & D Room
Eclampsia Room

XIII) 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.

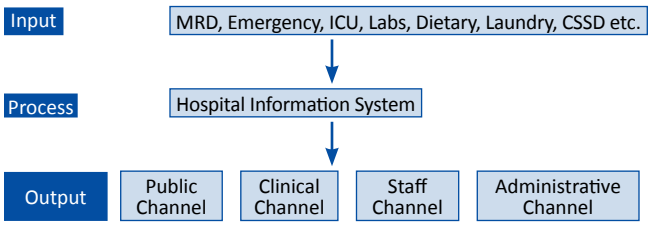
XIV) Physical Medicine and Rehabilitation (PMR)

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

I) 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.



II) 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.

III) 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.

IV) Hospital Laundry

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

V) Medical and General Stores

Medical and general stores should have vehicular accessibility and ventilation, security and fire fighting 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.

VI) 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.

VII) Engineering Services

Electric Engineering Sub Station and Generation

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

Electric sub station and standby generator room 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

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, sub-soil water and sewerage shall be in accordance with the prescribed standards. Prescribed standards and local guidelines shall be followed.

BIS standards for illumination are

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

Other Amenities

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

VIII) Waste Disposal System

National Guidelines on Bio-Medical Waste Management are at **Annexure II A.**

Mercury waste management guidelines are placed at **Annexure II B.**

IX) Housekeeping services

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

X) Medical Gas

All gases may preferably be supplied through manifold system.

XI) Cooking Gas

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

XII) Building Maintenance

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

XIII) Annual Maintenance Contract (AMC)

AMC should be taken for all equipment which need special care and preventive maintenance done to avoid break down and reduce down time of all essential and other equipment.

XIV) Record Maintenance (Medical Record Department)

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

XV) Committee Room

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

XVI) Hospital Transport Services

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

Manpower Requirements

Following is the **minimum essential** manpower required for a functional District Hospital of different bed strengths as indicated. Efforts shall be made by the States/UTs to provide all desirable services including super-specialty services as listed, as and when the required manpower is available in the concerned District/State.

District Hospital Man Power–Medical

Specialty	100 Beds	200 Beds	300 Beds	400 Beds	500 Beds
Medicine	2	2	3	4	5
Surgery	2	2	3	3	4
Obstetric & Gynae	2	**3**	**4**	5	6
Paediatrics	2	3	4	4	5
Anaesthesia	2	2	3	3	4
Opthalmology	1	1	2	2	2
Orthopaedics	1	1	2	2	2
Radiology	1	1	2	2	2
Pathology	1	2	3	3	4
ENT	1	1	2	2	2
Dental	1	1	2	3	3
MO	11	13	15	19	23
Dermatology	1*	1*	1	1	1
Psychiatry	1	1	1	1	1
Microbiology	1*	1*	1	1	1
Forensic Specialist	1*	1*	1	1	1
AYUSH Doctors#	1	1	1	2	2
Total	**29+3**	**34+3**	**50**	**58**	**68**

*Desirable

#If more than one AYUSH doctors are available, at least one doctor should have a recognised PG qualification in relevant system under AYUSH.

District Hospital Man Power – Nurses and Para-Medical

Cadre	100 Beds	200 Beds	300 Beds	400 Beds	500 Beds
Staff Nurse	**45**	**90**	**135**	**180**	**225**
Lab Tech	6	9	12	15	18
Pharmacist	4+1#	6+1#	8+1#	10+1#	12+1#
Storekeeper	1	1	2	2	2
Radiographer	2	3	5	7	9
ECG Tech/Eco	1	2	3	4	5
Audiometrician	-	-	1	1	1
Optha. Asstt.	1	1	2	2	2
EEG Tech	-	-	1	1	1
Dietician	1	1	1	1	1
Physiotherapist	1	1	2	2	3
O.T. technician	4	6	8	12	14
CSSD Asstt.	1	1	2	2	3
Social Worker	2	3	4	5	6
Counsellor	1	1	2	2	2
Dermatology Technician	-	-	1	1	1
Cyto-Technician	-	-	1	1	1
PFT Technician	-	-	-	-	2
Dental Technician	1	1	2	2	3
Darkroom Asstt.	2	3	5	7	9
Rehabilitation Therapist	1	1	2	2	3
Biomedical Engineer*	1	1	1	1	1
Total	**76**	**132**	**201**	**261**	**325**

#For AYUSH

*Desirable

Total Medical and Paramedical Manpower

Cadre	100 Beds	200 Beds	300 Beds	400 Beds	500 Beds
Doctors	29	34	50	58	68
Staff Nurse	45	90	135	180	225
Paramedicals	31	42	66	81	100
Total Strength	**105**	**166**	**251**	**319**	**393**

District Hospital Man Power – Administration

Cadre	100 Beds	200 Beds	300 Beds	400 Beds	500 Beds
Hospital Administrator	1	1	1	2	2
Housekeeper/manager	1	2	3	4	5
Medical Records officer	1	1	1	1	1
Medical Record Asstt.	1	2	3	3	3
Accounts/Finance	2	3	4	5	6
Admn. Officer	1	1	1	1	1
Office Asstt. Gr I	1	1	2	2	2
Office Asstt. Gr II	1	1	2	3	4
Ambulance Services (1 driver + 2 Tech.)	1	1	2	3	3
Total	**12**	**15**	**21**	**26**	**29**

Note: Manpower for the services which are outsourced are not shown here i.e services like Mali, Dhobi, Waste handler, Aya, Peon, OPD Attendant, Ward Boys, Parking attendant, Plumber, Electrician, Mistry, Vehicle drivers, Security and Sanitary workers etc.

District Public Health Unit

This unit may be located in the District Hospital. The Unit shall be responsible for carrying out and coordinating the activities required for preventing and controlling public health emergency situation like epidemic, disaster an event affecting the community at large. The activities shall include Integrated Disease surveillance, epidemic investigations, establishing community and Laboratory diagnosis, implementing public health measures required in epidemic and disaster situations and emergency response

1. One Epidemiologist
2. One Entomologist
3. One Microbiologist
4. One IEC Officer
5. One District Public Health Nursing Officer
6. One District Data analyst/Demographer

Man Power – Blood Bank

Sl. No.	Cadre	100 Beds	200 Beds	300 Beds	400 Beds	500 Beds
1	Blood Bank In-charge (Doctor–Pathologist)	-	-	1	1	1
2	Staff Nurse	3	3	3	3	3
3	Male/Female Nursing Attendant	1	1	1	1	1
4	Blood Bank Technician	1	1	1	2	2
5	Sweeper	1	1	1	1	1

Post Partum Unit (Desirable)*

S. No.	Cadre	Number
1	Doctor: MBBS with PG in Obstetrics and Gynecology:	1
2	Staff Nurse	1
3	Counselor cum Data entry Operator	1

*In case the delivery case load is more than 75 per month

Note: General HR and Bed norms for Obstetric Cases

No. of Deliveries in a month	Requirement of Bed	Requirement of Labour table	HR requirement Staff Nurses
100 deliveries	10 beds	2 Labour tables	4 for Labour Rooms 5 for ANC/ PNC Wards

Specific requirements for nursing staff can be calculated according to Indian Nursing Council Norms, as given below

1 nurse for 6 beds for General Ward
1 Nurse for 4 beds Special ward
1 Nurse for 1 bed for ICU
2 Nurse for one OT Table
2 Nurse for one Labour room
One Nurse for a load of 100 patient Injections
45% leave reserve

Equipment Norms

Equipment norms are worked out keeping in mind the assured service recommended for various grades of the district hospitals. The equipment required are worked out under the following headings. Some of the equipment which may be available in ideal situation have been indicated as **Desirable** and rest is **Essential.**

I. Imaging equipment
II. X-Ray Room Accessories
III. Cardiopulmonary Equipment
IV. Labour ward, Neo Natal and Special Newborn Care Unit (SNCU) Equipment
V. Immunization Equipment
VI. Ear Nose Throat Equipment
VII. Eye Equipment
VIII. Dental Equipment
IX. Operation Theatre Equipment
X. Laboratory Equipment
XI. Surgical Equipment Sets
XII. Physical Medicine and Rehabilitation (PMR) Equipment
XIII. Endoscopy Equipment
XIV. Anaesthesia Equipment
XV. Furniture & Hospital Accessories
XVI. Post Mortem equipment
XVII. Linen
XVIII. Teaching Equipment
XIX. Administration
XX. Refrigeration & AC
XXI. Hospital Plants
XXII. Hospital Fittings & Necessities
XXIII. Transport
XXIV. Radiotherapy
XXV. Intensive Care Unit (ICU)

The detailed information on service norms for equipment for 100-200 bedded, 201-300 bedded and 301 to 500 beds district Hospitals is given in the Table I to XXIII.

I. Imaging Equipment

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	(301-500 Bedded)
1	500 M.A. X-ray machine*	1 Desirable	1	1
2	300 M.A. X-ray machine	1	1	1
3	100 M.A. X-ray machine	1	1	1
4	60 M.A. X-ray machine (Mobile)	1 Desirable	1	1
5	C arm with accessories*	1 Desirable	1 (Desirable)	1 (Desirable)
6	Dental X-ray machine	1	1	1
7	Color Doppler Ultrasound machine with 4 probes: Abdomen, Paediatric, Soft Parts and Intra-cavitory Ultra Sonogram (Obs & Gyne. department should be having a separate ultra-sound machine of its own)	1 + 1	2 + 1	3 + 1
8	Portable ultrasound	-	1 (Desirable)	1 (Desirable)
9	C.T. Scan Multi slice (64 slice)	1 Desirable	1 (Desirable)	1 (Desirable)
10	Mammography Unit*	1 Desirable	1 (Desirable)	1
11	Echocardiogram*	1 Desirable	1 (Desirable)	1 (Desirable)
12	MRI 1.5 Tesla			1 (Desirable)

Note: X-ray machines should preferably be Digital.

* To be provided as per need.

II. X-Ray Room Accessories

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	X-ray developing tank	1	2	3
2	Safe light X-ray dark room	2	3	4
3	Cassettes X-ray	12	15	20
4	X-ray lobby single	6	8	10
5	X-ray lobby Multiple	1	1	1
6	Lead Apron	2	3	3
7	Intensifying screen X-ray	1	3	3
8	Dossimeter	As per Need		

III. Cardiopulmonary Equipment

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	ECG machine computerized	1	1	1
2	ECG machine ordinary	1	2	2
3	12 Channel stress ECG test equipment Tread Mill*	Desirable	1	1
4	Echocardiography Machine	1 (Desirable)	1 (Desirable)	1
5	Cardiac Monitor	4 (+2 Desirable)	8	10
6	Cardiac Monitor with defibrillator	2	2	2
7	Ventilators (Adult)	2	4	5
8	Ventilators (Paediatrics)	1	1	2
9	Pulse Oximeter	3	8	8
10	Pulse Oximeter with NIB.P*	1	1	1
11	Infusion pump	2	2	2
12	B.P.apparatus table model	15	25	25
13	B.P.apparatus stand model	15	25	25
14	Stethoscope	20	40	40
15	Nebuliser	1	2	2
16	Peak Expiratory Flow Rate (PEFR) Meter (Desirable)	1	2	2

* To be provided as per need.

IV. Labour ward, Neo Natal and Special Newborn Care Unit (SNCU) Equipment

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Baby Incubators	1	3 (1 for labour room & 2 for neonatal room)	2
2	Phototherapy Unit	2	3	4
3	Emergency Resuscitation Kit-Baby	2	4	4
4	Standard weighing scale	1 each for the labor room & OT	1 each for the labor room & OT	1 each for the labor room & OT
5	Newborn Care Equipment	1 set each for labor room & OT	1 set each for labor room & OT	1 set each for labor room & OT
6	Double–outlet Oxygen Concentrator	1 each for the labor room & OT	1 each for the labor room & OT	1 each for the labor room & OT
7	Radiant Warmer	2	3 (1 for labour room & 2 for neonatal room)	5
8	Room Warmer	2	2	2
9	Foetal Doppler	2	2	2
10	Cardio Toco Graphy Monitor	2	3	3 (Desirable)
11	Delivery Kit	10	15	20
12	Episiotomy kit	2	10	10
13	Forceps Delivery Kit	2	2	3
14	Crainotomy	1	2	1
15	Vacuum extractor metal	2	2	2
16	Silastic vacuum extractor	2	2	3
17	Pulse Oxymeter baby & adult	1 each	2 each	2 each
18	Cardiac monitor baby & adult	1	2	2 each
19	Nebulizer baby	2	4 (for ICU & wards)	2
20	Weighing machine adult	3	6	4
21	Weighing machine infant	3	4	4
22	CPAP Machine	-	-	1
23	Head box for oxygen	4	6	8
24	Haemoglobinometer	1	1	2
25	Glucometer	1	1	2
26	Public Address System	1	1	1
27	Wall Clock	1	1	2
28	BP Apparatus & Stethoscope	2+2	3+3	4+4

Equipment for Eclampsia Room (for 300-500 Bedded Hospital)

Sl. No.	Equipment	No.
1	ICU Beds	2
2	Emergency Resuscitation Tray (Adult) including intubation equipment	3
3	BP Apparatus	3
4	Cardiac Monitor	2
5	Pulse Oximeter	2
6	Airway (Female)	2
7	Nebuliser	1

Sl. No.	Equipment	No.
8	Oxygen Supply (Central)	2
9	Suction Apparatus (Electrical)	2
10	Suction Apparatus (Foot)	1
11	Wall Clock	1
12	Torch	1
13	Emergency Call Bell	2
14	Stethoscope	2

Equipment List for Special Newborn Care Unit (SNCU)

A. General Equipment for SNCU

Electronic weighing scale	5 (essential)
Infantometer	5 (essential)
Emergency drugs trolley	5 (essential)
Procedure trolley	5 (essential)
Wall clock with seconds hand	1 for each room
Refrigerator	1 for the unit
Spot lamp	5 (essential)
Portable x-ray machine	1 for the unit (essential)
Basic surgical instruments e.g. fine scissors, scalpel with blades, fine artery forceps, suture material & needles, towel, clips etc.	1 set per bed (essential)
Nebulizer	1 for the unit
Multi-channel monitor with non-invasive BP monitor (3 size: 0, 1, 2-disposable in plenty-reusable neonatal probe, at least 4)	4 (desirable)
Room Thermometer	4 (essential)

B. Equipment for disinfection of Special Newborn Care Unit

Item	Requirement for the unit
Electric heater/boiler	2 (essential)
Washing machine with dryer (separate)	1 (essential)
Electronic fumigator	2 (essential)
Vacuum Cleaner	1 (essential)
Gowns for doctors, nurses, neonatal aides, Group D staff & mothers	Adequate number of each size (essential)
Washable slippers	Adequate number of each size (essential)
Vertical Autoclave	1 (essential)
Autoclave drums (large & medium & small sizes)	At least 6 of each size (essential)
Disinfectant Sprayer	1 (essential)
Container for liquid disinfectant	2 (essential)
Formalin Vaporizer	1 (essential)
Hot Air Oven	1 (desirable)
Ethylene oxide (ETO) Sterilizer	1 (desirable)

C. Equipment for individual patient care in the Special Newborn Care Unit

Item	Requirement for the unit
Servo-controlled Radiant Warmer	1 for each bed (essential) + 2
Low-Reading Digital Thermometer (centigrade scale)	1 for each bed (essential)
Neonatal Stethoscope	1 for each bed (essential) + 2
Neonatal Resuscitation Kit (Laerdal type, Silicone, Autoclavable 240 ml, 450 ml resuscitation bag with valves- including pressure release valve), oxygen reservoir & silicone round cushion masks – sizes 0 & 00), Neonatal laryngoscope with straight blade and spare bulbs)	1 set for each bed (essential) + 2
Suction Machine	1 for each beds (essential) (80% should be electrically operated & 20% foot operated)
Oxygen Hood (unbreakable-neonatal/infant size)	1 for each bed (essential) 20% extra (in case of repair/disinfection)
Non stretchable measuring tape (mm scale)	1 for each bed (essential)
Infusion pump or syringe pump	1 for every 2 beds (essential)
Pulse Oxymeter	1 for every 2 beds (essential)
Double Outlet Oxygen Concentrator	1 for every 3 beds (essential)
Double Sided Blue Light Phototherapy	1 for every 3 beds
CENTRAL AC (8 AIR EXCHANGE PER HOUR)	For the SNCU, Step-down Unit & SCBU
Generator (15 KVA)	1
Flux meter	1 (Desirable)
CFL Phototherapy	1 for every 3 beds (essential)
Horizontal Laminar Flow	1 (essential)
Window AC (1.5)/Split AC	Laboratory & Teaching & Training room (essential) Doctor's room (desirable)

D. Disposables

These items should be regularly supplied to the SNCU, if necessary by changing policy:

1. Cord clamp
2. Dee Lee's Mucus Trap
3. Neoflon (intravenous catheter) 24G
4. Micro drip set with & without burette
5. Blood Transfusion Set
6. 3 way stop cock
7. Suction Catheter size # 10, 12 Fr
8. Endotracheal Tube size # 2.5, 3, 3.5 mm
9. Feeding Tube size # 5, 6, 7 Fr
10. Syringes: Tuberculin- 1, 2, 5, 10, 50 cc with needle nos. 22, 24, 26
11. Sterile gloves & drapes
12. Chemical disinfectants: Cidex, Bacillocid, Liquid soap & detergent, Sterilium, Savlon, Phenol, Lysol, Betadine and Rectified Spirit
13. Glucostix and multistix strips (in container)
14. Capillary Tubes for microhaematocrit (in containers)
15. Cotton, surgical gauze
16. Normal saline, 10% Dextrose infusion bottle

V. Immunization Equipment

ILR & DF with Stabilizer	ILR 2, & DF 2 for purpose of routine immunization and in Labour room *
Spare ice pack box	one from each equipment
Room Heater/Cooler for immunization clinic with electrical fittings	As per need
Waste disposal twin bucket, hypochlorite solution/bleach	2 per ILR bimonthly
Freeze Tag	Need Based
Thermometers Alcohol (stem)	2
Almirah for Vaccine logistics	2
Almirah for vaccine logistics	1
Immunization table	5
Chair for new staff proposed	3
Stools for immunization room	2
Bench for waiting area	1
Dustbin with lid	one from each equipment
Water container	1
Hub cutters	2
5 KVA Generator with POL for immunization purpose	1 (If hospital has other Generator for general purpose this is not needed.)

* The district hospitals have high delivery loads. After delivery newborns are to be given zero dose immunization. Hence a separate ILR and Deep freezer may be provided near Labour room. Other ILR and Deep freezer may be provided for regular immunization.

