Indian Public Health Standards (IPHS)

Guidelines for Sub-District/Sub-Divisional Hospitals

(31 to 100 Bedded)

Revised 2012

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

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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

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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 the quality expected from various components of Public health care organizations and may be used for assessing performance of health care delivery system.

Sub-district/Sub-divisional hospitals are below the district and above the block level hospitals (CHC) and act as First Referral Units for the Tehsil/Taluk/block population in which they are geographically located and form an important link between Sub-centre, PHC and CHC on one end and District Hospitals on other end.

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 especially for Non-Communicable Diseases and the prevailing epidemiological situation in the country. Two documents of IPHS for Sub-divisional/ Sub-district Hospitals (31-50 bedded and 51-100 bedded) have been merged into one in this revised version.

The revision has been carried out by a task force comprising 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 assist State Governments and Panchayati Raj Institutions, to monitor effectively as to how many of the Sub-district Hospitals conform to IPHS and endeavour to upgrade remaining facilities to 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)

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PREFACE

Standards are a means of describing a level of quality that the health care organizations are expected to meet or should 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. Sub-district/Sub-divisional Hospitals have an important role to play as First Referral Units in providing emergency obstetrics and neonatal care and help in bringing down the maternal and infant mortality.

The IPHS for Sub-district/Sub-divisional Hospitals has been revised keeping in view the resources available with respect to functional requirements for Sub-district/Sub-divisional Hospitals with minimum 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 document, guidelines for hospital building, planning and layout, signage, disaster prevention measures for new facilities, barrier free access and environmental friendly features have been included. Manpower has been rationalized and new manpower has been provided for Physical Medicine and Rehabilitation Services, Dental and Immunization services. National guidelines on Hospital Waste Management, Guidelines to reduce environmental pollution due to mercury waste, Guidelines for Airborne Infection Control and seismic safety guidelines have been included.

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.

Jr prasad

(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.
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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.
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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.
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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)
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Government of India

June 2012
New Delhi

EXECUTIVE SUMMARY

Sub-district (Sub-divisional) hospitals are below the district and above the block level (CHC) hospitals and act as First Referral Units for the Tehsil/Taluk/block population in which they are geographically located. They have an important role to play as First Referral Units in providing emergency obstetrics care and neonatal care and help in bringing down the Maternal Mortality and Infant Mortality. They form an important link between SC, PHC and CHC on one end and District Hospitals on other end. It also saves the travel time for the cases needing emergency care and reduces the workload of the district hospital. A subdivision hospital caters to about 5-6 lakh people.

Service Delivery

Specialist services are provided through these Sub-district hospitals and they receive referred cases from neighboring CHCs, PHCs and SCs. In this IPHS document, services that a Sub-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 speciality Services, due importance has been given to Newborn Care (Newborn Care Corner and Newborn Stabilization Unit), Family Planning, Psychiatric services, Physical Medicine and Rehabilitation services, Geriatric Services, Accident and Trauma Services and Integrated Counseling and Testing Centre. It is desirable that every Sub-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 for hospital building, planning and layout, signage, disaster prevention measures for new facilities, barrier free access and environmental friendly features have been included. Manpower has been rationalized and new manpower has been provided for Physical medicine and Rehabilitation Services, Dental and Immunization services. National guidelines on hospital waste management, Guidelines to reduce environmental pollution due to mercury waste, 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 has also been made as a part of the Indian Public Health Standards. The monitoring process and quality assurance mechanism is also included.

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

GUIDELINES FOR SUB-DISTRICT/SUB-DIVISIONAL HOSPITALS

Introduction

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

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

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

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

Setting standards is a dynamic process. This document contains the standards to bring the Sub-district/ Sub-divisional hospitals to a minimum acceptable functional grade (indicated as **Essential**) with scope for further improvement (indicated as **Desirable**) in it.

Most of the existing hospitals below district level are located in older buildings in urbanized areas/ towns as compared to most Primary Health Centres/Sub-centres. The expansions already done have resulted in construction touching the boundaries walls with no scope of further expansions. As far as possible, States should not dislocate the said hospitals to a new location (in case of dislocating to a new location, the

original client group will not be able to have same access to the desired health facilities).

Objectives of Indian Public Health Standards (IPHS) for Sub-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 Sub-district Hospitals are:

1. To provide comprehensive secondary health care (specialist and referral services) to the community through the Sub-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 Sub-district/Sub-division and act as the First Referral Unit (FRU) for the hospitals/centers from which the cases are referred to the Sub-district hospitals.

Definition of Sub-district Hospital

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

Categorization of Sub-district Hospitals

The size of a Sub-district hospital is a function of the hospital bed requirement, which in turn is a function of the size of the population it serves. In India the population size of a Sub-district varies from 1,00,000 to 5,00,000. Based on the assumptions of the annual rate of admission as 1 per 50 populations and average length of stay in a hospital as 5 days, the number of beds required for a Sub-district having a population of 5 lakhs will be around 100-150 beds. However, as the population of the Sub-district varies a lot, it would be prudent to prescribe norms by categorizing the size of the hospitals as per the number of beds. For the purpose of classification, we have arbitrarily labeled Sub-district Hospitals as Category-I (31-50) and Category II (51-100). We presume that above 100 beds strength, health care facility will constitute District Hospital Group.

Category I: Sub-district hospitals norms for 31-50 beds.

Category II: Sub-district hospitals norms for 51-100 beds.

The minimum functional requirement of both categories of Sub-district hospitals are given as under.

Functions

A Sub-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 (Sub-divisional head quarter town) and the rural population of the sub division.
2. Function as a referral centre for the public health institutions below the tehseel/taluka level such as Community Health Centres, Primary Health Centres and Sub-centres.
3. Provide education and training for primary health care staff.

Services

(Common for both 31-50 bedded and 51-100 bedded Sub-district Hospitals)

Services include OPD, indoor and emergency services. Secondary level health care services, to be provided as given below. These can be grouped as **Essential Services (Minimum Assured Services) and Desirable Services.**

Essential

General Medicine

General Surgery

Accidents and emergency services including poisoning and Trauma Care

General Orthopaedic

Obstetrics & Gynaecology

FP services like Counseling, Tubectomy (Both Laparoscopic and Minilap), NSV, IUCD, OCPs, Condoms, ECPs, Follow up services

Paediatrics including Neonatalogy and Immunization

Anaesthesia

Ophthalmology

ENT

Radiology including Imaging services

Dental care

DOT centre

Designated Microscopy centre

AYUSH

Public Health Management

Integrated Counseling and Testing Centre

Disability Certification (as per guidelines notified by state Government)

Therapy and Appliances

Services provided under other National Health Programmes including lifestyle disorders

Diagnostic and other Para clinical services:

Laboratory services, X-ray, Ultrasound, ECG, Blood transfusion and storage[1].

Desirable

Psychiatry

Geriatric Services

Tobacco Cessation Services

Physical Medicine and Rehabilitation services

Critical care/Intensive Care (ICU) [if bed strength is more than 50 beds]

Dermatology & Venerology including RTI/STI

Post Partum Unit (If the case load of deliveries is more than 75 per month) 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

Support Services: Following ancillary services shall be ensured:

Essential

- Finance*.
- Medico legal/postmortem.
- Ambulance services.
- Dietary services.
- Laundry services.
- Central sterile supply department.
- Engineering and maintenance cell.
- Security services including fire safety services.
- Housekeeping and Sanitation.
- Medical store and Inventory Management.
- Waste management.
- Medical record department including MIS.
- Stand by Power back-up facility.
- Office Management (Provision should be made for computerized medical records with anti-virus facilities whereas alternate records should also be maintained).

Desirable

- Counseling services for domestic violence, gender violence, adolescents, etc. Gender and socially sensitive service delivery be assured.

Financial powers of Head of the Institution

Medical Superintendent to be authorized to incur an expenditure up to Rs. 15.00 lakhs for repair/upgrading of impaired equipment/instruments with the approval of executive committee of RKS.

All the equipment/instruments should be under comprehensive Annual Maintenance Contract after regular warranty period. No equipment/instrument should remain non-functional for more than 30 days in a year. It will amount to suspension of status of IPHS of the concerned institutions.

Outsourcing of services like laundry, ambulance, dietary, housekeeping and sanitation, security, waste disposal etc. to be arranged by hospital itself.

1 Blood storage units should have at least number of units of Blood equal to double of the average daily requirement/consumption.

* Financial accounting and auditing be carried out as per the rules along with timely submission of SOEs/UCs.

Manpower and outsourcing work could be done through local tender mechanism.

Services under Various National Health and Family Welfare Programmes

Epidemic Control and Disaster Preparedness

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 the prescribed protocol.
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 reducing environmental pollution due to 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.

Desirable

1. Compliance to correct method of hand hygiene by health care workers should be ensured.
2. 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.
3. 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 IX**).
4. 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.
5. Guidelines for Airborne Infection Control as given in **Annexure III** should be followed.
6. **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 Specialities

Following services mix of procedures in medical and surgical specialties would be available (The list is only indicative and not exhaustive. Facilities for management of all locally prevalent diseases should be available).

Medical	
1	Pleural Aspiration
2	Skin scraping for fungus/AFB
3	Skin Biopsies
4	Abdominal tapping
OPD Procedures (Including IPD)	
1	Dressing (Small, Medium and Large)
2	Injection (I/M & I/V)
3	Catheterisation
4	Steam Inhalation
5	Cut down (Adult)
6	FNAC
7	Enema
8	Stomach Wash
9	Douche
10	Sitz bath
11	Blood Transfusion
12	Hydrotherapy
13	Bowel Wash
Skin Procedures	
1	Chemical Cautery
2	Electro Cautery
3	Intra Lesional Injection
4	Biopsy
Paediatric Procedures	
1	Immunization as per National Immunization Schedule/ORT corner
2	**Services related to Newborn care**
2.1	- only cradle
2.2	- Incubator, Nebulisation equipment
2.3	- Radiant Heat Warmer
2.4	- Phototherapy
2.5	- Gases (oxygen)
2.6	- Cut down
2.7	- Ventilator
Cardiology Procedures and Diagnostic Tests	
1	ECG
2	Defibrilator Shock
3	Laproscopy (Diagnostic and Therapeutic)

Physical Medicine and Rehabilitation (PMR) Services	
1	**With Electrical Equipment**
1.1	- Short wave diathermy
1.2	- Electrical Stimulator
1.3	- Ultra Sonic Therapy
1.4	- Infra Red Lamp (Therapy)
1.5	- Electric Vibrator
2	**With Mechanical Gadgets/Exercises**
2.1	- Mechanical Tractions (Lumber & Cervical), wax bath
2.2	- Exercycle
2.3	- Shoulder Wheel
2.4	- Walking Bars
2.5	- Post Polio Exercise
Eye Specialist Services (Opthalmology)	
1	**OPD Procedures**
1.1	- Refraction (by using snellen's chart) - Prescription for glasses using Trial frame
1.2	- Syringing and Probing
1.3	- Foreign Body Removal (conjuctival)
1.4	- Foreign Body Removal (Corneal)
1.5	- Epilation
1.6	- Suture Removal
1.7	- Subconj Injection
1.8	- Retrobular Injection (Alcohol etc.)
1.9	- Tonometry
1.10	- Pterygium Excision
1.11	- Syringing & Probing
1.12	- I & C of chalazion
1.13	- Wart Excision
1.14	- Stye
1.15	- Cauterization (Thermal)
1.16	- Conjuctival Resuturing
1.17	- Corneal Scarping
1.18	- I & D Lid Abscess
1.19	- Uncomplicated Lid Tear
1.20	- Indirect Opthalmoscopy
1.21	- Retinoscopy

2	**IPD Procedures**
2.1	- Cataract Extraction
2.2	- Glaucoma (Trabeculectomy)
2.3	- Small Lid Tumour Excision
2.4	- Conjuctival Cyst
ENT Services	
1	**OPD Procedures**
1.1	- Foreign Body Removal (Ear and Nose)
1.2	- Syringing of Ear
1.3	- Chemical Cauterization (Nose & Ear)
1.4	- Eustachian Tube Function Test
1.5	- Vestibular Function Test/Caloric Test
2	**Minor Procedures**
2.1	- Therapeutic Removal of Granulations (Nasal, Aural, Oropharynx)
2.2	- Cautrization (Oral, Oropharynx, Aural & nasal)
3	**Nose Surgery**
3.1	- Packing (Anterior & Posterior Nasal)
3.2	- Antral Punchure (Unilateral & Bilateral)
3.3	- I & D Septal Abscess (Unilateral & Bilateral)
3.4	- SMR
3.5	- Septoplasty
3.6	- Fracture Reduction Nose
3.7	- Fracture Reduction Nose with Septal Correction
4	**Ear Surgery**
4.1	- Ear Piercing
4.2	- 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	- Broncoscopic Diagnostic
6.4	- Broncoscopic & F B Removal

