

**Modifications in the updated Sub Divisional Hospital (SDH)
31-50 bedded document
(Major changes have been highlighted in yellow colour)**

- A. The revised IPHS (SDH) has considered the services, infrastructure, manpower, equipments and drugs in two categories of **Essential** (minimum assured services) and **Desirable** (the ideal level services which the states and UT shall try to achieve).
- B. **Services:** Following services were included
- Essential**
- i. Accidents and emergency services including poisoning and Trauma Care
 - ii. FP services like IUCD, NSV, Minilap, and lap sterilization
 - iii. Neonatology and Immunization
 - iv. DOT centre and Designated Microscopy centre
 - v. Integrated Counselling and Testing Centre
 - vi. Disability Certification (as per guidelines notified by state Government)
- Desirable**
- i. Critical care / Intensive Care (ICU)
 - ii. Psychiatry
 - iii. Geriatric Services
 - iv. Tobacco Cessation Services
 - v. Physical Medicine and Rehabilitation services
 - vi. Public Health Management
- C. **Infrastructure:** following were added.
- i. Signage.
 - ii. Barrier free access.
 - iii. disaster prevention measures (desirable for new upcoming facilities),
 - iv. Functions and space requirements are updated.
 - v. New born stabilization unit added.
 - vi. Blood storage facility in place of Blood Bank
- D. **Manpower:** the new IPHS recommends the changes in manpower at SDH
- i. Dietician (Desirable)
 - ii. Dental Technician/ Assistant/ Hygienist/
 - iii. In place of physiotherapist two Multi Rehabilitation workers provided.
 - iv. Cold Chain & Vaccine Logistics Assistant
- E. List of drugs and equipments updated: the drug list for obstetric care and sick newborn & child care (for FRU / SDH) incorporated in these guidelines
- F. Annexure added.
- i. New born care corner and new born stabilization unit.

- ii. Seismic safety guidelines.
 - iii. National guidelines on hospital waste management.
 - iv. Guidelines to reduce environmental pollution due to mercury waste.
- G. Annexure deleted
- i. Central scheme for biomedical waste management (as it has been dropped in the eleventh five year plan.)

DRAFT

**Indian Public Health Standards (IPHS)
For
31 to 50 Bedded
Sub-District/Sub-Divisional Hospitals**

**GUIDELINES
(Revised 2010)**



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

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 and also 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 specialty Services, due importance has been given to Newborn Care (New Born Care Corner and New Born Stabilization Unit), Family Planning, Psychiatric services, Physical Medicine and Rehabilitation services, Geriatric Services, Accident and Trauma Services and Integrated Counseling and Testing Centre

Requirement for Delivery of the Above-mentioned Services

The requirements have been projected the basis of estimated case load for hospital of this strength. The guidelines of hospital building, planning and layout, signage, disaster prevention measures for new facilities, barrier free access and environmental friendly features have been included. 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 District Hospital can be assessed against the set standards. This would help monitor and improve the functioning of the District Hospitals in the country.

1. 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 and also 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 50 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 levels of quality that 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, which should be provided equitably and which 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 (31-50 Bed category) 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)

2. 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:

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

3. Definition of Sub District hospitals

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.

4. Categorizing 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 leveled 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 51-100 beds.

Category II: Sub District hospitals norms for 31 to 50 beds.

The minimum functional requirement of sub district hospitals (31-50 bedded) is given as under.

5. Functions

A sub district hospital has the following functions:

- i. It provides effective, affordable healthcare 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 headquarter town) and the rural population of the sub division.
- ii. Function as a referral centre for the public health institutions below the tehsel / taluka level such as Community Health Centres, Primary Health Centres and Sub-centres.
- iii. Provide education and training for primary health care staff.

6. Services

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 Orthopaedics.

Obstetrics & Gynaecology

FP services like IUCD, NSV, Minilap, and lap sterilization

Paediatrics **including Neonatology and Immunization**

Anaesthesia

Ophthalmology

ENT

Dermatology & Venerology including RTI/STI,

Imaging services

Dental care

DOT centre

Designated Microscopy centre

AYUSH

Integrated Counseling and Testing Centre

Disability Certification (as per guidelines notified by state Government)

Services provided under other National Health Programmes including lifestyle disorders

Diagnostic and other Para clinical services:

Lab, X-ray, Ultrasound, ECG, Blood transfusion and storage¹, and Basic Multi Rehabilitation Services

Desirable

Critical care / Intensive Care (ICU)
Psychiatry
Geriatric Services
Tobacco Cessation Services
Physical Medicine and Rehabilitation services
Public Health Management

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.

¹ Blood storage units should have atleast number of units 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.

Financial powers of Head of the Institution

Medical Superintendent to be authorized to incur and expenditure up to Rs.15.00 lakhs for repair/upgrading of impaired equipments/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. Manpower and outsourcing work could be done through local tender mechanism.

Following services mix of procedures in medical and surgical specialties would be available:

SERVICE MIX OF PROCEDURES IN MEDICAL AND SURGICAL SPECIALITIES

MEDICAL	
1	Pleural Aspiration
2	Lumbar Puncture
3	Skin scraping for fungus / AFB
4	Skin Biopsies
5	Abdominal tapping
6	FNAC
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	Enema
7	Stomach Wash
8	Douche
9	Sitz bath
10	Blood Transfusion
11	Hydrotherapy
12	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 / CH/ORT corner
2	Services related to new born care + All procedures as mentioned in Medical
2.1	- only cradle
2.2	- Incubator Nebulization equipment
2.3	- Radiant Heat Warmer
2.4	- Phototherapy
2.5	- Gases (oxygen)
2.6	- Cut down
Cardiology Procedures and Diagnostic Tests	
1	ECG
2	Defibrillator Shock
Physical Medicine and Rehabilitation (PMR) Services	
1	With Electrical Equipments
1.1	- Short wave diathermy
1.2	- Ultra Sonic Therapy
1.3	- Infra Red Lamp (Therapy)
1.4	- Electric Vibrator
2	Non Electrical Equipments – Cervical/lumbar traction, wax bath, shoulder wheel, weights etc.
Eye Specialist Services (Ophthalmology)	
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 (conjunctival)
1.4	- Foreign Body Removal (Corneal)
1.5	- Epilation
1.6	- Suture Removal
1.7	- Subconjunctival Injection
1.8	- Retrobulbar Injection (Alcohol etc.)
1.9	- Tonometry
1.10	- Pterygium Excision
1.11	- Syringing & Probing
1.12	- I & C of chalazion
1.13	- Stye
1.14	- Conjunctival Resuturing

1.15	- Corneal Scraping
1.16	- I & D Lid Abscess
1.17	- Uncomplicated Lid Tear
1.18	- Indirect Ophthalmoscopy
1.19	- Retinoscopy
Obstetric & Gynecology Specialist Services	
1.	Episiotomy
2.	Forceps/vacuum delivery
3.	Craniotomy-Dead Fetus/Hydrocephalus
4.	Caesarean section
5.	Female Sterilization (Mini Laparotomy & Laparoscopic)
6.	D&C
7.	MTP/MVA
8.	IUCD services
9.	Bartholin Cyst Excision
10.	Suturing Perineal Tears
11.	Assisted Breech Delivery
12.	Cervical Cautery
13.	Normal Delivery
14.	E U A
15.	Retained Placenta & MRP
16.	Suturing Cervical Tear
17.	Assisted Twin Delivery
18.	PAP smear
Dental Services	
1	Dental Caries/Dental Abscess/Gingivitis
2	Minor Surgeries, Impaction, Flap
3	Trauma including Vehicular Accidents
4	Sub Mucus Fibrosis (SMF)
5	Scaling and Polishing
6	Root Canal Treatment
7	Extractions
8	Amalgum Filling (Silver)
9	Intra oral X-ray
10	Complicated Extractions (including suturing of gums)
SURGICAL	
1	Abcess drainage including breast & perianal
2	Wound Debridement
3	Appendicectomy
4	Fissurotomy or fistulectomy
5	Hemorroidectomy
6	Circumcision

7	Hydrocele surgery
8	Suprapubic Cystostomy
9	Vasectomy
10	Cysts and Benign Tumour
Breast	
1	Excision fibroadenoma – Lump
Hernia	
1	Inguinal Hernia repair reinforcement
2	Femoral Hernia repair
3	Strangulated Ventral or Incisional Hernia/Inguinal
Abdomen	
1	Exploratory Laparotomy
2	Gastrostomy or Jejunostomy
3	Simple Closure of Perforated Ulcer
Pancreas	
1	Drainage of Pseudopancreatic Cyst
2	Retroperitoneal Drainage of Abscess
Appendix	
1	Emergency Appendisectomy
2	Interval Appendisectomy
3	Appendicular Abscess Drainage
Small Intestine	
1	Resection and Anastomosis
2	Multiple Resection and Anaestomosis
3	Intestinal Perforation
Liver	
1	Open Drainage of liver abscess
Colon, Rectum and Anus	
1	Fistula in anus low level
2	Catheters
3	IV Sets
4	Colostomy Bags
5	Perianal Abscess
6	Ischiorectal Abscess
7	Ileostomy or colostomy alone
8	Haemorrhoidectomy

9	Anal Sphincter Repair after injury
Penis, Testes, Scrotum	
1	Circumcision
2	Partial amputation of Penis
3	Orchidopexy (Unilateral & Bilateral)
4	Hydrocele (Unilateral & Bilateral)
5	Excision of Multiple sebaceous cyst of scrotal skin
6	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
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	Debridment of wounds
13	Excision carbuncle
14	Ingrowing Toe Nail
15	Diabetic Foot And carbuncle
Urology*	
1	Cystolithotomy Superopubic
2	Dialatation of stricture urethra under GA
3	Dialation of stricture urethra without anaesthesia
4	Meatotomy
Plastic Surgery#	
1	Burn Dressing Small, medium (10% to 30%), large 30% to 60%, extensive > 60%
2	Ear lobules repair one side
3	Simple wound
4	Complicated wound
5	Simple injury fingers