For Monitoring and Effective programme management for immunization following are to be used

Registers	Immunization register
	Vaccine stock & issue register
	AD syringes, Reconstitution syringes, other logistic stock & issue register
	Equipment, furniture & other accessories register
	Geneset Logbook
Monitoring Tools	Tracking Bag and Tickler Box
	Tally sheets
	Immunization cards
	Temperature Logbook
	Microplans
Reports	Monthly UIP reports
	Weekly surveillance reports (AFP, Measles)
	Serious AEFI reports
	Outbreak reports

VI. Ear Nose Throat Equipment

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Audiometer	1	1	2
2	Impedance Audiometer		1	1
3	Operating Microscope (ENT)	2	1	2
4	Head light (ordinary) (Boyle Davis)	1	2	3

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
5	ENT Operation set including headlight, Tonsils	1	1	2
6	Ear Surgery Instruments set	1	2	2
7	Mastoid Set	1	1	2
8	Micro Ear Set myringoplasty	1	1	2
9	Stapedotomy Set	1	2	1
10	Micro drill System set		1	2
11	ENT Nasal Set (SMR, Septoplasty**, Nasal Endoscopic Set (o° & 30°)** Polypetcomy, DNS, Rhinoplasty)	1	1	2
12	Laryngoscope fibreoptic ENT	2	1	1
13	Laryngoscope direct	1		2
14	Otoscope	1	2	4
15	Oesophagoscope Adult (Desirable)	1	2	1
16	Oesophagoscope Child (Desirable)	1	1	1
17	Head Light (cold light)	1	1	2
18	Tracheostomy Set	1	1	2
19	Tuning fork	1	2	4
20	Bronchoscope Adult & Child	1 (Desirable)	1 (Desirable)	1 (Desirable)
21	Examination instruments set (speculums, tongue dipressors, mirrors, Bull's lamp)	1	2	4
22	Oto Acoustic Emission (OAE) Analyzer	1 (Desirable)	1 (Desirable)	1 (Desirable)
23	Sound Proof room	1 (Desirable)	1 (Desirable)	1 (Desirable)

VII. Eye Equipment

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Cryo Surgery Unit with retina probe	1	1	**2**
2	Opthalmoscope – Direct + indirect	1 + 1	1 + 1	2 + 1
3	Slit Lamp	1	1	2
4	Retino scope	1	1	2
5	Perimeter	1	1	2
6	Binomags	1	1	2
7	Distant Vision Charts	1	1	2
8	Near Vision Chart	1	1	2
9	Colour Vision Chart	1	1	2
10	Foreign Body spud and needle	1	1	2
11	Lacrimal cannula and probes	1	1	2
12	Lid retractors (Desmarres)	1	1	2
13	Punctum Dilator	1	1	2
14	Rotating Visual acuity drum	1	1	2
15	Torch	1	1	2
16	Trial Frame Adult/Children	1	1	2

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
17	Trial Lens Set	1	1	2
18	IOL Operation set	2	2	3
19	YAG Laser	1	1	1
20	Operating Microscope	1	1	1
21	A-Scan Biometer	1	1	1
22	Keratometer	1	1	1
23	Auto Refractometer	1	1	1
24	Flash Autoclave	1	1	1
25	Applanation Tonometer	1 (Desirable)	1 (Desirable)	1 (Desirable)
26	Phacomachine	1 (Desirable)	1 (Desirable)	1
27	Laser Photocoagulator*	1 (Desirable)	1 (Desirable)	1 (Desirable)

* To be supplied by Blindness Control Society 1 (Desirable)

VIII. Dental Equipment

1. **Dental Unit complete with following facilities**
   - Dental Chair motorized with panel and foot controlled with up and down movement.
   - Air Rotor
   - Compressor oil free medical grade (noise-free)
   - Ultrasonic Scalar with four tips.
   - Suction fitted in the dental chair medium and high vacuum.
   - Air rotor hand piece contra angle two and one straight hand piece (4 lakhs RPM).
   - LED light cure unit.
   - Latest foot operated light of 20,000 and 25,000/- Lux.
   - Air motor terminal with hand piece.
   - Dental X-ray IOP/OPG X-ray viewer with LED light.
   - Doctors' Stool.
   - Medical Emergency tray.
2. **Dental Instruments**
   - All types of dental extraction forceps (each set 3 sets- minimum required which includes upper and lower molars and anterior forceps.
   - Elevators (Dental) all types (3 sets each).
   - Apexo
   - Bonefile
   - Bone cutter forceps one.
   - Chisel and hammer-one each.
   - Periosteal elevator-3 Nos.
   - Artery forceps-three each.
   - Needle holder- three.
   - 20 PMT sets (mouth mirror, probe dental and tweezer).
   - Excavators.
   - Filling instruments.
   - Micromotor with straight and contra angle hand piece.
3. Minor Surgical Instruments.
4. Perio Surgical Instrument-One Complete Set.
5. Endodontic Instruments.
6. Hands Scaler Set Blopsy.
7. Pulp Tester.
8. Trays For Complete/Partlal Edentulous Patients For Making Of Complete/partial Denturs Of Different Sizes.
9. **Sterilizer**
   - Autoclave small front loading-one
   - Boiler (sterilizer) - One
   - Dressing drum
10. Executive Chair Revolving
11. Chair metal for office use
12. Office table
13. Recovery room with one bed and oxygen cylinder with trolley and gas.
14. Trolley and wheel chair for patients
15. Wall clock
16. Dental I.O.P. X-ray machine with X-ray developing facilities.
17. Chairs for waiting patients-20.

IX. Operation Theatre Equipment

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Auto Clave HP Horizontal	1 In CSSD	1	1
2	Auto Clave HP Vertical (2 bin)	2 In CSSD	4	4
3	Operation Table Ordinary Paediatric*			
4	Operation Table Hydraulic Major	2	4	4
5	Operation table Hydraulic Minor	2	4	4
6	Operating table non-hydraulic field type	1	2	2
7	Operating table Orthopedic*		1	1
8	Autoclave with Burners 2 bin*			
9	Autoclave vertical single bin	1	2	3
10	Shadowless lamp ceiling type major*	1	2	3
11	Shadowless lamp ceiling type minor*	1	1	2
12	Shadowless Lamp stand model	1	3	3
13	Focus lamp Ordinary	2	4	4
14	Sterilizer (Big instruments)	2	3	
15	Sterilizer (Medium instruments)	3	5	
16	Sterilizer (Small instruments)	3	5	
17	Bowl Sterilizer Big	2	3	
18	Bowl Sterilizer Medium	1	1	
19	Diathermy Machine (Electric Cautery)	1	1	1
20	Suction Apparatus - Electrical	4	5	6
21	Suction Apparatus - Foot operated	3	4	5
22	Dehumidifier*	1	1	1
23	Ultra violet lamp philips model 4 feet	4	8	8
24	Ethylene Oxide sterilizer*	1 (Desirable)	1 (Desirable)	1
25	Microwave sterilizer*	1	1	1
26	Intense Pulse Light Machine	-	-	1
27	Ultrasonic cutting and coagulation device	-	-	1 (Desirable)
28	Plasma Sterilizer	-	-	1 (Desirable)
29	Ultrasonic cleaner	-	-	4 (Desirable)

* To be provided as per need.

X. Laboratory Equipment

Sl. No.	Name of the Equipment	101-200 Bedded and 201-300 Bedded	301-500 Bedded
1	Binocular Microscope	6	10
2	Chemical Balances	2	2
3	Simple balances	2	2
4	Electric Calorimeter	2	2
5	Fully Automated Auto-analyser		1
6	Semi auto analyser	1	1
7	Micro pipettes of different volumes	10	10

Sl. No.	Name of the Equipment	101-200 Bedded and 201-300 Bedded	301-500 Bedded
8	Water bath	2	2
9	Hot Air oven	3	2
10	Lab Incubator	3	3
11	Distilled water Plant	2	2
12	Electricentrifuge, table top	3	3
13	Cell Counter Electronic	1	1
14	Hot plates	3	6
15	Rotor/Shaker	3	2
16	Counting chamber	3	4
17	PH meter	2	3
18	Paediatric Glucometer/Bilirubinometer		1
19	Glucometer	1+1	2
20	Haemoglobinometer	2	3
21	TCDC count apparatus	1	2
22	ESR stand with tubes	4	6
23	Test tube stands	6	10 – 20
24	Test tube rack	6	10 – 20
25	Test tube holders	6	10 – 20
26	Spirit lamp	8	10
27	Rotatry Microtome	1	1
28	Wax Embel Bath	-	1
29	Auto Embedic Station	1*	1*
30	Timer stop watch	2	2
31	Alarm clock	1	2
32	Elisa Reader cum washer	1	2
33	Blood gas analyser	1	1
34	Electrolyte Analyser	1	1
35	Glycosylated Haemoglobinometer	1	1
36	Blood Bank Refrigerator	3	3
37	Haematology Analyser with 22 parameters	1	1
38	Blood Collection Monitor	1	1
39	Laboratory Autoclaves	3	3
40	Blood Bank Refrigerator	4	4
41	Ordinary Refrigerator	3	4
42	Floatation Bath	1	1
43	Emergency Drug Trolley with auto cylinder	1	1
44	Dialected Tube Scaler		
45	Class – I Bio Safety Cabinet	1	1
46	Knife Sharpner	1	1
47	Air Conditioner with Stabilizer	1	1

Sl. No.	Name of the Equipment	101-200 Bedded and 201-300 Bedded	301-500 Bedded
48	Cyto Spin	1	1
49	RO Plant	1	1
50	Computer with UPS and Printer	1	1
51	Automatic Blood Gas Analyzer	1	1
52	Fine Needle Aspiration Cytology	1	1
53	Histopathology Equipment	1	1
54**	Pipette – 1 ml & 5 ml Burette 10 ml Conical Flask Biker/Glass bottles Glass or plastic funnel Glass stirring rod Small stainless steel bowl Electronic weighing scale Measuring cylinder Gas Burner Laboratory balance Stop watch, Cyclomixer Micro pipette 10-100 ml :10-200 ml Micro Tips Centrifuge, Oven Bath Serological Digital calorie meter Stirrer with stainless steel stirring rod Digital electronic temperature controller		
55***	i. Ion – meter Table Top (specific for fluoride estimation in biological fluid) ii. Table Top Centrifuge without refrigeration iii. Digital PH Meter iv. Metaler Balance v. Mixer vi. Incubator vii. Pipettes/Micropipettes		
56	CO Analyser	1	1
57	Dry Biochemistry	1 (desirable)	
58	Whole Blood Finger Prick HIV Rapid Test and STI Screening Test each	4000	4000
59	Blood Component Separator		1
60	Platelet Agitator		1
61	Platelet Thawing Machine		1
62	Laminar Flow		1

* To be provided as per need.

** To be provided for salt and Urine analysis for Iodine.

*** For analysis of Fluoride wherever applicable.

XI Surgical Equipment Sets

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	P.S. set	2	2	2
2	MTP Set (Including Suction Cannula size 6-12)	2	2	4
3	Biopsy Cervical Set*	1	2	2
4	EB Set	2	3	5
5	Microscope (Gynae for wet smear and PCT)	-	1	1
6	D&C Set	2	2	5
7	I.U.C.D. Kit	2	2	2
8	LSCS set	2	2	5
9	MVA Kit	2	2	3
10	Vaginal Hysterectomy	2	2	2
11	Proctoscopy Set*	2	2	3
12	P.V. Tray*	2	3	3
13	Abdominal Hysterectomy set	2	2	2
14	Laparotomy Set	2	3	5
15	Formaline dispenser	3	4	5
16	Kick Bucket	8	10	15
17	General Surgical Instrument Set Piles, Fistula, Fissure*	2	2	2
18	Knee hammer	5	5	5
19	Hernia, Hydrocele*	2	2	2
20	Varicose vein etc*	1	1	2
21	Gynaec Electric Cautery	1	1	1
22	Vaginal Examination set*	8	15	20
23	Suturing Set*	5	7	10
24	MTP suction apparatus	1	2	2
25	Thoracotomy set		1	1
26	Neuro Surgery Craniotomy Set		1	1
27	I M Nailing Kit	1	2	2
28	SP Nailing	1	2	2
29	Compression Plating Kit*	1	2	2
30	AM Prosthesis*		1	1
31	Dislocation Hip Screw Fixation*		1	1
32	Fixation Fracture Hip	1	1	1
33	Spinal Column Back Operation Set		1	1
34	Thomas Splint	7	9	10
35	Paediatric Surgery Set	1	2	2
36	Mini Surgery Set*	2	2	2

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
37	Urology Kit	1	1	2
38	Surgical Package for Cholecystectomy*		1	1
39	Surgical package for Thyroid		1	1
40	GI Operation Set*	2	2	4
41	Appendicectomy set*	2	2	2
42	L. P. Tray*	5	7	7
43	Uretheral Dilator Set	4	4	6
44	TURP resectoscope*	1	1	1
45	Haemodialysis Machine*	Desirable 1	1	2
46	Amputation set	1	2	2
47	Universal Bone Drill	Desirable	1	2
48	Crammer wire splints	8	10	12
49	Minilap sets-3	3	3	3
50	NSV sets-3	3	3	3
51	Colposcope	1	1	1
52	Cryoprobe	1	1	1
53	Skin Biopsy Sets	1	2	3

* To be provided as per need.

XII. PMR* Equipment

Sl. No.	Name of the Equipment	For all District Hospitals
1	Skeleton traction set	3
2	Interferential therapy unit	2
3	Short Wave Diathermy	1
4	Hot packs & Hydro collator	As per need
5	Exercise Table	As per need
6	Static Cycle	As per need
7	Medicine ball	As per need
8	Quadricaps Exerciser	As per need
9	Coordination Board	As per need
10	Hand grip strength measurement Board	As per need
11	Kit for Neuro-development assessment	As per need
12	CBR Manual	As per need
13	ADL Kit & hand exerciser	As per need
14	Multi Gym Exerciser	As per need
15	Self Help devices	As per need
16	Wheel chair	As per need

Sl. No.	Name of the Equipment	For all District Hospitals
17	Crutches/Mobility device sets	As per need
18	Hot air oven	2
19	Hot air gun	2
20	Grinder	2
21	Sander	2
22	Router	As per need
23	Power Drill	As per need
24	Band saw	As per need
25	Vacuun forming apparatus	As per need
26	Lathe	As per need
27	Welding machine	As per need
28	Buffing & polishing machine	As per need
29	Work table – 2 nos	2
30	Tools and raw material	As per need

*As PMR services would be provided with the posting of qualified paramedical these are all required equipment including items for use in the orthotic & Prosthetic workshop.

XIII. Endoscopy Equipment

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Endoscope fibre Optic (OGD)*	1 Desirable	1	1
2	Arthroscope	1 Desirable	1	1
3	Operating Laproscope complete for laproscopic surgery	1 Desirable	1	1
4	Laparoscope diagnostic and for sterilisation*	1	2	2
5	Colonoscope and sigmoidoscope*	1 Desirable	1	1
6	Hysteroscope*	1	1	1
7	Colposcope*	1	1	1
8	Cystoscope			1 Desirable

* To be provided as per need.

XIV. Anaesthesia Equipment

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Anesthetic - laryngoscope magills with four blades	3	5	8
2	Endo tracheal tubes sets	2	3	3
3	Magills forceps (two sizes)	6	8	10
4	Connector set of six for ETT	6	8	10
5	Tubes connecting for ETT	6	10	10
6	Air way female*	10	10	10
7	Air way male*	20	20	20
8	Mouth prop*	8	10	10
9	Tongue depressors*	10	12	15
10	O_2 cylyinder for Boyles	10	12	16
11	N_2O Cylinder for Boyles	10	12	16
12	CO_2 cylinder for laparoscope*		5	10
13	PFT machine	1	1	1
14	Anaesthesia machine with ventilator (desirable)/ Boyles Apparatus with Fluotec and circle absorber	2	3	4
15	Multi-parameter monitor	2	3	4
16	Pipe line supply of Oxygen, Nitrous Oxide, Compressed Air and suction (desirable)			
17	Defibrillators	1	2	
18	Infusion pumps*			
19	Regional anaesthesia devices*			
20	O_2 therapy devices*			
21	Exchange Transfusion Sets*			
Recovery Area				
22	O2 therapy devices*			
23	Pipe line supply of Oxygen and Suction (desirable)			
24	Monitor*			
25	Patient trolley*			

* To be provided as per need.

XV. Furniture & Hospital Accessories

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Doctor's chair for OP Ward, Blood Bank, Lab etc.	30	50	60
2	Doctor's Table	20	30	40
3	Duty Table for Nurses	10	15	20
4	Table for Sterilisation use (medium)	8	12	20
5	Long Benches (6 ½' x 1 ½')	30	40	50
6	Stool Wooden	30	40	50
7	Stools Revolving	10	15	20
8	Steel Cup-board	20	25	40
9	Wooden Cup Board	10	15	20
10	Racks -Steel – Wooden	10	12	15
11	Patients Waiting Chairs (Moulded)*	20	30	50
12	Attendants Cots*	10	15	20
13	Office Chairs	6	8	15
14	Office Table	6	10	15
15	Foot Stools*	20	30	40
16	Filing Cabinets (for records)*	8	10	12
17	M.R.D. Requirements (record room use)*	1	1	1
18	Paediatric cots with railings	5	5	10
19	Cradle*	3	5	7
20	Fowler's cot	1	2	3
21	Ortho Facture Table*	1	1	1
22	Hospital Cots (ISI Model)	200	300	480
23	Hospital Cots Paediatric (ISI Model)	10	15	40
24	Wooden Blocks (Set)*	3	5	7
25	Back rest*	6	8	10
26	Dressing Trolley (SS)	6	8	10
27	Medicine Almairah	3	5	5
28	Bin racks (wooden or steel)*	8	10	15
29	ICCU Cots	6	6	8
30	Bed Side Screen (SS-Godrej Model)^	6	As per requirement	As per requirement
31	Medicine Trolley (SS)	6	8	10
32	Case Sheet Holders with clip (S.S.)*	80	120	150
33	Bed Side Lockers (SS)*	0	0	0
34	Examination Couch (SS)	3	5	7
35	Instrument Trolley (SS)	8	10	15
36	Instrument Trolley Mayos (SS)	4	6	8
37	Surgical Bin Assorted	30	40	50
38	Wheel Chair (SS)	6	10	15
39	Stretcher/Patience Trolley (SS)	5	10	15
40	Instrument Tray (SS) Assorted	50	60	75

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
41	Kidney Tray (SS) - Assorted	50	60	75
42	Basin Assorted (SS)	50	60	75
43	Basin Stand Assorted (SS)			
	(2 basin type)	8	10	15
	(1 basin type)	10	15	20
44	Delivery Table (SS Full)	8	10	12
45	Blood Donar Table*	1	2	2
46	O_2 Cylinder Trolley (SS)	10	12	15
47	Saline Stand (SS)	30	50	60
48	Waste Bucket (SS)*	50	75	100
49	Dispensing Table Wooden	1	2	2
50	Bed Pan (SS)*	30	40	50
51	Urinal Male and Female	30	40	50
52	Name Board for cubicals*	1	1	1
53	Kitchen Utensils*			
54	Containers for kitchen*			
55	Plate, Tumblers*			
56	Waste Disposal - Bin/drums	10	15	20
57	Waste Disposal - Trolley (SS)	2	3	3
58	Linen Almirah	3	5	5
59	Stores Almirah	3	5	5
60	Arm Board Adult*	10	15	20
61	Arm Board Child*	15	15	20
62	SS Bucket with Lid	8	10	15
63	Bucket Plastic*	10	10	20
64	Ambu bags	6	10	10
65	O_2 Cylinder with spanner ward type	30	40	50
66	Diet trolley - stainless steel	2	2	2
67	Needle cutter and melter	20	25	25
68	Thermometer clinical*	25	30	40
69	Thermometer Rectal*	4	5	5
70	Torch light*	10	12	12
71	Cheatles forceps assortted*	10	12	15
72	Stomach wash equipment*	4	5	6
73	Infra Red lamp*	5	5	7
74	Wax bath*	1	2	2
75	Emergency Resuscitation Kit-Adult*	2	2	2
76	Enema Set*	6	8	10
77	ICU Bed (For Eclampsia)	-	-	2
78	Celing Fan*			

* To be provided as per need.