7	**General ENT Surgery**
7.1	- Stiching of LCW (Nose & Ear)
7.2	- Preauricular Sinus Excision
7.3	- Tracheostomy
8	**Audiometry**
8.1	- Audiogram (Pure tone and Impedence)
Obstetric & Gynecology Specialist Services	
1	Episiotomy
2	Forceps delivery
3	Craniotomy-Dead Fetus/Hydrocephalus
4	Caeserean section, Caeserean Hysterectomy
5	Female Sterilisation (Mini Laparotomy & Laparoscopic)
6	Dilatation and Curettage (D&C)
7	MTP/MVA
8	IUCD services/PPIUCD
9	Bartholin Cyst Excision
10	Suturing Perineal Tears
11	Assisted Breech Delivery
12	Cervical Cautry
13	Normal Delivery
14	Caesarian
15	Examination Under Anaesthesia (EUA)
16	Mid-trimester Abortion
17	Ectopic Pregnancy Ruptured
18	Retain Placenta
19	Suturing Cervical Tear
20	Assisted Twin Delivery
Dental Services	
1	Dental Caries/Dental Abscess/Gingivitis
2	Periodontitis → Cleaning / Surgery
3	Minor Surgeries, Impaction, Flap
4	Trauma including Vehicular Accidents
5	Sub Mucus Fibrosis (SMF)
6	Scaling and Polishing
7	Root Canal Treatment
8	Extractions
9	Light Cure
10	Amalgam Filling (Silver)

11	Sub Luxation and Arthritis of Temporomandibular Joints
12	Pre Cancerous Lesions and Leukoplakias
13	Intra oral X-ray
14	Complicated Extractions (including suturing of gums)
Surgical	
1	Abcess 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	Diagnostic Laparoscopy
11	Cysts and Benign Tumour of the Palate
12	Excision Submucous Cysts
Breast	
1	Excision fibroadenoma – Lump
Hernia	
1	Ingunial Hernia repair reinforcement
2	Ingunial Hernia repair with mesh
3	Femoral Hernia repair
4	Recurrent Ingunial Hernia repair
5	Strangulated Ventral or Incisional Hernia/Ingunial
Abdomen	
1	Exploratory Laparotomy
2	Gastrostomy or Jejuncstomy
3	Simple Closure of Perforated Ulcer
4	Burst Abdomen Repair
Appendix	
1	Emergency Appendicectomy
2	Interval Appendicectomy
3	Appendicular Abscess Drainage
Small Intestine	
1	Resection and Anastomosis
2	Multiple Resection and Anastomosis
3	Intestinal Perforation

Liver	
1	Open Drainage of liver abscess
2	Drainage of Subdia, Abscess/Perigastric Abscess
Biliary System	
1	Cholecystostomy
2	Cholecystectomy
3	Cholecystectomy and Choledocholithotomy
Colon, Rectum and Anus	
1	Fistula in ano low level
2	Fistula in ano high level
3	Catheters
4	IV Sets
5	Colostomy Bags
6	Perianal Abscess
7	Ischiorectal Abscess
8	Ileostomy or colostomy alone
9	Haemorroidectomy
10	Anal Sphincter Repair after injury
11	Resection anastomosis
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	Suture of large laceration
2	Suturing of small wounds
3	Excision of sebaceous cyst
4	Small superficial tumour
5	Repair torn ear lobule each
6	Incision and drainage of abscess
7	Injection Haemorrhoids/Ganglion/Keloids
8	Removal of foreign body (superficial)
9	Removal of foreign body (deep)

10	Excision Multiple Cysts
11	Tongue Tie
12	Debridement of wounds
13	Excision carbuncle
14	Ingrowing Toe Nail
15	Diabetic Foot and carbuncle
Urology* (Desirable)	
1	Pyelolithotomy
2	Nephrolithotomy
3	Simple Nephrostomy
4	Uretrolithotomy
5	Open Prostectomy
6	Cystolithotomy Superopubic
7	Dialation of stricture urethra under GA
8	Dialation of stricture urethra without anaesthesia
9	Meatotomy
10	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	Simple injury fingers
6	Multiple finger injury (Desirable)
7	Crush injury hand (Desirable)
8	Polio Surgery (Desirable)
9	Surgery concerning disability with Leprosy
10	Surgery concerning with TB
Paediatric Surgery#	
1	Minor Surgery, I & D, Prepuceal Dilatation, Meatotomy

* To be provided by General Surgeon.

To be provided by specially trained General Surgeon.

Orthopaedic Surgery	
1	**Hip Surgery** (optional)
2	Femoral Neck nailing with or without plating replacement prosthesis/Upper Femoral Osteotomy; Innominate Osteotomy/Open Reduction of Hip dislocation; DHS/Richard Screw Plate
3	Synovial or bone biopsy from Hip
4	Girdle stone Arthoplasty
5	**Fractures**
	Open reduction internal fixation of femur, tibia, B. Bone, Forearm Humerus inter-condylar fracture of humerus and femur and open reduction and int. Fixation bimaleolar fracture and fracture dislocation of ankle montaggia fracture dislocation
	Medial condyle 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
	External fixation of hand & foot bones
	Tarsals,Metatarsals,Phalanges,carpals,Metacarpals, excision head fibula, lower and of ulna
	Interlocking nailing of long bones
	Debridement & Secondary closure
	Per cutaneous Fixation (small and long bones)
6	**Closed Reduction**
	Hand, Foot bone and cervical
	Forearm or Arm, Leg, Thigh, Wrist, Ankle
	Dislocation elbow, shoulder, Hip, Knee
	Closed Fixation of hand/foot bone
7	In growing toe-nail

Recommended Service Mix (Suggested Actions) for Different Illnesses Concerning Different Specialities

Obstetric & Gynecology

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Bleeding during first trimester	Treat
2	Bleeding during second trimester	Treat
3	Bleeding during third trimester	Treat
4	Normal Delivery	Yes
5	Abnormal labour (Mal presentation, prolonged labour, Obstructed labour)	Treat
6	PPH	Treat
7	Puerperal Sepsis	Treat and refer if necessary
8	Ectopic Pregnancy	Diagnose & refer if necessary
9	Hypertensive disorders	Conservative management and follow - up services
10	Septic abortion	Treat and refer if necessary
11	Medical disorders complicating pregnancy (heart disease, diabetes, hepatitis)	Diagnose and refer
12	Bronchial asthma	Diagnose, first aid and delivery
Gynecology		
1	RTI/STI	Treat
2	Dysfunctional Uterine Bleeding (DUB)	Treat
3	Benign disorders (fibroid, prolapse, ovarian masses) Initial investigation at PHC/Gr III level	Diagnose and treatment, refer if necessary
4	Breast Tumors	Refer
5	Cancer Cervix screening Initial investigation at PHC/Grade III level	Collection of PAP SMEAR and biopsy
6	Cancer cervix/ovarian Initial investigation at PHC/Gr III level	Diagnose and refer
7	Infertility	Investigate and refer
8	Prevention of MTCT	Treat
9	MTP/MVA services	Treat
10	Tubectomy	Yes

General Medicine

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Fever -a) Short duration (<1 week)	Basic investigation and Treatment
	Fever -b) Long duration (>1 week)	Investigation and treatment, Refer if necessary
	c) Typhoid	Treat
	d) Malaria/Filaria	Treat
	e) Pulmonary Tuberculosis	Treat
	f) Viral Hepatitis	Treat

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
	g) Leptospirosis/Meningitis and Haemorrhagic fever	Treat & Refer if necessary
	h) Malignancy	Refer
2	**Common Respiratory Illnesses**	
	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	Diagnose and treat
4	**G I Tract**	
	a) G I Bleed/Portal hypertension/Gall blader disorder	Emergencies - Treat & Refer if necessary
	b) AGE/Dysentery/Diarrhoeas	Treat
5	**Neurology**	
	a) Chronic Headache	Refer
	b) Chronic Vertigo/CVA/TIA/Hemi-plegia/Paraplegia	Refer
6	**Haematology**	
	a) Anaemia	Basic investigation and Treatment
	b) Bleeding disorder	Stabilise Refer to tertiary
	c) Malignancy	Refer
7	**Communicable Diseases**	
	Cholera, Measles, Mumps, Chickenpox	Treat
8	**Psychological Disorders**	
	Acute psychosis/Obsession/Anxiety neurosis	Screening, emergency care and referral

Paediatrics

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	ARI/Bronchitis Asthmatic	Investigate, Diagnose, Nebulization, Treat, Refer if no improvement
2	Diarrohoeal Diseases	Diagnose, Treat (ORS, IVF), **ORT Corner,** Refer if no improvement
3	Protein Energy Malnutrition and Vitamin Deficiencies	Diagnose, Treat & Refer
4	Pyrexia of unknown origin	Investigate, diagnose, treat, refer if no improvement
5	Bleeding Disorders	Treat & Refer if necessary
6	Diseases of Bones and Joints	Treat
7	Childhood Malignancies	Early Diagnosis and Refer
8	Liver Disorders	Diagnose and Refer
9	Paediatric Surgical Emergencies	Early Diagnosis and Refer
10	Poisoning, Sting, Bites	First Aid, treat, Refer if necessary

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
Neonatology		
1	Attention at birth (to prevent illness)	SBA
2	Hypothermia	Warm chain
3	Birth asphyxia	Resuscitation And Treatment
4	Hypoglycemia	Treat
5	Meconium aspiration syndrome	Treat
6	Convulsions (seizures)	Treat
7	Neonatal Sepsis	Treat
8	Low Birth Weight (LBW)	1800-1500 gm. treat with kangaroo care
9	Neonatal Jaundice	Treat
10	Pre-term	Warm chain, feeding, kangaroo care
11	Congenital malformations	Examine and refer
12	R.D.S, ARI	Manage and refer
13	Dangerously ill baby	Identify, manage and refer
14	Feeding Problems	Identify and manage
15	Neonatal Diarrhoea	Diagnosis and manage
16	Birth injury	Minor - manage; major -refer
17	Neonatal Meningitis	Manage and refer
18	Renal problems/Congenital heart disease/Surgical emergencies	Refer
19	HIV/AIDS	Follow up and refer to ART Center
20	Hypocalcemia	Manage
21	Metabolic Disorders	Identify & refer
22	Hyaline Membrane diseases	Diagnose and refer
23	Neonatal Malaria	Manage
24	Blood disorders	Manage
25	Developmental Delays	Diagnose and Manage
26	UTI	Manage
27	Failure to Thrive	Manage and refer

Dermatology

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	**Infections** **a) Viral** - HIV - Verrucca Molluscum Contagiosa	Treat
	Pityriasis Rosea, LGV, HIV	Treat
	b) Bacteria Pyoderma Chancroid	Treat
	Gonorrhea, Leprosy & Tuberculosis	Treat
	c) Fungal Sup. Mycosis Subcutaneous Mycetoma	Identify/Treat
	d) Parasitic Infestation Scabies/Pediculosis/Larva Migrans	Treat
	e) Spirochaetes Syphilis	Diagnosis and Treat

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
2	**Papulosquamous** Psoriasis (classical) uncomplicated/Lichen Planus	Treat
3	**Pigmentary Disorder** Vitiligo	Treat/Refer
4	**Keratinisation Disorder** Ichthyosis/Traumatic Fissures	Refer/Treat
5	**Autoimmune** Collagen Vascular DLE, Morphea	Treat/Refer
6	**Skin Tumors,** Seborrhoea 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/Refer
	c) Deep Mycosis, STD Complications	Treat/Refer
	d) Genetically Determined Disorders	Refer

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
3	Haemoptysis	Investigation and Treatment
4	Chest Pain	ECG, X-ray treatment
5	Wheezing	Treatment, PFT
6	Breathlessness	Treatment PFT, X-ray

Psychiatry

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Schizophrenia	Follow up
2	Depression	Follow up
3	Mania	Follow up
4	Anxiety Disorders	Follow up
5	Mental Retardation	Follow up
6	Other Childhood Disorders	Follow up
7	Alcohol and Drug Abuse	Follow up
8	Dementia	Follow up

Diabetology*

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Screening for Diabetes	Diagnose and Treat
2	Gestational Diabetes/DM with Pregnancy	Diagnose, Treat and refer if necessary
3	DM with HT	Diagnose and Treat

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
4	Nephropathy/Retinopathy	Diagnose and Refer
5	Neuropathy with Foot Care	Diagnose and Treat
6	Emergency: i) Hypoglycemia ii) Ketosis iii) Coma	Diagnose and Treat

* To be provided by General Physician.

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
4	HT, DM	Treat
5	Asymptomatic Urinary Abnormalities	Refer to the District
6	Nephrolithiasis	Refer to District Hospital
7	Acute Renal Failure/Chronic Renal Failure	Suspect/Refer to District level
8	Tumors	Refer to Tertiary

* To be provided by General Physician.

Neuro Medicine and Neuro Surgery*

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Epilepsy	First Aid, Referral for investigation, Follow-up
2	C.V.A.	First Aid, Referral for investigation, Follow-up
3	Infections	Investigations and Treatment, complicated cases-Refer
4	Trauma	Treat simple injuries Refer complicated cases
5	Chronic headache	Referral
6	Chronic Progressive Neurological disorder	Referral

* To be provided by General Physician and General Surgeon.