6	Surgery concerning with TB
Orthopaedic Surgery	
1	Fractures
1.1	Ext. fixation of hand & foot bones
1.2	Tarsals, Metatarsals, Phalanges carpals, Metacarples, excision head fibula, lower and of Inia
1.3	Debridement & Secondary closure
1.4	Percutaneous Fixation (small and long bones)
2	Closed Reduction
2.1	Hand, Foot bone and cervicle
2.2	Forearm or Arm, Leg, Thigh, Wrist, Ankle
2.3	Dislocation elbow, shoulder, Hip, Knee
2.4	Closed Fixation of hand / foot bone
3	Open Reduction
3.1	Shoulder dislocation, knee dislocation
3.2	Acromiocalvicular or stemoclavicular Jt. Clavicle
3.3	Wrist dislocation on intercarpal joints
3.4	MP & IP Joints
3.5	Debridement of hand/foot
3.6	Fibula Radius Ulna (Clavicle) and Wrist, Ankle, Hand foot
3.7	Amputation (Thigh or arm, leg or forearm, feet or hand, digits)
3.8	POP Application (Hip Spica, Shoulde spica POP Jacket; A-K/A-E POP; B-K/B-E POP)
3.9	Patellectomy

- **To be provided by General Surgeon**

To be provided by specially trained General Surgeon

RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS) FOR DIFFERENT ILLNESSES CONCERNING DIFFERENT SPECIALITIES:

Obstetric & Gynecology

S. No	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	Bleeding during first trimester	Diagnose ,Treat
2	Bleeding during second trimester	Diagnose ,Treat
3	Bleeding during third trimester	Diagnose ,Treat & refer
4	Normal Delivery	Yes
5	Abnormal labour (Mal presentation ,prolonged labour, PROM, Obstructed labour)	Refer
6	PPH	Obstetric first aid –IV line /oxytonic Drip SOS / Inj. Ergometrine IV /Inj. Prostaglandin IM and refer Mesopros
7	Puerperal Sepsis	First Aid ,IV parenteral antibiotics and refer
8	Ectopic Pregnancy	May refer
9	Hypertensive disorders	Diagnose, treatment and refer if necessary
10	Septic abortion	Diagnose and IV parenteral antibiotics and refer
11	Medical disorders complicating pregnancy (heart disease ,diabetes ,hepatitis)	Diagnose and refer
12	Bronchial asthma	Diagnose , first aid and refer
Gynaecology		
1	RTI / STI	Treat and refer if necessary
2	DUB	Refer D & C medical management
3	Benign disorders (fibroid,prolapse ,ovarian masses) Initial investigation at PHC / Gr III level	Initial Investigations and refer

4	Cancer Cervix screening Initial investigation at PHC / Grade III level	Initial Investigations, Collection of PAP SMEAR and refer
5	Cancer cervix /ovarian Initial investigation at PHC / Gr III level	Diagnose and refer
6	Infertility	Basic Workout & Semen Analysis & Refer
7	Prevention of MTCT	Refer
8	MTP / MVA services	MVA
9	Tubectomy	Yes
10	PPTCT Counseling	Yes

GENERAL MEDICINE

S. 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 uncomplicated Complicated cases refer to Gr-II - SDH
	d) Malaria / Filaria	Treat
	e) Pulmonary Tuberculosis.	Sputum +ve - Treat Sputum -ve - Ref to Gr-II-SDH
	f) Viral Hepatitis	Mild icterus, Short duration - Treat/ Long duration, Severe icterus- Refer to Gr-II-SDH
	g) Leptospirosis / Meningitis and Haemorrhagic fever	Diagnose and Treat refer if necessary
	f) Malignancy	Refer to nearest facility having oncology services
2	COMMON RESP. ILLNESSES :	
	Bronchial Asthma / Pleural effusion / Pneumonia / Allergic Bronchitis/COPD	Diagnose and Treat refer if necessary
3	COMMON CARDIAC PROBLEMS	
	a) Chest pain (IHD)	Diagnose and refer to Gr-II Sub district
	b) Giddiness (HT)	Diagnose and treat - Emergencies Refer to Gr-IISDH
4	G I TRACT	
	a) G I Bleed / Portal hypertension / Gall bladder disorder	Emergencies - Ref. To Gr-II / Gr-I - District Hospital
	b) AGE / Dysentry / Diarrhorea	Treat
5	NEUROLOGY	
	a) Chronic Headache	Diagnose and Treat, refer if necessary
	b) Chronic Vertigo/ CVA/TIA/Hemiplegia/Paraplegia	Diagnose and Treat, refer if necessary

6	HAEMATOLOGY	
a)	Anaemia	Basic investigation and Treatment Refer if necessary
b)	Bleeding disorder	Emergencies - Ref. to DH otherwise - Ref. To Tertiary
c)	Malignancy	Refer to nearest oncology facility
7	COMMUNICABLE DISEASES	
	Cholera, Measles, Mumps, and Chickenpox	Treat
8	PSYCHOLOGICAL DISORDERS	
	Acute psychosis / Obsession / Anxiety neurosis	Screening, emergency care and referral

PAEDIATRICS

S. No	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	ARI/Asthmatic Bronchitis	Diagnose, Treat & Refer if no improvement
2	Diarrohoeal Diseases	Diagnose, Treat & 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	Early Diagnosis and Refer
6	Diseases of Bones and Joints	Early Diagnosis and Refer

NEONATOLOGY

S. No	Name of the Illness	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	Attention at birth (to prevent illness)	Skilled Birth Attendant
2	Hypothermia	Warm chain
3	Birth asphyxia	Resuscitation/Refer if Necessary
4	Hypoglycemia	Treat
5	Meconium aspiration syndrome	Treat and Refer
6	Convulsions (seizures)	Treat and Refer

7	Neonatal Sepsis	Treat and refer in necessary
8	LBW	1800-1500 gms treat with kangaroo care below that refer
9	Neonatal Jaundice	Treat and refer if necessary
10	Preterm	warm chain, feeding, kangaroo care and refer
11	Congenital malformations	Examine and refer
12	R.D.S, ARI	Manage and Refer
13	Dangerously ill baby	Identify, first-aid and refer
14	Feeding Problems	Identify and manage
15	Neonatal diarrhea	Diagnosis and manage. Refer if necessary
16	Birth injury	Minor -manage; major -refer
17	Neonatal Meningitis	identify and refer
18	Renal problems/Congenital heart disease/Surgical emergencies	Refer
19	HIV/AIDS	Refer to ART Centre
20	Hypocalcemia	Manage and Refer
21	Metabolic Disorders	Identify & Refer
22	Hyaline Membrane diseases	Diagnose & refer
23	Neonatal Malaria	Manage/refer if needed
24	Blood disorders	Manage and refer
25	Developmental Delays	CBR
26	UTIs	Manage & refer
27	Failure to Thrive	Manage & Refer

DERMATOLOGY

S. No	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	Infections a) Viral - HIV - Verruca Molluscum Contagiosa	Treat
	Pityriasis Rosea, LGV, HIV	Identify / Treat and refer
	b) Bacteria Pyoderma Chancroid	Treat
	Gonorrhoea, Leprosy, & Tuberculosis	Treat & Refer
	c) Fungal Sup. Mycosis, Subcut – Mycetoma	Identify / Treat and refer
	d) Parasitic Infestation Scabies / Pediculosis/Larva Migrans	Treat
	e) Spirochaetes Syphilis	Diagnosis and Treat
2	Papulosquamous Psoriasis (classical)-uncomplicated/Lichen Planus	Treat
3	Pigmentary Disorder Vitiligo	Treat/Refer
4	Keratinisation Disorder Ichthyosis/Traumatic Fissures	Refer/Treat
5	Autoimmune Collagen Vascular DLE, Morphea	Treat / Refer
6	Skin Tumors , Seb. Keratosis, Soft Fibroma, Benign Surface, Tumors / Cysts, Appendageal Tumors	Refer
7	Miscellaneous a.) Acne Vulgaris, Miliaria, Alopecia, Nail disorder, Toxin induced	Treat
	b) Leprosy - Resistant/ Complications / reaction Allergy - EMF / SJS / TENP soriasis/Collagen Vascular/Auto immune Disorders	Treat / Refer
	c) Deep Mycosis, STD Complications	Treat / Refer
	d) Genetically Determined Disorders	Refer

CHEST DISEASES

S. No	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	Fever	Investigation and Treatment Refer if necessary
2	Cough with Expectoration / Blood Stained	Treatment and refer if necessary
3	Hemoptysis	Diagnose, Treat and refer if necessary
4	Chest Pain	ECG Symptomatic treatment Refer
5	Wheezing	Investigation, Symptomatic treatment if necessary
6	Breathlessness	Investigation, Treatment and Refer if necessary, X-ray

PSYCHIATRY

S. No.	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	Schizophrenia	Screening and Refer
2	Depression	Screening and Refer
3	Mania	Screening and Refer
4	Anxiety Disorders	Screen, treat and Refer if necessary
5	Mental Retardation	Screen, treat and Refer if necessary
6	Other Childhood Disorders	Screen, treat and Refer if necessary
7	Alcohol and Drug Abuse	Screening and Refer
8	Dementia	Screening and Refer

DIABETOLOGY*

S. No	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	Screening for Diabetes	Diagnose and Treat
2	Gestational Diabetes/DM with Pregnancy	Diagnose and refer
3	DM with HT	Diagnose, Treat and refer, if necessary

4	Nephropathy/Retinopathy	Diagnose and Refer
5	Neuropathy with Foot Care	Investigate, Diagnose & Treat
6	Emergency :- i) Hypoglycemia ii) Ketosis iii) Coma	Diagnose, first aid and refer

* To be provided by General Physician

NEPHROLOGY

S. No.	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	Uncomplicated UTI	Treat
2	Nephrotic Syndrome - Children/ Acute Nephritis	Refer to District Hospital
3	Nephrotic Syndrome - Adults	Refer to Tertiary Care
4	HT, DM	Annual follow-up / refer to Gr-II-SD
5	Asymptomatic Urinary Abnormalities	Refer to the District
6	Nephrolithiasis	Refer to District Hospital
7	Acute renal Failure/ Chronic Renal Failure	Diagnose and Refer to District level
8	Tumors	Refer to Tertiary

* To be provided by General Physician

NEURO MEDICINE AND NEURO SURGERY

S. No	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	Epilepsy	First Aid, Referral and Follow up of already diagnosed cases
2	C.V.A.	First Aid and Referral
3	Infections	Referral
4	Trauma	First Aid and Referral
5	Chronic headache	Referral
6	Chronic Progressive Neurological disorder	Referral