^ At least one screen per five beds except female wards.

XVI. Post Mortem Equipment

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Mortuary table (Stainless steel)*	2	2	2
2	P.M.equipment (list)	4	6	6
3	Weighing machines (Organs)	2	2	2
4	Measuring glasses (liquids)	3	4	4
5	Aprons*	10	10	10
6	PM gloves (Pairs)*	10	20	20
7	Rubber sheets*			
8	Lens	2	2	2
9	Spot lights	2	4	4

* To be provided as per need.

XVII. Linen

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Bedsheets	800	1200	2000
2	Bedspreads	1200	1800	3000
3	Blankets Red and blue	50	100	125
4	Patna towels	300	1000	1500
5	Table cloth	60	75	100
6	Draw sheet	100	150	200
7	Doctor's overcoat	60	90	150
8	Hospital worker OT coat	250	400	500
9	Patients house coat (for female)	600	900	1500
10	Patients Pyjama (for male) Shirt	300	400	600
11	Over shoes pairs	80	100	150
12	Pillows	300	450	600
13	Pillows covers	600	900	1500
14	Mattress (foam) Adult	200	300	500
15	Paediatric Mattress	20	40	55
16	Abdominal sheets for OT	150	200	250
17	Pereneal sheets for OT	150	200	250
18	Leggings	100	150	200
19	Curtain cloth windows and doors			
20	Uniform/Apron			
21	Mortuary sheet	50	70	100
22	Mats (Nylon)	100	200	300
23	Mackin tosh sheet (in meters)	200	300	500
24	Apron for cook			

XVIII. Teaching Equipment

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Furniture for class room, committee/meeting room	1	As per requirement	As per requirement
2	O. H. P	1	1	1
3	Screen	1	1	1
4	White/colour boards	1	2	2
5	Television colour	1	2	2
6	Tape Recorder* (2 in 1)	1	1	1
7	VCD Player	1	1	1
8	Radio	1	1	1
9	LCD Projectors	1	1	1
10	1. Desk top computer (with color monitor, CPU, UPS, laser printer & computer table)		1	1
11	Resuscitation Training Mannequins	1		1
12	Library with Books, Training CD and Protocols with Internet facility. subscription to some index journals of repute	-	Desirable	Desirable
13	Female Pelvis, Fetal Skull, Fetal Mannequine	One each	One each	One each
14	Xerox Machine, Computer with Internet in the liberary	One each	One each	One each

* To be provided as per need.

XIX. Administration

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Computer with Modem with UPS, Printer with Internet Connection**	4	5	6
2	Xerox Machine	1	1	1
3	Typewriter (Electronic)*	1	1	1
4	Intercom (15 lines)*			
5	Intercom (40 lines)*	1	1	1
6	Fax Machine	1	1	1
7	Telephone	1	2	2
8	Paging System*			
9	Public Address System*	1	1	1

* To be provided as per need.

** At least one for Medical Record sand one for IDSP.

XX. Refrigeration & AC

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Refrigerator 165 litres	5	5	5
2	Blood Bank Refrigerator	1	1	2
3	ILR	2	2	2
4	Deep Freezer	2	2	2
5	Spare ice pack box	one from each equipment	one from each equipment	one from each equipment
6	Room Heater/Cooler for immunization clinic with electrical fittings	As per need	As per need	As per need
7	Waste disposal twin bucket, hypochlorite solution/ bleach	2 per ILR bimonthly	2 per ILR bimonthly	2 per ILR bimonthly
8	Freeze Tag	Need Based	Need Based	Need Based
9	Thermometers Alcohol (stem)	2	2	2
10	Almirah for Vaccine logistics	2	2	2
11	Almirah for vaccine logistics	1	1	1
12	Immunization table	5	5	5
13	Chair for new staff proposed	3	3	3
14	Stools for immunization room	2	2	2
15	Bench for waiting area	1	1	1
16	Dustbin with lid	one from each equipment	one from each equipment	one from each equipment
17	Water container	1	1	1
18	Hub cutters	2	2	2
19	5 KVA Generator with POL for immunization purpose	1	1	1
20	Coolers*	As per requirement	As per requirement	As per requirement
21	Air conditioners	10	10	16
22	Central A/C for OT	1	1	1

* One cooler per 8 beds in the wards.

XXI. Hospital Plants

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Generator 40/50 KV			
2	Generator 75 KV	1		
3	Generator 125 KV		1	1
4	Portable 2.5 KV	1	2	2
5	Solar Water heater*			
6	Incinerator*			
7	Central supply of 02, N20, Vacuum*			
8	Cold storage for mortuary*			

* To be provided as per need.

XXII. Hospital Fittings & Necessities

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Ceiling Fans*	50	70	120
2	Exhaust Fan*	10	12	24
3	Pedestal Fan*	2	3	4
4	Wall Fan*	3	4	6
5	Hotwater geiser*	2	2	3
6	Fire extinguishers*			
7	Sewing Machine*	2	2	2
8	Lawn Mover*	2	2	2
9	Vaccum cleaner*	2	3	4
10	Water purifier*			
11	Solar water heater*			
12	Neon sign for hospital*			
13	Garden equipment*			
14	Borewell motor OHT*			
15	Water dispenser/Water cooler*			
16	Laundry (steam)*			
17	Emergency lamp			
18	Emergency trauma set*	2	2	3
19	Tube lights*	70	120	200
20	Drinking Water Fountain*	3	4	5

* To be provided as per need and fountain is desirable.

XXIII. Transport

Sl. No.	Name of the Equipment	101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Ambulance	3	3	4
2	Van (Family Welfare)*			
3	Pickup vehicles Maruti (Omni)/RTV			
4	Mortuary Van*	1	1	1
5	Administrative vehicle (Car)*			
6	Minidor 3 wheeler/Tates ace*			
7	Bicycle*			
8	Camp Bus*			
9	Progamme vehicle*			
10	Motorcycle*			

* To be provided as per need.

XXIV. Radiotherapy

1. Brachytherapy System
2. Rotational Cobalt Machine
3. Radiotherapy Simulator
4. Energy Linear Accelerator
5. Treatment Planning System
6. High Energy Linear Accelerator
7. Copy of Specification for Major Equipment
8. Copy of Specification for Minor Equipment
9. High Dose Linear Accelerator 1
10. Linear Accelerator.

XXV. Intensive Care Unit (ICU)

ICU should have minimum of 4 beds.

For each bed provide:

- High end monitor
- Ventilator
- O2 therapy devices
- ICU bed
- Deep Vein Thrombosis prevention devices suction
- Infusion Pumps
- Pipe line of O2, suction and compressed air

Common facilities required in ICU:

- Ultrasound for invasive procedures –one
- Defibrillator-one
- Arterial Blood Gas (ABG) Analysis machine- one.

Laboratory Services at District Hospital

The District Hospital Laboratory shall also serve the purpose of public health laboratory and should be able to perform all tests required to diagnose epidemics or important diseases from public health point of view. Following facilities will be ensured at all district hospital laboratories. For advanced diagnostic tests, a list of National Reference Laboratories has been provided as Annexure V.

Sl. No.	Speciality	Diagnostic Services/Tests
I	**Clinical Pathology**	
	a. Hematology	Haemoglobin estimation
		Total Leukocytes count
		Differential Leucocytes count
		Absolute Eosinophil count
		Reticulocyte count
		Total RBC count
		E. S. R.
	- Immunoglobin Profile (IGM, IGG, IGE, IGA)	Bleeding time
	- Fibrinogen Degradation Product	Clotting time
		Prothrombin time
		Peripheral Blood Smear
		Malaria/Filaria Parasite
		Platelet count
		Packed Cell volume
		Blood grouping
		Rh typing
		Blood Cross matching
		ELISA for HIV, HCV, HBs Ag
		ELISA for TB
		APTT
		ANA/ANF, Rhemmatoid Factor
	b. Urine Analysis	Urine for Albumin, Sugar, Deposits, bile salts, bile pigments, acetone, specific gravity, Reaction (pH)
	c. Stool Analysis	Stool for Ovacyst (Ph),
		Hanging drop for V. Cholera
		Occult blood
		Bacterial culture and sensitivity

Sl. No.	Speciality	Diagnostic Services/Tests
	d. Semen Analysis	Morphology, count
	e. CSF Analysis	Analysis, Cell count etc.
	f. Aspirated fluids	Cell count cytology
II	**Pathology**	
	a. PAP smear	Cytology
	b. Sputum	Sputum cytology
	c. Haematology	Bone Marrow Aspiration
		Immuno haematology
		Coagulation disorders
		Sickle cell anaemia
		Thalassemia
	d. Histopathology	All types of specimens, Biopsies
III	**Microbiology**	
		KOH study for fungus
		Smear for AFB, KLB (Diphtheria)
		Culture and sensitivity for blood, sputum, pus, urine etc.
		Bactriological analysis of water by H_2S based test
		Stool culture for Vibrio Cholera and other bacterial enteropathogene
		Supply of different media* for peripheral Laboratories
		Grams Stain for Throat swab, sputum etc.
IV	**Serology**	RPR Card test for syphillis
		Pregnancy test (Urine gravindex) ELISA for Beta HCG
		Leptospirosis, Brucellosis
		WIDAL test
		Elisa test for HIV, HBsAg, HCV
		DCT/ICT with Titre
		RA factor
V	**Blood Bank**	Services as per norms for the blood bank including services for self component separation
VI	**Biochemistry**	Blood Sugar
		Glucose Tolerance Test
		Glycosylated Hemoglobin
		Blood urea, blood cholesterol
		Serum bilirubin
		Icteric index
		Liver function tests
		Kidney function tests

Sl. No.	Speciality	Diagnostic Services/Tests
		Lipid Profile
		Blood uric acid
		Serum calcium
		Serum Phosphorous
		Serum Magnesium
		CSF for protein, sugar
		Blood gas analysis
		Estimation of residual chlorine in water
		Thyroid T3 T4 TSH
		CPK
		Chloride (Desirable)
		Salt and Urine for Iodine (Desirable)
		Iodometry Titration
VII	**Cardiac Investigations**	a) ECG
		b) Stress tests
		c) ECHO
VIII	**Ophthalmology**	a) Refraction by using Snellen's chart
		Retinoscopy
		Ophthalmoscopy
IX	**ENT**	Audiometry
		Endoscopy for ENT
X	**Radiology**	a) X-ray for Chest, Skull, Spine, Abdomen, bones
		b) Barium swallow, Barium meal, Barium enema, IVP
		c) MMR (chest)
		d) HSG
		e) Dental Xray
		f) Ultrasonography
		g) CT scan
XI	**Endoscopy**	Oesophagus
		Stomach
		Colonoscopy
		Bronchuscopy
		Arthros copy
		Laparoscopy (Diagnostic)
		Colposcopy
		Hysteroscopy
XII	**Respiratory**	Pulmonary function tests

* Specimen collection and transport media only.

Recommended Allocation of Bed Strength

Sl. No.	Item	Type	District Headquarters Hospital		
			101-200 Bedded	201-300 Bedded	500 Bedded
1	General Medicine	Beds (M + F)	15 + 15	25 + 25	40 + 40
2	Newborn ward	Beds	5	5	10
3	Mothers room with dining and toilets	Beds	5	5	10
4	Paediatrics ward	Beds	10	20	40
5	Critical care ward – IMCU	Beds	5	10	10
6	Isolation Ward	Beds	4	5	5
7	Dialysis unit (as per specifications)	Beds		3	3
8	Thoracic medicine ward with room for pulmonary function test	Beds (M + F)		5 + 5	10 + 10
9	Blood bank		Yes	Yes	Yes
10	General surgery ward (incl. Urology, ENT)	Beds (M + F)	15 + 15	25 + 20	35 + 35
11	Post – Operative Ward	Beds (M + F)	10 + 16*	10 + 10	15 + 15
12	Accident and Trauma ward	Beds	10	10	15
13	Labour room	Boards	3	8	8
14	Labour room (Eclampsia)	Beds		3	3
15	Septic Labour room	Boards		2	2
16	Ante-natal ward	Beds	15	15	30
17	Post-natal ward	Beds	15	15	30
18	Postpartum ward	Beds	20	30	50
19	Post operative ward	Beds		20	40
20	Ophthalmology ward	Beds	5	10	20
21	Burns Ward	Beds	-	5	10

* Including post – caesarean patients.
Note: The hospital may earmark 5 – 10 additional beds for AYUSH Services, for which dedicated paramedical staff may be provided.

Requirements of Operation Theatre

Sl. No.	Item	District Headquarters Hospital		
		101-200 Bedded	201-300 Bedded	301-500 Bedded
1	Elective OT-Major	1	2	3
2	Emergency OT/FW OT	1	1	1
3	Ophthalmology/ENT OT	1	1	1

(Separate emergency OT for Obstetrics, Minor OT by side of Gynae. OT).

List of Drugs/Lab Reagents/Other Consumables and Disposables for District Hospitals

The List of the drugs given under is not exhaustive and exclusive but has been provided for delivery of minimum assured services.

Sl. No.	Name of the Drugs
A)	**Analgesics/Antipyretics/Anti Inflamatory**
1	Tab. Aspirin 300 mg
2	Tab. Paracetamol 500 mg
3	Tab. Diclofenac sod
4	Tab. Piroxicam 20 mg
5	Tab. Ibuprofen
6	Tab. Valdecoxib 20 mg (Desirable)
7	Tab. Drotavarine
8	Inj. Paracetamol
9	Inj. Diclofenac sodium
10	Inj. Drotavarine
11	Inj. Buscopan
B)	**Antibiotics & Chemotherapeutics**
1	Tab. Trimethoprim + Sulphamethazol ss
2	Tab. Erythromycin 250 mg
3	Tab. Erythromycin 500 mg
4	Tab. Norfloxacin 200 mg
5	Tab. Cefixime
6	Tab. Norfloxacin 400 mg
7	Tab. Ofloxacin 200 mg
8	Tab. Pefloxacin 400 mg
9	Tab. Gatifloxacin 400 mg
10	Tab. Chloroquine phosphate 250 mg
11	Tab. Pyrazinamide 500 mg, 750 mg
12	Tab. Erythromycine Estearate 250 mg, 800 mg
13	Tab. Phenoxymethyl Penicillin 125 mg
14	Tab. Isoniazid 100 mg
15	Tab. Ethambutol 400 mg
16	Tab. Isoniazid + Thiacetazone
17	Tab. Furazolidone

Sl. No.	Name of the Drugs
18	Tab. Mebendazole 100 mg
19	Tab. Griseofulvin 125 mg
20	Tab. Nitrofurantion
21	Tab. Ciprofloxacin 250 mg, 500 mg
22	Tab. Amoxyclav – 375 mg, 625 mg
23	Tab. Azythromician – 500 mg
24	Tab. Fluconazole 150 mg
25	Cap. Ampicillin 250 mg
26	Cap. Tetracycline 250 mg
27	Cap. Cefodroxyl 250 mg
28	Cap. Amoxycillin250 + cloxacillin 250
29	Cap. Rifampicin 150 mg, 300 mg, 450 mg, 600 mg
30	Cap. Amoxycilline 250 mg, 500 mg
31	Cap. Doxycycline 100 mg
32	Cap. Cephalexin 250 mg
33	Syrup. Cotrimoxazole 50 ml
34	Syrup. Ampicillin 125 mg/5 ml, 60 ml
35	Syp. Erythromycine
36	Syp. Mebendazole
37	Syp. Piperazine Citrate
38	Syp. Pyrantel Pamoate
39	Syp. Primaquine
40	Syp. isoniazid 100 mg/5 ml 100 ml bot
41	Syp. Nalidixic acid
42	Syp. Norfloxacin
43	Suspension Pyrantel pamoate
44	Sus. Furazolidone
45	Sus Rifampicin
46	STI syndromic drug kit
47	Inj. Crystalline penicillin 5 lac unit

Sl. No.	Name of the Drugs
48	Inj. Fortified procaine penicillin 4 lac
49	Inj. Ampicillin 500 mg
50	Inj. Cloxacillin
51	Inj. Gentamycin 40 mg/2 ml vial
52	Inj. Crystalline penicillin 10 lac unit
53	Inj. Metronidazole 100 ml
54	Inj. Ciprofloxacin 100 ml
55	Inj. Cefoperazone 1 gm
56	Inj. cefotaxime 500 mg
57	Inj. Ceftriaxone
58	Inj. Cefotaxime
59	Inj. Cloxacillin
60	Inj. Gentamycin
61	Inj. Quinine
62	Inj. Chloramphenicol
63	Inj. Dopamine
64	Inj. Vionocef (Ceffixime) 250 mg
65	Inj. Amikacin sulphate 500 mg, 100 mg
66	Inj. Amoxycillin 500 mg
67	Inj. Salbactum + Cefoperazone 2 gm
68	Inj. Amoxycillin with clavutanite acid 600 mg
69	Inj. Cefuroxime 250/750
70	Inj. Chloroquine phosphate
71	Inj. Benzathine penicillin 12 lac
72	Inj. Quinine Dihydrochloride
73	Inj. Amoxyclav 1.2 gm
74	Inj. Azythromician – 500 mg
75	Inj. Ceftriaxone
76	AIDS Protective kit
C)	**Anti Diarrhoeal**
1	Tab. Metronidazole 200 mg, 400 mg
2	Tab. Furazolidone 100 mg
3	Tab. Diloxanide Furoate
4	Tab. Tinidazole 300 mg
5	Tab. Chloroquinne/Hydry Chloriquinne
6	Syrup. Metronidazole
D)	**Dressing Material/Antiseptic Ointment lotion**
1	Povidone Iodine solution 500 ml
2	Phenyl 5 litre jar (Black Phenyl)
3	Benzalkonium chloride 500 ml bottle
4	Rolled Bandage
	a) 6 cm
	b) 10 cm
	c) 15 cm
5	Bandage cloth (100 cm x 20 mm) in 'Than'
6	Surgical Guaze (50 cm x 18 m) in Than
7	Adhesive plaster 7.5 cm x 5 mtr
8	Absorbent cotton I.P 500 gm Net
9	P.O.P Bandage
	a) 10 cm
	b)15 cm
10	Framycetin skin Oint 100 G tube
11	Silver Sulphadiazene Oint 500 gm jar
12	Antiseptic lotion containing:
	a) Dichlorometxylenol 100 ml bot
	b) Haffkinol 5 litre jar
13	Sterilium lotion
14	Bacillocid lotion
15	Furacin skin oint
16	Framycetin skin oint
17	Tr. Iodine
18	Tr. Benzoin
19	Potassium Permangnate
20	Methylated spirit
21	Betadine lotion
22	Hydrogen peroxide
23	Neosporin, Nebasuef, Soframycin Powder
24	Magnesium Sulphate Powder
E)	**Infusion fluids**
1	Inj. Dextrose 5% 500 ml bottle
2	Inj. Dextrose 10% 500 ml bottle