General Surgery

Sl. No.	Major Classification	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, Lymph nodes, Swelling	Diagnosis/Treatment
2	**Elective Surgeries**	**a. Genitourinary tract** Hydrocele,Hernia,Circumcision, Supra pubic cysostomy	Treat
		b. Gastrointestinal disorder Appendicitis/Ano-rectal abscesses/Rectal prolapse/Liver abscess/Haemorrhoids/Fistula	Treat

Sl. No.	Major Classification	Name of the Illness	Recommended Service Mix (suggested actions)
3	**Emergency surgeries**	Assault injuries/Bowel injuries/Head injuries/Stab injuries/ Multiple injuries/Perforation/Intestinal obstruction	Treat
4	**Benign/Malignant Diseases**	Breast/Oral/GItract/Genitourinary (Penis, Prostate, Testis)	Diagnose & refer
5	**Others**	**Thyroid, Varicose veins**	Treat
6	**Burns**	**Burns**	Treat
7	**Medico legal**	a) Assault/RTA b) Poisonings c) Rape d) Postmortem	AR Entry ??/Treat 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	Refer
9	Malignancy/Retina Disease	Refer
10	Paediatric Opthalmology	Refer

Ear, Nose, Throat

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
Ear		
1	ASOM/SOM/CSOM	Treat
2	Otitis External/Wax Ears	Treat
3	Polyps	Diagnose and Refer
4	Mastoiditis	Treatment (Medical)
5	Unsafe Ear	Diagnose and Refer
Throat		
1	Tonsillitis/Pharyngitis/Laryngitis	Treat
2	Quinsy	Diagnose and Refer
3	Malignancy Larynx	Diagnose and Refer
4	Foreign Body Esophagus	Diagnose and Refer
Nose		
1	Epistaxis	treat
2	Foreign Body	Treat (Removal) and refer if needed

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
3	Polyps	Treat and refer if necessary
4	Sinusitis	Treat (Medical)
5	Septal Deviation	Treat (Symptomatic)

Orthopaedics

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	Osteo myelitis	Treat
2	Rickets/Nutritional Deficiencies	Detection Manage, Nutritional rehabilitation centre
3	Poliomyelitis with residual Deformities/JRA/RA	Corrective Surgery/Physiotherapy
4	Road Traffic Accident/Polytrauma	Manage

Urology (Desirable)

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	Urethral Catheter Insertion Referral
6	Un-descended 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	Diagnose and refer
2	Stone Diseases	Diagnose and refer
3	Cancer - Urinary and Genital Tract	Diagnose and refer
4	Trauma Urinary Tact	Diagnose and refer
5	Genito Urinary TB	Diagnose and refer
Old Age		
1	Prostate Enlargement and Urinary Retention	Urethral Catheter Insertion Referral
2	Stricture Urethra	Diagnose and refer
3	Stone	Diagnose and refer
4	Cancer (Kidney, Bladder, Prostate, Testis, Penis and Urethra)	Diagnose and refer
5	Trauma Urinary Tract	Diagnose and refer

Dental Surgery

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

Health Promotion & Counseling

Sl. No.	Name of the Illness	Recommended Service Mix (suggested actions)
1	CHD/M.I.	Counseling/Diet advice Safe Style changes
2	Diabetes	Safe Style Changes/Physiotherapy
3	Substance Abuse	Vocational Rehabilitation, Safe Style changes
4	HIV/AIDS	HIV Counseling

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	Epidemic Health Investigation, Health Promotion & Counseling Activities
3	Adolescent & School Health	Adolescent & school health promotional activities
4	Family Planning	Counseling services, camps, follow up of contraceptive users
5	HIV/AIDS	HIV Counseling and Testing; STI testing; Blood safety; STI syndromic treatment

Physical Infrastructure

Size of the hospital

The size of a Sub-district hospital is a function of the hospital bed requirement which in turn is a function of the size of the population serve. In India the usual population size of a Sub-district varies from 1,00,000 to 5,00,000. For the purpose of convenience the average size of the Sub-district is taken in this document as 2,50,000 populations. Based on the assumptions of the annual rate of admission as 1 per 50 populations. And average length of stay in a hospital as 5 days. The number of beds required for a Sub-district having a population of 2,50000 will be as follows:

The total number of admissions per year
= 2,50,000 x 1/50 = 5,000

Bed days per year = 5,000 x 5 = 25,000

Total number of beds required when occupancy is 100% = 25000/365 = 69 beds

Total number of beds required when occupancy is 80% = 25000/365 x 80/100 = 55 beds

Area of the hospital

An area of 65-85 m^2 per bed has been considered to be reasonable. The area will include the service areas such as waiting space, entrance hall, registration counter etc. In addition, Hospital Service buildings like Generators, Heat Ventilation and Air conditioning Plant (HVAC plant), Manifold Rooms, Boilers, Laundry, Kitchen and essential staff residences are required in the Hospital premises. In case of specific requirement of a hospital, flexibility in altering the area be kept.

Site information

Physical description of the area which should include bearings, boundaries, topography, surface area, land used in adjoining areas, limitation of the site that would affect planning, maps of vicinity and landmarks or centers, existing utilities, nearest city, port, airport, railway station, major bus stand, rain fall and data on weather and climate. Hospital Management Policy should emphasize on quake proof, fire proof, protected, flood proof buildings and should be away from high tension wires. Infrastructure should be eco-friendly and disabled (physically and visually handicapped) friendly. Provision should be made for water harvesting, solar energy/power back-up, and horticulture services including herbal garden. Local agency Guidelines and By-laws should strictly be followed. A room for horticulture to store garden implements, seeds etc. will be made available.

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

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

Site selection criteria

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

In the already existing structures of a district/Sub-district hospital

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

Building and Space Requirements

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

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

Desirable

For prevention of disasters due to
Earthquake,
Flood
and Fire

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

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

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

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

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

Environmental friendly features

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

Administrative Block

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

Circulation Areas

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

Floor Height

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

Entrance Area

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

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

Ambulatory Care Area (OPD)

Waiting Spaces

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

Clinics

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

Nursing Services

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

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

Diagnostic Services

Provision for following Space be made

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

Imaging

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

Clinical Laboratory

For quick diagnosis of blood, urine, etc., a small sample collection room facility shall be provided.

Separate Reporting Room for doctors should be there.

Blood Storage Unit (Annexure VII)

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

Intermediate Care Area (Inpatient Nursing Units)

General

Nursing care should fall under following categories:

General Wards: Male/Female
Private Wards
Wards for Specialities

Location

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

Ward Unit

It is desirable that 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 rest for chronic patients.

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

Patient Conveniences

It is to be as per local byelaws.

Pharmacy (Dispensary)

The pharmacy should be located in an area conveniently accessible from all clinics. The size should be adequate to contain 5 percent of the total clinical visits to the OPD in one session.

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

Intensive Care Unit and High Dependency Wards (Desirable)

General

In this unit, critically ill patients requiring highly skilled 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 for both the units will be restricted to 10% of the total bed strength. Out of these, they can be equally divided among ICU and High Dependency Wards. For example, in a 100 bedded hospital, total of 10 beds will be for critical care. Out of these 4 may be ICU beds and 6 will be allocated for high dependency wards. Changing room should be provided for. There should be clear-cut admission, discharge and referral policy.

Location

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

Facilities

Nurses Station
Clean Utility Area
Equipment Room

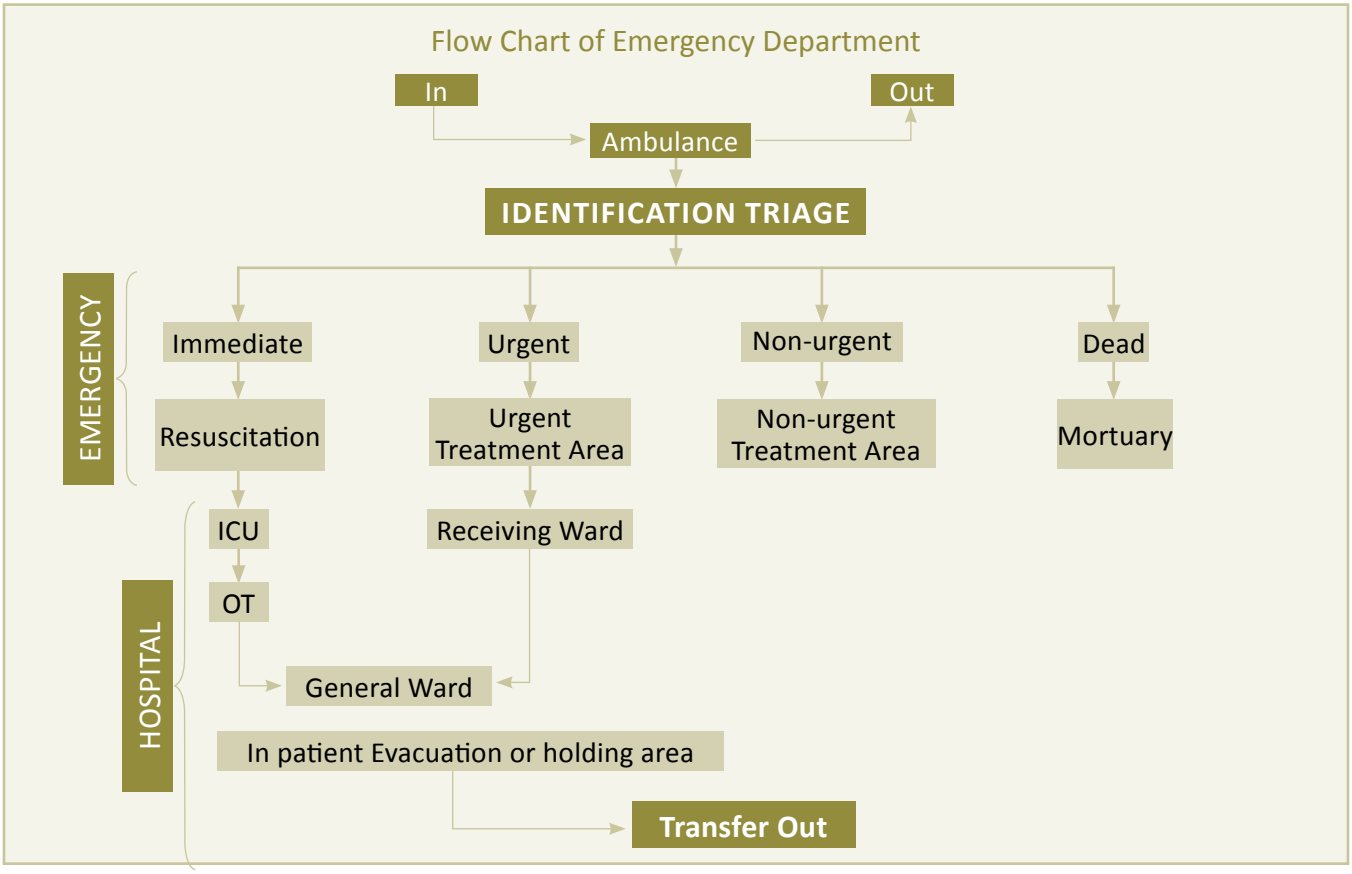
Accidents and emergency services

These services are to be made available on 24x7 basis. Emergency should preferably have a distinct entry independent of OPD main entry so that a very minimum time is lost in giving immediate treatment to injured arriving in the hospital. There should be an easy ambulance approach with adequate space for free passage of vehicles and covered area for alighting patients.

Emergency should have separate X-ray and basic laboratory facilities. Mobile Xray, Plaster room and minor OT facilities are also to be provided. Separate emergency beds may be provided. Duty rooms for Doctors/nurses/paramedical staff and medico legal cases. Sufficient waiting area for relatives and located in such a way which does not disturb functioning of emergency services.

Operation Theatre

Operation theatre usually has 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 life



service, if the theatres are located on upper floors. Zoning should be done to keep the theatres free from micro organisms. There may be four well defined zones of varying degree of cleanliness namely, Protective Zone, Clean Zone, Aseptic or Sterile Zone and Disposal or Dirty Zone. Normally there are three types of traffic flow, namely, patients, staff and supplies. All these should be properly channelized. An Operation Theatre should also have Preparation Room, Pre-operative Room and Post Operative Resting Room. Operating room should be made dust-proof and moisture proof. There should also be a Scrub-up room where operating team washes and scrub-up their hands and arms, put on their sterile gown, gloves and other covers before entering the operation theatre. The theatre should have sink/photo sensors for water facility. Laminar flow of air is to be maintained in operation theatre. Central air conditioning facility in the OT is desirable. It should have a single leaf door with self closing device and viewing window to communicate with the operation theatre. A pair of surgeon's sinks and elbow or knee operated taps are essential. Operation Theatre should also have a Sub-Sterilizing unit attached to the operation theatre limiting its role to operating instruments on an emergency basis only.

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

Delivery Suite Unit

The delivery suit unit be located near to operation theatre.

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)
- Neo-natal Room
- Sterilizing Rooms
- Sterile Store Room
- Scrubbing Room
- Dirty Utility
- Newborn care corner in Labour room. (**Annexure V A**)
- Newborn care Stabilization Unit: Details at (**Annexure V B**)

Post Partum Unit

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

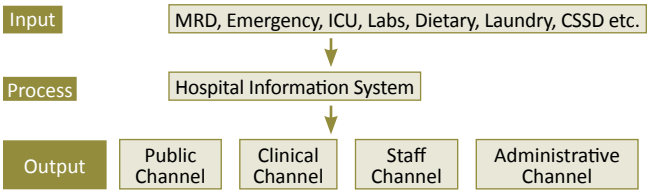
Physical Medicine and Rehabilitation (PMR)

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

Hospital Services

Management Information System (MIS)

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



Hospital Kitchen (Dietary Service)

The dietary service of a hospital is an important therapeutic tool. It should easily be accessible from outside along with vehicular accessibility and separate

room for dietician and special diet. It should be located such that the noise and cooking odours emanating from the department do not cause any inconvenience to the other departments. At the same time location should involve the shortest possible time in delivering food to the wards.

Central Sterile Supply Department (CSSD)

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

Hospital Laundry

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

Medical and General Stores

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

For Storage of Vaccines and other logistics

Cold Chain Room: 3.5 m x 3 m in size. Every efforts will be undertaken to ensure that proper cold chain is maintained till point of delivery.