* To be provided by General Physician and General Surgeon

GENERAL SURGERY

S. No		NAME OF THE SURGICAL PROCEDURE/ILLNESSES	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	Basic Techniques	a. Minor Cases under LA Abcess I&D/Suturing, Excision of Lipoma / Ganglion / Lymph Node, Seb-Cyst / Dermoid / Ear Lobe Repair / Circumcision	Treat
		b. Breast Lumps, Lymph nodes Swelling	Diagnosis and Refer
2	Elective Surgeries	a. Genitourinary tract Hydrocele, Hernia, Circumcision, Supra pubic cystostomy	Treat
		b. Gastrointestinal disorder Appendicitis/Anorectal abscesses /Hemorrhoids/Fistula	Treat
3	Emergency surgeries	Injuries, Trauma, Burns, Accidents, Perforation/Intestinal obstruction etc.	Diagnose, treat & refer
4	Benign/ Malignant Diseases	Breast/Oral/GI tract/Genitourinary (Penis, Prostate, Testis)	Diagnose & refer
5	Others	Thyroid, Varicose veins	Diagnose & Refer
6	Burns	Burns	First Aid, Treat and Refer, if necessary
7	Medico legal	a) Assault / RTA	AR entry / Treat Refer if necessary
		b) Poisonings	AR entry / Treat Refer if necessary
		c) Rape	AR entry / Treat Refer if necessary
		d) Postmortem	Done

OPHTHALMOLOGY

S. No.	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	Superficial Infection	Treatment with drugs
2	Deep Infections	First aid and refer
3	Refractive Error	Treat
4	Glaucoma	Diagnosis and refer
5	Eye problems following systemic disorders	Refer
6	Cataract	Screen, treat and refer complicated cases
7	Foreign Body and Injuries	First aid and refer
8	Squint and Amblyopia/Corneal Blindness(INF,INJ, Leucoma)/ Oculoplasty	Refer
9	Malignancy/Retina Disease	Refer
10	Paediatric Ophthalmology	Refer

EAR, NOSE, THROAT

EAR		
S. No.	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
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	First aid & Refer
2	Foreign Body	Treat(Removal)And refer if needed
3	Polyps	Refer
4	Sinusitis	Treat (Medical)
5	Septal Deviation	Treat (Symptomatic)

ORTHOPADICS

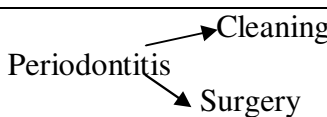
S. No.	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	Osteomyelitis	Diagnose, treat and refer if necessary
2	Rickets /Nutritional Deficiencies	Detection/ Refer Nutritional Mgt / Nutritional Rehabilitation Centre
3	Poliomyelitis with residual Deformities/JRA/RA	Prevention / Detection / Antibiotics/Anti inflammatory for JRA
4	RTA/Polytrauma	Stabilize and Refer

UROLOGY

CHILDREN		
S. No	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
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	Undesended Testis	Diagnose and refer
7	Hypospadias and Epispadias	Diagnose and refer
8	Mega Ureter	Diagnose and refer
9	Extrophy	Diagnose and refer
10	Tumours - Urinary Tact	Diagnose and refer

ADULT		
	All above and	
1	Stricture Urethra	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	GUTB	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

S. No	NAME OF THE ILLNESS	RECOMMENDED SERVICE MIX (SUGGESTED ACTIONS)
1	Dental Caries/Dental Abcess/Gingivitis	Treatment Extraction and Filling
2	Periodontitis 	Treat by Cleaning
3	Minor Surgeries, Impaction, Flap	Treat and Refer if necessary
4	Malocclusion	Diagnose and Refer
5	Prosthodontia (Prosthetic Treatment)	Diagnose and Refer
6	Trauma	Treated - First aid with drugs and refer
7	Maxillo Facial Surgeries	Refer
8	Neoplasms	Refer

HEALTH PROMOTION & COUNSELLING

S. 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
4	HIV / AIDS	HIV Counseling

COMMUNITY HEALTH SERVICES:

S. 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, 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

7. Physical Infrastructure

7.1. **Size of the hospital:** the size of a district hospital is a function of the hospital bed requirement which in turn is a function of the size of the population served. In India the population size of a district varies from 50,000 to 15,00,000. For the purpose of convenience the average size of the district is taken in this document as one million 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 district having a population of 10 lakhs will be as follows:

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

Bed days per year = $20,000 \times 5 = 100,000$

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

Total number of beds required when occupancy is 80% = $100000/365 \times 80/100$

7.2. **Area of the hospital:** An area of 65-85 m² 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, 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.

7.3. **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 protected, flood proof buildings and should be away from overhead high tension wires.. Infrastructure should be eco-friendly and disabled (physically and visually handicapped) friendly. Provision should be made for water harvesting, generator back-up, 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.

7.4. Factors to be considered in locating a 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 CPWD/ Min of Social Welfare, Government of India. This will ensure safety and utilization of space by disabled and elderly people fully and full integration into the society

7.5. Site selection criteria

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

7.6 In the already existing structures of a 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 district hospital.
- ◆ If they are too old and dilapidated then they must be demolished. And new construction should be put in place.

7.7. Building and Space Requirements

The hospital building is to be designed as a barrier free facility and all facilities for physically challenged persons required be incorporated in the design.

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 signages 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

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.

Quake 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, equipments 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 equipments – 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 equipments

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/equipments 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 “Guidelines and Space Standards for barrier-free built environment for Disabled and Elderly Persons” of CPWD/ Min of Social Welfare, GOI.

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

Ambulatory Care Area (OPD)

Waiting Spaces

Registration, assistance and enquiry counter facility be made available in all the clinics alongwith proper sitting arrangements, drinking water, ceiling fans and toilet facilities 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, paediatrics, dermatology and venereology, psychiatry, 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. For National Health Programme, adequate space be made available. Immunization Clinic with waiting Room having an Area of 3m x 4m 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

- Space for common collection area
- 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

Depending upon the requirement of the hospital and catchment area, appropriate beds may be allowed for private facility. 10% of the total bed strength is recommended as private wards beds.

Location

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

Ward Unit

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 ensure 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.

Patient Conveniences: It is to be as per local byelaws.

Intensive Care Unit & 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 2 to 5 percent of total medical and surgical patients in a hospital. Number of beds will be restricted to 5% of the total bed strength. However, the unit shall not have less than 4 beds. Out of these, they can be equally divided among ICU and High Dependency Wards. Changing room should be provided for. There should be clear cut admission and discharge 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.

Accidents and emergency services

It should preferably have a distinct entry independent of OPD and main entry so that a very minimum time is lost in giving immediate treatment to casualties 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 mobile X-ray/ laboratory, side labs/plaster room/and minor OT facilities. Separate emergency beds may be provided consisting of 10% of the total bed strength of the hospital. 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.

Therapeutic Services

Operation Theatre

Operation theatre usually have a team of surgeons anesthetists, nurses and sometime pathologist and radiologist operate upon or care for the patients. The location of Operation theatre should be in a quite environment, free from noise and other disturbances, free from contamination and possible cross infection, maximum protection from solar radiation and convenient relationship with surgical ward, intensive care unit, radiology, pathology, blood bank and CSSD. This unit also needs constant specialized services, such as, piped suction and medical gases, electric supply, heating, air-conditioning, ventilation and efficient

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 be maintained in operation theatre. It should have a central air conditioning facility. It should have 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)
Sterilizing Rooms
Sterile Store Room
Scrubbing Room
Dirty Utility Room
Newborn care corner in Labour room. (Annexure V)
Newborn care Stabilization Unit: Details at Annexure V A

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 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 and 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.

Hospital Laundry

It should be in-plant mechanized laundry provided with necessary facilities for drying, pressing and storage of soiled and cleaned linens.

Medical and General Stores

There are of medical and general store should have vehicular accessibility and ventilation, security and fire fighting arrangements.

For Storage of Vaccines and other logistics

For Storage of Vaccines and other logistics

Cold Chain Room: 3.5m x 3m in size

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

Minimum and maximum Stock (0.5 and 1.25 month respectively). Indent order and receipt of vaccines and logistics should be monthly. 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. 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 room should be provided.

Illumination

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

Emergency Lighting

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

Call Bells

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

Ventilation

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

Mechanical Engineering

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

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

Generator- 5 KVA with POL for Immunization Cold Chain maintenance

Public Health Engineering

Water Supply

Arrangement should be made for round the clock piped water supply along with water storage tank with a provision to store at least three days water requirement. It should have pumping and boosting arrangements. Approximately 10000 litres of potable water 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

National guidelines on Bio-Medical Waste Management and a Notification of Environment and Forests are at Annexure - I.

Trauma Centre

Guidelines to be followed

Fire Protection

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 equipments which need special care and preventive maintenance done to avoid break down and reduce down time of all essential and other equipments.

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 24x7 in case of need.

8. MANPOWER REQUIREMENT

8.1. Man Power – Doctors

S. No	Staff	Sub District Hospital (31-50 bedded)	
		Essential	Desirable
1	Hospital Superintendent ¹	1	
2	Medical Specialist	1	+1
3	Surgery Specialists	1	
4	O&G specialist	1	+1
5	Dermatologist / Venereologist	1	
6	Paediatrician	1	
7	Anesthetist	1	+ 1
8	Ophthalmologist	1	
9	Orthopedician	1	
10	Radiologist	1	
11	Casualty Doctors / General Duty Doctors	7 (3 lady MOs)	
12	Dental Surgeon	1	
13	Forensic Specialist	1	
14	ENT Surgeon	1	
15	AYUSH Physician ²	2	
	Total	22	25

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

8.2. Man Power – Para Medical

S. No	Staff	Sub District Hospital (31-50 bedded)	
		Essential	Desirable
1	Staff Nurse	18	+2
2	Hospital worker (OP/ward +OT+ blood storage unit+ Cold Chain handler [#])	6	
3	Sanitary Worker	5	
4	Ophthalmic Assistant / Refractionist	1	
5	ECG Technician	1	
6	Laboratory Technician* (Lab + Blood Storage Unit)	4	+1
7	Laboratory Attendant (Hospital Worker)	2	
8	Radiographer	2	
9	Pharmacist ¹	4	
10	Dietician		1
11	Dental Technician/ Assistant/ Hygienist/	1	
13	Assistant Nursing Superintendent	1	
14	Multi Rehabilitation worker	2	
15	Statistical Assistant	1	
16	Medical Records Officer / Technician	1	
17	Cold Chain & Vaccine Logistics Assistant	1	
18	Electrician	1	
19	Plumber	1	
	Total	52	56

* Must have MLT qualification.

¹ One from AYUSH.

One may be identified (& trained) from the existing staff for assisting cold chain and vaccine logistic assistant.