Sl. No.	Name of the Drugs
3	Inj. Dextrose in Normal saline 500 ml bottle
4	Inj. Normal saline (Sod chloride) 500 ml bottle
5	Inj. Ringer lactate 500 ml
6	Inj. Mannitol 20% 300 ml
7	Inj. Water for 5 ml amp
8	Inj. Water for 10 ml amp
9	Inj. Dextrose 25% 100 ml bottle
10	Inj. Plasma Substitute 500 ml bottle
11	Inj. Lomodex
12	Inj. Isolyte-M
13	Inj. Isolyte-P
14	Inj. Isolyte-G
F)	**Eye and ENT**
1	Sulphacetamide eye drops 10% 5 ml
2	Framycetin with steroid eye drops 5 ml
3	Framycetin eye drops 5 ml
4	Ciprofloxacin eye/ear drops
5	Gentamycin eye/ear drops
6	Local antibiotic steroid drops
7	Timolol 0.5%
8	Homatropine 2%
9	Tropicamide 1%
10	Cyclomide 1%
11	Wax dissolving ear drops
12	Antifungal (Clotrimazole) ear drops
13	Antiallergic + Decongestant combination eg. Chlorphenarmine + Pseudoephederine/ Phenylephrine
14	Oxmetazoline/Xylometazoline nasal drops
15	Betnesol-N/Efcorlin Nasal drops
16	Pilocarpine eye drops 1%, 2%, 4%
17	Phenylepinephrine eye drops
18	Glycerine Mag sulphate ear drops, ointment
19	Antifungal + Antibiotic ear drops (clotrimazole + polymyxin B)
20	Steroid + Antibiotic ear drops (OTEK AC plus ear drops)

Sl. No.	Name of the Drugs
21	Chloramphenicol eye oint & applicaps
22	Chloramphenicol + Dexamethsone oint
23	Dexamethasone eye drops
24	Drosyn eye drops
25	Atropine eye oint
G)	**Antihistaminics/anti-allergic**
1	Tab. Diphenhydramine (eqv. Benadryl)
2	Tab. Cetrizine
3	Tab. Chlorpheniramine maleate 4 mg
4	Tab. Diethylcarbamazin
5	Tab. Beta-histidine 8 mg
6	Tab. Cinnarazine 25 mg
7	Tab. Desloratedine
8	Tab. Levocetrizine 5 mg
9	Inj. Nor adrenaline
10	Inj. Methyl Prednisolon 500 mg vial
11	Inj. Adrenaline Bitartrate IP
12	Inj. Pheniramine maleate
H)	**Drugs acting on Digestive system**
1	Tab. Cyclopam
2	Tab. Piperazine citrate
3	Tab. Bisacodyl
4	Tab. Perinorm
5	Tab. Belladona
6	Tab. Antacid
7	Tab. Ranitidine
8	Tab. Omeprazole
9	Tab. Liv52
10	Syp. Antacid
11	Syrup Liv52
12	Liquid paraffin
13	Inj. Perinorm
14	Inj. Cyclopam
15	Inj. Prochlorperazine (Stemetil)
16	Inj. Ranitidine 2 ml
17	Inj. Metoclopramide

Sl. No.	Name of the Drugs
18	Caster oil
19	Glycerine Suppositories
20	Glycerine Suppository USP 3 gm bott/10
I)	**Drugs related to Hoemopoetic system**
1	Tab. Ferrous sulphate 200 mg, 300 mg
2	Tab. Ferrous sulphate 200 mg + Folic acid
3	Syp. Ferrous Gluconate 100 ml bottle
4	Inj. Iron Dextran/Iron sorbitol
J)	**Drugs acting on Cardiac vascular system**
1	Tab. Digoxine
2	Tab. Atenolol
3	Tab. Isoxuprine
4	Tab. Methyldopa
5	Tab. Isosorbide Dinitrate (Sorbitrate)
6	Tab. Propranolol
7	Tab. Verapamil (Isoptin)
8	Tab. Enalepril 2.5/5 mg
9	Tab. Metoprolol
10	Tab. Captopril
11	Tab. Clopidogrel
12	Tab. Atrovastatin 10 mg
13	Tab. Glyceryl Trinitrate
14	Tab. Amlodipine 5 mg, 10 mg
15	Tab. Nefidipine 10 mg, 20 mg, 30 mg
16	Inj. Mephentine
17	Inj. Duvadilan
18	Inj. adrenaline
19	Inj. atropine sulphate
20	Inj. Digoxine
21	Inj. Glyceryl Trinitrate
22	Inj. Streptokinase 7.5 lac vial
23	Inj. Streptokinase 15 lac vial
24	Inj. Dopamine
25	Hydrochlorthiazide 12.5, 25 mg
26	Warfarin sod 5 mg

Sl. No.	Name of the Drugs
K)	**Drugs acting on Central/peripheral Nervous system**
1	Tab. Haloperidol
2	Tab. Diazepam 5 mg
3	Tab. Phenobarbitone 30 mg, 60 mg
4	Tab. Pacitane
5	Tab. Surmontil
6	Tab. Risperidone 2 mg
7	Tab. Imipramine 75 mg
8	Tab. Diphenylhydantoin 100 mg
9	Tab. Lithium Carbonate 300 mg
10	Tab. Lorazepam 2 mg
11	Tab. Olanzapine 5 mg (Desirable)
12	Tab. trifluoperazine(1 mg)
13	Tab. Phenobarbitone 30 mg, 60 mg
14	Tab. Alprazolam 0.25 mg
15	Tab. Amitryptilline
16	Cap. Fluoxetine 20 mg
17	Syrup Phenergan
18	Syrup Paracetamol
19	Inj. Pentazocine (Fortwin)
20	Inj. Pavlon 2 ml amp
21	Inj. Chlorpromazine (Largactil) 25 mg, 100 mg
22	Inj. Promethazine Hcl Phenergan
23	Inj. Pethidine
24	Inj. Diazepam 5 mg/ml
25	Inj. Haloperidol
26	Inj. Promethazine 50 mg
27	Inj. Fluphenazine 25 mg
28	Inj. Phenytoin
29	Inj. Phenobarbitone
30	Inj. Lignocaine 1%, 2%, 5%
31	Inj. Hylase (Hyaluronidase)
32	Inj. Marcaine
33	Inj. Lignocaine Hcl 2%, 4%
34	Inj. Phenabarbitone 200 mg

Sl. No.	Name of the Drugs
35	Xylocaine jelly
36	Carbamazepine Tabs. syrup
37	Ethyl chloride spray
38	Ether Anaesthetic 500 ml
39	Lignocaine oint
40	Halothane
L)	**Drugs acting on Respiratory system**
1	Tab. Aminophylline
2	Tab. Deriphylline
3	Tab. Salbutamol 2 mg, 4 mg
4	Tab. Theophylline
5	Syp. Salbutamol 100 ml bot
6	Syp. Theophylline 100 ml
7	Syrup Noscopin
8	Syrup Tedral
9	Nebulisable Salbutamol nebusol solution (to be used with nebuliser)
10	Cough syrup 5 litre Jar
11	Cough syrup with Noscapine 100 ml
12	Linctus codein 500 ml bot
13	Inj. Aminophylline
14	Inj. Deriphylline
15	Inj. Theophylline Etophylline
16	Inj. Terbutaline
M)	**Skin Ointment/Lotion etc.**
1	Clotrimazole lotion
2	Lot.Gamabenzene hexachloride 1% bt
3	Calamine Lotion BPC
4	Clotrimazole cream
5	Burnion Oint
6	Benzyl Benzoate emulsion 50 ml bot
7	Flemigel APC Ointment
8	Cream Fluconozole 15 gm tube
9	Cream Miconozole 2% 15 gm tube
10	Cream Clotrimazole skin 1% 15 gm
11	Cream Framyctin 1% 20 gm tube/100 gm

Sl. No.	Name of the Drugs
12	Cream Nitrofurazone 0.2% jar of 500 g
13	Retinoic Acid 0.025% Cream/Gel
14	Oint. Hydrocortisone acetate
15	Oint Acyclovir 3% 5 gm tube
16	Oint Betamethasone with and without Neomycim
17	Oint Dexamethasone 1% + Framycetin
18	Oint contain clotrimazole + Genta + Flucon
19	Oint Flucanazole 10 mg
20	Oint Silversulphadiazene 1% 25 g
21	Coat Tan/Salicylic Acid Ointment
22	Salicylate Acid Ointment
23	Benzoyl Peroxide Gel 2.5/5%
N)	**Drugs acting on UroGenital system**
1	Tab. Frusemide 40 mg
2	Syp. Pottassium chloride 400 ml bot
3	Inj. KCL
4	Inj. Frusemide
5	Inj. Sodabicarb
O)	**Drugs used in Obstetrics and Gynecology**
1	Tab. Labetolol 100 ml
2	Tab. Medroxy Progestrone Acetate 10 mg
3	Tab. Ethanyl Estradiol 1 mg, 2 mg
4	Tab. Pyrazinamide 500 mg, 750 mg
5	Tab. Ondensetron 4 mg
6	Tab. Mesoprostol
7	Tab. Cabergoline 0.5 mg
8	Tab. Trenaxamic Acid 500 mg
9	Tab. Ritodine 10 ml
10	Tab. Duvadilan
11	Tab. Methyl Ergometrine
12	Tab. Primolut-N
13	Tab. stilboesterol
14	Lubic Gel
15	Dinoprostone (Cervigel) Gel
16	Clotrimazole – Vaginal Tab. 100 mg
17	Clotrimazole + Clindamicin 100 + 100 mg, Vaginal Tav.

Sl. No.	Name of the Drugs
18	Betadine Vaginal Tab.
19	Haymycin vaginal tab
20	Inj. Hydroxy Progesterone 500 mg/2 ml
21	Inj. MethylErgometrine 0.2 mg/amp
22	Inj. Ethacredin lactate (Emcredyl)
23	Inj. Valethemide Bromide (Epidosyn)
24	Inj. Methotrexate
25	Inj. Trenaxamic Acid 500 mg
26	Inj. Ritrodine 10 ml, 50 mg
27	Inj. Ondensetron 4 mg
28	Inj. Betamethasone 8 mg
29	Inj. Magnesium Sulphate 20%. 50%
30	Inj. Pitocin
31	Inj. Prostodin
32	Inj. Mesoprostol
33	Inj. Duvadilan
34	Inj. Magnessium Sulphate
35	Inj. Dilantin Sodium
P)	**Hormonal Preparation**
1	Tab. Biguanide
2	Tab. Chlorpropamide 100 mg
3	Tab. Prednisolone 5 mg
4	Tab. Tolbutamide 500 mg
5	Tab. Glibenclamide
6	Tab. Betamethasone
7	Tab. Thyroxine sod 0.1 mg
8	Testesterone Depot 50 mg (Desirable)
9	Insulin lente Basal
10	Inj. Insulin Rapid
11	Inj. Cry Insulin
12	Inj. Mixtard (Desirable)
13	Inj. Testesterone plain 25 mg (Desirable)
14	Inj. Dexamethasone 2 mg/ml vial
Q)	**Vitamins**
1	Tab. Vit "A" & "D"
2	Tab. Ascorbic acid 100 mg

Sl. No.	Name of the Drugs
3	Tab. B. Complex NFI Therapeutic
4	Tab. Polyvitamin NFI Therapeutic
5	Tab. Calcium lactate
6	Tab. Folic acid
7	Tab. Riboflavin 10 mg
8	Tab. Ascorbic Acid 500 mg
9	Tab. Calcium Citerate 1000 mg
10	Syp. Vitamin B. Complex
11	Inj. Vit "A"
12	Inj. Cholcalciferol 16 lac
13	Inj. Ascorbic acid
14	Inj. Pyridoxin 10 mg, 50 mg
15	Inj. Vit K, Inj. Vit K_3 (Menadione)
16	Inj. Calcium Gluconate
17	Inj. Vitamin B Complex 10 ml
18	Inj. B12 Folic acid
19	Inj. Pyridoxine
20	Inj. Calcium pantothernate
21	Inj. B12 (Cynacobalamine)
22	Inj. Folinic Acid
23	Inj. Multivitamin I.V
24	Vit D-3 Granules
R)	**Other Drugs & Material & Miscellenous items**
1	Tab. Dipyridamol (Like Persentine)
2	Tab. Septilin
3	Tab. Cystone
4	Tab. Gasex
5	Sy. Orciprenaline
6	Sy. Himalt-X (Desirable)
7	Sy. Protein (Provita) (Desirable)
8	Syp. Himobin
9	Syp. Mentat
10	All Glass Syringes
	a) 2 ml
	b) 5 ml
	c) 10 ml

Sl. No.	Name of the Drugs
	d) 20 ml
11	Hypodermic Needle (Pkt of 10 needle)
	a) No. 19
	b) No. 20
	c) No. 21
	d) No. 22
	e) No. 23
	f) No. 24
	g) No. 25
	h) No. 26
12	Scalp vein sets No.
	a) 19
	b) 20
	c) 21
	d) 22
	e) 23
	f) 24
	g) 25
	h) 26
13	Gelco all numbers
14	Surgical Gloves
	a) 6"
	b) 6 ½"
	c) 7"
	d) 7.5"
15	Catgut Chromic
	a) 1 No.
	b) 2 No.
	c) 1-0 No.
	d) 2-0 No.
	e) 8-0
16	Vicryl No. 1
17	Sutupak 1, 1/0, 2, 2/0
18	Prolene
19	X Ray film 50 film packet (in Pkt) size
	a) 6 ½ x 8 ½"
	b) 8" x 10"
	c) 10" x 12'
	d) 12" x 15"
20	IV Sets
21	Catheters
22	Urine Bags
23	Venflow

Sl. No.	Name of the Drugs
24	Fixer
25	Developer
26	Ultrasound scan film
27	Dental film
28	Oral Rehydration powder 27.5 g
29	Suturing needles (RB,Cutting)
30	Benzyl Benzoate
31	GammaBenzene Hexachloride
32	Chlorhexidine munthmash
33	Glycerol Tannic Acid Paint (oral)
34	Betadine mouthwash
35	Triamcinolone Acetonide in orabase paste
36	Imiquimod cream (Topical application)
37	Comp. Podophylline in Tincture Benzoin
38	Gum Paint
39	Mixture Alkaline
40	Formaldehyde Lotion
41	Cetrimide 100 ml bott 3.5%, 1.5% 1
42	Bacitrium powder 10 mg botts
43	Bleaching Powder 5 Kg Pkts (ISI Mark)
44	Ether Solvent
45	Sodium Hypochloride Sod. 5 ltrs/1 ltrs
46	Tetanus Antitoxin 10000 I.U (Dersirable)
47	Hearing Aids (Behind the Ear Type) 200 per district per year under NPPCD
48	**Surgical Accessories for Eye** Green Shades Blades (Carbon Steel) Opsite surgical gauze (10 x 14 cm.) 8-0 & 10-0 double needle suture
	Visco elastics from reputed firms
49	**Spectacles** For operated Cataract Cases (after refraction) For Poor school age children with refractive errors
50	Rubber Mackintosh Sheet in mtr
51	Sterile Infusion sets (Plastic)
52	Antisera
	I) A 5 ml
	II) B 5 ml
	III) D 5 ml
	IV) AB 5 ml
53	Anti Rabies Serum (ARS)
54	Coir Mattress

Sl. No.	Name of the Drugs
55	Glacial acetic acid
56	Benedict solution
57	Glycerine
58	Turpentine oil
59	Formaldehyde
60	Dextrose Powder
61	ECG Roll
62	Oint. Pilex
63	Rumalaya Gel
64	Pinku Pedratic Cough Syp.
65	Inj. Heparin sod.1000 IU
66	Inj. Tetglobe
67	Inj. Diphthoria antition (ADS) 10000 I.U
68	Inj. Gas gangrene Antitoxin (AGGS) 10000
69	Inj. PAM
70	Inj. Rabipur

Sl. No.	Name of the Drugs
71	Inj. Antirabies vaccine
72	Inj. Antisnake venom (Polyvalent)
73	Inj. AntiDiphtheria Serum (Desirable)
74	Inj. Cyclophosphamide
	Vaccines Drugs and Logistics
75	Vaccines
76	AD syringes
77	Reconstitution syringes
78	Red Bags
79	Black bags
80	Vial Opener
81	Vitamin A
82	Paracetamol
83	Emergency Drug Kit
*	**Hep B wherever implemented under UIP and JE in select districts**

Essential Medicines and Supplies for Special Newborn Care Unit

Item	Item
Emergency Life Saving Drugs*	6. Injection Phenobarbitone
1. Injection Adrenaline (1:10000)	7. Injection Phenytoin
2. Injection Naloxone	8. Phenobarbitone Syrup
3. Sodium Bicarbonate	9. Amoxycillin-Clavulanic Suspension
4. Injection Aminophylline	10. Injection Dexamethasone
5. Injection Phenobarbitone	11. Antifungal Skin Cream
6. Injection Hydrocortisone	12. Antibiotic Skin Cream
7. 5%, 10%, 25% Dextrose	13. 2% Glutaraldehyde
8. Normal saline	14. Rectified Spirit
9. Injection Ampicillin with Cloxacillin	15. Povidone Iodine Solution
10. Injection Ampicillin	16. Lysol
11. Injection Cefotaxime	17. Savlon
12. Injection Gentamycin	18. Liquid hand washing soap
Other Essential Medicines and Supplies for Special Newborn Care Unit	19. Detergent for Washing Machine
1. 4.5% Dextrose Normal Saline	20. Hand washing soap
2. Injection Potassium Chloride 15%	21. Triple dye
3. Injection Calcium Gluconate 10%	22. Gentian violet 1%
4. Injection Magnesium Sulphate 50%	23. Antibiotic Eye Drop
5. Injection Vitamin K	

* This is not an exhaustive list for an emergency situation in any Sick Newborn Care Units. A stock of 1 set per bed per month should always be maintained in the unit

Capacity Building

Training of all cadres of workers at periodic intervals is an essential component of the IPHS for district hospitals. Both medical and paramedical staff should undergo continuing medical education (CME) at intervals.

District hospitals also should provide the opportunity for the training of medical and paramedical staff working in the institutions below district level such as skill birth attendant training and other skill development/ management training. Training need assessment/Skill Gap analysis should be done on regular basis and trainings should be planned accordingly. There should be provision for taking training feedback and assessing training effectiveness.

Quality Assurance and Quality Control of Processes and Service Delivery

Quality of service should be ensured at all levels. Standard treatment protocols for locally common diseases and diseases covered under all national programmes should be made available at all district hospitals. Hospital should develop and implement standard operating procedures for the critical administrative and clinical processes. Relevant work instructions and clinical protocols should be displayed at point of use. For proper monitoring and delivery of services District hospitals would develop and implement checklists for various processes ie. Housekeeping Checklist, BMW Checklist, Surgical Safety Checklist etc. District Hospitals should prepare themselves and try get certification/ Accreditation against prevalent standards like ISO, NABH, NABL, JCI etc.