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

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

Mortuary

It provides facilities for keeping of dead bodies and conducting autopsy (desirable). Facilities for proper illumination and hand washing should be available. At least cold chamber for preservation of two dead bodies should be installed. It should be so located that the dead bodies can be transported unnoticed by the general public and patients.

Engineering Services

Electric Engineering

Sub Station and Generation: Electric sub station and standby generator to cater for the full load of the hospital should be provided.

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

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

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

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

Mechanical Engineering: All OTs, ICUs and NICUs, (heat stroke room, if required) will be air conditioned. Room Heating in operation theatre and neo-natal units may also be provided depending upon weather condition. Air coolers or hot air convectors may be provided for the comfort of patients, relatives and staff depending on the local needs.

Hospital should be provided with water coolers and refrigerator in wards and departments depending upon the local needs.

Desirable – telephone booth, cable TV, cafeteria/tea shop.

Public Health Engineering

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

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

Other Amenities

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

Waste Disposal System: As per National guidelines on Bio-medical Waste Management as at **Annexure – IIA**. and Guidelines for management of Mercury waste are at **Annexure – IIB**.

Trauma Centre: Guidelines to be followed.

Fire Protection

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

Telephone and Intercom

Medical Gas

Cooking Gas: Liquefied petroleum gas (LPG).

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

Building Maintenance

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

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.

Parking

Sufficient parking place as per the norms will be provided.

Administrative Services: Two sections (i) General section to deal with overall upkeep of the hospital and welfare of its staff and patients (ii) Medical Records section.

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

Residential Quarters

All the essential medical and para-medical staff will be provided with residential accommodation. If the accommodation 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 in case of need.

Manpower

Man Power – Doctors

Sl. No.	Staff	Sub-district Hospital (31-50 Bedded)		Sub-district Hospital (51-100 Bedded)	
		Essential	Desirable	Essential	Desirable
1	Hospital Superintendent	1		1	
2	Medicine Specialist	1	+1	1	+1
3	Surgery Specialist	1		1	+1
4	O&G specialist	1	+1	1	+1
5	Dermatologist/Venereologist		1	1	
6	Paediatrician	1		1	+1
7	Anesthetist (Regular/trained)	1		1	+1
8	ENT Surgeon	1		1	
9	Opthalmologist	1		1	
10	Orthopedician	1		1	
11	Radiologist	1		1	
12	Casualty Doctors/General Duty Doctors	7 (3 lady MOs)		9 (at least 4 female doctors from allopathy)	
13	Dental Surgeon	1		1	

Sl. No.	Staff	Sub-district Hospital (31-50 Bedded)		Sub-district Hospital (51-100 Bedded)	
		Essential	Desirable	Essential	Desirable
14	Public Health Manager[1]	1		1	
15	Forensic Expert				1
16	AYUSH Physician[2]	1[2]		1	
17	Pathologist with DCP/MD (Micro)/MD (Path)/MD (Biochemistry)			1	
18	Psychiatrist	-			1
	Total	**20**	**23**	**24**	**31 (including essential)**

1 May be a Public Health Specialist or management specialist trained in public health.

2 Provided there is no AYUSH hospital/dispensary in the district headquarter.

Man Power – Para Medical

Sl. No.	Staff	31-50 Bedded Sub-district Hospital		51-100 Bedded Sub-district Hospital	
		Essential	Desirable	Essential	Desirable
1	Staff Nurse*	18	+2	30	
2	Sister Incharge	-	-	5	
3	General Duty Attendant/hospital workers (including Cold Chain Handler**)	6		11	
4	Ophthalmic Assistant/Refractionist	1		1	
5	ECG Technician	1		1	
6	Audiometrician	1		1	
7	Laboratory Technician (Lab + Blood storage)	4		5	
8	Laboratory Attendant (Hospital Worker)	2		3	
9	Radiographer	1		2	
10	Pharmacist	3#		4#	
11	Dietician		1		1
12	Dental Assistant/Dental Technician/ Dental Hygienist	1		1	
13	Physiotherapist/occupational therapist/ rehabilitation therapist	1		1	
14	Counselor			1 (Female)	1 (male)
15	Multi Rehabilitation worker	1		2	
16	Statistical Assistant	1		1	
17	Medical Records Officer/Technician	1		1	
18	Electrician	1		1	

Sl. No.	Staff	31-50 Bedded Sub-district Hospital		51-100 Bedded Sub-district Hospital	
		Essential	Desirable	Essential	Desirable
19	Plumber	1		1	
20	Cold Chain & Vaccine Logistics Assistant	1		1	
	Total	**45**	**48**	**73**	**75**

* Additional number of Staff Nurse equal to number of ICU beds in the hospital is recommended
** One may be identified (& trained) from the existing staff for assisting cold chain and vaccine logistic assistant.
# One from AYUSH Safai Karamchari, Security Staff and other Group D services are to be outsourced.

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

Manpower- Administrative Staff

Sl. No.	Item	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Junior Administrative Officer/Office Superintendent	1	1
2	Accountant	2	2
3	Computer Operator	4	6
4	Driver	1	2
5	Peon	2	2
6	Security Staff*	2	2
	Total	**12**	**15**

Note: Drivers posts will be in the ratio of 1 Driver per 1 vehicle. Driver will not be required if outsourced.

* The number would vary as per requirement and to be outsourced.

Man Power – Operation Theatre

Sl. No	Staff	Sub-district Headquarters Hospital 31-50 Bedded	Sub-district Headquarters Hospital 51-100 Bedded	
		Emergency/FW OT	Emergency/FW OT	General OT
1	Staff Nurse	2	4	1
2	OT Assistant	2	4	2
3	Safai Karamchari	1	2	1
	Total	**5**	**10**	**4**

Man Power – Blood Storage Unit

Sl. No.	Item	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Staff Nurse	1	1
2	Attendant	1	2
3	Blood Bank/Storage Technician	1	3
4	Safai Karamchari	1	2

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

Equipment

Imaging Equipment

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	500 M.A. X-ray machine*		
2	300 M.A. X-ray machine		1
3	100 M.A. X-ray machine	1	1
4	60 M.A. X-ray machine (Mobile)		1
5	C arm with accessories*		1 (Desirable)
6	Dental X-ray machine	1	1
7	Ultra Sonogram (Obs & Gyne. department should be having a separate ultra-sound machine of its own)	1 + 1 (Desirable)	1 + 1
9	Mammography Unit*		1 (Desirable)
10	Echocardiogram*		1 (Desirable)

* These items will be provided depending upon the need and availability of skilled personnel.

X-Ray Room Accessories

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	X-ray developing tank	1	1
2	Safe light X-ray dark room	1	2
3	Cassettes X-ray	4	10
4	X-ray lobby single	2	4
5	X-ray lobby Multiple	-	-
6	Lead Apron	1	1
7	Intensifying screen X-ray	1	1

Cardiopulmonary Equipment

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	ECG machine computerized	1	
2	ECG machine ordinary	-	1
3	12 Channel stress ECG test equipment Tread Mill*	-	
4	Cardiac Monitor	1 (Desirable 2)	2 + 1
5	Cardiac Monitor with defibrillator	-	2

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
6	Ventilators (Adult)	-	1
7	Ventilators (Paediatrics)	-	1
8	Pulse Oximeter	1 (Desirable 2)	2 + 1
9	Infusion pump	1	1
10	B.P. apparatus table model	6 (Desirable 10)	8 + 4
11	B.P. apparatus stand model	4	5
12	Stethoscope	2 (Desirable 12)	5 + 10
13	Nebuliser	1	1
14	Peak Expiratory Flow Rate (PEFR) Meter (Desirable)	1	1

* To be provided as per need.

Labour ward & Neo Natal Equipment

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Baby Incubators	1	1
2	Phototherapy Unit	1	1
3	Emergency Resuscitation Kit - Baby*	2	2
4	Standard weighing scale	1 each for the labour room & OT	1 each for the labour room & OT
5	Newborn Care Equipment	1 set each for labour room & OT	1 set each for labour room & OT
6	Double–outlet Oxygen Concentrator	1 each for the labour room & OT	1 each for the labour room & OT
7	Radiant Warmer	1	1 + 1 (desirable)
8	Room Warmer	2	2
9	Foetal Doppler	1 (Desirable 2)	1 + 1 (desirable)
10	Cardio Toco Graph (CTG) Monitor	-	1
11	Delivery Kit	2	2 + 3
12	Episiotomy kit	1	2
13	Forceps Delivery Kit	1	1
14	Craniotomy	-	1
15	Silastic vacuum extractor	1	1
16	Pulse Oximeter baby & adult	1	1
17	Cardiac monitor baby	1 (Desirable)	1
18	Nebulizer baby	1	1
19	Weighing machine adult	2	2
20	Weighing machine infant	2	2

* Equipment for Newborn care corner and newborn care Stabilization Unit: Details are at Annexure V A & V B respectively.

Immunization Equipment

ILR & DF with Stabilizer	ILR (L)-1, & DF (L)-1 for immunization at hospital purpose
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	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.)

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
	Genset Logbook
Monitoring Tools	Tracking Bag and Tickler Box
	Tally sheets
	Immunization cards
	Temperature Logbook
	Micro plans
Reports	Monthly UIP reports
	Weekly surveillance reports (AFP, Measles)
	Serious AEFI reports
	Outbreak reports

Ear Nose Throat Equipment

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Indigenous Digital Audiometer	1	1
2	Impedance Audiometer	1 (Desirable)	1
3	Operating Microscope (ENT)*	1	
4	Head light (ordinary) (Boyle Davis)	2	1
5	ENT Operation set including headlight, Tonsils	1	1
6	Ear Surgery Instruments	2 sets	2 sets
7	Mastoid Set	1	1
8	Micro Ear Set myringoplasty*	1	1
9	Micro drill System	2 sets	2 sets
10	Stapedotomy Set*	1	1
11	Stapeidoplasty*	1	1
12	ENT Nasal Set (SMR, Septoplasty, Polypetcomy, DNS, Rhinoplasty)*	1 (Desirable)	
13	Laryngoscope fibreoptic ENT*	1 (Desirable)	
14	Laryngoscope indirect	2	1
15	Otoscope	2	1
16	Oesophagoscope Adult*	1	
17	Oesophagoscope Child*	1	
18	Head Light (cold light)	1	1
19	Tracheostomy Set	2	1
20	Tuning fork	1	1
21	Oto Acoustic Emission (OAE) OAE Analyzer	1 (Desirable)	1
22	Sound Proof room	1 (Desirable)	1

* To be provided as per need.

Eye Equipment

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Cryo Surgery Unit with retina probe	-	-
2	Opthalmoscope - Direct	1	1
3	Slit Lamp	1	1
4	Retino scope	1	
5	Perimeter	1	1
6	Binomags	1	
7	Distant Vision Charts	1	
8	Foreign Body spud and needle	1	
9	Lacrimal cannula and probes	1	
10	Lid retractors (Desmarres)	1	

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
11	Near Vision charts	1	
12	Punctum Dilator	1	
13	Rotating Visual acuity drum	1	
14	Torch	2	
15	Trial Frame Adult/Children	1	
16	Trial Lens Set	1	
17	IOL Operation set	2	2
18	YAG Laser	1	
19	Operating Microscope	1	1
20	A-Scan Biometer	1	1
21	Keratometer	1	1
22	Auto Refractometer	1	1
23	Flash Autoclave	1	1
24	Applanation Tonometer	1 (Desirable)	1 (Desirable)

Dental Equipment

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Air Rotor	1	1
2	Dental Unit with motor for dental OP	1	1
3	Dental Chair	1	1
4	Dental Lab	-	
5	Dental Kit	1	1

Operation Theatre Equipment

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Auto Clave HP Horizontal		
2	Auto Clave HP Vertical (2 bin)	1	2
3	Operation Table Ordinary Paediatric*	-	-
4	Operation Table Hydraulic Major	1	1
5	Operation Table Hydraulic Minor	1	2
6	Operating Table non-hydraulic field type	1	1
7	Operating Table Orthopedic*	-	-
8	Autoclave with Burners 2 bin*		
9	Autoclave vertical single bin	1	1
10	Shadow less lamp ceiling type major*	1	1
11	Shadow less lamp ceiling type minor*	1	1
12	Shadow less Lamp stand model	1	1
13	Focus lamp Ordinary	1	2

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
14	Sterilizer big (Instrument)	1	2
15	Sterilizer Medium (Instrument)	2	3
16	Sterilizer Small (Instruments)	2	3
17	Bowl Sterilizer - big*	1	1
18	Bowl sterilizer - Medium*	1	1
19	Diathermy Machine (Electric Cautery)	1	
20	Suction Apparatus - Electrical	2	3
21	Suction Apparatus - Foot operated	1	2
22	Dehumidifier*		
23	Ultra violet lamp philips model 4 feet	2	2
24	Ethylene Oxide sterilizer*	-	
25	Microwave sterilizer*	-	

* To be provided as per need.