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

8.3. Manpower- Administrative Staff

S. No	Staff	Sub District Hospital (31-50 bedded)	
		Essential	Desirable
1	Office Superintendent	1	
2	Accountant	2	
3	Computer Operator	4	+2
4	Driver	1	+2
5	Peon	2	
6	Security Staff*	2	
	Total	12	16

Note: Driver will not be required if outsourced

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

8.4. Man Power – Operation Theatre

S. No.	Staff	Sub District Headquarters Hospital	
		31-50 Bedded	
		Emergency / FW OT	
1	Staff Nurse	2	
3	OT Assistant	2	
4	Sweeper	1	
	Total	5	

8.5. Man Power – Blood Storage

S. No	Staff	Blood Storage
1	Staff Nurse	1
2	MNA / FNA	1
3	Blood Bank Technician	1
4	Sweeper	1

9. **EQUIPMENT (ESSENTIAL EXCEPT WHERE INDICATED)**

I Imaging Equipment		
S. No.	Name of the Equipment	31 -50 bedded Sub District Hospital
1	100 M.A. X-ray machine	1
2	Dental X ray machine	1
3	Ultra Sonogram (Obs & Gyne. department should be having a separate ultra-sound machine of its own)	1 + 1(Desirable)

II X Ray Room Accessories		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
1	X-ray developing tank	1
2	Safe light X-ray dark room	1
3	Cassettes X-ray	4
4	X-ray lobby single	2
5	Lead Apron	1
6	Intensifying screen X-ray	1

III Cardiac Equipments		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
1	ECG machine ordinary	1
2	Cardiac Monitor	1(Desirable 2)
3	Pulse Oximeter	1 (Desirable 2)
4	Infusion pump	1
5	B.P.apparatus table model	6 (Desirable 10)
6	B.P.apparatus stand model	4
7	Stethoscope	2(Desirable 12)

IV Labour ward & Neo Natal Equipments		
S. No.	Name of the Equipment	50 bedded Sub District Hospital
1	Baby Incubators	1
2	Phototherapy Unit	1
3	Emergency Resuscitation Kit-Baby	2
4	Standard weighing scale	1 each for the labour room & OT

5	Newborn Care Equipments	1 set each for labour room & OT
6	Double-outlet Oxygen Concentrator	1 each for the labour room & OT
7	Radiant Warmer	1
8	Room Warmer	2
9	Foetal Doppler	1(Desirable 2)
10	Delivery Kit	2
11	Episiotomy kit	1
12	Forceps Delivery Kit	1
13	Vacuum extractor metal	1
14	Silastic vacuum extractor	1
15	Pulse Oximeter baby & adult	1
16	Cardiac monitor baby	1(Desirable)
17	Nebulizer baby	1
18	Weighing machine adult	2
19	Weighing machine infant	2
20	CTG Machine	1(Desirable)
21	Arc	1(Desirable)

Equipments for Newborn care corner and new born care Stabilization Unit: Details at Annexure V & V A respectively.

V Immunization Equipments

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 for new staff proposed	3
Stools for immunization room	2
Bench for waiting area	1
Dustbin with lid	one from each equipment
Water container	1
Hub cutters	2
5 KVA Generator with POL for immunization purpose	1 (If hospital has other Generator for general purpose this is not needed.)

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

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

VI Eye Equipments		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
1.	Ophthalmoscope - Direct	1
2.	Slit Lamp	1
3.	Retino scope	1
4.	Perimeter	1
5.	Binomags	1
6.	Distant Vision Charts	1
7.	Foreign Body spud and needle	1
8.	Lacrimal cannula and probes	1
9.	Lid retractors (Desmarres)	1
10.	Near Vision charts	1
11.	Punctum Dilator	1
12.	Rotating Visual acuity drum	1
13.	Torch	2
14.	Trial Frame Adult/Children	1
15.	Trial Lens Set	1
16.	IOL Operation set	2
17.	Laser Photocoagulometer*	1
18.	Operating Microscope	1
19.	A-Scan Biometer	1
20.	Keratometer	1
21.	Auto Refractometer	1
22.	Flash Autoclave	1
23.	Applanation Tonometer	1

VII EAR NOSE THROAT EQUIPMENT

S. No.	Name of the Equipment	District Headquarters Hospital (201-300 bedded)
1.	Indigenous Digital Audiometer	1
2.	Impedance Audiometer	1(Desirable)
3.	Operating Microscope (ENT)	1
4.	Head light (ordinary) (Boyle Davis)	2
5.	ENT Operation set including headlight, Tonsils	1
6.	Ear Surgery Instruments	2 sets
7.	Mastoid Set	1
8.	Micro Ear Set myringoplasty	1
9.	Micro drill System	2 sets
10.	Stapedotomy Set	1
11.	Stapedoplasty	1

12.	ENT Nasal Set (SMR, Septoplasty, Polypetcomy, DNS, Rhinoplasty)	1(Desirable)
13.	Laryngoscope fibreoptic ENT	1(Desirable)
14.	Laryngoscope indirect	2
15.	Otoscope	2
16.	Oesophagoscope Adult	1
17.	Oesophagoscope Child	1
18.	Head Light (cold light)	1
19.	Tracheostomy Set	2
20.	Tuning fork	1
21.	OAE Analyzer	1(Desirable)
22.	Sound Proof room	1(Desirable)

VIII Dental Equipments		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
1	Air Rotor	1
2	Dental Unit with motor for dental OP	1
3	Dental Chair	1
4	Dental Kit	1

IX Operation Theatre Equipment		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
1	Auto Clave HP Vertical (2 bin)	1
2	Operation Table Hydraulic Major	1
3	Operation table Hydraulic Minor	1
4	Operating table non-hydraulic field type	1
5	Autoclave vertical single bin	1
6	Shadowless lamp ceiling type major*	1
7	Shadowless lamp ceiling type minor*	1
8	Shadowless Lamp stand model	1
9	Focus lamp Ordinary	1
10	Sterilizer big (Instrument)	1
11	Sterilizer Medium (Instrument)	2
12	Steriliser Small (Instruments)	2
13	Bowl Steriliser – big*	1
14	Bowl steriliser – Medium*	1
15	Diathermy Machine (Electric Cautery)	1
16	Suction Apparatus - Electrical	2
17	Suction Apparatus - Foot operated	1

IX Operation Theatre Equipment		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
18	Ultra violet lamp philips model 4 feet	2

* To be provided as per need.

X Laboratory Equipments		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
1.	Binocular Microscope	2
2.	Chemical Balances	1
3.	Simple balances	1
4.	Electric Colorimeter	1
5.	Auto analyser *	1
6.	Micro pipettes (10-100 ml), (200-1000 ml)	2 (1+1)
7.	Water bath	1
8.	Hot Air oven*	1
9.	Lab Incubator*	1
10.	Distilled water Plant	1
11.	Electric centrifuge, table top	1
12.	Cell Counter Electronic*	1
13.	Hot plates	2
14.	Rotor / Shaker	1
15.	Counting chamber	2
16.	PH meter	1
17.	Glucometer	1
18.	Haemoglobinometer	1
19.	TCDC count apparatus	1
20.	ESR stand with tubes	1
21.	Test tube stands*	3
22.	Test tube rack*	3
23.	Test tube holders*	3
24.	Spirit lamp*	4
25.	Timer stop watch	1
26.	Alarm clock	1
27.	Refrigerator	1
28.	Laboratory Auto Claves	2
29.	Automatic Processing Unit for Radiology	
30.	Tonometer for Ophthalmology	
31.	Automatic Blood Gas Analyzer	1(Desirable)
32.	2000 Nos Whole Blood Finger Prick HIV	

X Laboratory Equipments		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
	Rapid Test and STI Screening Test each	

* To be provided as per need

XI Surgical Equipment Sets		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
1.	P.S.set	1
2.	MTP Set	1
3.	Biopsy Cervical Set*	1
4.	D & C Set	1
5.	Electric Cautrey	1
6.	I.U.C.D. Kit	1
7.	LSCS set	1
8.	MVA Kit	1
9.	Vaginal Hysterectomy	1(Desirable)
10.	Proctoscopy Set*	1(Desirable)
11.	P.V. Tray*	1
12.	Abdominal Hysterectomy set	1
13.	Laparotomy Set	1
14.	Formaline dispenser	1
15.	Kick Bucket	4
16.	General Surgical Instrument Set Piles, Fistula, Fissure*	1
17.	Knee hammer	1
18.	Hernia, Hydrocele*	1
19.	Vaginal Examination set*	2
20.	Suturing Set*	2
21.	MTP suction apparatus	1
22.	Thomas Splint	3
23.	Mini Surgery Set*	1
24.	GI Operation Set*	1
25.	Appendicectomy set *	1
26.	L.P.Tray*	1
27.	Urethral Dilator Set	1
28.	Amputation set	1
29.	Crammer wire splints	6
30.	IUCD -5 Nos	5
31.	Minilap sets-3	3
32.	NSV sets- 3	3

XI Surgical Equipment Sets		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
33.	Colposcope **	1(Desirable)
34.	Cryoprobe **	1(Desirable)

* To be provided as per need.

** Optional

XII PMR Equipments (Desirable)		
S. No.	Name of the Equipment	31-50 bedded Sub Distric Hospital
1.	Skeleton traction set	1
2.	Short Wave Diathermy	1
3.	Hot packs & Hydro collator	
4.	Exercise Table	
5.	Static Cycle	
6.	Medicine ball	
7.	Quadricaps Exerciser	
8.	Coordination Board	
9.	Hand grip strength measurement Board	
10.	Kit for Neuro-development assessment.	
11.	CBR Manual	
12.	ADL Kit & hand exerciser	
13.	Multi Gym Exerciser	
14.	Self Help devices	
15.	Wheel chair	
16.	Crutches / Mobility device sets	
17.	Hot air oven	
18.	Hot air gun	
19.	Grinder	
20.	Sander	
21.	Router	
22.	Power Drill	
23.	Band saw	
24.	Vacuun forming apparatus	
25.	Lathe	
26.	Welding machine	
27.	Buffing & polishing machine	
28.	Work table – 2 nos	
29.	Tools and raw material	

XIII Endoscopy Equipments		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
1	Laparoscope diagnostic and for sterilisation *	1+1 (Desirable)

* To be provided as per need.

XIV Anaesthesia Equipments		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
1	Anaesthetic - laryngoscope magills with four blades	2
2	Endo tracheal tubes sets	1
3	Magills forceps (two sizes)	3
4	Connector set of six for E.T.T	3
5	Tubes connecting for ETT	4
6	Air way female*	4
7	Air way male*	8
8	Mouth prop*	6
9	Tongue depressors*	6
10	O2 cylinder for Boyles	6
11	N2O Cylinder for Boyles	6
12	CO2 cylinder for laparoscope*	2
13	Boyles Apparatus with Fluotec and circle absorber	1

* To be provided as per need.

