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STRENGTHENING FACILITY BASED PAEDIATRIC CARE

OPERATIONAL GUIDELINES FOR PLANNING & IMPLEMENTATION IN DISTRICT HOSPITALS

SEPTEMBER - 2015

Child Health Division
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NATIONAL HEALTH MISSION
राष्ट्रीय स्वास्थ्य मिशन

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FOREWORD

At various global platforms, India has reiterated its commitment to lead the child survival initiatives in the region. As the era of the Millennium Development Goals (MDG) concludes, representatives of national governments all over the world are now coming together to set the next development agenda, under the umbrella of the Sustainable Development Goals (SDGs). The new target is to reduce child mortality rate below 25 deaths per 1000 children under 5 years of age by 2030. India stands committed towards these gaols and to work towards ending all preventable deaths in children.

It is therefore timely and relevant that we review our ongoing interventions and identify those that have considerable potential to reduce childhood deaths. Newborn and paediatric care constitute two critical pillars of the broad spectrum of RMNCH+A services provided through facility and community based interventions. Moreover, under the National Health Mission there is a growing emphasis on quality assurance at health facilities. The **Operational Guideline for Strengthening of Paediatric Health Services at District Hospitals** of the Ministry of Health & Family Welfare is a welcome step in the direction of setting standards for paediatric facilities and service delivery. I am optimistic that in a few years' time we can review these guidelines and set out a more ambitious plan for newborn and paediatric services at the district hospitals that are envisaged as the hub of effective curative care for children and health professionals training within the 12th Five Year Plan.

I am highly appreciative of the stewardship role played by the Child Health Division of the Ministry and the NIPI supported UNDP Newborn project team in the formulation of these guidelines in consultation with technical experts, academicians and programme managers. The release of these guidelines coincides with the adoption of the Sustainable Development Agenda, and defines the roadmap towards new goals. I am hopeful that by adopting these guidelines, the district hospitals will be able to inspire trust in the masses and contribute in a significant way to reducing preventable child deaths in the country. I wish you the very best for your efforts and look forward to your continued support as we move together on the mission to improve child survival and their quality of life.

(Dr. Rakesh Kumar)

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PREFACE

Providing quality paediatric care services through the public health facilities is one of the mandates of the National Health Mission. Health systems strengthening over the last 7 years have brought considerable improvement to the infrastructure and availability of human resources, while ensuring better availability of drugs, equipment and ancillary services. Challenges remain with regards to provision of comprehensive service package for children, designation of optimal number of trained staff to paediatric care and application of national standards and treatment protocols.

These Operational Guidelines are intended to provide specific guidance to programme managers at all levels of the National Health Mission for strengthening paediatric services at district hospitals. This is an important step in addressing most common causes of morbidity and mortality in children and especially those due to diarrhoea and pneumonia, which are the leading causes of under-five mortality. It will also complement the community based interventions that focus on timely identification and prompt referral of sick children to health facilities.

The document has been developed within the framework of *IPHS Guidelines for District Hospitals, revised 2012* and builds further upon them, and describing how various aspects of paediatric care should be organised. The emphasis has been given to initiation of emergency triage and treatment to reduce delays, introducing the concept of providing closest attention to sickest children by establishment of high dependency unit and wherever feasible, involving families in care of children. Provision has been made for additional financial support to meet the standards described in this guideline.

I earnestly hope that the Guidelines shall be used constructively at state and district level for strengthening provision for facility based paediatric care and providing timely and quality care to the large number of children for whom hospital services are sought. I would like to thank all the technical experts who participated in the discussions during the formulation of the guidelines and shared their valuable experiences and suggestions.

(Dr. Ajay Khera)

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ABBREVIATION

ANM	Auxiliary Nurse Midwife
AMC	Annual Maintenance Cost
MOHFW	Ministry of Health & Family Welfare
BCC	Behaviour Change Communication
CDMO	Chief District Medical Officer
CFL	Compact Fluorescent Lamp
CH	Child Health
CHC	Community Health Centre
CMO	Chief Medical Officer
CSF	Cerebrospinal Fluid
CT scan	Computerized Tomography
CHC	Community Health Centre
DEIC	District Early Intervention Centre
DEO	Data Entry Operator
DH	District Hospital
DLHS	District level Health Survey
ELISA	Enzyme-linked Immunosorbent Assay
ETAT	Emergency Triage Assessment and Treatment
FBNC	Facility Based Newborn Care
F-IMNCI	Facility Based Integrated Management of Neonatal and Childhood Illnesses
FRU	First Referral Unit
GOI	Government of India
HBNC	Home based Newborn Care
HBsAg	Hepatitis B Surface Antigen
HCV	Hepatitis C Virus
HDC	High Dependency Care
HDU	High Dependency Unit
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
IMNCI	Integrated Management of Neonatal and Childhood Illnesses
ICU	Intensive Care Unit