Laboratory Equipment

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Binocular Microscope	2	4
2	Balance (Electrical Monopan)		1
3	Simple balance	1	1
4	Electric Colorimeter	1	1
5	Auto analyzer*	1	1
6	Semi auto analyzer		1
7	Micro pipettes of different volume range		4
8	Water bath	1	1
9	Hot Air oven*	1	1
10	Lab Incubator*	1	1
11	Distilled water plant	1	2
12	Electricentrifuge Table Top	1	2
13	Cell Counter Electronic*	1	1
14	Hot plates	2	2
15	Rotor/Shaker	1	1
16	Counting chamber	2	2
17	PH meter	1	1
18	Paediatric Glucometer/Bilirubinometer*		
19	Glucometer	1	1
20	Haemoglobinometer	1	1
21	TCDC count apparatus	1	1
22	ESR stand with tubes	1	3
23	Test tube stands*	3	5
24	Test tube rack*	3	5

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
25	Test tube holders*	3	5
26	Spirit lamp*	4	6
27	Timer stop watch	1	2
28	Alarm clock	1	1
29	Lab Autoclaves	2	2
30	Refrigerators	1	2
31	Bio-safety Cabinet (Class-I)	-	1
32	Automatic Blood Gas Analyzer	1 (Desirable)	1
33	Whole Blood Finger Prick HIV Rapid Test and STI Screening Test each	2000	2000

* To be provided as per need.

Surgical Equipment Sets

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	P.S. Set	1	1 + 9
2	MTP Set	1	1 + 2
3	Biopsy Cervical Set*	1	1
4	D & C Set	1	1 + 2
5	I.U.C.D. Kit	1	1 + 4
6	LSCS set	1	1 + 1
7	MVA Kit	1	2
8	Vaginal Hysterectomy	1 (Desirable)	1
9	Proctoscopy Set*	1 (Desirable)	1 + 1
10	P.V. Tray*	1	1 + 1
11	Abdominal Hysterectomy set	1	1
12	Laparotomy Set	1	1 + 1
13	Formalin dispenser	1	2 + 1
14	Kick Bucket	4	6
15	General Surgical Instrument Set Piles, Fistula, Fissure*	1	1
16	Knee hammer	1	2
17	Hernia, Hydrocele*	1	1
18	Varicosevein set*	-	1
19	Gynaec Electric Cautery	-	1
20	Vaginal Examination set*	2	4
21	Suturing Set*	2	3
22	MTP suction apparatus	1	1
23	Thoracotomy set	-	1 (Desirable)
24	Neuro Surgery Craniotomy Set	-	1 (Desirable)
25	I M Nailing Kit	-	1 (Desirable)
26	SP Nailing	-	1 (Desirable)
27	Compression Plating Kit*	-	1 (Desirable)

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
28	AM Prosthesis*	-	1 (Desirable)
29	Dislocation Hip Screw Fixation*	-	1 (Desirable)
30	Fixation Fracture Hip	-	1 (Desirable)
31	Spinal Column Back Operation Set	-	1 (Desirable)
32	Thomas Splint	3	5
33	Paediatric Surgery Set	1	1 (Desirable)
34	Mini Surgery Set*	1	1 (Desirable)
35	Urology Kit	-	1 (Desirable)
36	Surgical Package for Cholecystectomy*	-	1 (Desirable)
37	Surgical package for Thyroid	-	1 (Desirable)
38	GI Operation Set*	1	2
39	Appendicectomy set*	1	2
40	L.P. Tray*	1	3
41	Uretheral Dilator Set	1	2
42	TURP resectoscope*	-	1 (Desirable)
43	Haemodialysis Machine*	-	
44	Amputation set	1	1
45	Universal Bone Drill	-	1 (Desirable)
46	Crammer wire splints	6	8
47	Colposcope	1 (Desirable)	1 (Desirable)
48	Cryoprobe	1 (Desirable)	1 (Desirable)

* To be provided as per need.

PMR Equipment (Desirable)

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Skeleton traction set	1	1
2	Interferential therapy unit	-	1
3	Short Wave Diathermy	1	1
4	Hot packs & Hydro collator		
5	Exercise Table		
6	Static Cycle		
7	Medicine ball		
8	Quadriceps Exerciser		
9	Coordination Board		
10	Hand grip strength measurement Board		
11	Kit for Neuro-development assessment		
12	CBR Manual		
13	ADL Kit & hand exerciser		
14	Multi Gym Exerciser		
15	Self Help devices		
16	Wheel chair		

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
17	Crutches/Mobility device sets		
18	Hot air oven		
19	Hot air gun		
20	Grinder		
21	Sander		
22	Router		
23	Power Drill		
24	Band saw		
25	Vacuum forming apparatus		
26	Lathe		
27	Welding machine		
28	Buffing & polishing machine		
29	Work table – 2 nos		
30	Tools and raw material		

PMR equipment (4 to 30) to be provided as per need and availability of manpower.

Endoscopy Equipment

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Endoscope fibre Optic (OGD)*		
2	Arthroscope		
3	Laparoscope operating major with accessories*		
4	Laparoscope diagnostic and for sterilization*	1 + 1 (Desirable)	1
5	Colonoscope and sigmoidoscope*		
6	Hysteroscope*		1
7	Colposcope*		1

* To be provided as per need.

Anaesthesia Equipment

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Anaesthetic - laryngoscope magills with four blades	2	2
2	Endo tracheal tubes sets	1	1
3	Magills forceps (two sizes)	3	5
4	Connector set of six for ETT	3	5
5	Tubes connecting for E.T.T	4	4
6	Air way female*	4	4
7	Air way male*	8	10
8	Mouth prop*	6	6
9	Tongue depressors*	6	8
10	O_2 cylyinder for Boyles	6	8

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
11	N_2O Cylinder for Boyles	6	8
12	CO_2 cylinder for laparoscope*	2	
13	Pulmonary Function Text (PFT) machine	-	1 (Desirable)
14	Anaesthesia machine with ventilator (desirable)/ Boyles Apparatus with Fluotec and circle absorber	1	1
15	Multi-parameter monitor	1	1
16	Pipe line supply of Oxygen, Nitrous Oxide, Compressed Air and suction (desirable)		
17	Defibrillators	1	1
18	Infusion pumps*		
19	Regional anaesthesia devices*		
20	O_2 therapy devices*		
21	Exchange Transfusion Sets*		

* To be provided as per need.

Furniture & Hospital Accessories (As per need)

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Doctor's chair for OP Ward, Blood Bank, Lab etc.	12	20
2	Doctor's Table	As per need	
3	Duty Table for Nurses	4	5
4	Table for Sterilization use (medium)	4	6
5	Long Benches (6 ½' x 1 ½')	10	20
6	Stool Wooden	8	15
7	Stools Revolving	6	8
8	Steel Cup-board	8	15
9	Wooden Cup Board	4	6
10	Racks – Steel – Wooden	5	7
11	Patients Waiting Chairs (Moulded)*	10	10
12	Attendants Cots*	-	4
13	Office Chairs	4	4
14	Office Table	3	4
15	Foot Stools*	8	12
16	Filing Cabinets (for records)*	4	6
17	M.R.D. Requirements (record room use)*	1	1
18	Paediatric cots with railings	3	5
19	Cradle*	2	3
20	Fowler's cot		0
21	Ortho Facture Table*		0
22	Hospital Cots (ISI Model)	50	100

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
23	Hospital Cots Paediatric (ISI Model)	5	10
24	Wooden Blocks (Set)*	1	2
25	Back rest*	2	4
26	Dressing Trolley (SS)	2	4
27	Medicine Almirah	1	2
28	Bin racks (wooden or steel)*	3	5
29	ICCU Cots	2	4
30	Bed Side Screen (SS-Godrej Model)	As per requirement	4
31	Medicine Trolley (SS)	2	4
32	Case Sheet Holders with clip (SS)*	40	60
33	Bed Side Lockers (SS)*		0
34	Examination Couch (SS)	2	2
35	Instrument Trolley (SS)	4	6
36	Instrument Trolley Mayos (SS)	2	4
37	Surgical Bin Assorted	15	25
38	Wheel Chair (SS)	3	4
39	Stretcher/Patience Trolley (SS)	2 each	3 each
40	Instrument Tray (SS) Assorted	20	30
41	Kidney Tray (SS) - Assorted	20	30
42	Basin Assorted (SS)	20	30
43	Basin Stand Assorted (SS)		
	(2 basin type)	3	4
	(1 basin type)	5	8
44	Delivery Table (SS Full)	4	6
45	Blood Donor Table*	-	1
46	O_2 Cylinder Trolley (SS)	3	8
47	Saline Stand (SS)	10	
48	Waste Bucket (SS)*	20	
49	Dispensing Table Wooden	1	1
50	Bed Pan (SS)*	10	
51	Urinal Male and Female	10	20
52	Name Board for cubicles*	1	1
53	Kitchen Utensils*		
54	Containers for kitchen*		
55	Plate, Tumblers*		
56	Waste Disposal - Bin/drums	5 (Desirable + 10)	8
57	Waste Disposal - Trolley (SS)	1 (Desirable + 1)	1
58	Linen Almirah	2 (Desirable + 2)	3

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
59	Stores Almirah	2 (Desirable + 2)	3
60	Arm Board Adult*	6	10
61	Arm Board Child*	6	10
62	SS Bucket with Lid	4	6
63	Bucket Plastic*	6	8
64	Ambu bags	3	5
65	O_2 Cylinder with spanner ward type	6	12
66	Diet trolley - stainless steel	1	1
67	Needle cutter and melter	10	15
68	Thermometer clinical*	10	20
69	Thermometer Rectal*	3	3
70	Torch light*	6	10
71	Cheatles forceps assorted*	5	8
72	Stomach wash equipment*	2	2
73	Infrared lamp*	3	3
74	Wax bath*	1	1
75	Emergency Resuscitation Kit-Adult*	2	2
76	Enema Set*	2	6
77	Ceiling Fan$	As per requirement	As per requirement
78	Bed Side Screen (SS-Godrej Model)^	-	As per requirement

* To be provided as per need.

$ One fan per four beds in the ward.

^ At least one screen per five beds.

Post Mortem equipment

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Mortuary table (Stainless steel)*	2	2
2	P.M. equipment (as per list)	3	3
3	Weighing machines (Organs)	1	1
4	Measuring glasses (liquids)	2	2
5	Aprons*	10	10
6	P.M. gloves (Pairs)*	10	10
7	Rubber sheets*	4	4
8	Lens	1	1
9	Spot lights	1	2
10	Cold box for preserving dead bodies	1 (Desirable + 1)	2

* To be provided as per need.

Linen

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Bed sheets	200 (Desirable + 100)	400 + 200 (Desirable)
2	Bedspreads	300	600
3	Blankets Red and blue	20 (Desirable + 80)	30
4	Towels	100	150
5	Table cloth	30	50
6	Draw sheet	30	75
7	Doctor's overcoat	20	30
8	Hospital worker OT coat	25	200
9	Patients house coat (for female)	150	300
10	Patients Pyjama (for male) Shirt	100 (Desirable + 50)	200
11	Over shoes pairs	As per requirement	60
12	Pillows	60	150
13	Pillows covers	150	300
14	Mattress (foam) Adult	50	100
15	Paediatric Mattress	6	16
16	Abdominal sheets for OT	30	50
17	Pereneal sheets for OT	30	50
18	Leggings	20	80
19	Curtain cloth windows and doors	As per requirement	
20	Uniform/Apron	As per requirement	
21	Mortuary sheet	10	30
22	Mats (Nylon)	30	50
23	Mackin-tosh sheet (in meters)	100	150
24	Apron for cook	As per requirement	

Teaching Equipment

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Over Head Projector (OHP)	1	1
2	Screen	1	1
3	White/colour boards	1	1
4	Television colour	1	1
5	Tape Recorder* (2 in 1)	1	1
6	VCD Player	1	1
7	Radio	1	1
8	LCD Projectors with laptop	1 (Desirable)	1 + 1
9	1 Desk top computer (with color monitor, CPU, UPS, laser printer & computer table)	-	1
10	Resuscitation Training Mannequins	1	1
11	Library with Books, Training CD and Potocols		

* To be provided as per need.

Administration

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Computer with Modem with UPS, Printer with Internet Connection	2	3
2	Xerox Machine	1	1
3	Typewriter (Electronic)*	-	1
4	Intercom (15 lines)*	1	1
5	Intercom (40 lines)*	-	
6	Fax Machine	1	1
7	Telephone	1	1
8	Common User Group (Mobile)	-	
9	Public Address System*	1	1
10	Library facility*		

* To be provided as per need.

Refrigeration & AC

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Refrigerator 165 litres	2	3 + 1
2	Blood Bank Refrigerator	1	1
3	ILR	1	1
4	Deep Freezer	1	1
5	Spare ice pack box	As per need	
6	Room Heater/Cooler for immunization clinic with electrical fittings	As per need	
7	Waste disposal twin bucket, hypochlorite solution/ bleach	2 per ILR bimonthly	
8	Coolers*	As per requirement	
9	Air conditioners		4
10	Central A/C for OT		

* One cooler per 8 beds in the wards.

Hospital Plants

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Generator 40/50 KV	1	
2	Generator 75 KV		1
3	Generator 125 KV		
4	Portable 2.5 KV	1	1
5	Solar Water heater*		
6	Incinerator*		
7	Central supply of 0_2, N_20, Vacuum*		
8	Cold storage for mortuary *		

* To be provided as per need.

Hospital Fittings & Necessities

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Ceiling Fans*	20	30
2	Exhaust Fan*	6	8
3	Pedestal Fan*	1	1
4	Wall Fan*	1	2
5	Hot water geyser*	1	1
6	Fire extinguishers*	1	
7	Sewing Machine*	1	1
8	Lawn Mover*	1	2
9	Vacuum cleaner*	-	1
10	Water Purifier System*		
11	Solar water heater*		
12	Neon sign for hospital*		
13	Garden equipment*		
14	Bore well motor OHT*		
15	Water dispenser/Water cooler*		
16	Laundry (steam)*		
17	Emergency lamp		
18	Emergency trauma set*	1	1
19	Tube lights*	30	50
20	Drinking Water Fountain*	1	2

* To be provided as per need.