Following processes can be taken under quality assurance program

Administrative Processes

1. Patient Registration, Admission & Discharge Management
2. Hospital Stores & Inventory Management
3. Procurement & Outsourcing Management
4. Hospital Transportation Management
5. Hospital Security & Safety Management
6. Hospital Finance & Accounting Management
7. HospitalInfrastructure/EquipmentMaintenance Management
8. Hospital housekeeping & General Upkeep Management
9. Human Resource Development & Training Management
10. Dietary Management
11. Laundry Management
12. Hospital Waste Management

Clinical Processes

1. Outdoor Patient (OPD) Management
2. In-Patient (IPD) Management (General/Critical/ Intensive Care)
3. Hospital Emergency and Disaster Management
4. Maternity and Child Health Management
5. Operation Theatre and CSSD Management
6. Hospital Diagnostic Management
7. Blood Bank/Storage Management
8. Hospital Infection Control Management
9. Data and Information Management
10. Hospital Referral Management
11. Pharmacy Management
12. Management of Death

Some of quality assurance measures are already described under departmental requirements.

Quality Control

Internal Monitoring

a) Management Information System

Hospital should collect data pertaining to performance of different departments and hospital as a whole.

A standard format for capturing key performance indicators is given in **Annexure VII. This is only a suggestive format and States may modify it as per their requirement.** These performance indictors shall regularly be monitored and analyzed. The findings of MIS shall be discussed in meetings of Rogi Kalyan Samiti and hospital monitoring committee. Corrective and preventive actions shall be taken to improve the performance.

b) Internal Audit

Internal audit of the services available in the hospital should be done on regular basis (preferably quarterly). Findings of audit shall be discussed in meetings of hospital monitoring committee and corrective and preventive action shall be taken. Internal audit shall be done through hospital monitoring committee. This shall comprise of civil surgeon/CMO, medical superintendent, deputy medical superintendent, departmental in charge, Nursing Administrator and hospital manager.

c) Medical audit

A medical audit committee shall be constituted in the hospital. Audit shall be done on regular basis (preferably monthly). Sample size for audit shall be decided and records of patients shall be selected randomly. Records shall be evaluated for completeness against standard content format, clinical management of a particular case.

d) Death review

Review of the all mortality that occurs in the hospital shall be done on fortnightly basis. All maternal deaths at hospital shall come under this preview. A facility based maternal death review format is given in **Annexure X**.

e) Other audits

Disaster Preparedness Audit, Patient Satisfaction Surveys. Monitoring of Accessibility and equity issues, information exchange. These audits shall be carried out by Rogi Kalyan Samiti of the hospital.

External Monitoring

Monitoring by PRI/Rogi Kalyan Samities

Service/performance evaluation by independent agencies

District Monitoring Committees formed under NRHM shall monitor the upgradation of Hospitals to IPHS. Annual Jansamvad may also be held as a mechanism of monitoring.

Monitoring of laboratory

Internal Quality Assessment Program

External Quality Assessment Program

Record Maintenance

Computers have to be used for accurate record maintenance and with connectivity to the District Health Systems, State and National Level.

Statuary Compliance

Hospital shall fulfil all the statuary requirements and comply to all the regulations issued by local bodies, state and union of India. Hospital shall have copy of these regulations/acts. List of statuary and regulatory compliances is given in the **Annexure VIII**.

Rogi Kalyan Samities (RKS)/ Hospital Management Committee (HMC)

Each district hospital should have a Rogi Kalyan Samiti/Hospital Management Committee with involvement of PRIs and other stakeholders as per the guidelines issued by the Government of India. These RKS should be registered bodies with an account for itself in the local bank. The RKS/HMC will have authority to raise their own resources by charging user fees and by any other means and utilize the same for the improvement of service rendered by the District Hospital. Regular meeting of RKS should be ensured. Outsourcing of support services like Laundry, Housekeeping , Waste Disposal, Power Backup etc shall done on basis of service level agreements which include clearly defined service deliverables and penalty clauses if service is not delivered.

Citizen's Charter

Each District hospital should display prominently a citizen's charter for the district hospital indicating the services available, user fees charged, if any, and a grievance redressal system. Citizen's Charter always should be in local language. A modal citizen's charter is given as in **Annexure I**

ANNEXURE I

CITIZEN'S CHARTER
e.g. OUR MOTTO - SERVICE WITH SMILE

1. Mission Statement

2. Access to services

This is a general hospital. It provides medical care to all patients who come to hospital. Emergency services are available 24 x 7 without any discrimination. The management of this hospital is responsible for ensuring the delivery of services.

3. Standards of Services

This hospital provide quality of service on the minimum assured services set by Indian Public Health Standards (IPHS).

4. Your Rights in the Hospital

1. Right to access to all the services provided by the Hospital
2. Right to Information - including information relating to your treatment
3. Right of making decision regarding treatment
4. Right for privacy and confidentiality
5. Right to religious and cultural freedom
6. Right for Safe and Secure Treatment
7. Right for grievance redressal
8. Right to Emergency Care

5. General Information

1. This is secondary care level multispecialty hospital.
2. This hospital has
   a. ..... Beds
   b. ..... Doctors
   c. ..... Nurses
   d. ..... Ambulances

6. Services Available

Multi Speciality OPD	**Indoor Treatment/Wards**	**24 hrs Emergency**	**Maternity Services** (including High Risk Pregnancy)
Radiology (X-Ray, Ultrasound, CT-Scan)	**Laboratory** (pathology, biochemistry, microbiology)	**24 Hrs Pharmacy**	**ICU** (Intensive Care Unit)
Nursery	**DOT Center**	**24 Hrs Blood Bank**	**Operation Theatre**
Family Planning Services	**Medicolegal and Post-mortem Services** (Mortuary Services available)	**24 Hrs Ambulance**	**ICTC** (Integrated Counselling and Testing Center)
AYUSH	**Immunization**	**Counselling Services** (Medical Social Work)	**Dentistry**
Telemedicine			

7. Enquiries and Information

Enquiry counter is located at.....

Timings for working counter are.....

Phone no. for telephonic enquiry (24 hours service).....

Location guide maps and directional signages have been put up at strategic points in the hospital.

8. Casualty & Emergency Services

Facilities

- All Emergency Services are available round the clock
- Specialist doctors are available on call from resident doctors.
- Emergency services are available for all specialities as listed in the OPD Services.
- Medico legal services are available.
- Referral Services to higher centre in case facilities for treatment are not available in the hospital
- Round the clock ambulance services with basic life support.
- In serious cases, treatment/management gets priority over paper work like registration and medico-legal requirements. The decision rests with the treating doctor.

9. OPD Services

OPD services are available on all working days excluding Sundays and Gazetted Holidays.

Timings -

Morning .....am to..... am/pm

Evening .....pm to..... pm.

Various outpatient services available in the hospital are detailed below (as available):

Department	Room no.	Timings
General Medicine		
General Surgery		
Obstetrics & Gynaecology		
Paediatrics		
Eye		
ENT		
Skin and VD		
Psychiatry		
Orthopaedics		
Dental OPD		

.....

.....

AYUSH Services:

Homeopathic

Ayurvedic

Others

Medical Facilities Not Available:

Neurosurgery

.....

.....

.....

10. Diagnostic services

- List of tests available with charges are displayed at respective departments and enquiry counter.
- Tests are free for Below Poverty Line (BPL) patients. Charges can be waived on showing proof of BPL category or by written permission from Deputy medical superintendent, medical superintendent or Rogi Kalayan Samiti.

I. Laboratory Services

Timings -

Routine tests are done in following specialities -

a. Bio-chemistry
b. Microbiology
c. Haematology
d. Cytology
e. Histopathology including FNAC
f. Clinical Pathology

II. Radio Diagnostic Services

Departments	Timings
X-Rays	
Ultrasound	
CAT scan	
Color dopler	

III. Cardiology Diagnostics

ECG

ECHO

TMT

11. Indoor Patient Services

There are following wards in the hospital

General ward	Bed allocated	Bed Available
Male Medical		
Male Surgical		
Female Medical		
Female Surgical		
Maternity Ward		
Children Ward		

.....

.....

.....

Private Ward

.....

.....

Intensive Care ward

ICU

SNCU

Facilities for IPD patients

1. All patients admitted in General Wards of the Hospital are treated free of cost.
2. Free diet 3 times a day as per requirement of the patient.
3. 24 hour nursing services.
4. 24 hour availability of duty doctor.

12. Complaints & Grievances

- Every grievance will be duly acknowledged.
- We aim to settle your genuine complaints within ..... days of its receipt.
- Suggestions/Complaint boxes are also provided at enquiry counter and..... in the hospital.
- If we cannot, we will explain the reasons and the time we will take to resolve.
- Name, designation and telephone number of the nodal officer concerned is duly displayed at the Reception.

  Dr. .....

  Designation .....

  Tele (O) ..... (R) .....
  (M).....

  Meeting Hours..... to .....

13. Your Responsibilities

- Please do not cause inconvenience to other patients.
- Please help us in keeping the hospital and its surroundings neat and clean.
- Beware of Touts. If you find any such person in premises tell the hospital authorities.
- The Hospital is a “No Smoking Zone” and smoking is a Punishable Offence.
- Please cooperate with the hospital administration for normalizing the situation in case of an emergency.
- Please provide useful feedback & constructed suggestions. These may be addressed to the Medical Superintendent of the Hospital.

ANNEXURE II

HOSPITAL WASTE MANAGEMENT

ANNEXURE II A : NATIONAL GUIDELINES ON HOSPITAL WASTE MANAGEMENT BASED UPON THE BIO-MEDICAL WASTE (MANAGEMENT & HANDLING) RULES, 1998

The Bio-Medical Waste (Management & Handling) Rules, 1998 were notified under the Environment Protection Act, 1986 (29 of 1986) by the Ministry of Environment and Forest, Govt. Of India on 20th July, 1998. The guidelines have been prepared to enable each hospital to implement the said Rules, by developing comprehensive plan for hospital waste management, in term of segregation, collection, treatment, transportation and disposal of the hospital waste.

Policy on Hospital Waste Management

The policy statement aims "to provide for a system for management of all potentially infectious and hazardous waste in accordance with the Bio-Medical Waste (Management & Handling) Rules, 1998 (BMW, 1998).

Definition of Bio-medical Waste

Bio-Medical waste means any waste, which is generated during the diagnosis, treatment or immunisation of human beings or animal or in research activities pertaining thereto or in the production or testing of biological, including categories mentioned in the Schedule of the Bio-Medical Waste (Management & Handling) Rules, 1998.

Categories of Bio-medical Waste

Hazardous, toxic and Bio-Medical waste has been separated into following categories for the purpose of its safe transportation to a specific site for specific treatment. Certain categories of infectious waste require specific treatment (disinfection/decontamination) before transportation for disposal. These categories of Bio-medical waste are mentioned as below:

Category No. 1- Human Anatomical Waste

This includes human tissues, organs, and body parts.

Category No. 2- Animal Waste

This includes animal tissues, organs, body parts, carcasses, bleeding parts, fluid, blood and experimental animal used in research; waste generated by veterinary hospitals and colleges: discharge from hospital and animal houses.

Category No. 3- Microbiology & Biotechnology Waste

This includes waste from laboratory cultures, stocks or specimens of microorganism live or attenuated vaccines, human and animal cell culture used in research and infectious agents from research and industrial laboratories, wastes from production of biological, toxins, dishes and devices used for transfer of cultures.

Category No. 4- Waste sharps

This comprises of needles, syringes, scalpels, blades, glass, etc., that may cause puncture and cuts. This includes both used and unusable sharps.

Category No. 5 - Discarded Medicines and Cytotoxic drugs

This includes wastes comprising of outdated, contaminated and discarded medicines.

Category No. 6- Soiled Waste

It comprises of item contaminated with blood, and body fluids including cotton, dressings, soiled plaster casts, linens, beddings, other material contaminated with blood.

Category No. 7- Solid Waste

This includes wastes generated from disposable items, other than the waste sharps, such as tunings, catheters, intravenous sets, etc.

Category No. 8- Liquid Waste

This includes waste generated form laboratory and washing, cleaning, housekeeping and disinfecting activities.

Category No. 9- Incineration Ash

This consists of ash form incineration of any Bio-medical waste.

Category No. 10- Chemical Waste

This contains chemical used in production of biological and chemical used in disinfection, insecticides, etc.

Segregation of Waste

1. It should be done at the site of generation of Bio-medical waste, e.g., all patient care activity areas, diagnostic services areas, operation theatre labour rooms, treatment rooms etc.
2. The responsibility of segregation should be with the generator of Bio-medical waste i.e. Doctors, Nurses, Technicians, etc.
3. The Bio-medical waste should be segregated as per categories applicable.

Collection of Bio-medical Waste

Collection of Bio-Medical Waste should be done as per Bio-Medical Waste (Management & Handling) Rules, 1099 (Rule 6-Schedule II). The collection bags and the containers should be labelled as per guidelines of Schedule III, i.e., symbols for bio-hazard and cytotoxic. A separate container shall be placed at every pointy of generation for general waste to be disposed of through Municipal Authority.

The trolleys which are used to collect hospital waste should be designed in such a way that there should be no leakage or spillage of Bio-medical waste while transporting to designated site.

1. **Type of container and colour for collection of Bio-medical waste:**
   - ♦ Those plastics bags which contain liquid like blood, urine, pus, etc., should be put into red colour bag for microwaving and autoclaving and other items should be put into blue or white bag after chemical treatment and mutilation/shredding.
2. All the items sent to incinerator/deep burial (Cat. 1, 2, 3, 6) should be placed in Yellow coloured bags.

Sl. No.	Category	Type of container	Colour Coding
1	Human Anatomical Waste	Plastic Bag	Yellow
2	Animal Waste	Plastic Bag	Yellow
3	Microbiology & Bio-Technology Waste	Plastic Bag	Yellow/Red
4	Waste sharp	Plastic bag, Puncture Proof Container	Blue/White/Translucent
5	Discarded Medicines & Cytotoxic Waste	Plastic Bag	Black
6	Solid waste (plastic)	Plastic Bag	Yellow/Red
7	Solid Waste(Plastic)	Plastic Bag	Blue/White
8	Liquid waste	---------	--------
9	Incineration ash	Plastic Bag	Black
10	Chemical waste(solid)	Plastic Bag	Black

3. All the Bio-medical waste to be sent for Microwave/Autoclave treatment should be placed in Red coloured bags. (Cat. 3, 6 &)
4. Any waste which is sent to shredder after Autoclaving/Microwaving/Chemical treatment is to be packed in Blue/White translucent bag.
5. **Location of Containers:** All containers having different coloured plastic bags should be located at the point of generation waste, i.e., near OT tables, injection rooms, diagnostic service areas, dressing trolleys, injection trolleys, etc.
6. **Labelling:** All the bags/containers must be labelled bio-hazard or cytotoxic with symbols according to the rules (Schedule III of Bio-Medical Waste Rules, 1998).
7. **Bags:** It should be ensured that waste bags are filled up to three-fourth capacity, tied securely and removed from the site of the generation to the storage area regularly and timely.
8. The categories of waste (Cat. 4, 7, 8, & 10) which require pre-treatment (decontamination/ disinfection) at the site of generation such as plastic and sharp materials, etc. should be removed from the site of generation only after pre-treatment.
9. The quantity of collection should be documented in a register. The colour plastic bags should be replaced and the garbage bin should be cleaned with disinfectant regularly.

Storage of Waste

Storage refers to the holding of Bio-medical waste for a certain period of time at the site of generation till its transit for treatment and final disposal.

1. No untreated Bio-medical waste shall be kept stored beyond a period of 48 hours.
2. The authorised person must take the permission of the prescribed authority, if for any reason it becomes necessary to store the waste beyond 48 hours.
3. The authorised person should take measures to ensure that the waste does not adversely affect human health and the environment in case it is kept beyond the prescribed limit.

Transportation

1. Transportation of Waste Within The Hospitals:
   a. Within the hospital, waste routed must be designated to avoid the passage of waste through patient care areas as far as possible.
   b. Separate time schedules are prepared for transportation of Bio-medical waste and general waste. It will reduce chances of their mix up.
   c. Dedicated wheeled containers, trolleys or carts with proper label (as per Schedule IV of Rule 6) should be used to transport the waste from the site of storage to the site of treatment.
   d. Trolleys or carts should be thoroughly cleansed and disinfected in the event of any spillage.
   e. The wheeled containers should be designed in such a manner that the waste can be easily loaded, remains secured during transportation, does not have any sharp edges and easy to cleanse and disinfect.
2. Transportation of Waste for Disposal Outside The Hospital.
   a. Notwithstanding anything contained in the Motor Vehicles Act, 1988 or rules there under. Bio-medical waste shall be transported only in such vehicles as may be authorised for the purpose by the Competent Authority.
   b. The containers for transportation must be labelled as given in Schedule III and IV of BMW, 1998.

Treatment of Hospital Waste (Please see Rule 5. Schedule V & VI)

1. **General waste** (Non-hazardous, non-toxic, non-infectious). The safe disposal of this waste should be ensured by the occupier through Local Municipal Authority.
2. **Bio-Medical Waste**

   Monitoring of incinerator/autoclave/microwave shall be carried out once in a month to check the performance of the equipment. One should ensure:
   a. The proper operation & Maintenance of the incinerators/autoclave/microwave.
   b. Attainment of prescribed temperatures in both the chambers of incineration while incinerating the waste.
   c. Not to incinerate PVC plastic materials.

d. Only skilled persons operate the equipment.

e. Proper record book shall be maintained for the incinerator/autoclave/microwave/ shredder. Such record book shall have the entries of period of operation, temperature/ pressure attained while treating the waste quantity for waste treated etc.

f. The scavengers shall not be allowed to sort out the waste.

g. Proper hygiene shall be maintained at, both, the waste treatment plant site as well as the waste storage area.

h. Categories 4, 7, 8 & 10 should be treated with chemical disinfectant like 1% hypochlorite solution or any other equivalent chemical reagent to ensure disinfection.

Incineration: The incinerator should be installed and made operational as per specifications under the BMW Rules, 1998 (schedule V) and an authorization shall be taken from the prescribed authority for the management and handling of Bio-medical waste including installation and operation of treatment facility as per Rule 8 of Bio-Medical Waste (Management & Handling) Rules 1998. Specific requirement regarding the incinerator and norms of combustion efficiency and emission levels etc. have been defined in the Bio-Medical Waste (Management & Handling) Rules 1998. In case of small hospitals, Joint facilities for incineration can be developed depending upon the local policies of the Hospital and feasibility. The plastic Bags made of Chlorinated plastics should not be incinerated.

Deep burial: Standard for deep burial are also mentioned in the Bio-medical waste (Management & handling) Rules 1998 (Schedule V). The cities having less than 5 lakhs population can opt for deep burial for wastes under categories 1 & 2.