XV Furniture & Hospital Accessories		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
1	Doctor's chair for OP Ward, Blood Bank, Lab etc.	12
2	Doctor's Table	3
3	Duty Table for Nurses	4
4	Table for Sterilisation use (medium)	4
5	Long Benches(6 1/2' x 1 1/2')	10
6	Stool Wooden	8
7	Stools Revolving	6
8	Steel Cup-board	8
9	Wooden Cup Board	4
10	Racks -Steel – Wooden	5

XV Furniture & Hospital Accessories		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
11	Patients Waiting Chairs (Moulded)*	10
12	Office Chairs	4
13	Office Table	3
14	Foot Stools *	8
15	Filing Cabinets (for records) *	4
16	M.R.D.Requirements (record room use) *	1
17	Paediatric cots with railings	3
18	Cradle*	2
19	Hospital Cots (ISI Model)	50
20	Hospital Cots Paediatric (ISI Model)	5
21	Wooden Blocks (Set)*	1
22	Back rest*	2
23	Dressing Trolley (SS)	2
24	Medicine Almairah	1
25	Bin racks (wooden or steel)*	3
26	ICCU Cots	2
27	Bed Side Screen (SS-Godrej Model)^	As per requirement
28	Medicine Trolley(SS)	2
29	Case Sheet Holders with clip(S.S.)*	40
30	Examination Couch (SS)	2
31	Instrument Trolley (SS)	4
32	Instrument Trolley Mayos (SS)	2
33	Surgical Bin Assorted	15
34	Wheel Chair (SS)	3
35	Stretcher / Patience Trolley (SS)	2 each.
36	Instrument Tray (SS) Assorted	20
37	Kidney Tray (SS) - Assorted	20
38	Basin Assorted (SS)	20
39	Basin Stand Assorted (SS)	
	(2 basin type)	3
	(1 basin type)	5
40	Delivery Table (SS Full)	4
41	O2 Cylinder Trolley(SS)	3
42	Saline Stand (SS)	10
43	Waste Bucket (SS)	20
44	Dispensing Table Wooden	1
45	Bed Pan (SS)	10
46	Urinal Male and Female	10
47	Name Board for cubicals	1
48	Waste Disposal - Bin / drums	5(Desirable+10)
49	Waste Disposal - Trolley (SS)	1(Desirable+1)

XV Furniture & Hospital Accessories		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
50	Linen Almirah	2(Desirable+2)
51	Stores Almirah	2(Desirable+2)
52	Arm Board Adult	6
53	Arm Board Child	6
54	SS Bucket with Lid	4
55	Bucket Plastic	6
56	Ambu bags	3
57	O2 Cylinder with spanner ward type	6
58	Diet trolley - stainless steel	1
59	Needle cutter and melter	10
60	Thermometer clinical	10
61	Thermometer Rectal	3
62	Torch light	6
63	Cheatles forceps assorted	5
64	Stomach wash equipment	2
65	Infra Red lamp	3
66	Wax bath	1
67	Emergency Resuscitation Kit-Adult	2
68	Enema Set	2
69	Ceiling Fans\$	As per requirement

* To be provided as per need.

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

\$ One fan per four beds in the ward.

XVI Post Mortem Equipments (To be provided if facilities are available)		
S. No.	Name of the Equipment	31-50 bedded Sub District Hospital
1	Mortuary table (Stainless steel)*	2
2	P.M. equipments (list)	3
3	Weighing machines (Organs)	1
4	Measuring glasses (liquids)	2
5	Aprons*	10
6	PM gloves (Pairs)*	10
7	Rubber sheets*	4
8	Lens	1
9	Spot lights	1
10	Cold box for preserving dead body	1(Desirable+1)

* To be provided as per need.

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

XVIII Teaching Equipments		
S. No.	Name of the Equipment	31-50 Bedded Sub District Hospital
1	Slide Projector	1
2	Laptop*	1(Desirable)
3	O.H.P / LCD *	1
4	Screen	1
5	White / colour boards	1
6	Television colour	1
7	Tape Recorder (2 in 1)*	1
8	VCD Player	1
9	Radio	1
10	1.Desk top computer(with color monitor, CPU, UPS, laser printer & computer table)	1
11	Resuscitation Training Mannequins	1
12	Library with Books, Training CD and Potocols	

* To be provided as per need.

XIX Administration		
S. No.	Name of the Equipment	31-50 Bedded Sub District Hospital
1	Computer with Modem with UPS, Printer with Internet Connection	2
2	Xerox Machine	1
3	Intercom (15 lines)*	1
4	Fax Machine	1
5	Telephone	1
6	Public Address System*	1

* To be provided as per need.

XX Refrigeration & AC		
S. No.	Name of the Equipment	31-50 Bedded Sub District Hospital
1.	Refrigerator 165 litres	2
2.	Blood Bank Refrigerator	1
3.	ILR	1
4.	Deep Freezer	1
5.	Coolers*	As per requirement
6.	Air conditioners	3

* One cooler per 8 beds in the wards.

XXI Hospital Plants		
S. No.	Name of the Equipment	31-50 Bedded Sub District Hospital
1	Generator 40 / 50 KV	1
4	Portable 2.5 KV	1

XXII Hospital Fittings & Necessities		
S. No.	Name of the Equipment	31-50 Bedded Sub District Hospital
1	Ceiling Fans*	20
2	Exhaust Fan*	6
3	Pedestal Fan*	1
4	Wall Fan*	1

5	Hotwater geiser*	1
6	Fire extinguishers*	1
7	Sewing Machine*	1
8	Lawn Mover*	1
9	Aqua guard*	4
10	Emergency trauma set*	1
11	Tube lights*	30
12	Drinking Water Fountain*	1

* To be provided as per need.

XXIII Transport		
S. No.	Name of the Equipment	31-50 Bedded Sub District Hospital
1	Ambulance	1
2	Pickup vehicles Maruti (Omni)	1

10. **Laboratory Services:** Following services will be ensured, for advanced diagnostic tests, a list of National Reference Laboratories has been provided as annexure:

S. 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
		E.S.R.
		Bleeding time
		Clotting 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 cyst (Eh)
		Hanging drop for V. Cholera
		Occult blood
II.	PATHOLOGY	
	b. Sputum	Sputum cytology

S. No.	Speciality	Diagnostic Services / Tests
III.	MICROBIOLOGY	
		Smear for AFB, KLB (Diphtheria)
		Grams Stain for Throat swab, sputum etc.
		KOH study for fungus
IV.	SEROLOGY	RPR Card test for syphilis
		Pregnancy test (Urine gravindex)
		WIDAL test
		Rapid Test for HIV, HBs Ag, HCV

S. No.	Speciality	Diagnostic Services / Tests
V.	BIOCHEMISTRY	
		Blood Sugar
		Blood urea
		Serum bilirubin
		Liver function tests
		Kidney function tests
		Blood Cholesterol
		Blood uric acid

Sl. No.	Speciality	Diagnostic Services / Tests
VI.	CARDIAC INVESTIGATIONS	a) ECG
VII.	OPHTHALMOLOGY	a) Refraction by using Snellen's chart
		Retinoscopy
		Ophthalmoscopy
		Syringing
		Tension
IX.	RADIOLOGY	a) Xray for Chest, Skull, Spine, Abdomen, bones
		e) Dental Xray
		f) Ultrasonography*

* In consonance with PC and PNDDT Act.

11. ALLOCATION OF BED STRENGTH AT VARIOUS LEVELS:

It should be done as per local needs.

REQUIREMENTS FOR OPERATION THEATRE

S. No	Item	Sub District Hospital
		31-50 Bedded
1	Emergency OT/FW OT	1
2	Ophthalmology /General Surgery	1

12. LIST OF MEDICINES / INSTRUMENTS / EQUIPMENTS /LAB REAGENTS / OTHER CONSUMABLES AND DISPOSABLES FOR SUB-DISTRICT/DISTRICT HOSPITALS.

Sr. No	Name of the item
A)	Analgesics/Antipyretics/Anti Inflammatory
1.	Tab.Aspirin 300mg
2.	Tab.Paracetamol 500mg
3.	Inj.Diclofenac sodium
4.	Tab.Diclofenac sod
5.	Tab.Dolonex DT 20mg
6.	Tab.Ibuprofen
B)	Chemotherapeutics
7.	Inj.Crystalline penicillin 5 lac unit
8.	Inj. Benzathene Peniciline
9.	Inj.Fortified procaine pen 4 lac
10.	Inj.Ampicillin 500mg
11.	Inj. Cloxacillin
12.	Inj.Gentamycin 40mg/2ml vial
13.	Inj.crystalline penicillin 10 lac unit
14.	Cap.Ampicillin 250mg
15.	Cap.Tetracycline 250mg
16.	Tab.Trimethoprim+Sulphamethazol ss
17.	Tab.Ciprofloxacin 250mg
18.	Tab.Ciprofloxacin 500mg
19.	Inj.Ciprofloxacin 100ml
20.	Tab.Erythromycin 250mg
21.	Tab.Erythromycin 500mg

22.	Syrup Cotrimoxazole 50ml	
23.	Syrup Ampicillin 125mg/5ml 60ml	
24.	Inj.Cefoperazone 1Gm	(Desirable)
25.	Inj.cefotaxime 500mg	(Desirable)
26.	Tab.Norfloxacin 200mg	
27.	Inj Ceftriaxone	
28.	Diazepam Inj. IP	
29.	Dexamethasone Sodium Phosphate inj. IP	
30.	Aminophylline Inj. BP	
31.	Adrenaline Bitartrate Inj. IP	
32.	Ringer Lactate	
33.	Doxycycline Hydrochloride	
34.	Vit. K3 (Menadione Inj.) IP	
35.	Phenytoin	
36.	Inj. Gentamycin	
37.	Water for injection	
38.	Inj. Lasix	
39.	Inj. Phenobarbitone	
40.	Inj. Quinine	
41.	Inj. Chloramphenicol	
42.	Inj. Calcium Gluconate	
43.	Nebulisable Salbutamol nebusol solution (to be used with nebuliser)	
44.	Inj. Dopamine	
45.	Tab.Norfloxacin 400mg	
46.	Tab.Ofloxacin 200mg	
47.	Inj.Vionocef(Ceffixime)250mg	(Desirable)
48.	Inj.Amikacin sulphate 500mg	
49.	Inj.Amikacin sulphate 100mg	
50.	Cap.Cefdroxyl 250mg	(Desirable)
51.	Inj.Amoxicillin 500mg	
C)	Anti Diarrhoeal	
52.	Tab.Metronidazole 200mg	
53.	Tab. Metronidazole 400mg	
54.	Syrup. Metronidazole	
55.	Tab. Furazolidone 100mg	
56.	Tab. Diolaxanide Fuzate	
57.	Tab. Tinidazole 300mg	
D)	Dressing Material/Antiseptic lotion	
58.	Povidone Iodine solution 500ml	
59.	Phenyl 5ltr jar(Black Phenyl)	
60.	Benzalkonium chloride 500ml bottle	