Transport

Sl. No.	Name of the Equipment	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Ambulance	1	2
2	Van (Family Welfare)	As per need	
3	Pickup vehicles Maruti (Omni)	1	2
4	Mortuary Van		1
5	Administrative vehicle (Car)	As per need	
6	Minidor 3 wheeler		
7	Bicycle		
8	Camp Bus		
9	Programme vehicle		
10	Motorcycle		

Intensive Care Unit (ICU) (Desirable)

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 O_2, suction and compressed air

Common facilities required in ICU

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

Management of Biomedical Waste

	Essential	Desirable
Oil fired small capacity incinerator	1 (if common waste treatment facility not available)	
Plastic shedder		1
Autoclave	1	
Needle and syringe cutter	As per need + 10% reserved	
Colour coded buckets and containers	As per need + 10% reserved	
Large containers	As per need + 10% reserved	
Colour coded Liners	As per need + 10% reserved	
Puncture proof containers (SHARP collection)	As per need + 10% reserved	
Sodium Hypochlorite solution	As per need + 10% reserved	
Protective clothing – mask, PVC gloves, cap, goggles, apron shields and gum boots	As per need + 10% reserved	

Laboratory Services

Following services will be ensured, for advanced diagnostic tests, a list of National Reference Laboratories has been provided as **Annexure IV**.

Sl. No.	Speciality	Diagnostic Services/Tests
I	Clinical Pathology	
	a. Haematology	Haemoglobin estimation
		Total Leucocyte count
		Differential Leucocyte count
		Absolute Eosinophil count
		Reticulocyte count
		Total RBC count

Sl. No.	Speciality	Diagnostic Services/Tests
		E.S.R.
		Bleeding time
		Clotting time
		Prothrombin time
		Peripheral Blood Smear
		Malaria/Filaria Parasite
		Platelet count
		Packed Cell volume
		Blood grouping
		Rh typing
		Blood Cross matching
	b. Urine Analysis	Urine for Albumin, Sugar, Deposits, bile salts, bile pigments, acetone, specific gravity, Reaction (pH)
	c. Stool Analysis	Stool for Ova and Cysts
		Hanging drop for V. Cholera
		Occult blood
	d. Semen Analysis	Morphology, count, Motility etc.
	e. CSF Analysis	Analysis, Cell count etc.
	f. Aspirated fluids	Cell count, cytology
II	**Pathology**	
	a. Sputum	Sputum cytology
III	**Microbiology**	
		Smear for AFB **(Acid Fast Bacilli),** KLB **(Diphtheria Bacilli)**
		Grams Stain for Meningococci
		KOH study for fungus
		Grams Stain for Throat swab, sputum etc.
IV	**Serology**	
		RPR Card Test for Syphilis
		Pregnancy test (Urine gravindex)
		WIDAL test
		Rapid test for HIV, **HBs Ag, HCV, stocking of rapid H_2S based test for bacteriological examination of water**
V	**Biochemistry**	
		Blood Sugar
		Blood urea, blood cholesterol, Lipid Profile
		Liver function tests
		Kidney function tests
		Stocking of OT test **for residual chlorine in water**
		CSF for protein, sugar
VI	**Cardiac Investigations**	
		ECG

Sl. No.	Speciality	Diagnostic Services/Tests
VII	Ophthalmology	
		Refraction by using Snellen's chart
		Retinoscopy
		Tonometry
		Biometry
		Ophthalmoscopy
VIII	ENT	
		Audiometry
IX	Radiology	
		X-ray for Chest, Skull, Spine, Abdomen, bones
		Dental X-ray
		Ultrasonography with colour doppler
X	Endoscopy	
		Laparoscopy (Diagnostic)
XI	Respiratory	
		Pulmonary function tests

Recommended Allocation of Bed Strength

Sl. No.	Item	Type	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	General Medicine	Beds (M + F)	Allocation of Beds for different specialties may be done as per local need	8 + 8
2	Newborn ward	Beds		3
3	Mothers room with dining and toilets	Beds		5
4	Paediatrics ward	Beds		6
5	Critical care ward – ICU	Beds		5
6	Isolation Ward	Beds		4
7	Dialysis unit (as per specifications)	Beds		
8	Thoracic medicine ward with room for pulmonary function test	Beds (M + F)		
9	Blood bank			Yes
10	General surgery ward (incl. Urology, ENT)	Beds (M + F)		8 + 8
11	Post – Operative Ward	Beds (M + F)		10* + 8
12	Accident and Trauma ward	Beds		
13	Labour room	Boards		3
14	Labour room (Eclampsia)	Beds		
15	Septic Labour room	Boards		
16	Ante-natal ward	Beds		6
17	Post-natal ward	Beds		6
18	Postpartum ward	Beds		10
19	Post operative ward	Beds		
20	Ophthalmology ward	Beds		
21	Burns Ward	Beds		-

Requirements for Operation Theatre

Sl. No	Item	31-50 Bedded Sub-district Hospital	51-100 Bedded Sub-district Hospital
1	Elective OT-Major		1
2	Minor OT*		
3	Emergency OT/FW OT	1	1
4	Ophthalmology/ENT OT*		

* To be provided as per need.

List of Drugs, Other Consumables and Disposables for Sub-district Hospitals

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	Inj. Paracetamol
8	Inj. Diclofenac sodium
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 Estearte 250 mg, 800 mg
13	Tab. Phenoxymethyl Penicillin 125 mg
14	Tab. Isoniazid 100 mg
15	Tab. Ethambutol 400 mg
16	Tab. Isoniazid + Thiacetazone

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

Sl. No.	Name of the Drugs
44	STI syndromic drug kit
45	Inj. Crystalline penicillin 5 lac unit
46	Inj. Fortified procaine penicillin 4 lac
47	Inj. Ampicillin 500 mg
48	Inj. Cloxacillin
49	Inj. Gentamycin 40 mg/2 ml vial
50	Inj. Crystalline penicillin 10 lac unit
51	Inj. Metronidazole 100 ml
52	Inj. Ciprofloxacin 100 ml
53	Inj. Cefoperazone 1 gm
54	Inj. cefotaxime 500 mg
55	Inj. Ceftriaxone
56	Inj. Cefotaxime
57	Inj. Cloxacillin
58	Inj. Gentamycin
59	Inj. Quinine
60	Inj. Chloramphenicol
61	Inj. Dopamine
62	Inj. Vionocef (Ceffixime) 250 mg
63	Inj. Amikacin sulphate 500 mg, 100 mg
64	Inj. Amoxycillin 500 mg
65	Inj. Salbactum + Cefoperazone 2 gm
66	Inj. Amoxycillin with clavutanite acid 600 mg
67	Inj. Cefuroxime 250/750
68	Inj. Chloroquine phosphate
69	Inj. Benzathine penicillin 12 lac
70	Inj. Quinine Dihydrochloride
71	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	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

Sl. No.	Name of the Drugs
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
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

Sl. No.	Name of the Drugs
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	Chloramphenicol eye oint & applicaps
20	Chloramphenicol + Dexamethsone oint
21	Dexamethasone eye drops
22	Drosyn eye drops
23	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	Inj. Nor adrenaline
8	Inj. Methyl Prednisolon 500 mg vial

Sl. No.	Name of the Drugs
9	Inj. Adrenaline Bitartrate IP
10	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
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

Sl. No.	Name of the Drugs
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
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)

Sl. No.	Name of the Drugs
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
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

Sl. No.	Name of the Drugs
M)	Skin Ointment/Lotion etc.
1	Clotrimazole lotion
2	Clotrimazole cream
3	Burnion Oint
4	Benzyl Benzoate emulsion 50 ml bot
5	Flemigel APC Ointment
6	Cream Fluconozole 15 gm tube
7	Cream Miconozole 2% 15 gm tube
8	Cream Clotrimazole skin 1% 15 gm
9	Cream Framyctin 1% 20 gm tube/100 gm
10	Cream Nitrofurazone 0.2% jar of 500 g
11	Lot.Gamabenzene hexachloride 1% bt
12	Oint. Hydrocortisone acetate
13	Oint Acyclovir 3% 5 gm tube
14	Oint Betamethasone with and without Neomycim
15	Oint Dexamethasone 1% + Framycetin
16	Oint contain clotrimazole + Genta + Flucon
17	Oint Flucanazole 10 mg
18	Oint Silversulphadiazene 1% 25 g
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 acting on Uterus and Female Genital Tracts
1	Tab. Duvadilan
2	Tab. Methyl Ergometrine
3	Tab. Mesoprostol
4	Tab. Primolut-N
5	Tab. stilboesterol
6	Haymycin vaginal tab
7	Inj. magnesium sulphate
8	Inj. Hydroxy Progesterone 500 mg/2 ml
9	Inj. MethylErgometrine 0.2 mg/amp
10	Inj. Pitocin
11	Inj. Prostodin
12	Inj. Magnesium Sulphate
13	Inj. Ethacredin lactate (Emcredyl)
14	Inj. Valethemide Bromide (Epidosyn)
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
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	Syp. Vitamin B. Complex
9	Inj. Vit "A"
10	Inj. Cholcalciferol 16 lac
11	Inj. Ascorbic acid
12	Inj. Pyridoxin 10 mg, 50 mg
13	Inj. Vit K, Inj. Vit K_3 (Menadione)
14	Inj. Calcium Gluconate
15	Inj. Vitamin B Complex 10 ml
16	Inj. B12 Folic acid
17	Inj. Pyridoxine
18	Inj. Calcium pantothernate
19	Inj. B12 (Cynacobalamine)

Sl. No.	Name of the Drugs
20	Inj. Multivitamin I.V
21	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
	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	Fixer
21	Developer
22	Ultrasound scan film
23	Dental film
24	Oral Rehydration powder 27.5 g
25	Suturing needles (RB,Cutting)
26	Benzyl Benzoate
27	GammaBenzene Hexachloride
28	Gum Paint
29	Mixture Alkaline
30	Formaldehyde Lotion
31	Cetrimide 100 ml bott 3.5%, 1.5% 1
32	Bacitrium powder 10 mg botts
33	Bleaching Powder 5 Kg Pkts (ISI Mark)
34	Ether Solvent
35	Sodium Hypochloride Sod. 5 ltrs/1 ltrs
36	Tetanus Antitoxin 10000 I.U (Dersirable)
37	Hearing Aids (Behind the Ear Type) 200 per district per year under NPPCD
38	**Surgical Accessories for Eye** Green Shades Blades (Carbon Steel) Opsite surgical gauze (10 x 14 cm.)

Sl. No.	Name of the Drugs
	8-0 & 10-0 double needle suture Visco elastics from reputed firms
39	**Spectacles** For operated Cataract Cases (after refraction) For Poor school age children with refractive errors
40	Rubber Mackintosch Sheet in mtr
41	Sterile Infusion sets (Plastic)
42	Antisera
	I) A 5 ml
	II) B 5 ml
	III) D 5 ml
	IV) AB 5 ml
43	Anti Rabies Serum (ARS)
44	Coir Mattress
45	Glacial acetic acid
46	Benedict solution
47	Glycerine
48	Turpentine oil
49	Formaldehyde
50	Dextrose Powder
51	ECG Roll
52	Oint. Pilex
53	Rumalaya Gel

Sl. No.	Name of the Drugs
54	Pinku Pedratic Cough Syp.
55	Inj. Heparin sod.1000 IU
56	Inj. Tetglobe
57	Inj. Diphthoria antition (ADS) 10000 I.U
58	Inj. Gas gangrene Antitoxin (AGGS) 10000
59	Inj. PAM
60	Inj. Rabipur
61	Inj. Antirabies vaccine
62	Inj. Antisnake venom (Polyvalent)
63	Inj. AntiDiphtheria Serum (Desirable)
64	Inj. Cyclophosphamide
	Vaccines (Drugs and Logistics)
65	Vaccines*
66	AD syringes
67	Reconstitution syringes
68	Red Bags
69	Black bags
70	Vial Opener
71	Vitamin A
72	Paracetamol
73	Emergency Drug Kit
*** Hep B wherever implemented under UIP and JE in select districts**	

Drug Kit for Sick Newborn & Child Care - FRU/CHC

1	Diazepam Inj. IP	5 mg per ml	Inj. 2 ml Ampoule	60 Ampoules For per rectally use only
2	Inj. Cefotaxime	1 gm	Vial	100 Vial
3	Inj. Cloxacillin	1 gm	Vial	100 Vial
4	Dexamethasone Sodium Phosphate inj. IP	4 mg per ml	Inj. 2 ml ampoule	300 Ampoules
5	Aminophylline Inj. BP	25 mg per ml	Inj. 10 ml Ampoule	60 Ampoules
6	Adrenaline Bitartrate Inj. IP	1 mg per ml (1:1000 dilution)	Inj. 1 ml Ampoule	60 Ampoules
7	Ringer Lactate	500 ml	500 ml plastic pouch	300 Pouches
8	Doxycycline Hydrochloride	dispersible	Tablets	300 Tablets
9	Vit. K3 (Menadione Inj.) IP	Inj. 10 mg per ml	Inj. 1 ml ampoule	100 Ampoules
10	Phenytoin	50 mg per ml	Inj. 2 ml Ampoule	60 Ampoules

11	Dextrose Inj. IP I.V. Solution	5%	Inj. 500 ml plastic pouch	60 Plastic pouches
12	Inj. Gentamycin	10 mg/ml	Ampoule	150 Ampoules
13	Water for injection	2 ml/5 ml	Ampoule	300 Ampoules
14	Inj. Lasix	20 mg/2ml	2 ml Ampoule	300 Ampoule
15	Inj. Phenobarbitone	100 mg/ml	2 ml Ampoule	60 Ampoule
16	Inj. Quinine	150 mg/ml	2 ml Ampoule	60 Ampoule
17	Normal Saline	500 ml	500 mg Plastic pouch	60 Plastic pouches
18	Inj. Ampicillin	500 mg/5 ml	Vial	150 Vial
19	Inj. Chloramphenicol	1 gm/10 ml	Vial	150 Vial
20	Inj. Calcium Gluconate	10%	10 ml Ampoule	60 Ampoules
21	Ciprofloxacin	100 mg dispersible	Tablet	500 tablets
22	Nebulisable Salbutamol nebusol solution (to be used with nebuliser)		15 ml	100 Nebuliser equipment to be provided with Nubulisable Salbutamol
23	Inj. Dopamine	200 mg/5 ml	Ampoule	20 Ampoule
24	Needles	23 G		750
25	Disposable Syringe	1 ml/2 ml/5 ml		1 ml-200 2 ml-500 5 ml-500

Capacity Building

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

Sub-district hospitals also should provide the opportunity for the training of medical and paramedical staff working in the institutions below Sub-district level such as skill birth attendant training and other skill development/management training.