Autoclave and Microwave Treatment: Standards for the autoclaving and Microwaving are also mentioned in the Bio-medical Waste (Management & Handling) Rules 1998 (Schedule-V). All equipment installed/shared should meet these specifications. The waste under category 3, 4, 6 & 7 can be treated by these techniques.

Shredding: The plastics (IV bottle IV sets syringes, catheters, etc.) sharps (needles, blades, glass, etc.) should be shredded but only after chemical treatment/Microwaving/ Autoclaving, ensuring disinfection.

Needles destroyers can be used for disposal of needles directly without chemical treatment.

Secured landfill: The incinerator ash, discarded medicines, cytotoxic substances and solid chemical waste should be treated by this option (cat. 5,9 & 10).

It may be noted there are multiple options available for disposal of certain category of waste. The individual hospital can choose the best option depending upon treatment facilities available.

Radioactive Waste: The management of the radioactive waste should be undertaken as per the guidelines of BARC.

Liquid (Cat. 8) & Chemical Waste (Cat. 10):

i. Chemical waste & liquid waste from Laboratory: Suitable treatment, dilution or 1% hypochlorite solution as required shall be given before disposal.

ii. The affluent generated from the hospital should conform to limits as laid down in the Bio-medical Waste (Management & Handling) Rules, 1998 (Schedule V).

iii. The liquid and chemical waste should not be used for any other purpose.

iv. For discharge into public sewers with terminal facilities the prescribed standard limits should be ensured.

Safety Measures

Personal Protection

Hospital and health care authorities have to ensure that the following personal protective equipment are provided.

1. Gloves
    a. Disposable gloves
    b. Latex surgical gloves
    c. Heavy duty rubber gloves (uptil elbows) for cleaners.
2. **Masks:** Simple and cheap mask to prevent health care workers against: aerosols splashes and dust.
3. Protective glasses.
4. Plastic Aprons.
5. Special Foot wear, e.g., gum boots for Hospital waste Handler.

Immunization against Hepatitis B and Tetanus shall be given to all hospital staff.

All the generators of Bio-medical waste should adopt universal precautions and appropriate safety measures while doing therapeutic and diagnostic activities and also while handling the Bio-Medical waste.

All the sanitation workers engaged in the handling and transporting should be made aware of the risks involved in handling the Bio-medical waste.

Any worker reporting with an accident/injury due to handling of biomedical waste should be given prompt first aid. Necessary investigations and follow up action as per requirement may be carried out.

Reporting Accident & Spillages

The procedure for reporting accidents (as per Form III of BMW Rules. 1998) should be followed and the records should be kept. The report should include the nature of accidents, when and where it occurred and which staffs were directly involved. It should also show type of waste involved and emergency measures taken.

Training

1. All the medical professional must be made aware of Bio-medical waste (Management & Handling) Rules, 1998.
2. Each and every hospital must have well planned awareness and training programme for all categories of personnel including administrators to make them aware about safe hospital waste management practices.
3. Training should be conducted category wise and more emphasis should be given in training modules as per category of personnel.
4. Training should be conducted in appropriate language/medium and in an acceptable manner.
5. Wherever possible audio-visual material and experienced trainers should be used. Hand on training about colour coded bags, categorization and chemical disinfections can be given to concerned employees.
6. Training should be interactive and should include, demonstration sessions, Behavioural science approach should be adopted with emphasis on establishing proper practices. Training is a continuous process and will need constant reinforcement.

Management & Administration

1. The Head of the Hospital shall form a waste Management Committee under his Chairmanship. The Waste Management Committee shall meet regularly to review the performance of the waste disposal. This Committee should be responsible for making hospital specific action plan for hospital waste management and for its supervision, monitoring implementation and looking after the safety of the bio-medical waste handlers.
2. The Heads of each hospital will have to take authorization for generation of waste from appropriate authorities well in time as notified by the concerned State/U.T. Government and get it renewed as per time schedule laid in the rules. The application is to be made as per format given in form I for grant of authorization. (Please See page 18 of notifies BMW Rules).
3. The annual reports accident reporting, as required under BMW rules should be submitted to the concerned authorities as per BMW rules format (Form II and Form III respectively) (Please see pages 19 & 20 of BMW Rules).

ANNEXURE II B : GUIDELINES TO REDUCE ENVIRONMENTAL POLLUTION DUE TO MERCURY WASTE

1. Following guidelines will be used for management of Mercury waste:
    a. 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.
    b. 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.
    c. 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.
    d. 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.
    e. 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 labeled.
2. Reporting formats must be used to report and register any mercury spills/leakages.
3. Hospitals and health centres should work to create awareness among health workers and other stakeholders regarding the health and safety hazards of mercury.

ANNEXURE III

GUIDELINES FOR AIR BORNE INFECTION CONTROL

Infection control measures include Work practices and other measures designed to prevent transmission of infectious agents. These infections generally occur

1. Patient to patient
2. Patient to Health Care Worker (HCW)
3. HCW to Patient
4. HCW to HCW
5. Visitors

The possible source of air borne infections are i.e.

i. **Inside facility** (patient Health Care Worker, visitors infected dust and aerosols ventilations and air-conditioning system.

ii. **Outside the facility** such as construction and renovation, cooling towers, soil etc.

The fundamental of infection control depends on the various measures of controlling, in which hierarchy is:

- Administrative control
- Environmental control
- Respiratory protection measures

Hence the Frame work and appropriate strategy are:

a. Primarily prevention of exposures - **Control at the source** (administrative control).

b. If cannot be achieved then exposures should be reduced **along the path** (Environmental Control i.e., ventilation protection barriers related measures).

c. As a last, exposures should be controlled at the **level of the person** (personal protection equipment).

Environmental Control measures are

1. The **HVAC** (Heating Ventilation & Air conditioning) system.
2. **Planning parameters** on the health care buildings:

   In the planning parameter the first important feature is **Zoning** in which the usage of area are identified and put in a proper zone in terms of **Preventive Zone** or **Curative Zone** and also the **Clean Zone** and **Dirty Utility Zone**.

   The functional planning is done with segregations of traffic flow in terms of:

   - Patient
   - Doctors/Para Medical Staff
   - Movement of material
   - Visitors
   - Location of sinks and dispenser in hand washing.
   - Convenient location of soiled utility area.
   - Location of adequate storage and supply area.
   - Isolated rooms with anterooms as appropriate.
   - Properly engineered areas for linen services and solid waste management.
   - Air handling system engineered for optimal performance, easy maintenance and repair.

Use of environmental control measures is to prevent the spread and reduce the concentration of infectious droplet nuclei in ambient air. The environmental control is divided into:

- **Primary environmental control** consists of controlling the source of infection by using local exhaust ventilations e.g., hoods etc. and diluting and removing contaminated air by using general ventilations.
- **Secondary ventilation control** consists of controlling the air flow to prevent contaminations of air in areas adjacent to the source and cleaning the air by using High Efficiency Particulates Air (HEPA) filtration, UVGI (ultra violet Germicidal Irradiation). Moisture related HVAC component such as cooling coil humidification system should be properly maintained as they are one of the sources of contaminants and cause adverse health effects in occupants.

Indoor Air Quality (IAQ) is depending upon three major factors:

a. **Particulates:** Such as dust, dander, pollen, organic clumps which are usually handled by air filtrations. Hence filter must be maintained effectively.

b. **Microbial:** Bacteria, virus, mold spores.

c. **Gases**

i. VOC (Volatile Organic Compound) which are found in smoke, carpets, cleaning agents, paint, new construction, pressed wood products which can cause eye, nose, throat irritation, headache nausea etc.

ii. Odours caused by odorant molecules dissolved in the air i.e., food odor perfume etc.

The precautions to prevent air borne infections, to be followed are:

i. Private room with monitored **negative air pressure.**

ii. **6 to 12 air changes per hour** in HVAC System

iii. Use of High Efficiency particulates Air **(HEPA) filter** for re-circulated air.

However, it is found that filters are great for trapping micro-organism but they do not kill. If not properly maintained, eventually the filters can become colonized and act as a breeding ground for pathogens.

iv. The use of **UVGI** in air -conditioned building: as UVGI deactivates bacteria, fungi and viruses on surface as well as in the air. This is flexible and can be installed in any new and existing HVAC system.

v. HCW respirators (minimum N 95).

vi. Limited patient movement/transportation for essential purpose only.

ANNEXURE IV

STEPS FOR SAFETY IN SURGICAL PATIENTS

Steps for safety in surgical patients (in the pre-operative ward)

To be done by Surgeon

- ☐ History, examination and investigations
- ☐ Pre-op orders
- ☐ Check and reconfirm PAC findings.
- ☐ Assess and mention any co-morbid condition.
- ☐ Record boldly on 1st page of case sheet --
  --History of drug allergies.
- ☐ Blood transfusion
  - Sample for grouping and cross-matching to be sent.
  - Check availability & donation
  - Risk of transfusion to be explained to relatives
- ☐ Written well informed consent from patient
  (Counter sign by surgeon)
- ☐ Sister in charge of O. T. to be informed in advance regarding the need for special equipment.

Signature of Surgeon

To be done by Staff Nurse

- ☐ Patient's consent to be taken (Counter sign by surgeon)
- ☐ Part preparation as ordered
- ☐ Identification tag on patient wrist Name/Age/Sex/C.R. No/ Surgical unit/Diagnosis
- ☐ Follow pre-op orders
- ☐ Antibiotic sensitivity test done

Signature of Staff Nurse

To be done by Anesthetist

- ☐ Check PAC findings
- ☐ Assess co morbid conditions
- ☐ H/O any drug allergy
- ☐ Check Consent

Signature of Anaesthetist

Surgical safety check list in the operation theatre

Sign In (Period before induction of anesthesia)

- ☐ **Patient has confirmed**
  - ♦ Identity
  - ♦ Site
  - ♦ Procedure
  - ♦ Consent
- ☐ **Site marked/Not Applicable**
- ☐ Anesthesia Safety Check Completed
  - ♦ Anesthesia Equipment
  - ♦ A B C D E
- ☐ Pulse Oxymeter on Patient and functioning

DOES PATIENT HAVE A:

Known Allergy

- ☐ No
- ☐ Yes

Difficult Airway/Aspiration Risk?

- ☐ No
- ☐ Yes, and assistance available

Risk of >500 ml Blood loss (7 ml/kg in children)

- ☐ No
- ☐ Yes and adequate I. V. access & Blood/Fluids Planned.

Signature of Nurse

Time Out (Period after induction & before surgical incision)

- ☐ **Confirm all team members have introduced themselves by name & role**
- ☐ **Surgeon, Anesthetist & Nurse verbally Confirm**
  - ♦ Patient
  - ♦ Site
  - ♦ Procedure

ANTICIPATED CRITICAL EVENTS

- ☐ **Surgeons reviews:** What are the critical or unexpected steps, operative duration & anticipated blood loss
- ☐ **Anesthetist reviews:** Are there any patient specific concerns
- ☐ **Nursing Team reviews:** Has sterility been confirmed? Is there equipment issue or any concern?

Has Antibiotic prophylaxis been given with in the last 60 minutes?

- ☐ Yes
- ☐ Not Applicable

Is Essential Imaging Displayed?

- ☐ Yes
- ☐ Not Applicable

Signature of Surgeon

Sign Out (Period from wound closure till transfer of patient from OT room)

Nurse Verbally confirm with the team:

- ☐ The name of the procedure recorded
- ☐ **That instrument, sponge, needle counts are correct** (or not applicable)
- ☐ **How the specimen is labeled** (including Patient name)
- ☐ **Whether there are any equipment problems to be addressed?**
- ☐ **Surgeon, Anesthetist & Nurse review the key concerns for recovery and management of patient & post- op orders to be given accordingly**
- ☐ **Information to patients attendant about** procedure performed, condition of the patient & specimen to be shown
- ☐ **Histopathology form**to be filled properly & **return all the** records & **investigation** to attendant/ patient

Signature of Anaesthetist

ANNEXURE V

REFERRAL LABORATORY NETWORKS

Referral Laboratory Network for Advanced diagnostic facilities

	IDSP Level - 4 Labs					IDSP Level – 5 Labs
	Central Zone	South Zone	North Zone	East Zone	West Zone	
Advance Diagnostic Facilities						
Bacterial diagnosis						
Enteric bacteria: *Vibrio cholerae, Shigella, Salmonella*		CMC Vellore Trivandrum Medical College	PGIMER Chandigarh AIIMS Delhi CRI Kasauli	RMRC Dibrugarh, Cuttack Medical College	KEM Mumbai, AFMC Pune	NICED & NICD
Streptococcus pyogenes and *S pneumoniae*	Indore Medical College	St. John Medical College, Bangalore	VP. Chest University of Delhi	–	BJ MC	CMC Vellore
C. diphtheriae	BHU	CMC, Vellore	NICD, Delhi	STM, Kolkata	AFMC, Pune	VP Chest Institute, Delhi
Neisseria meningitidIs and *N. gonorrheae*	SN Medical College, Agra	State PH Lab Trivandrum	PGIMER Chandigarh	–	Surat Medical College	CMC Vellore & PGIMER Chandigarh
Staphylococcus	BHU	MGR Medical University	Maulana Azad Medical College, Delhi	STM, Kolkata	AFMC, Pune	NICD, Delhi
Tuberculosis	State TB Demonstration & Training Centre (for all zones) ICGEB, Delhi					NTI, TRC
Leptospirosis	DRDE	Virology Institute, Allepey Tamil Nadu University, Chennai VCRC, Pondicherry	AIIMS IVRI	RMRC, Bubaneswar & Dibrugarh	BJMC	RMRC Port Blair

	IDSP Level - 4 Labs					IDSP Level – 5 Labs
	Central Zone	South Zone	North Zone	East Zone	West Zone	
Viral Diagnosis						
Enteric viruses	DRDE	CMC, Vellore	AIIMS & Villupuram Chest Institute	NICED Kolkata	–	EVRC, Mumbai, NIV & NICD
Arboviruses	DRDE	CMC, Vellore	AIIMS & NICD Delhi Chest Institute	NICED Kolkata	–	NIV
Myxoviruses	DRDE	CMC, Vellore	AIIMS & NICD Delhi Chest Institute	NICED Kolkata	–	NIV, HSADL Bhopal
Hepatitis viruses	DRDE	CMC, Vellore	AIIMS ICGEB, Delhi	NICED Kolkata	–	NIV
Neurotropic viruses	DRDE	CMC, Vellore	AIIMS & NICD Delhi	–	–	NIV NIMHANS
HIV	DRDE	CMC, Vellore	AIIMS	–	–	NARI, NICD & NACO ICGEB, Delhi
Parasitic Diagnosis						
Malaria	All State Public Health Laboratories					MRC, Delhi ICGEB, Delhi
Filaria	All State Public Health Laboratories					NVBDCP, Delhi VCRC Pondicherry
Zoonoses						
Dengue	DRDE	VCRC, Pondicherry Institute of Virology, Aleppey	AIIMS	NICED	NIV	NIV ICGEB, Delhi
JE	DRDE	CRME, Madurai & NIMHANS VCRC, Pondicherry	AIIMS	NICED	NIV	NIV/NICD
Plague	DRDE	NICD Bangalore	NICD, Delhi	-	Haffikins Institute	NICD, Delhi
Rickettsial diseases	DRDE	CMC, Vellore	-	-	AFMC	NICD IVRI
Others of Public Health Importance						
Anthrax	DRDE	CMC, Vellore	IGIB	NICED, Calcutta	BJMC	NICD IVRI

	IDSP Level - 4 Labs					IDSP Level – 5 Labs
	Central Zone	South Zone	North Zone	East Zone	West Zone	
Microbial water quality monitoring	NEERI, Nagpur	CMC Vellore, Trivandrum Medical College	PGIMER Chandigarh AIIMS Delhi CRI Kasauli	RMRC, Dibrugarh, Cuttack Medical College	KEM Mumbai, HAFFKIN's, Mumbai AFMC Pune	NICED & NICD
Unknown pathogens	Other laboratories to perform support functions					NIV, NICD, HSADL
Outbreak investigation support	Medical Colleges and state public health laboratories as L3/L4					NICD, NIV, NICED, VCRC
Laboratory data management	Medical Colleges, state public health laboratories and all the L4 & L5 laboratories (in their area of expertise)					NIV, NICD
Capacity building	All the L4 & L5 laboratories (in their area of expertise)					NIV, NICD
Quality assurance	All the L4 & L5 laboratories (in their area of expertise)					CMC, TRC, NTI, AFMC, NARI, RMRC,Port Blair NIV, NICD
Quality control of reagents & kits evaluation	All the L4 & L5 laboratories (in their area of expertise)					CMC, TRC, NARI, RMRC, Port Blair NIV, NICD, BJMC, NICED
Production & supply of reagents/kits/ biological/standard reference materials	-					DRDE, NIV, IVRI, NICED, NICD, MRC,Delhi AFMC, Pune NARI TRC, Chennai RMRC, Port Blair
Biosafety & Bio-containment	Other laboratories to perform support function					HSADL, NIV/MCC, DRDE, NICD

Annexure VI

SPECIAL NEWBORN CARE UNIT (SNCU) AT DISTRICT HOSPITAL

The SNCU at the district hospital is expected to provide the following services:

1. Care at birth
2. Resuscitation of asphyxiated newborns.
3. Managing sick newborns (except those requiring mechanical ventilation and major surgical interventions).
4. Kangaroo mother care.
5. Post natal care.
6. Follow-up of high risk newborns.
7. Referral services.
8. Immunization services.

Generic Plan For District Level Special Newborn Care Units (Level II)

Special Newborn Care Units (SNCU) are a special newborn unit meant primarily to reduce the case fatality among sick children born within the hospital or outside, including home deliveries within first 28 days of life.

These units will have

1. **Main Special Newborn Care Unit:** This should have at least 12 beds, which would cater to the sickest child in the Hospital. It will have space for nursing work station, Hand Washing and Gowning at the point of entry.
2. **Step Down Unit For Children:** This is an additional 6 bed Step down Unit where recovering neonates can stay i.e. neonates who don't need intensive monitoring.
3. **Special Newborn Care Ward:** This is an additional 10 beds, where both the mother and the newborn can stay together for neonates who require minimal support such as for phototherapy, uncomplicated low birth weight for observation esp. weighing more than 1800 gm and superficial infections etc.
4. **Follow up area:** This should be an additional area outside but not far away from the SNCU. This should be designated for follow up of the neonates discharged from the SNCU.
5. **Newborn corner with facilities for neonatal warmer and resuscitation at the labor room and Obstetrics Operation Theatre *Ancillary area*.**
6. **Side Laboratory Room** with facilities for at least doing neonatal septic screen and measuring bilirubin level**.**
7. **Teaching and Training Room.**
8. **Day and Night Shelter** for mothers of out born neonates with I.E.C. facilities e.g., T.V. with Audio- Video facilities.
9. Place for In-house facility **for washing, drying and autoclaving.**
10. **Duty Room** for doctors and Nurses.
11. Place for **Promotion of Breast feeding and learning mother craft.**
12. Place for **Soiled Utility/Holding Room and Clean Utility/Holding Area (s).**

Main Special Newborn Care Unit: Special Newborn Care Units (SNCU) should be ideally established in a

facility in a resource poor area where not less than 1000 deliveries occur per year.