61.	Rolled Bandage a)6cm
	b)10cm
	c)15cm
62.	Bandage cloth(100cmx20mm) in Than
63.	Surgical Guaze (50cmx18m) in Than
64.	Adhesive plaster 7.5cm x 5mtr
65.	Absorbent cotton I.P 500gm Net
66.	P.O.P Bandage a) 10cm
	b)15cm
67.	Framycetin skin oint 100 G tube
68.	Silver Sulphadiazene Oint 500gm jar
69.	Antiseptic lotion containing :
	a) Dichlorometxylenol 100ml bot
	b) Haffkinol 5litre jar
70.	Sterilium lotion
71.	Bacillocid lotion
72.	Infusion fluids
73.	Inj. Dextrose 5% 500ml
74.	Inj. Dextrose 10% 500ml bottle
75.	Inj. Dextrose in Normal saline 500ml bt
76.	Inj. Normal saline (Sod chloride) 500ml
77.	Inj.Ringer lactate 500ml
78.	Inj.Mannitol 20% 300ml
79.	Inj.Water for 5ml amp
80.	Inj.Water for 10ml amp
81.	Inj.Dextrose 25%100ml bot
82.	I.V.Metronidazole 100ml
83.	Inj.Plasma Substitute 500ml bot
84.	Inj.Lomodex
F)	Other Drugs & Material
85.	Disposable Syringes 2ml
	5ml
	10ml
	20ml
86.	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
87.	Scalp vein sets no a)19
	b)20
	c)21
	d)22
	e)23
	f)24
	g)25
	h)26
88.	Gelco all numbers
89.	Tab.B.Complex NFI Therapeutic
90.	Tab.Polyvitamin NFI Therapeutic
91.	Inj.Dexamethasone 2mg/ml vial
92.	Inj.Vitamin B Complex 10ml
93.	Inj.B12 Folic acid
94.	Surgical Gloves a)6 "
	b)6.1/2"
	c)7"
	d)7.5"
95.	Catgut Chromic a)1 No.
	b)2 No.
	c)1-0 No
	d)2-0 N0
	e)8-0
96.	Vicryl No.1
97.	Sutupak 1,1/0,2,2/0
98.	Prolene
99.	X Ray film 50 film packet(in Pkt) size
	a)6.1/2x8.1/2"
	b)8"x10"
	c)10"x12'
	d)12"x15"
100.	Fixer
101.	Developer
102.	CT Scan film
103.	Ultrasound scan film
104.	Dental film
105.	Oral Rehydration powder 27.5g
106.	Ether Anaesthetic 500ml
107.	Halothane

G)	Eye Drops
108.	Sulphacetamide eye drops 10% 5ml
109.	Framycetin with steroid eye drops 5ml
110.	Framycetin eye drops 5ml
111.	Ciprofloxacin eye /ear drops
112.	Gentamycin eye drops
113.	Local antibiotic steroid drops
114.	Pilocarpine Nitrate 2%
115.	Timolol 0.5%
116.	Homatropine 2%
117.	Tropicamide 1%
118.	Cyclomide 1%
119.	Wax dissolving ear drops
120.	Antifungal (Clotrimazole) ear drops
121.	Antiallergic+ Decongestant combination eg. Chlorphenarmine +Pseudoephedrine /Phenylephrine
122.	Oxmetazoline/Xylometazoline nasal drops
H)	Other Material
123.	Rubber Mackintosh Sheet in mtr
124.	Sterile Infusion sets(Plastic)
125.	Antisera I) A 5ml
	II)B 5ml
	III)D 5ml
	IV)AB 5ml
126.	Inj.MethylErgometrine 0.2mg/amp
127.	Inj.Streptokinase 7.5lac vial
128.	Inj.Streptokinase 15lac vial
129.	Inj.PAM(Desirable)
130.	Tab.Antacid
131.	ARS
132.	Syp.Antacid
133.	Inj.Rabipur
134.	Inj.Ranitidine 2ML
135.	Tab.Ranitidine
136.	Tab.Omeprazole
137.	Cough syrup 5litre Jar
138.	Cough syrup with Noscapine 100ml
139.	Coir Mattress
140.	Inj.Lignocaine 1%
141.	Inj.lignocaine 2%
142.	Inj.Lignocaine 5%

143.	Inj. Hylase (Hyaluronidase)	
144.	Inj. Marcaine	
145.	Inj. Diazepam	
146.	Inj. Salbactam+Cefoperazone 2Gm	
147.	Inj. Amoxicillin with clavulanate acid 600mg	
148.	Cap. Amoxicillin 250+cloxacillin 250	
149.	Inj. Cefuroxime 250/750	(Desirable)
150.	Tab. Pefloxacin 400mg	(Desirable)
151.	Tab. Gatifloxacin 400mg	(Desirable)
152.	Tab. Valdecoxib 20mg	(Desirable)
153.	Tab. Atrovastatin 10mg	
154.	Sy. Himalt-X	(Desirable)
155.	Sy. Protein (Provita)	(Desirable)

D)	Antibiotics and Chemotherapeutics	
1.	Tab. Chloroquine phosphate 250mg	
2.	Inj. Chloroquine phosphate	
3.	Inj. Quinine	
4.	Tab. Erythromycine Estearate 250mg	
5.	Syp. Erythromycine	
6.	Tab. Phenoxymethyl Penicillin 125mg	
7.	Cap. Rifampicin	
8.	Tab. Isoniazid 100mg	
9.	Tab. Ethambutol 400mg	
10.	Cap. Neomycin	
11.	Inj. Benzathine penicillin 12lac	
12.	Cap. Amoxicilline 500 mg	
13.	Cap. Amoxicilline 250 mg	
J)	Antihistaminics/anti-allergic	
14.	Inj. Pheniramine maleate	
15.	Tab. Diphenhydramine (eqv. Benadryl)	
16.	Tab. Cetrizine	
17.	Tab. Chlorpheniramine maleate 4mg	
18.	Tab. Diethylcarbamazin	
19.	Tab. Beta-histidine 8 mg	(Desirable)
20.	Tab. Cinnarazine 25 mg	
K)	Drugs acting on Digestive system	
21.	Tab. Cyclopam	
22.	Inj. Cyclopam	
23.	Tab. Bisacodyl	
24.	Tab. Perinorm	

25.	Inj.Perinorm
26.	syrup.Furazolidone
27.	Inj.Prochlorperazine(Stemetil)
28.	Tab.Piperazine citrate
29.	Tab.Mebendazole 100mg
30.	Syp.Mebendazole
31.	Sy.Piperazine Citrate
32.	Sy.Pyrantel Pamoate
33.	Tab.Belladona
L)	Drugs related to Hoemopoetic system
34.	Tab.Ferrous sulphate200mg
35.	Inj.Iron Dextran/Iron sorbitol
M)	Eye oint
36.	Chloramphenicol eye oint & applicaps
37.	Chloramphenicol + Dexamethsone oint
38.	Gentamycin eye/ear drops
39.	Dexamethasone eye drops
40.	Drosyn eye drops
41.	Atropine eye oint
N)	Drugs acting on Cardiac vascular system
42.	Inj.adrenaline
43.	Inj.atropine sulphate
44.	Inj.Digoxine
45.	Tab.Digoxine
46.	Inj.Mephentine
47.	Tab.Atenolol
48.	Tab.Isoxuprine
49.	Inj.Duvadilan
50.	Tab.Methyldopa
51.	Tab.Isosorbide Dinitrate(Sorbitrate)
52.	Tab.Propranolol
53.	Tab.Verapamil(Isoptin)
54.	tab.Enalapril2.5/5mg
55.	Tab.Metoprolol
56.	Hydrochlorthiazide 12.5, 25 mg
57.	Tab Captopril
58.	Tab Clopidogrel
59.	Glyceryl Trinitrate Inj
60.	Carbamazepine tabs, syrup
O)	Drugs acting on Central/peripheral Nervous system

61.	Inj.Pentazocine (Fortwin)
62.	Inj.Pavlon 2ml amp
63.	Inj.Chlorpromazine 25mg(like Largactil)
64.	Inj.Promethazine Hcl Phenergan
65.	inj.Pethidine
66.	Inj.Diazepam 5mg
67.	Tab.Haloperidol
68.	Inj.Haloperidol
69.	Tab.Diazepam 5mg
70.	Tab.Phenobarbitone 30mg
71.	Tab.Phenobarbitone 60mg
72.	Tab.Largactil 25mg
73.	Tab.Pacitane
74.	Tab.Surmontil
75.	Tab. Chlorpromazine 100 mg
76.	Tab. Risperidone 2 mg
77.	Inj. Promethazine 50 mg
78.	Tab. Imipramine 75 mg
79.	Inj. Fluphenazine 25 mg
80.	Tab. Lorazepam 2 mg
81.	Tab. Diphenylhydantoin 100 mg
82.	Tab. Lithium Carbonate 300 mg
83.	Tab. Carbamazepine 200 mg
84.	Cap. Fluoxetine 20 mg
85.	Tab. Olanzapine 5 mg
86.	Syrup.Phenergan
87.	Syrup Paracetamol
88.	Ethyl chloride spray
89.	Lignocaine oint
90.	Gentamycin eye/ear drops
91.	Betnesol-N/Efcorlin Nasal drops
P)	Drugs acting on Respiratory system
92.	Inj.Aminophylline
93.	Tab.Aminophylline
94.	Inj.Deriphylline
95.	Tab.Deriphylline
96.	Tab.Salbutamol 2mg
97.	Syrup Tedral
98.	Syrup.Salbutamol
Q)	Antiseptic Ointment
99.	Furacin skin oint