Quality Assurance in Service Delivery

Quality of service should be maintained at all levels. Standard treatment protocols for locally common diseases and diseases covered under all national programmes should be made available at all Sub-district hospitals. All the efforts that are being made to improve hardware i.e. infrastructure and software i.e. human resources are necessary but not sufficient. These need to be guided by standard treatment protocols and Quality Assurance in Service Delivery.

Quality Control

Internal Monitoring

Social audit through Rogi Kalyan Samities/ Panchayati Raj Institutions.

Medical Audit, Technical Audit, Financial Audit, Disaster Preparedness Audit, Monitoring of Accessibility and equity issues, information exchange.

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**.

External Monitoring

Monitoring by PRI/Rogi Kalyan Samities

Service/performance evaluation by independent agencies

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

Monitoring of laboratory

Internal Quality Assessment Scheme

External Quality Assessment Scheme

Record Maintenance

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

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

Each Sub-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 Sub-district Hospital.

Statutory and Regulatory Compliance

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

Citizen's Charter

Each Sub-district hospital should display a citizen's charter for the Sub-district hospital indicating the services available, user fees charged, if any, and a grievance redressal system. A modal citizen's charter is given in **Annexure I**.

ANNEXURE I

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

This charter seeks to provide a framework which enables our users to know

- What services are available in this hospital.
- The quality of services they are entitled to.
- The means through which complaints regarding denial or poor quality of services will be redressed.

Standards of Service

- This is a Sub-district/divisional hospital.
- It provides medical care to all patients who come to the hospital.
- Standards are influenced by patients load and availability of resources.
- Yet we insist that all our users receive courteous and prompt attention.

Locations

It is located on ..... road in front of .....

This hospital has-

Doctors: ..... (including residents .....).

Nurses: ..... (including supervisory staff).

Beds: .....

Doctors wear white aprons and nurses are in uniform.

All Staff member wear identity cards.

General Information

Enquiry, Reception and Registration Services

This counter is functioning round the clock.

Location guide maps have been put up at various places in this hospital.

Colour coded guidelines and directional signboards are fixed at strategic points for guidance.

Telephone enquiries can be made over telephone numbers:

....., & ....., Fax: .....

Casualty & Emergency Services

All Casualty Services are available round the clock.

- Duty Doctor is 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.
- Emergency Operations are done in-

  OT located on ..... floor of ..... building.
  Maternity OT
  Orthopaedic Emergency OT
  Burns and plastic OT
  Main OT for Neurosurgery cases

Emergency Operation Theatre is functioned round the clock.

In serious cases, treatment/management gets priority over paper work like registration and medico-legal requirements. The decision rests with the treating doctor.

OPD Services

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

OPD	Place	Time of Registration	Time of OPD
General Medicine			
Paediatrics			
General Surgery			
Obstetric & Gynec			
Eye			
ENT			
Skin			
Psychiatry			
Geriatric			
Orthopaedics			
Burns & plastics			
Dental OPD			
Any other (Specify)			

ISM Services

Homeopathic

Ayurvedic

Any other

In OPDs specialists are available for consultation.

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

On Saturdays, the hospital functions from ..... AM to ..... PM.

Medical Facilities Not Available:

Organ Transplantation

.....

.....

.....

Some specialities do not have indoor patients services:

Psychiatry

D-addiction

Dental

Nuclear Medicine

Genetic Counselling

Endocrinology

Geriatrics

Laboratory Services

Routine: Laboratory Services are provided in the field of (as available):

- Biochemistry
- Microbiology
- Haematology
- Cytology
- Histo-pathology including FNAC
- Clinical Pathology

There is a Central Collection Centre for receiving and collecting various specimens for testing. The timings for receiving specimens are 9:00 AM to 11:30 AM.

Emergency: Emergency Laboratory Services are available 24 hours for limited tests relating to clinical pathology and Biochemistry.

Radio Diagnostic Services

Routine: These services include:

X-rays

Ultrasound and

Routine X-Rays are done from 9:00 AM to 1:00 PM. Registration is done from 9:00 AM to 11:30 AM.

Ultrasound examination is done from 9:00 AM to 4:00 PM.

Emergency: Emergency X-Ray services are also available round the clock. CAT Scan services are also available round the clock.

Indoor Patient Services

There are total of ……. Wards providing free indoor patient care.

Emergency ward A admits emergency cases for medical problems.

Emergency ward B admits emergency cases for surgical problems.

There is a ..... bedded Intensive Care Unit for care of seriously ill patients.

A ..... bedded Intensive Coronary Care Unit takes care of heart patients requiring intensive treatment.

There are ..... labour rooms for conducting deliveries round the clock.

..... nurseries provide necessary care to the newborns – normal as well those born with disease.

All indoor patients receive treatment under the guidance and supervision during office hours i.e. 9:00 AM to 4:00 PM.

Outside office hours, treatment is given by doctor on duty and specialists are available on call.

Free diet is provided to all patients in the General Wards.

Every patient is given one attendant pass.

Visitors are allowed only between 5:00 PM to 7:00 PM.

Investigations like X-ray, Ultra Sound, etc. are charged for as per Government approved rates.

For poor patients, these charges can be waived partially or fully on the recommendation of the H.O.D. by the Additional Medical Superintendent. In case of emergency CMO (on duty) may waive off these charges.

A Staff Nurse is on duty round the clock in the ward.

Admitted patients should contact the Staff Nurse for any medical assistance they need.

Other Facilities

Other facilities available include:

Cold Drinking Water

Wheel chairs and trolleys are available in the OPD and casualty.

..... Ambulances are available to pick up patients from their places (on payment of nominal charges) and also for discharged patients.

Mortuary Van is available on payment between 9:00 AM to 4:00 PM.

Public Telephone Booths are provided at various locations.

Stand-by Electricity Generators have been provided. Chemist Shops are available outside the hospital. Canteen for patients and their attendants is available.

Lifts are available for access to higher floors.

Adequate toilet Facilities for use of patients and their attendants are available.

Complaints & Grievances

There will be occasions when our services will not be upto your expectations.

Please do not hesitate to register your complaints. It will only help us serve you better.

Every grievance will be duly acknowledged.

We aim to settle your genuine complaints within 10 working days of its receipt.

Suggestions/Complaint boxes are also provided at various locations 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 ……

Responsibilities of the Users

The success of this charter depends on the support we receive from our users.

Please try to appreciate the various constraints under which the hospital is functioning.

On an average more than ..... patients attend the OPD annually and more than ..... patients are attended annually in the casualty and emergency wards.

Please do not inconvenience other patients.

Please help us in keeping the hospital and its surroundings neat and clean.

Please use the facilities of this hospital with care. Beware of Touts.

The Hospital is a "No Smoking Zone" and smoking is a Punishable Offence.

Please refrain from demanding undue favours from the staff and officials as it encourages corruption.

Please cooperate with the hospital administration 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.

- "No Smoking Please"
- Don't split here & there
- Use Dustbin
- Keep Hospital Clean
- Give regards to Ladies and Senior Citizens.

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

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.

The responsibility of segregation should be with the generator of Bio-medical waste i.e. Doctors, Nurses, Technicians, etc.

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.

Type of container and colour for collection of Bio-medical waste:

Category	Type of container	Colour Coding
Human Anatomical Waste	Plastic Bag	Yellow
Animal Waste	Plastic Bag	Yellow
Microbiology & Bio-Technology Waste	Plastic Bag	Yellow/Red
Waste sharp	Plastic bag, Puncture Proof Container	Blue/White/ Translucent
Discarded Medicines & Cytotoxic Waste	Plastic Bag	Black
Solid Waste (Plastic)	Plastic Bag	Yellow/Red
Solid Waste (Plastic)	Plastic Bag	Blue/White
Liquid Waste	---------	--------
Incineration ash	Plastic Bag	Black
Chemical Waste (solid)	Plastic Bag	Black

- 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.

All the items sent to incinerator/deep burial (Cat. 1, 2, 3, 6) should be placed in Yellow coloured bags.

All the Bio-medical waste to be sent for Microwave/ Autoclave treatment should be placed in Red coloured bags. (Cat. 3, 6 & &)

Any waste which is sent to shredder after Autoclaving/ Microwaving/Chemical treatment is to be packed in Blue/White translucent bag.

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.

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)

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.

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.

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.

No untreated Bio-medical waste shall be kept stored beyond a period of 48 hours.

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.

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 hosptital.**
    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):

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

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

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

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.

i. Gloves
   a) Disposable gloves
   b) Latex surgical gloves
   c) Heavy duty rubber gloves (uptil elbows) for cleaners.
ii. **Masks:** Simple and cheap mask to prevent health care workers against: aerosols splashes and dust.
iii. Protective glasses.
iv. Plastic Aprons.
v. 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

All the medical professional must be made aware of Bio-medical waste (Management & Handling) Rules, 1998.

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.

Training should be conducted category wise and more emphasis should be given in training modules as per category of personnel.

Training should be conducted in appropriate language/ medium and in an acceptable manner.

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.

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

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.

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)

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

a. Patient to patient
b. Patient to Health Care Worker (HCW)
c. HCW to Patient
d. HCW to HCW
e. 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 and
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

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
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

	IDSP Level - 4 Labs					IDSP Level – 5 Labs
	Central Zone	South Zone	North Zone	East Zone	West Zone	
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 Blai 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 V

NEWBORN CARE FACILITIES AT SDH

Annexure V A: NEWBORN CORNER IN OT/LABOUR ROOM

Delivery rooms in Operation Theatres (OT) and in Labour rooms are required to have separate resuscitation space and outlets for newborns. Some term infants and most pre-term infants are at greater thermal risk and often require additional personnel (Human Resource), equipment and time to optimize resuscitation. An appropriate resuscitation/stabilization environment should be provided as provision of appropriate temperature for delivery room & resuscitation of high-risk pre-term infants is vital to their stabilization.

Services at the Corner

This space provides an acceptable environment for most uncomplicated term infants, but may not support the optimal management of newborns who may require referral to SNCU. Services provided in the Newborn Care Corner are;

- Care at birth
- Resuscitation
- Provision of warmth
- Early initiation of breast feeding
- Weighing the neonate

Configuration of the Corner

- Clear floor area shall be provided for in the room for newborn corner. It is a space within the labour room, 20-30 sq ft in size, where a radiant warmer will be kept.
- Oxygen, suction machine and simultaneously-accessible electrical outlets shall be provided for the newborn infant in addition to the facilities required for the mother.
- **Clinical procedures:** Standard operating procedures including administration of oxygen, airway suction would be put in place.
- Resuscitation kit should be placed as part of radiant warmer.
- Provision of hand washing and containment of infection control if it is not a part of the delivery room.
- The area should be away from draught of air, and should have power connection for plugging in the radiant warmer.

Equipment and Consumables required for the Corner

Item No.	Item Description	Essential	Desirable	Quantity	Installation	Training	Civil	Mechanical	Electrical
1	Open care system: radiant warmer, fixed height, with trolley, drawers, O_2-bottles	E		1	X	X	X	X	X
2	Resuscitator (silicone resuscitation bag and mask with reservoir) hand-operated, neonate, 500 ml	E		1		X			
3	Weighing Scale, spring	E		1		X			
4	Pump suction, foot operated	E		1		X			
5	Thermometer, clinical, digital, 32-34° C	E		2					
6	Light examination, mobile, 220-12 V	E		1	X				X
7	Hub Cutter, syringe	E		1		X			
Consumables									
8	I/V Cannula 24 G, 26 G	E							
9	Extractor,mucus, 20 ml, ster, disp Dee Lee	E							
10	Tube, feeding, CH 07, L40 cm, ster, disp	E							
11	Oxygen catheter 8 F, Oxygen Cylinder	E							
12	Sterile Gloves	E							

Annexure V B: NEWBORN CARE STABILIZATION UNIT

Setting of Stabilization Unit at First Referral Units

Every first referral unit, whether or not care of sick babies is undertaken, must have clearly established arrangements for the prompt, safe and effective resuscitation of babies and for the care of babies till stabilized, either in the maternity ward or by safe transfer elsewhere.