The SNCU should have at least 12 beds providing 24 hours service.

Location of the SNCU

- Should be located near the Labour Room, Labour Ward and Obstetrics Operation Theatre.
- Should not be located on the top floor.
- Should be accessible from the main entrance of the hospital.

Space requirement

Minimum space requirement for each bed area is 100 sq.ft. This would be divided as follows:

- 50 sq.ft per bed would be for individual patient care area.
- 50 sq.ft per bed would be for ancillary area.

Patient Care Area

SNCU Main Area: The main SNCU area should be divided into two interconnected rooms (600 sq.ft for each) separated by transparent observation windows. The nursing station (200 sq.ft.) should be in between the two rooms. This would facilitate temporary closure of one section for disinfection. A couple of beds can be separated for barrier nursing of infected neonates.

Apart from this there should be two rooms designated for a Step -Down Unit and a Special Care Baby Unit (SCBU) i.e. the Mother& Child Care Unit.

Step Down Unit: This is an additional 6-10 bed Step Down Unit where recovering neonates can stay i.e., neonates who don't need intensive monitoring. This would be of added advantage to the SNCU as it would relieve the pressure to some extent. The space requirement would be 50 sq.ft. per bed.

Special Newborn Care Ward: This is an additional 10 beds , where both the mother and the newborn can stay together for neonates who require minimal support such as for phototherapy , uncomplicated low birth weight for observation

***Follow up area*:** This should be an additional area outside but not far away from the SNCU. This should be designated for follow up of the neonates discharged from the SNCU.

Teaching Room: The SNCU also serves as a teaching and hands-on-training centre for the entire district. Thus with every unit there should be a room allotted for teaching and training. This space can also be utilized for patient party meetings. The departmental library can be set up in this place.

Ancillary Area

The ancillary area should include separate areas for:

- Hand washing and gowning area within the Main SNCU
- Changing Room within the Main SNCU
- Nursing Work Station within the Main SNCU
- Fluid preparation area within the Main SNCU
- Space for X-ray within the main SNCU unit
- Store Room for the Unit
- Side Laboratory
- Breast feeding room/area cum learning mother craft
- Doctor's Room
- Nurses' Room
- Washing, Drying and Autoclave Rooms
- Teaching and training Room
- Out born mothers' Room
- Sister-in-charge's Room
- **Sluice Room:** Place for Soiled Utility/Holding Room. The ventilation system in the soiled utility/holding room shall be engineered to have negative air pressure with air 100% exhausted to the outside. The soiled utility/holding room shall be situated to allow removal of soiled materials without passing through the infant care area.
- Clean Utility/Holding Area(s): For storage of supplies frequently used in the care of newborns.

Minimum space requirement for each room

- Main SNCU – 1200 sq.ft. (for 12 bed unit)
- Step Down Unit -300 sq.ft. (for 6 bed unit)
- Special Care Baby Unit-500 sq.ft. (for 6 bed unit)
- Side laboratory-100 sq.ft.
- Store Room-100 sq.ft.
- Washing, Drying and Autoclave room-150 sq.ft. (there should be 3 divisions for the 3 functions).

- Nurses' work Station-100 sq.ft.
- Shelter for out born mothers-250 sq.ft.
- Nurses' Room-100 sq.ft.
- Doctor's Room -100 sq.ft.
- Teaching and Training Room-400 sq.ft.
- Sister-in-charge's Room-50 sq.ft.
- Room for breast feeding and learning mother craft-100 sq.ft.
- Soiled Utility/Holding Room -50 sq.ft.
- Clean Utility/Holding Area – 50 sq.ft.
  Total space required = 3550 sq.ft.

Specifications

Windows

- Should be easily cleaned
- Should be there as a source of natural light
- Should be made of fixed glass with sliding opaque glass shades (to provide shades as an when required).
- Should be at least 2 feet away from the cots.

Walls

- Should be made of washable tiles
- The colour of the tiles should be white or off-white
- Yellow and blue tiles should not be used at all.
- Tiles should be given up to 7 ft.

Floor

Cleaning

Infection control is crucial in the SNCU, so a flooring material for patient care areas should be such that can be easily cleaned and is essential requirement. Stain resistance is an important aspect for flooring that will be used where spills of blood, iodine-containing compounds, or other such materials are common.

Rubber: Rubber flooring is the most rapidly growing choice in newly constructed SNCUs due to its ease of cleaning and highly durable nature. It should be latex-free:

- Other choice could be made of vitrified tiles, but should be of white/off-white color.
- Others: These include epoxy, laminates, stone/granite/marble, concrete, porcelain and ceramic tile, and resilient urethane.

Power supply

- 24 hour uninterrupted stabilized power supply with 3 phases, capacity of 25-50 KVA.
- Capable of taking up additional load.
- Generator back-up essential with 25-50 KVA capacity.

Water Supply

The ideal number of Hand washing facilities should be such that it should be within 20 ft (6 m) of any infant bed, apart from the entrance to SNCU.

- Should have 24 hrs uninterrupted running water supply.
- There should be wash basins with elbow/foot operated tap in the:
  - Washing and gowning area (at least 2)
  - Main SNCU (4 in 4 corners of the room)
  - Step Down Unit (2 corners of the room)
- There should be wash basins in the **(Ordinary type):**
  - Laboratory
  - Toilets
  - Sluice Room

Table: Summary of Flooring considerations

Flooring type	Initial cost	Durability	Comfort/sound control	Environmental impact	Maintenance cost	Suggested use in
Linoleum	Low	Medium	Poor	Good	Medium	Supply areas
Vinyl	Low	Medium	Poor	Fair	Medium	Supply areas
Cushioned Vinyl	Low	Medium	Fair	Fair	Medium	None
Carpet	Medium	Low	Good	Good	High	Public areas
Rubber	High	High	Good	Very good	Low	Patient care areas

Hand washing sink specification: They shall be large enough to control splashing and designed to avoid standing or retained water. Minimum dimensions for a hand washing sink are 24 inches wide × 16 inches front to back × 10 inches deep (61 × 41 × 25 cm^3) from the bottom of the sink to the top of its rim. Space for pictorial hand washing instructions shall be provided above all sinks. Walls adjacent to hand washing sinks shall be constructed of nonporous material. Space shall also be provided for soap and towel dispensers and for appropriate trash receptacles. Nonabsorbent wall material should be used around sinks to prevent the growth of mold on cellulose material.

Electricity Outlet for individual beds: 6-8 central voltage stabilized outlets would have combined 5 and 15 amperes or at least 50% should be 5 and 50% should be 15 (to handle all equipment).

Additional point for portable X-Ray.

Illumination inside SNCU

- Well Illuminated but adjustable day & night to suit the need of the baby.
- Adequate day – light for natural illumination for examination of color.
- Cool white fluorescent tubes or CFL unit with reflection grid providing 10-20 ft candle shadow free light.

Illumination at the level of Neonates

Avoid exposure of the infant to direct ambient lighting. Direct ambient light has a negative effect on the development of the infant's visual neural architecture and early exposure to direct light may adversely affect the development of other neurosensory systems.

Goals were to avoid direct infant lighting exposure:

- Ambient lighting levels in infant spaces shall be adjustable through a range of at least 50 to no more than 600 lux (approximately 5 to 60 foot candles), as measured at each bedside.
- Both natural and electric light sources shall have controls that allow immediate darkening of any bed position sufficient for transillumination when necessary.
- Night illumination 0.5 ft candle at Neonate's level.
- Reinforced light 100-150 ft candle shadow free illumination for examination.

Ventilation

- Well-ventilated with fresh air: Ideally by laminar air flow system.
- By central air-conditioning with Millipore filters and fresh air exchange of 12/hour.

Temperature inside SNCU

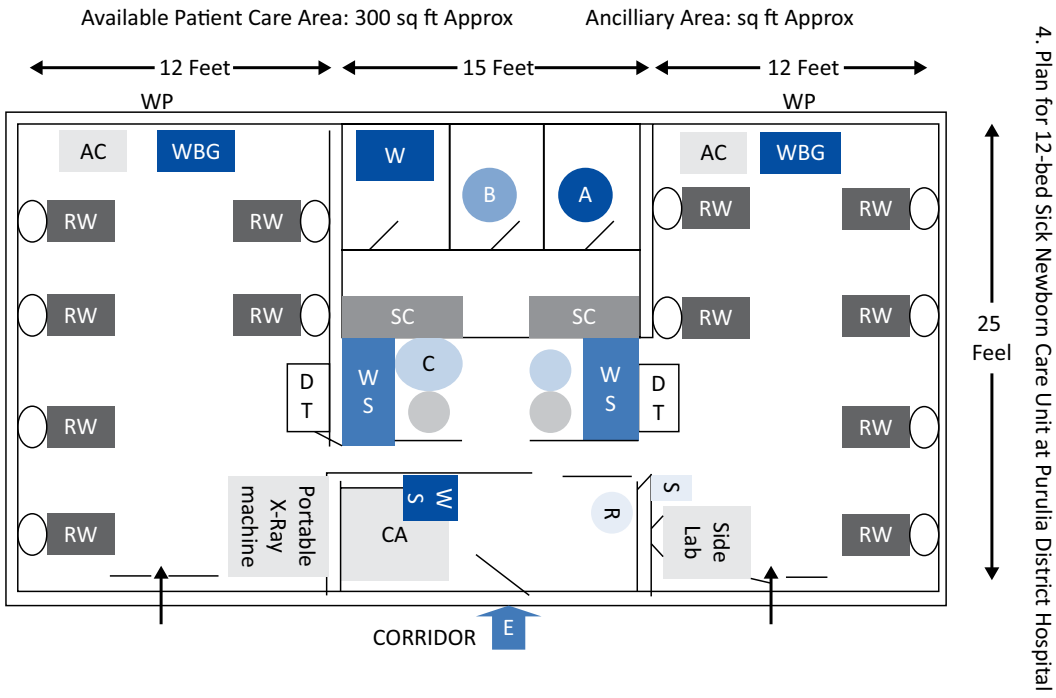
- To be maintained at 28 C +/- 2 C round the clock preferably by thermostatic Control.
- The temperature inside SNCU should be set at the level of comfort (22˚ – 25˚C).

For the staff so that they can work for long hours, by air conditioning provided the neonates are kept warm by warming devices.

Acoustic Characteristics

- Background sound should not be more than 45 db.
- Peak intensity should not be more than 80 db.

Plan for Outborn Sick Newborn Care Unit, District Hospital, Purulia
(Not to Scale)



4. Plan for 12-bed Sick Newborn Care Unit at Purulia District Hospital

Legends: A: Autoclave, AC: Split Air conditioner, B: Washing Machine, C: Computer, CA: Changing area, DT: Drugs Trolley, E: Main Entrance, R: Refrigerator, RW: Radiant Warmer, SC: Storage cabinet, W: Weghing scale, WB: Wash Basin WP: Window, WS: Work station, Viewing window: ⟵ Doctors' office cum Teaching Room and Step-Down units are located on opposite side of the corridor.

How to read a table

Item No	Item Description	Essential	Desirable	Quantity for 12 bed unit	Installation	Training	Civil	Mechanical	Electrical
1	Open care system: radiant warmer, fixed height, with trolley, drawers, O_2-bottles	E		2	X	X	X	X	X
2	Open care system: radiant warmer, fixed height, with trolley	E		6	X	X		X	X
3	Infant meter, plexi, 3½ ft/105 cm		D	1		X			X

Manpower Requirement for a 12 Bed Special Newborn Care Unit

Doctors

- The medical officers must have a special qualifications &/or training &/or experience in sick newborn care in a level II SNCU.
- They should devout long hours for the unit or have full time involvement.
- They are primarily responsible for the complete care of sick neonates admitted in the SNCU, Step Down Unit and Special Care Baby Unit.
- They should also cover the neonates beyond SNCU e.g. resuscitation call for difficult deliveries in labor room and Obstetrics OT, taking rounds of neonates in the postnatal wards, taking care of sick neonates in the Pediatric Ward (who are not admitted in the

SNCU due to lack of space) and running the follow up clinic.

- They should be exclusively involved in the care of neonates.
- They should also be involved in the training programmes related to newborn health for nurses, medical officers and health workers conducted for the entire district.
- Considering the work load at least 4 medical officers would be the minimum requirement for running such a unit.
- The medical officers with requisite qualifications who have worked in a district level SNCU for at least 2 years should be considered favorably for promotion.

Staff Nurse

- 21 for 12 SNCU beds and 6 Step Down Unit beds.
- For SNCU -Nurse-baby ratio:1:3-4 in each shift.
- For Step Down Unit- Nurse-baby ratio:1:6-8 in each shift.
- To cover day off, leave, sickness 30% extra.

Nurse-in charge/Nursing Supervisors

- Preferably should have experience in accredited Level II unit.
- Should have good managerial skills.
- Should be clinically sound so as to take care of the neonates in the absence of doctor.
- There should 1 for every shift with 1 extra to cover day off, leave, sickness etc.

Designated Nurse

- For conducting in- service trainings.

Public Health Nurse

- One should be exclusively attached to the unit.

Additional Staff Nurse

- This should be mandatory for providing care to the neonates at birth, neonates in the postnatal wards and Pediatric ward where the neonates are not looked after properly.

Neonatal Aides/Yashodas/Mamta

- Eight (2 per shift, 2 for covering day off, leave, sickness etc. would be of immense help.

Other staff

- Laboratory Technician for side laboratory.
- Maintenance Staff (for routine electrical, equipment and other maintenance).
- Computer data entry operator.
- Group D staff (2 per shift).

Annexure VII

MANAGEMENT INFORMATION SYSTEM (MIS) FORMAT

Hospital Monthly Report Format - 1
Volume Indicators
Name of the hospital:
CS/CMS/CSI:
Hospital Manager:
Month & Year :

Sl. No.	Title	Value
	(A) Hospital Statistics	
1	Total OPD Attendance	
1 (a)	Old	
1 (b)	New	
2	BPL OPD Attendance	
2 (a)	Old	
2 (b)	New	
3	Total IPD Admissions	
4	BPL IPD admissions	
5	No. of Deaths	
6	No. of patients attended in Emergency	
7	Patient Bed Days (cumulative total of midnight head count of all days of the month)	
8	No. of Sanctioned Beds by the State Government	
9	No. of functional Beds on ground	
10	No. of functional ambulance available	
11	No. of trips made by ambulance for patients	
	(B) Operation Theatre	
12	No. of Minor Surgeries	
13	No. Major surgeries Done	
	(C) Maternal & Child Health	
14	No. of Normal Deliveries in Hospital	
15	No. of Normal Deliveries - (BPL Category)	
16	No. of C-Section Deliveries	
17	No. of C-Section Deliveries - (BPL) Category	
18	No. of Maternal Deaths	

Sl. No.	Title	Value
19	No. of Neonatal Deaths	
20	No. of Still Births	
21	No. of MTPs conducted - First Trimester - Second Trimester	
	(D) Blood Bank	
22	No. of Blood Units Issued	
	(E) Laboratory Services	
23	No. of Lab tests done	
	(F) Radiology	
24	No. X-Ray Taken	
25	No. of ultrasound Done	
	(G) DISPENSARY	
26	Number of drugs expired during the month	Number (volume and type)
27	Percentage of drugs available	No. of drugs available in the dispensary x 100/No. of drugs as per essential drug list for the facility
	(H) Department Wise Statistical Data	
	OPD ATTENDANCE	
a	Medicine	
b	Surgery	
c	Paediatrics	
d	Orthopaedics	
e	Obstetrics and Gynaecology	
f	Dental	
g	Ophthalmology	
h	Skin and VD	
i	T.B.	
j	E.N.T.	
k	Psychiatry	
l	ICTC	
m	Others (if any)	
n	Others (if any)	
	Total opd attendance	

IPD ATTENDANCE								
IPD/Admissions/Deaths/ Referrals		**Total Admissions**	**BPL**	**Discharge**	**Death**	**Referred**	**Absconding**	**LAMA**
a	Male Medical ward							
b	Female Medical ward							
c	Male Surgical Ward							
d	Female Surgical Ward							
e	Paediatric ward							
f	Gynaecology ward							
g	Obstetric ward							
h	Eye ward							
i	Emergency ward							
j	ICU							
k	NICU							

IPD ATTENDANCE								
IPD/Admissions/Deaths/ Referrals		Total Admissions	BPL	Discharge	Death	Referred	Absconding	LAMA
l	ENT							
m	BURN Ward							
n	Any other ward							
o	Isolation Ward							
	Total							

Hospital Monthly Report Format - 2				
Performance Indicators				
Name of the hospital:				
CS/CMS/CSI:				
Hospital Manager:				
Month & Year :				
Sl. No.	Title	Metric	How	Value/Details
(A) Hospital Statistics				
1	Bed occupancy Rate (BOR)	Rate	Total Patient Bed Days ÷ (Functional Beds in Hospital × Calendar Days in month) × 100 Bed Patient days- Sum of daily patient census for whole month	
2	Bed Turnover Rate (BTR)	Rate	Inpatient discharge including deaths in the month ÷ Functional Bed on Ground	
3	Average Length of Stay (ALOS)	Rate	Total Patient Bed Days in the month (excluding Newborn) ÷ Discharges in the month (including Death, LAMA, absconding)	
4	LAMA Rate	Rate/1000 Adm	Total No. of LAMA cases × 1000 ÷ Total No. of Admissions	
5	Nurse to Bed ratio	Ratio	Total No. of Nurses ÷ Total Hospital Beds	
(B) Dispensary				
6	Number of drugs expired during the month	Number	Number (volume and type)	
7	Percentage of drugs available	Percent	No. of drugs available in the dispensary x 100/ No. of drugs as per essential drug list for the facility	
(C) Operation Theatre				
8	Percent of Cancelled surgeries	Percent	Surgeries Cancelled x 100 ÷ Total surgeries performed	
9	Total No. of death on Operation Table and Postoperative Deaths	Numbers	Count	
10	Anaesthesia related mortality	Numbers	Count	

Sr. No.	Title	Metric	How	Value/Details
11	Surgical site Infection Rate	Rate	No. of Post surgical infected cases x 100/Total No. of surgeries	
(D) Maternal & Child Health				
12	LSCS Rate	Rate	No. of CS delivery x 100 ÷ No. of Total delivery	
13	Neonatal Mortality (less than 28 days)	Number	No. of newborn dying under 28 days of age	
14	Infant Mortality (less than one year)	Numbers	No. of infant dying under one year of age	
15	Percentage of mothers leaving hospital in less than 48 hrs.	percent	no. of mothers leaving hospital in less than 48 hrs of delivery x 100 ÷ Total No. of delivery	
16	Percentage of mothers getting JSY benefits within 48 hours of delivery	Percent	No of institutional deliveries, receiving JSY benefits within 72 hrs. of delivery × 100 ÷ Total no. of mothers entitled	
(E) Blood Bank				
17	Percentage of Demand met by Blood Bank	Numbers	No. of Units issued x 100 ÷ No. of Units Demanded by the hospital	
(F) Laboratory Services				
18	Validation by external laboratories	Numbers	Number of validation per month	
19	Sputum Positive Rate	Rate	No. of slide found positive in AFB x 100 ÷ Total slide Prepared for test	
20	M P Positive Rate	Rate	No. of slide found positive for Malaria Parasite x 100 ÷ Total slide Prepared for test	
21	Cycle Time for Diagnostic Reporting	Hours	Sum of total time in delivering reports ÷ Total Reports *measure at least for five patients in a month that includes- OPD-2, Male Ward-1, Female Ward-1 Emergency-1	
(G) RADIOLOGY				
22	Cycle time for X-Ray Reporting	Minutes/Hours	Measure	
(H) HOUSE KEEPING				
23	Total No. of Cleaning Staff available per day (Outsourced/Contract/ Regular)	Number	Number	
24	Number of Toilets and Availability of Checklist in all the Toilets	Number & Availability	Details of number of Toilets & Availability of check list in each toilet Check for: a. Availability of running water b. Availability of functional cisterns c. Cleanliness d. Broken seats & tiles e. Water logging	