100.	Framycetin skin oint
R)	Drugs acting on UroGenital system
101.	Tab.Frusemide 40mg
102.	Inj.KCL
103.	Liquid KCL
104.	Tab.Pyridicil
105.	Inj.Frusemide
S)	Drugs acting on Uterus and Female Genital Tracts
106.	Inj.Pitocin
107.	Inj.Prostodin
108.	Tab. Mesoprostol
109.	Tab.Duvadilan
110.	Inj. Duvadilan
111.	Tab.Methyl Ergometrine
112.	Tab.Primolut-N
113.	Haymycin vaginal tab
114.	Inj. Magnesium Sulphate
115.	Inj.Ethacredin lact(Emcredyl)
T)	Hormonal Preparation
116.	Inj.Insulin Rapid
117.	Insulin lente Besal
118.	Inj. Cry Insulin
119.	Inj. Mixtard
120.	Inj. Testosterone plain 25mg
121.	Testosterone Depot 50mg
122.	Tab. Biguanide
123.	Tab. Chlorpropamide 100mg
124.	Tab. Prednisolone 5mg
125.	Tab. Tolbutamide 500mg
126.	Tab. Glibenclamide
127.	Tab. Betamethasone
U)	Vitamins
128.	Inj.Vit "A"
129.	Inj.Cholcalciferol16lac
130.	Inj.Ascorbic acid
131.	Inj.Pyridoxin 50mg
132.	Inj. Vit K
133.	Tab.Vit "A" & "D"
134.	Tab.Ascorbic acid 100mg
V)	Other drugs

135.	Inj.Antirabies vaccine	
136.	Inj.Antisnake venom	
137.	Inj.AntiDiphtheria Serum	(Desirable)
138.	Inj.Cyclophosphamide	
139.	Inj.Sodabcarb	
140.	Inj.Calcium Gluconate	
141.	Tab.Calcium lactate	
142.	Tr.Iodine	
143.	Tr.Benzoin	
144.	Glcial acetic caid	
145.	Benedict solution	
146.	Caster oil	
147.	Liquid paraffin	
148.	Glycerine	
149.	Glycerine Suppositories	
150.	Turpentine oil	
151.	Potassium Permanganate	
152.	Formaldehyde	
153.	Dextrose Powder	
154.	Methylated spirit	
155.	Cotrimazole lotion	
156.	Cotrimazole cream	
157.	Tab.Theophylline	
158.	ECG Roll	
159.	Burnion Oint	
160.	Flemigel APC Ointment	
161.	Syp.Himobin	
162.	APDYL Cough & Noscopin	
163.	Tab. Septilin	
164.	Tab. Cystone	
165.	Tab. Gasex	
166.	Syp. Mentat	(Desirable)
167.	Oint. Pilex	
168.	Rumalaya Gel	
169.	Pinku Pedratic Cough Syp.	
		Vaccines Drugs and Logistics
170.	Vaccines	BCG, DPT, OPV, Measles, TT, Hep B*, JE* and other vaccines if any as per GOI guidelines
171.	AD syringes	AD syringes (0.5 ml & 0.1 ml) - need based
172.	Reconstitution syringes	Reconstitution syringes(5ml) - need based
173.	Red Bags	Red Bags for waste management

174.	Black bags	
175.	Vial Oppener	Need Based
176.	Vitamin A	Vitamin A Syrup
177.	Paracetamol	Paracetamol Syrup
178.	Emergency Drug Kit	Inj. Adrenaline, Inj. Hydrocortisone, Inj. Dexamethasone, Ambu bag (Paediatric), Disposable 2ml and 5ml syringes, Needles(Size 24, 22, 20)
	* Hep B wherever implemented under UIP and JE in select districts	
(W)	Others	
1.	Tab.Liv52	
2.	Syrup Liv52	
3.	Cap. Doxycycline 100mg	
4.	Inj. Heparin sod.1000IU	
5.	Tab. Dipyridamol (Like Persentine)	
6.	Inj. Dopamine	
7.	Tab. Glyceryl Trinitrate	
8.	Tab.Amitryptilline	
9.	Tab.trifluoperazine(1 mg)	
10.	Tab.Nitrofurantine	
11.	Inj.Valethemide Bromide(Epidosyn)	
12.	Inj.Isolyte-M	
13.	Inj.Isolyte-P	
14.	Inj.Isolyte-G	
15.	Cap.Cephalexin 250mg	
16.	Tab.Taxim	
17.	Inj.Metacloramide	
18.	Tab.Folic acid	
19.	Inj.Lignocaine Hcl 2%	
20.	Inj.Nor adrenaline	
21.	Betadine lotion	
22.	Tab.stilboesteral	
23.	Inj.Pyridoxine	
24.	Hydrogen peroxide	
25.	Inj.magnesium sulphate	
26.	Benzyl Benzoate	
27.	GammaBenzene Hexachloride	
28.	Gum Paint	
29.	Inj.Tetglobe	
30.	Inj.Paracetamol	
31.	Pilocarpine eye drops 1%	
32.	Sy.Orciprenaline	
33.	Suturing needles (RB,Cutting)	

34.	Inj.Calcium pantothenate
35.	Inj.Xylocaine 4% 30 ml
36.	Halothane
37.	Mixture Alkaline
38.	Inj. Phenobarbitone 200mg
39.	Inj. B12 (Cynacobalamine)
40.	Neosporin, Nebasuef , Soframycin Pow
41.	Magnasium Sulphate Powder
42.	Furacin Cream
43.	Xylocaine jelly
44.	Formaldehyde Lotion
45.	Cetrimide 100ml bott 3.5%, 1.5% 1
46.	Bacitrium powder 10mg botts
47.	Bleaching Powder 5 Kg Pkts(ISI Mark)
48.	Ether Solvent
49.	Sodium Hypochloride Sod. 5 ltrs/1 ltrs
50.	Inj. Diphthoria antition ADS)10000I.U(Desirable)
51.	Inj. Gas gangrene Antitoxin(AGGS)10000(Desirable)
52.	Inj. Hydroxy Progesterone500mg/2ml
53.	Inj. Methyl Prednisolon 500mg vial
54.	Inj. Multivitamin I.V
55.	Inj. Potassium chloride
56.	Inj. Quinine Dihydrochloride
57.	Tetanus Antitoxin 10000 I.U
58.	Inj. Tetanus Toxoid 5ml vial
59.	Inj. Theophylline Etophylline
60.	Inj. Vitamin A
61.	Tab. Ferrous sulphate200mg+Folic acid
62.	Tab. Ferrous sulphate 300mg
63.	Tab. Griseofulvin125mg
64.	Tab. Phenobarbitone 30mg
65.	Tab. Phenobarbitone 60mg
66.	Tab. Pyridoxin 10mg
67.	Tab. Thyroxine sod 0.1mg
68.	Warfarin sod 5mg
69.	Tab. Alprazolam 0.25mg
70.	Tab. Amlodipine 5mg
71.	Tab. Amlodipine 10mg
72.	Tab. Nefidipine 20mg
73.	Tab. Nefidipine 30mg
74.	Tab. Riboflavin 10mg

75.	Syp. Ferrous Gluconate 100ml bottle
76.	Cream Fluconazole 15gm tube
77.	Sus. Furazolidone
78.	Oint. Hydrocortisone acetate
79.	Syp. Isoniazid 100mg/5ml 100ml bot
80.	Liquid paraffin
81.	Linctus codein 500ml bot
82.	Cream Miconazole 2% 15gm tube
83.	Syp.Nalidixic acid
84.	syp.Norfloxacin
85.	Phenylepinephrine eye drops
86.	Pilocarpine eye drops 2%
87.	Syp.Pottassium chloride 400ml bot
88.	Syp.Primaquine
89.	Suspension Pyrantel pamoate
90.	Sus Rifampicin
91.	Syp.Salbutamol 100ml bot
92.	Syp.Theophylline 100ml
93.	Syp. Vitamin B.Complex
94.	Vit D-3 Granules
95.	Ophthalmic & ear drops
96.	Glycerine Mag sulphate ear drops
97.	Pilocarpine eye drops 4%
98.	Oint Acyclovir 3% 5gm tube
99.	Benzyl Benzoate emulsion 50ml bot
100.	Oint.Betamethasone
101.	Cream Clotrimazole skin 1% 15gm
102.	Oint Dexamethasone 1%+ Framycetin
103.	oint contain clotrimazole+Genta+Flucon
104.	Oint Flucanazole 10 mg
105.	Cream Framyctin 1% 20gm tube/100gm
106.	Lot.Gamabenzene hexachloride 1% bt
107.	Glycerine Suppository USP 3gm bott/10
108.	Cream Nitrofurazone 0.2% jar of 500g
109.	Oint Silversulpadiazene 1% 25g
110.	AIDS Protective kit
111.	STI syndromic drug kit
112.	Chemotherapy Drugs
113.	Hearing Aids (Behind the Ear Type) 200 per district per year
	Surgical Accessories for Eye
114.	Green Shades

115.	Blades (Carbon Steel)
116.	Opsite surgical gauze (10x14 cm.) 8-0 & 10-0 double needle suture Visco elastics from reputed firms Spectacles For operated Cataract Cases (after refraction) For Poor school age children with refractive errors
117.	EAR DROP
118.	Wax Solvent Eardrops
119.	Antifungal 2 Anti biotic Ear Drops (Clohoaimazole PMB)
120.	Stewed & AB Ear Drops

LIST OF ESSENTIAL DRUGS FOR FRU/CHC

DRUG KIT FOR SICK NEW BORN & 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	60mpoules
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	100Ampoules
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	150Ampoules
13.	Water for injection	2 ml/ 5 ml	Ampoule	300Ampoules
14.	Inj. Lasix	20 mg/2ml	2 ml Ampoule	300Ampoule
15.	Inj.	100mg/ml	2 ml Ampoule	60Ampoule

	Phenobarbitone			
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	500mg/ 5ml	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	100mg 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	23G		750
25.	Disposable Syringe	1ml/2ml/5 ml		1ml-200 2ml-500 5ml-500

13. 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.

14. 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, Hospital Infection Control, Technical Audit, Financial Audit, Disaster Preparedness Audit, Monitoring of Accessibility and equity issues, information exchange.

External Monitoring

Monitoring by PRI / Rogi Kalyan Samities

Service / performance evaluation by independent agencies

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

Monitoring of laboratory

Internal Quality Assessment 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.

15. 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 utilized the same for the improvement of service rendered by the Sub District Hospital.

16. 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

OUR MOTTO - SERVICE WITH SMILE

CITIZENS CHARTER

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 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			
Orthopaedics			
Burns & plastics			
Dental OPD			

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

Geriatrics

Laboratory Services:

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

- Bio-chemistry
- Microbiology
- Haematology
- Cytology
- Histopathology including FNAC

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 bio-chemistry.

Radio Diagnostic Services:

Routine: These services include:

X-Rays

Ultrasound

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.