Services at the Stabilization Unit

FRUs are not intended to provide any intensive care, a newborn that has problems identified immediately after birth, or who becomes ill subsequently, may have a requirement for one or more of the following services. These should therefore be available to ensure safe care of the baby prior to appropriate transfer:

- Provision of warmth.
- Resuscitation.
- Supportive care including oxygen, drugs, IV fluids.
- Monitoring of vital signs, including blood pressure.
- Breast feeding/feeding support.
- Referral Services.

Configuration of the Stabilization Unit

- Stabilization unit should be located within or in close proximity of the emergency ward where sick and low birth weight newborns and children can be cared.
- Space of approximately 40-50 sq ft per bed is needed, where 4 radiant warmers will be kept.
- Provision of hand washing and containment of infection control.

Human Resource

Staffing

ONE STAFF NURSE SHOULD PROVIDE COVER FOR NEONATES AND CHILDREN ROUND THE CLOCK Additional nursing staff may be required for newborn care at the Stabilization Unit. Pediatrician posted at FRU will be in charge of the Stabilization Unit.

Training

Doctors and Nurses posted at Stabilization Unit will undergo Facility based care training.

Referral Services

Each Unit accepting neonatal and sick child referrals should have, or have access to, an appropriately staffed and equipped transport service.

Equipment and Renewable required for the Stabilization Unit

Item No.	Item Description	Essential	Desirable	Quantity	Installation	Training	Civil	Mechanical	Electrical
1	Open care system: radiant warmer, fixed height, with trolley, drawers, O_2-bottles	E		4	X	X	X	X	X
2	Resuscitator, hand-operated, neonate and child, 500 ml	E		2		X			
3	Laryngoscope set	E		2		X			
4	Scale, baby, electronic, 10 kg <5kg>	E		1		X			
5	Pump suction, foot operated	E		1		X			
6	Thermometer, clinical, digital, 32-34 C	E		4					
7	Light examination, mobile, 220-12 V	E		4	X				X
8	Hub Cutter, syringe	E		1		X			
Renewable consumables									
9	I/V Cannula 24 G, 26 G	E							
10	Extractor, mucus, 20 ml, ster, disp Dee Lee	E							
11	Tube, feeding, CH07, L40 cm, ster, disp	E							
12	Oxygen cylinder 8 F	E							
13	Sterile Gloves	E							
14	Tube, suction, CH 10, L50 cm, ster, disp	E							
15	Cotton wool, 500 g, roll, non-ster	E							
16	Disinfectant, chlorhexidine, 20%	E							

ANNEXURE VI

SEISMIC SAFETY GUIDELINES FOR 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

a. To relocate furniture and other contents

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

c. 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 VII

EXTRACTS FROM NATIONAL GUIDELINES ON BLOOD STORAGE FACILITIES AT FRUs

Requirements

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

Manpower: One of the existing doctors and technicians should be designated for this purpose. They should be trained in the operation of blood storage centers and other basic procedures like storage, grouping, cross-matching and release of blood.

The medical officer designated for this purpose will be responsible for overall working of the storage center.

Electricity: 24 hours supply is essential. Provision of back-up generator is required.

Equipment: Each FRU should have the following:

1. Blood Bank refrigerators having a storage capacity of 50 units of blood.
2. Deep freezers for freezing ice packs required for transportation. The deep freezers available in the FRUs under the Immunization Programme can be utilized for this purpose.
3. Insulated carrier boxes with ice packs for maintaining the cold chain during transportation of blood bags.
4. Microscope and centrifuge: since these are an integral part of any existing laboratory, these would already be available at the FRUs. These should be supplied only if they are not already available.

Consumables: There should be adequate provision for consumables and blood grouping reagents. The following quantities would suffice the annual requirement of an FRU with up to 50 beds.

Consumables Quantity

Pasteur pipette 12 dozens/year

Glass tubes 7.5 to 10 mm - 100 dozens/year

Glass slides 1" x 2" boxes of 20 or 25 each/year

Test tube racks 6 racks, each for 24 tables

Rubber teats 6 dozens/year

Gloves Disposable rubber gloves 500 pairs per year

Blotting tissue paper As required

Marker pencil (alcohol based) As required

Tooth picks As required

Reagents: All the reagents should come from the Mother Blood Bank.

Anti-A 2-vials each per month

Anti-B 2-vials each per month

Anti-AB 2-vials each per month

Anti-D (Blend of IgM & IgG) 2 vials each per month

Antihuman Globulin 1 vial per month

(Polyclonal IgG & Complement)

Since quality of the reagents is an important issue, the supplies of these should be made from the same blood bank/centre from where blood is obtained. For this

purpose, State Governments/Union Territories should provide the additional budgetary requirements to the mother blood bank/centre.

Disinfectants: Bleach & Hypochlorite Solution - As required

Suggested quantities of Whole Blood Units to he available at a Blood Storage Unit

5 units each of A, B, O (Positive)

2 units of AB (Positive)

1 units each of A, B & O (Negative)

This can be modified according to the actual requirement, and minimum should be 2 times the average daily consumption of Blood.

Storage & transportation

Cold chain: It is necessary to maintain the cold chain at all levels i.e., from the mother centre to the blood storage centre to the issue of blood. This can be achieved by using insulated carrier boxes. During transportation, the blood should be properly packed into cold boxes surrounded by the ice packs. Ice, if used should be clean and should not come in direct contact with the blood bags. The blood should be kept in blood bank refrigerator at 4°-6°C ± 2°C. The temperature of the blood should be monitored continuously.

Storage: The storage center should check the condition of blood on receipt from the mother center and also during the period of storage. The responsibility of any problem arising from storage, cross matching, issue and transfusion will be of the storage center. Any unit of blood showing hemolysis, turbidity or change in colour should not be taken on stock for transfusion. Due care should be taken to maintain sterility of blood by keeping all storage areas clean. The expiry of the blood is normally 35/42 days depending on the type of blood bags used. The Medical Officer in-charge should ensure that unused blood bags should be returned to the mother center at least 10 days before the expiry of the blood and fresh blood obtained in its place. The blood storage centers are designed to ensure rapid and safe delivery of whole blood in an emergency. The detail of storage of packed cells, fresh frozen plasma and platelets concentrate are therefore not given in these guidelines. In case, however, these are required to be stored, the storage procedures of the mother blood bank should be followed.

Issue of blood

Patients blood grouping and cross matching should invariably be carried out before issue of blood. A proper record of this should be kept.

First In and First Out (FIFO) policy, whereby blood closer to expiry date is used first, should be followed.

Disposal

Since all the blood bags will already be tested by the mother center, disposal of empty blood bags should be done by landfill. Gloves should be cut and put in bleach for at least one hour and then disposed as normal waste.

Documentation & records

The center should maintain proper records for procurement, cross matching and issue of blood and blood components. These records should be kept for at least 5 years.

Training

Training of doctors and technicians, who will be responsible for the Blood Storage Center, should be carried out for 3 days in an identified center as per the guidelines. Training will include:

- Pre-transfusion checking. i.e., patient identity and grouping.
- Cross matching
- Compatibility
- Problems in grouping and cross matching.
- Troubleshooting.
- Issue of blood.
- Transfusion reactions and its management.
- Disposal of blood bags.

The states will have to identify the institutions where training of the staff responsible for running the blood storage centre is to be held. These could be the blood

banks at Medical Colleges, Regional Blood Banks, Indian Red Cross Blood Banks, or any other well setup licensed Blood Bank, provided they have the necessary infrastructure for undertaking training.

The training will be for three-days duration during which the Medical Officer and the technician from the identified FRUs will be posted at the training institution.

A "Standard Operating Procedures Manual" (SOPM) has been developed and is part of these guidelines. This SOPM will be used as the training material. A copy of this SOPM will be made available to the Medical Officer for use in his Blood Storage Center for undertaking storage, grouping, cross matching and transfusion.

In addition to the training of the above Medical Staff, it is considered necessary that the clinicians who will be responsible for prescribing the use of blood are also sensitized on the various parameters of blood transfusion. For this the "Clinician's Guide to Appropriate Use of Blood" has been developed. It is suggested that one-day sensitization programme for the clinicians may be organized at the District Hospital/Medical College.

Government of India will make the expenditure for the above-mentioned trainings, available as per the norms of training under the RCH Programme. This training will, however, be coordinated by the Training Division of Department of Family Welfare. The states are required to include training as part of the overall State Action Plan for establishing Blood Storage Centers.

Equipment for Laboratory Tests & Blood Transfusion

Rod, flint-glass, 1000 x 10 mm dia, set of two 2

Cylinder, measuring, graduated W/pouring lip, glass, 50 ml 2

Bottle, wash, polyethylene W/angled delivery tube, 250 ml 1

Timer, clock, interval, spring wound, 60 minutes x 1 minute 1

Rack, slide drying nickel/silver, 30 slide capacity 1

Tray, staining, stainless steel 450 x 350 x 25 mm 1

Chamber, counting, glass, double neubauer ruling 2

Pipette, serological glass, 0.05 ml x 0.0125 ml 6

Pipette, serological glass, 1.0 ml x 0.10 ml 6

Counter, differential, blood cells, 6 unit 1

Centrifuge, micro-hematocrit, 6 tubes, 240 v 1

Cover glass for counting chamber (item 7), Box of 12 1

Tube, capillary, heparinized, 75 mm x 1.5 mm, vial of 100 10

Lamp, spirit W/screw cap. Metal 60 ml 1

Lancet, blood (Hadgedorn needle) 75 mm pack of 10 ss 10

Benedict's reagent qualitative dry components for soln 1

Pipette measuring glass, set of two sizes 10 ml, 20 ml 2

Test tube, w/o rim, heat resistant glass, 100 x 13 mm 24

Clamp, test-tube, nickel plated spring wire, standard type 3

Beaker, HRG glass, low form, set of two sizes, 50 ml, 150 ml 2

Rack, test-tube wooden with 12 x 22 mm dia holes 1.

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. Authorisation from Atomic Energy Regulation Board
4. Excise permit to store Spirit
5. Vehicle registration certificates for Ambulances.
6. Consumer Protection Act
7. Drug & Cosmetic Act 1950
8. Fatal Accidents Act 1855
9. Indian Lunacy Act 1912
10. Indian Medical Council Act and code of Medical Ethics 2002
11. Indian Nursing Council Act
12. Maternity Benefit Act 1961
13. Boilers Act as amended in 2007
14. MTP Act 1971
15. Persons with Disability Act 1995
16. Pharmacy Act 1948
17. PC & PNDT Act 1994
18. Registration of Births and Deaths Act 1969
19. License for Blood Bank or Authorisation for Blood Storage facility
20. Right to Information act
21. Narcotics and psychotropic substances act 1985
22. Type and Site Approval from AERB for X-ray, CT Scan unit.
23. Clinical Establishments (Registration and Regulation) Act 2010
24. Mental Health Act 1987

ANNEXURE IX

STEPS FOR SAFETY IN SURGICAL PATIENTS (IN THE PRE-OPERATIVE WARD)

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 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

AD	:	Auto Disabled
ANC	:	Ante Natal Care
ANM	:	Auxiliary Nurse Midwife
ASHA	:	Accredited Social Health Activist
AYUSH	:	Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy
BCC	:	Behaviour Change Communication
BP	:	Blood Pressure
CBR	:	Community Based Rehabilitation
CHC	:	Community Health Centres
CS	:	Caesarian Section
CSSD	:	Central Sterile Supply Department
CSSM	:	Child Survival and Safe Motherhood
DEC	:	Di Ethyl Carbamazine
DF	:	Deep Freezer
DOTS	:	Directly Observed Treatment Short Course
DTC	:	District Tuberculosis Centre
ECG	:	Electro Cardio Graphy
ESR	:	Erythrocyte Sedimentation Rate
FRU	:	First Referral Unit
ICTC	:	Integrated Counselling and Testing Centre
IEC	:	Information, Education and Communication
ILR	:	Ice Lined Refrigerator
Inj	:	Injection
IPHS	:	Indian Public Health Standards
I/V	:	Intravenous
IUCD	:	Intra-urine Contraceptive Devise

IYCF	:	Infant and Young Child Feeding
JE	:	Japanese Encephalitis
LR	:	Labour Room
LTs	:	Laboratory Technicians
MC	:	Microscopic Centre
MDT	:	Multi Drug Therapy
MIS	:	Management Information System
MO	:	Medical Officer
MPWs	:	Multi Purpose Workers
NACP	:	National AIDS Control Programme
NAMP	:	National Anti Malaria Programme
NHP	:	National Health Programme
NLEP	:	National Leprosy Eradication Programme
NPCDCS	:	National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke
NRHM	:	National Rural Health Mission
NSV	:	Non Scalpel Vasectomy
NVBDCP	:	National Vector Borne Disease Control Programme
OPD	:	Out Patient Department
OT	:	Operation Theatre
PDC	:	Professional Development Course
PHC	:	Primary Health Centre
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
RNTCP	:	Revised National Tuberculosis Control Programme
RTI/STI	:	Reproductive Tract Infections/Sexual Tract Infections
SNCU	:	Special Newborn Care Unit
SOPs	:	Standard Operating Procedures
STLS	:	Senior Tuberculosis Laboratory Supervisor
STPs	:	Standard Treatment Protocols
TENS	:	Transcutaneous Electrical Nerve Stimulation
UT	:	Union Territory
WC	:	Water Closet (i.e. a flush toilet)

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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)

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