Sr. No.	Title	Metric	How	Value /Details
25	Name of Other Critical Areas/Wards & Availability of Checklist in all these departments	Name & Availability	Details of number of Critical Areas/Wards & Availability of check list in each of these areas	
		Taps	No water leakage from taps/overhead tanks	
		Ward	Clean wards/corridors	
		Drains	No clogged/overflowing drains	
		Laundry services	Total no of bed sheets washed in a month/ Patient bed days in a month	
(I) HOSPITAL INFECTION CONTROL				
26	Number of Culture Surveliance conducted	Number	Number of Culture Surveliance with details of departments in which they are conducted. Reports of Surveliance to be attached	
27	Biomedical Waste Management		Check for a. Display the work instruction at the point of segregation b. Availability of coloured liners c. Availability of colour coded bins at the point of BMW generation d. Segregation of BMW at the point of generation e. Availability of sharp pit and disposal of sharp as per rule f. Availability of deep burial pit and disposal of placenta and other anatomical wastes as per rules g. Availability of PPE(personal protective equipment) with biomedical waste handler h. Availability of sodium hypochlorite solution and puncture proof boxes i. Mutilation and disinfection of the plastic waste before disposal j. Authorization under BMW management rules 1996.	
(J) ENGINEERING AND MAINTENANCE				
28	Down Time Critical equipment	In Hours/Days	Total time critical equipment cannot be used because of being out of order	
29	No. of Instrument Calibrated	Numbers	Count	
(K) TRAININGS				
30	No. of trainings conducted	count	Attach a note on training that includes- 1. Topic 2. No. of trainee 3. Name of trainer 4. Schedule	
(L) SECURITY SERVICES				
31	Total No. of guards available per day	Number	Count	

Sr. No.	Title	Metric	How	Value/Details
(M) PATIENT SATISFACTION SURVEY				
32	Patient Satisfaction Survey Score for OPD	Scale 1 TO 5	1) Survey 2) Analysis 3) Action Plan on Analysis * Reports to be attached	
33	Patients' rights and information		Check for: a. Citizen charter availability and prominently displayed b. Emergency signage prominently displayed c. Help desk/enquiry counter with availability of dedicated person d. User charges (OPD/IPD/Diagnostics/blood bank/others) prominently displayed e. Availability of drugs prominently displayed (at dispensary and IPD) f. Departmental signage prominently displayed g. Display of mandatory information (under the PNDT/RTI etc. h. Complaint/suggestion box prominently placed i. Safety /hazard and caution sign prominently displayed. j. Consent practiced (OT/IPD/MTP/HIV testing	
34	Patient Satisfaction Survey Score for IPD	Scale 1 TO 5	1) Survey 2) Analysis 3) Action Plan on Analysis * Reports to be attached	
35	Waiting time taken for OPD registration	In minutes	Duration for which Patient has to wait for OPD registration	
36	No. of Complaints/ Suggesti ons Received	Numbers	Count	
37	Waiting time for OPD Consultation	In minutes	Survey	
38	Waiting time at Dispensary	In minutes	Survey	
39	Staff Satisfaction Survey Score	Scale 1 to 5	1) Survey 2) Analysis 3) Action Plan on Analysis * Reports to be attached	
(M) PATIENT SATISFACTION SURVEY				
*Patient Satisfaction Survey to be conducted Quarterly.				
(N) COMMUNITY PARTICIPATION (RKS)				
40	Number of RKS meeting held in the month	Number	Count	

Sr. No.	Title	Metric	How	Value/Details
41	Utilization of RKS funds	Rs.	1. Opening Balance of RKS account for Month	
			2. Expenditure in the Month	
			3. Funds Received/ Income in the month	
			4. Fund raised through NGO/PRI/corporate/ source through that state government.	
(O) INTERNAL, MEDICAL AUDIT AND DEATH AUDIT				
42	Internal Audit conducted during the month (Yes / No)	Yes / No	1) Details to be attached including report, if audit conducted 2) If Internal Audit not conducted in thios month then specify the due date for the same.	
43	Death Audit conducted during the month (Yes / No)	Number	Medical Audit Conducted - YES / NO Number of cases disucssed ?	
44	Medical Audits conducted during the month /Number of cases discussed	Number	Medical Audit Conducted - YES / NO Number of cases disucssed ?	
(P) MANAGEMENT REVIEW MEETING				
45	MRM conducted during the month	Number	1) MRM Conducted - YES / NO 2) MOM to be attached. 3) Action plan to be attached	
(Q) ANY FUND RELEASE / ARCHITECTURAL DEVELOPMENT / REPAIR DONE DURING THIS MONTH				
46	Any Fund Release /Architectural Development/Repair done during the month	Details	Attach details if any	
(R) ANY OTHER MAJOR EVENT / REMARKS				
47	Any other Major Events/Remarks	Details	Attach details if any	

Annexure VIII

LIST OF STATUTORY COMPLIANCES

1. No objection certificate from the Competent Fire Authority
2. Authorisation under Bio-medical Waste (Management and Handling) Rules, 1998
3. Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules 2008
4. Authorisation from Atomic Energy Regulation Board
5. Excise permit to store Spirit
6. Vehicle registration certificates for Ambulances.
7. Consumer Protection Act
8. Drug & Cosmetic Act 1950
9. Fatal Accidents Act 1855
10. Indian Lunacy Act 1912
11. Indian Medical Council Act and code of Medical Ethics
12. Indian Nursing Council Act
13. Insecticides Act 1968
14. Maternity Benefit Act 1961
15. Boilers Act as amended in 2007
16. MTP Act 1971
17. Persons with Disability Act 1995
18. PC & PNDT Act 1994
19. PNDT Act 1996
20. License for Blood Bank or Authorisation for Blood Storage facility
21. Right to Information act
22. Narcotics and psychotropic substances act 1985
23. Clinical Establishments (Registration and Regulation) Act 2010
24. Type and Site Approval from AERB for X-ray, CT Scan unit.
25. Mental Health Act 1987

ANNEXURE IX

SEISMIC SAFETY GUIDELINES

Seismic safety of non-structural elements of Hospitals/Health facility

- Health Facility/Hospital should remain intact and functional after an earthquake to carry on routine and emergency medical care.
- There may be increased demand for its services after an earthquake.
- Hospital accommodates large number of patients who cannot be evacuated in the event of earthquake.
- Hospitals have complex network of equipment specialised furniture, ducting, wiring, electrical, mechanical fittings which are vulnerable due to earthquake.
- The Non-structural element may value very high from 80% to 90% incase of Hospital unlike office buildings due to specialized medical equipment.
- Even if building remains intact, it may be rendered non-functional due to damage to equipment, pipelines, fall of partitions and store material, etc.
- While the safety of building structure is the duty of PWD and designers of the building, the risk of non-structural component has to be dealt by staff and authorities of the health facility.
- This non-structural Mitigation & reduction of risk can be achieved through series of steps:

  i) Sensitization (understanding earthquakes and safety requirements).

  ii) Earthquake Hazard Identification in the hospital.

  iii) Hazard survey and prioritization.

  iv) Reducing non-structural hazards.

Step I: Understanding Earthquakes and Safety requirements

- Awareness and sensitization about safety.
- The structural elements of a building carry the weight of the building like columns, beams, slabs, walls, etc.
- The Non-structural elements do not carry weight of the building, but include windows, doors, stairs, partition and the building contents: furniture, water tank, hospital equipment, medical equipment, pharmacy items and basic installation like water tanks, medical gases, pipelines, air conditioning, telecommunications, electricity etc.

Step II: Earthquakes hazard identification in the hospital

- Tall, narrow furniture like cupboards can fall on people, block doors/passages/exits.
- Items on wheels or smooth surfaces can roll and crash.
- Large and small things on shelves, etc. can knock, fall, crash and damage severely.
- Hanging objects can fall.
- Shelves/almirahs, storage cabinets can topple and block exits and obstruct evacuation.
- Pipes can break and disrupt water supply.

Step III: Reducing non-structural hazard

1. To relocate furniture and other contents.

2. To secure non-structural building elements with the help of structural engineers.

3. To secure the furnishings and equipment to the walls, columns or the floors with help of engineers and technicians.

Step IV: Hazard Survey and Prioritization

All the non-structural hazard should be identified systematically and prioritise for as high, medium or low priority and action taken immediately or in due course. This involves systematic survey and categorisation of all hazards in each area of the hospital and action thereof. Hospital/health facility should have a Committee dedicated to undertake this task and monitor on continuous ongoing basis.

ANNEXURE X

FACILITY BASED MATERNAL DEATH REVIEW FORM

NOTE

This form must be completed for all deaths, including abortions and ectopic gestation related deaths, in pregnant women or within 42 days after termination of pregnancy irrespective of duration or site of pregnancy.

Attach a copy of the case records to this form.

Complete the form in duplicate within 24 hours of a maternal death. The original remains at the institution where the death occurred and the copy is sent to the person responsible for maternal health in the State.

For Office Use Only:

FB-MDR no: ..... Year:.....

1. General Information:

Address of Contact Person at District and State:

.....

.....

Residential Address of Deceased Woman:

.....

Address where Died:

.....

Name and Address of facility:

.....

Block: .....

District: ..... State:.....

2. Details of Deceased Woman:

I. Name: .....
Age (years) :..... Sex: .....
Inpatient Number: .....

II. Gravida:
Live Births (Para): ..... Abortions: .....
No. of Living children: .....

III. Timing of death:
During pregnancy
during delivery
within 42 days of delivery

IV. Days since delivery/abortion:

V. Date and time of admission:

VI. Date/Time of death:

3. Admission at Institution Where Death Occurred or from Where it was Reported;

I. Type of facility where died:

PHC	24 x 7 PHC	SDH/rural Hospital	District Hospital	Medical College/ tertiary Hospital	Private Hospital	Pvt Clinic	Other

II. Stage of pregnancy/delivery at admission:

Abortion	Ectopic pregnancy	Not in labour	In labour	Postpartum

III. Stage of pregnancy/delivery when died:

Abortion	Ectopic pregnancy	Not in labour	In labour	Postpartum

IV. Duration of time from onset of complication to admission:

V. Condition on Admission:

Stable	Unconscious	Serious	Brought dead

VI. Referral history:

Referred from another centre ?	How many centres?	Type of centre?

4. Antenatal Care

Received Antenatal care or not	Reasons for not receiving care	Type of ante-natal care provided	High risk pregnancy: aware of risk factors?	what risk factors?

5. Delivery, Puerperium and Neonatal Information

i. **Details of labor**

had labor pains or not	stage of labor when died	duration of labor

ii. **Details of delivery**

undelivered	normal	assisted (forceps or vacuum)	surgical intervention (C-section)

iii. **Puerperium:**

Uneventful	Eventful (PPH/Sepsis etc.)

Comments on labour, delivery and puerperium: (in box below)

iv. **Neonatal Outcome**

stillborn	neonatal death immediately after birth	alive at birth	alive at 7 days

Comments on baby outcomes (in box below)

6. Interventions

Specific medical	surgical procedures	rescuscitation procedures undertaken

7. Cause of Death

a. Probable direct obstetric (underlying) cause of death: Specify
b. Indirect Obstetric cause of death: Specify
c. Other Contributory (or antecedent) cause/s: Specify
d. Final Cause of Death: (after analysis)

8. Factors (other than medical causes listed above)

a. Personal/Family
b. Logistics
c. Facilities available
d. Health personnel related

9. Comments on potential avoidable factors, missed opportunities and substandard care

10. AUTOPSY: Performed/Not Performed

If performed please report the gross findings and send the detailed report later.

11. CASE SUMMARY: (please supply a short summary of the events surrounding the death):

12. Form filled by:

13. Name

14. Designation

15. Institution and location

16. Signature and Stamp

17. Date:

Note: To facilitate the investigation, for detailed Questions refer to annexures on FBMDR.

Annexure XI

LIST OF ABBREVIATIONS

ANC	:	Ante Natal Care
ANM	:	Auxiliary Nurse Midwife
AYUSH	:	Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy
BJMC	:	BJ Medical College
CBR	:	Community Based Rehabilitation
CRI	:	Central Research Institute
CRME	:	Centre for Research in Medical Entomology
CSSD	:	Central Sterile Supply Department
DEC	:	Di Ethyl Carbamazine
DF	:	Deep Freezer
DRDE	:	Defense Research and Development Establishment
ECG	:	Electro Cardio Graphy
ESR	:	Erythrocyte Sedimentation Rate
EVRC	:	Enterovirus Research Centre
FRU	:	First Referral Unit
HSADL	:	High Security Animal Diseases Laboratory
ICTC	:	Integrated Counselling and Testing Centre
ICGEB	:	International Centre for Genetic Engineering and Bio-technology
IEC	:	Information, Education and Communication
IGIB	:	Institute of Genomics and Integrative Biology
IVRI	:	Indian Veterinary Research Institute
ILR	:	Ice Lined Refrigerator
Inj	:	Injection
IPHS	:	Indian Public Health Standards
I/V	:	Intravenous
IUCD	:	Intra-urine Contraceptive Devise
JE	:	Japanese Encephalitis
KEM	:	King Edmund Memorial Hospital
LAMA	:	Left Against Medical Advice
LTs	:	Laboratory Technicians
MIS	:	Management Information System
MRC		Malaria Research Centre
NACP	:	National AIDS Control Programme
NHP	:	National Health Programme
NARI	:	National AIDS Research Institute
NEERI	:	National Environmental Engineering Institute
NICED	:	National Institute of Cholera and Endemic Diseases
NIV	:	National Institute of Virology
NRHM	:	National Rural Health Mission
NSV	:	Non Scalpel Vasectomy
NVBDCP	:	National Vector Borne Disease Control Programme
OPD	:	Out Patient Department
OT	:	Operation Theatre
PMR	:	Physical Medicine and Rehabilitation
PNC	:	Post Natal Care
POL	:	Petrol Oil and Lubricant
PPH	:	Post Partum Haemorrhage
PPTCT	:	Prevention of Parent to Child Transmission
PRI	:	Panchayati Raj Institution
RCH	:	Reproductive & Child Health
RKS/HMC	:	Rogi Kalyan Samiti/Hospital Management Committee
RMRC	:	Regional Medical Research Centre
RTI/STI	:	Reproductive Tract Infections/Sexual Tract Infections
SNCU	:	Special Newborn Care Unit
SOPs	:	Standard Operating Procedures
STM	:	School of Tropical Medicines
TENS	:	Transcutaneous Electrical Nerve Stimulation
VCRC	:	Vector Control Research Centre
WC	:	Water Closet (i.e. a flush toilet)

REFERENCES

1. Indian Standard Basic Requirement for Hospital Planning; Part 2 Upto 100 Beded Hospital, Bureau of Indian Standards, New Delhi, January, 2001.
2. Rationalisation of Service Norms for Secondary Care Hospitals, Health & Family Welfare Department, Govt. of Tamil Nadu. (Unpublished).
3. District Health Facilities, Guidelines for Development and Operations; WHO; 1998.
4. Indian Public Health Standards (IPHS) for Community Health Centres; Directorate General of Health Services, Ministry of Health & Family Welfare, Govt. of India.
5. Population Census of India, 2001; Office of the Registrar General, India.
6. Prof. Anand S. Arya, under the GOI- Disaster Risk Management Programme, National Disaster Management Division, MHA, New Delhi.

MEMBERS OF TASK FORCE FOR REVISION OF IPHS

(As per order No. T 21015/55/09 – NCD, Dte.GHS, dated 29-1-2010 and minutes of meeting of Task Force held on 12-2-2010)

1. Dr. R.K. Srivastava, Director General of Health Services – Chairman
2. Dr. Shiv Lal, Special DG (PH), Dte.GHS, Nirman Bhawan, New Delhi – Co-Chairman.
3. Sh. Amarjit Sinha, Joint Secretary, NRHM, Ministry of Health & F.W., Nirman Bhawan, New Delhi.
4. Dr. Amarjit Singh, Executive Director, Jansankhya Sthirata Kosh, Bhikaji Cama Place, New Delhi - 110066.
5. Dr. B. Deoki Nandan, Director National Institute of Health & Family Welfare, Baba Gang Nath Marg, Munirka, New Delhi – 110067
6. Dr. T. Sunderraman, Executive Director, National Health Systems Resource Centre, NIHFW Campus, Baba Gang Nath Marg, Munirka, New Delhi – 110067.
7. Dr. N.S. Dharmshaktu, DDG (NSD), Dte.G.H.S., Nirman Bhawan, New Delhi.
8. Dr. S.D. Khaparde, DC (ID), Ministry of Health & F.W., Nirman Bhawan, New Delhi.
9. Dr. A.C. Dhariwal, Additional Director (PH) and NPO, National Centre for Disease Control (NCDC), 22, Sham Nath Marg, New Delhi – 110054.
10. Dr. C.S. Pandav, Prof. and Head, Community Medicine, AIIMS, New Delhi.
11. Dr. J.N. Sahay, Advisor on Quality improvement, National Health Systems Resource Centre, NIHFW Campus, Baba Gang Nath Marg, Munirka, New Delhi – 110067.
12. Dr. Bir Singh, Prof. Department of Community Medicine, AIIMS and Secretary General. Indian Association of Preventive and Social Medicine.
13. Dr. Jugal Kishore, Professor of Community Medicine, Maulana Azad Medical College, Bahadur Shah Zafar Marg, New Delhi – 110002
14. Mr. J.P. Mishra, Ex. Programme Advisor, European Commission, New Delhi
15. Dr. S. Kulshreshtha, ADG, Dte. GHS., Nirman Bhawan, New Delhi.
16. Dr. A.C. Baishya, Director, North Eastern Regional Resource Centre, Guwahati, Assam.
17. Dr. S. K. Satpathy, Public Health Foundation of India, Aadi School Building, Ground Floor, 2 Balbir Saxena Marg, New Delhi – 110016.
18. Dr. V.K. Manchanda, World Bank, 70, Lodhi Estate, New Delhi – 110003.
19. Sh. Dilip Kumar, Nursing Advisor, Dte. G.H.S., Nirman Bhawan, New Delhi.
20. Dr. Anil Kumar, CMO (NFSG), Dte.G.H.S, Nirman Bhawan, New Delhi- Member Secretary

Directorate General of Health Services
Ministry of Health & Family Welfare
Government of India