In the Burns Department, there are ----- bedded Intensive Care Unit to treat seriously injured burns patients.

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 CAT Scan, Ultra Sound, Barium-meal, ECHO, TMT 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 uses.

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

On an average more than ----- lacs patients attend the OPD annually and more than ---
----- lacs 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 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

**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.

1. 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).

2. 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.

3. 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 from laboratory and washing, cleaning, housekeeping and disinfecting activities.

Category No.9- Incineration Ash

This consists of ash from 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.

4.1 SEGREGATION OF WASTE

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

5. COLLECTION OF BIO-MEDICAL WASTE:

Collection of Bio-Medical Waste should be done as per Bio-Medical Waste (Management & Handling) Rules, 1999 (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 point 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.

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

<u>Category</u>	<u>Type of container</u>	<u>Colour Coding</u>
1. Human Anatomical Waste	Plastic Bag	Yellow
2. Animal Waste	Plastic Bag	Yellow
3. Microbiology & Bio-Technology Waste	Plastic Bag	Yellow/Red
4. Waste sharp	plastic bag, Puncture Proof Container	Blue/White/Translucent
5. Discarded Medicines & Cytotoxic Waste	Plastic Bag	Black
6. Solid waste (plastic)	Plastic Bag	Yellow/Red
7. Solid Waste(Plastic)	plastic Bag	Blue/White
8. Liquid waste	-----	-----
9. Incineration ash	Plastic Bag	Black
10. Chemical waste(solid)	Plastic Bag	Black

- 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.

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

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

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

5.5 Location of Containers:

All containers having different coloured plastic bags should be located at the point of generation waste, i.e., near OT tables, injection rooms, diagnostic service areas, dressing trolleys, injection trolleys, etc.

5.6 Labelling: All the bags/containers must be labelled bio-hazard or cytotoxic with symbols according to the rules (Schedule III of Bio-Medical Waste Rules, 1998)

5.7 Bags: It should be ensured that waste bags are filled up to three-fourth capacity, tied securely and removed from the site of the generation to the storage area regularly and timely.

5.8 The categories of waste (Cat. 4, 7, 8, & 10) which require pre-treatment (decontamination/disinfection) at the site of generation such as plastic and sharp materials, etc.. should be removed from the site of generation only after pre-treatment.

5.9 The quantity of collection should be documented in a register. The colour plastic bags should be replaced and the garbage bin should be cleaned with disinfectant regularly.

6. 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.

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

6.2 The authorised person must take the permission of the prescribed authority, if for any reason it becomes necessary to store the waste beyond 48 hours.

6.3 The authorised person should take measures to ensure that the waste does not adversely affect human health and the environment in case it is kept beyond the prescribed limit.

7. TRANSPORTATION

7.1 TRANSPORTATION OF WASTE WITHIN THE HOSPITALS:

7.1.1 Within the hospital, waste routed must be designated to avoid the passage of waste through patient care areas as far as possible.

7.1.2 Separate time schedules are prepared for transportation of Bio-medical waste and general waste. It will reduce chances of their mix up.

7.1.3 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.

7.1.4 Trolleys or carts should be thoroughly cleansed and disinfected in the event of any spillage.

7.1.5 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.

7.2 TRANSPORTATION OF WASTE FOR DISPOSAL OUTSIDE THE HOSPITAL.

7.2.1 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.

7.2.2 The containers for transportation must be labelled as given in Schedule III and IV of BMW, 1998.

8. TREATMENT OF HOSPITAL WASTE (Please see Rule 5. Schedule V & VI)

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

8.2 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:

- i) The proper operation & Maintenance of the incinerators/autoclave/microwave.
- ii) Attainment of prescribed temperatures in both the chambers of incineration while incinerating the waste.
- iii) Not to incinerate PVC plastic materials.
- iv) Only skilled persons operate the equipment.
- v) 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.
- vi) The scavengers shall not be allowed to sort out the waste.
- vii) Proper hygiene shall be maintained at, both, the waste treatment plant site as well as the waste storage area.
- viii) Categories 4,7,8 & 10 should be treated with chemical disinfectant like 1% hypochlorite solution or any other equivalent chemical reagent to ensure disinfection.

8.2.1 **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.

8.2.2 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.

8.2.3 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 equipments installed/ shared should meet these specifications. The waste under category 3,4,6 & 7 can be treated by these techniques.

8.2.4 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.

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

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

8.2.7 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.

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

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

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

- ii) The effluent generated from the hospital should conform to limits as laid down in the Bio-medical Waste (Management & Handling) Rules, 1998 (Schedule V).
- iii) The liquid and chemical waste should not be used for any other purpose.
- iv) For discharge into public sewers with terminal facilities the prescribed standard limits should be ensured.

9. SAFETY MEASURES

9.1 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.

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

9.3 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.

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

9.5 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.

9.2 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.

10 TRAINING

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

11. MANAGEMENT & ADMINISTRATION

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

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.

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	South Zone	

Advance Diagnostic Facilities

Bacterial diagnosis						
Enteric bacteria: <i>Vibrio cholerae</i> , <i>Shigella</i> , <i>Salmonella</i>		CMC Vellore Trivandrum Medical College	PGIMER Chandigarh AIIMS Delhi CRI Kasauli	RMRC Dibrugarh, Cuttack Medical College	KEM Mumbai, AFMC Pune	NICED & NICD
<i>Streptococcus pyogenes</i> and <i>S pneumoniae</i>	Indore Medical College	St. John Medical College, Bangalore	VP. Chest University of Delhi	-	BJ MC	CMC Vellore
<i>C.diphtheriae</i>	BHU	CMC, Vellore	NICD, Delhi	STM, Kolkata	AFMC, Pune	VP Chest Institute, Delhi
<i>Neisseria meningitidis</i> and <i>N. gonorrhoeae</i>	SN Medical College, Agra	State PH Lab Trivandrum	PGIMER Chandigarh	-	Surat Medical College	CMC Vellore & PGIMER Chandigarh
<i>Staphylococcus</i>	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

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
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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
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Unknown pathogens	Other laboratories to perform support functions	NIV, NICD, HSADL
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Outbreak investigation support	Medical Colleges and state public health laboratories as L3/ L4	NICD, NIV, NICED, VCRC
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Laboratory data management	Medical Colleges, state public health laboratories and all the L4 & L5 laboratories (in their area of expertise)	NIV, NICD
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Capacity building	All the L4 & L5 laboratories (in their area of expertise)	NIV, NICD
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Quality assurance	All the L4 & L5 laboratories (in their area of expertise)	CMC, TRC, NTI, AFMC, NARI, RMRC, Port Blair NIV, NICD
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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,
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		NICED
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Production & supply of reagents/ kits/ biological/ standard reference materials	-	DRDE, NIV, IVRI, NICED, NICD, MRC, Delhi AFMC, Pune NARI TRC, Chennai RMRC, Port Blair
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Biosafety & bio-containment	Other laboratories to perform support function	HSADL, NIV/MCC, DRDE, NICD
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New Born Care Facilities at SDH

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 preterm infants are at greater thermal risk and often require additional personnel, 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 preterm 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 breastfeeding
- 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: administration of oxygen, airway suctioning.
- Resuscitation kit should be placed in the radiant warmer.
- Provision of hand washing and containment of infection control if it is not a part of the delivery room
- The area should be away from draught of air, and should have power connection for plugging in the radiant warmer.

Equipments and Renewable 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, O2-bottles	E		1	X	X	X	X	X
2.	Resuscitator (silicone resuscitation bag and mask with reservoir) hand-operated, neonate, 500ml	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			
Renewable consumables									
8.	I / V Cannula 24 G, 26 G	E							
9.	Extractor, mucus, 20ml, ster, disp Dee Lee	E							
10	Tube, feeding, CH07, L40cm, ster, disp	E							
11	Oxygen catheter 8 F, Oxygen Cylinder	E							
12	Sterile Gloves	E							

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

Equipments 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, O2-bottles	E		4	X	X	X	X	X
2.	Resuscitator, hand-operated, neonate and child, 500ml	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, 32-34C	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,20ml,ster,disp Dee Lee	E							
11	Tube,feeding,CH07,L40cm,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, 500g, roll, non-ster	E							
16	Disinfectant, chlorhexidine, 20%	E							

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.

Seismic Safety Guidelines

Seismic safety of non-structural elements in 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 equipments.
- Even if building remains intact, it may be rendered non-functional due to damage to equipments, 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.

- Hangings 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 equipments 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.

Extracts from National Guidelines on Blood Storage Facilities at FRUs

1. 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 bag refrigerators having a storage capacity of 50 units of blood.
1. 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.
2. Insulated carrier boxes with ice packs for maintaining the cold chain during transportation of blood bags.
3. 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/center from where blood is obtained. For this purpose, State Governments/Union Territories should provide the additional budgetary requirements to the mother blood bank/center.

Disinfectants: Bleach & Hypochlorite Solution - As required

2. Suggested quantities of Whole Blood Units to be available at a Blood Storage Unit

5 units each of A, B, O (Positive)
2 units of AB (Positive)
1 unit 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

3. Storage & transportation

Cold chain: It is necessary to maintain the cold chain at all levels i.e. from the mother center to the blood storage center 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 $4^{\circ}\text{-}6^{\circ}\text{c} \pm 2^{\circ}\text{c}$. 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.

4. Issue of blood s

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.

5. 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.

6. 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.

7. 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 bank 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.

Equipments 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, 240v 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 (Hagedorn 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

LIST OF ABBREVIATIONS

BJMC	BJ Medical College
CHC	Community Health Centre
CME	Continuing Medical Education
CSSD	Central Sterile and Supply Department
CRI	Central Research Institute
CRME	Centre for Research in Medical Entomology
DRDE	Defense Research and Development Establishment
ICGEB	International Centre for Genetic Engineering and Bio-technology
EVRC	Enterovirus Research Centre
FRU	First Referral Unit
HSADL	High Security Animal Diseases Laboratory
IGIB	Institute of Genomics and Integrative Biology
IPHS	Indian Public Health Standards
IVRI	Indian Veterinary Research Institute
KEM	King Edmund Memorial Hospital
MRC	Malaria Research Centre
NARI	National AIDS Research Institute
NEERI	National Environmental Engineering Institute
NICED	National Institute of Cholera and Endemic Diseases
NIV	National Institute of Virology
NRHM	National Rural Health Mission
PRI	Panchayati Raj Institution
RKS/HMC	Rogi Kalyan Samiti / Hospital Management Committee
RMRC	Regional Medical Research Centre
STM	School of Tropical Medicines
VCRC	Vector Control Research Centre

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