IEC	Information, Education and Communication
IPHS	Indian Public Health Standards
IYCF	Infant and Young Child Feeding Practices
LED	Light Emitting Diode
MCH	Maternal and Child Health
MDI	Metered-Dose Inhaler
MO	Medical Officer
MOHFW	Ministry of Health & Family Welfare
MUAC	Mid-Upper Arm Circumference
NBCC	Newborn Care Corner
NBSU	Newborn Stabilizing Unit
NHM	National Health Mission
NRC	Nutritional Rehabilitation Centre
OPD	Outpatient Department
ORS	Oral Rehydration Sachets
ORT	Oral Rehydration Therapy
OT	Operation Theatre
PHC	Primary Health Care
PICU	Paediatric Intensive Care Unit
PWD	Public Works Department
RBSK	Rashtriya Bal Swasthya Karyakaram
RMNCH+A	Reproductive, Maternal, Newborn, Child Health + Adolescent Health
SAM	Severe Acute Malnutrition
SNCU	Special Newborn Care Unit
WC	Water Closet
WHO	World Health Organisation

TABLE OF CONTENTS

Annexure

PURPOSE OF THE GUIDELINE

Facility Based Paediatric Care has the potential to reduce childhood deaths in sick children and is an integral part of the service delivery package under National Health Mission. A quality improvement approach is required to achieve the desired level of services, especially those that are vital, but not delivered effectively in its current form (such as triage & emergency care).

The purpose of this document is to provide specific guidance for strengthening comprehensive paediatric care facilities commensurate with secondary level of care in the public health system within the framework of *IPHS Guidelines for District Hospitals, revised 2012* and as envisaged in the 12th Five Year Plan.

The comprehensive paediatric care is clearly delineated into outpatient, emergency and inpatient services. Importantly the paediatric triage and emergency services has been brought into focus. In order to upgrade services to secondary level of care envisaged at district hospitals, the concept of high dependency care (as an inpatient service) has been introduced. Recommendations are made with regards to the human resources, equipment and essential drugs that are required to meet the standards of clinical care.

The intended audience for this guideline are:

- State Programme Managers, National Health Mission
- Child Health Nodal Officer
- Chief Medical Officer / Medical Superintendent
- District Programme Manager
- Hospital Managers
- Doctors & Nurses

It is expected that the Guidelines will set the stage for strengthening provision for paediatric care and delivery of timely and quality care to the large number of children for whom hospital services are sought.

(In this document the term "children" refers to individuals up to the age of 12 years for the purpose of delivery of services through paediatric care unit. However, the hospital /state policy with regards to age criteria for accessing services in paediatric unit should be followed.)

CHAPTER 1

INTRODUCTION

Facility based emergency and inpatient care can bring down mortality in children who re seriously ill and referred to hospital in time. This requires high level of preparedness at referral health facilities to receive and manage sick children and ensure quality of care. The continuum of care approach articulated under the RMNCH+A strategy has brought the focus back on referral linkages between community interventions and health facilities as well as public health facilities at different levels. The District Hospital (DH) is positioned in this continuum as referral health facility and is often the most important unit in the district with regards to provision of specialist care under NHM. With provision of infrastructure and human resources (Specialists) to deliver comprehensive care including emergency obstetric care, paediatric and newborn care and diagnostic facilities, the District Hospital is envisaged as the hub of effective curative care for children, especially those in age group 0-5 years.

The *High Level Expert Group Report on Universal Health Coverage for India(Planning Commission, GOI, 2011)* in its recommendations highlighted the critical role played by District Hospital in health care delivery and health professional training, conforming to national standards of health care provision. An adequately equipped and suitably staffed District Hospital should aim to meet the health care needs of at least 95% of the population within that district, so that only a small number would need referral to higher level tertiary care centres. This requires upgrading of District Hospital as a high priority over the next five years.

IPHS Guidelines for District Hospitals was revised in 2012(Director General of Health Services, MoHFW, GoI, 2012) and clearly recognised that the staff strength, beds strength, equipment supply, service availability and population coverage are not uniform among all the District Hospitals. Moreover, District Hospitals have come under constantly increasing pressure due to increased utilization as a result of rapid growth in population, increase in awareness, biomedical advancement, and constantly rising expectation level amongst the consumers.

An evaluation with specific focus on paediatric care was made in select District Hospitals (*MOHFW-UNDP-NIPI, Assessment of quality of care for children in district hospitals, 2014*), which helped identify the several gaps in service availability and quality. It was further recognised that there are no clearly defined standards for setting up paediatric care facilities that can guide programme managers and technical staff in improving the services. To address this gap, **Operational Guideline for Strengthening Facility Based Paediatric Care at District Hospitals** has been developed within the framework of *IPHS Guidelines (for District Hospitals, revised 2012)*. It aims to facilitate further planning, establishment, operational is at ion and monitoring of services for children at District Hospitals. This should not only provide standards against which to assess the health facilities (District Hospitals) but also to monitor the utilisation and quality of services. Allocating adequate resources and providing the necessary guidance to state and district levels will ensure that the mandate of providing quality services for children is fulfilled.

CHAPTER 2

OVERVIEW OF THE PAEDIATRIC CARE IN DISTRICT HOSPITALS

Facility based care is complementary to community level interventions in bringing down childhood morbidity and mortality. Newborns and children referred from communities and primary healthcare facilities are often seriously ill and at high risk of dying. Those reaching health facilities need to be managed appropriately and without delay in instituting care. This objective can be achieved by establishing a well-organised unit, adequate human resources, drugs, equipment and other logistics that provides functional quality of care consistent with clinical standards.

The vision for paediatric care at District Hospital is to set up a comprehensive unit comprising of the following sub-units:

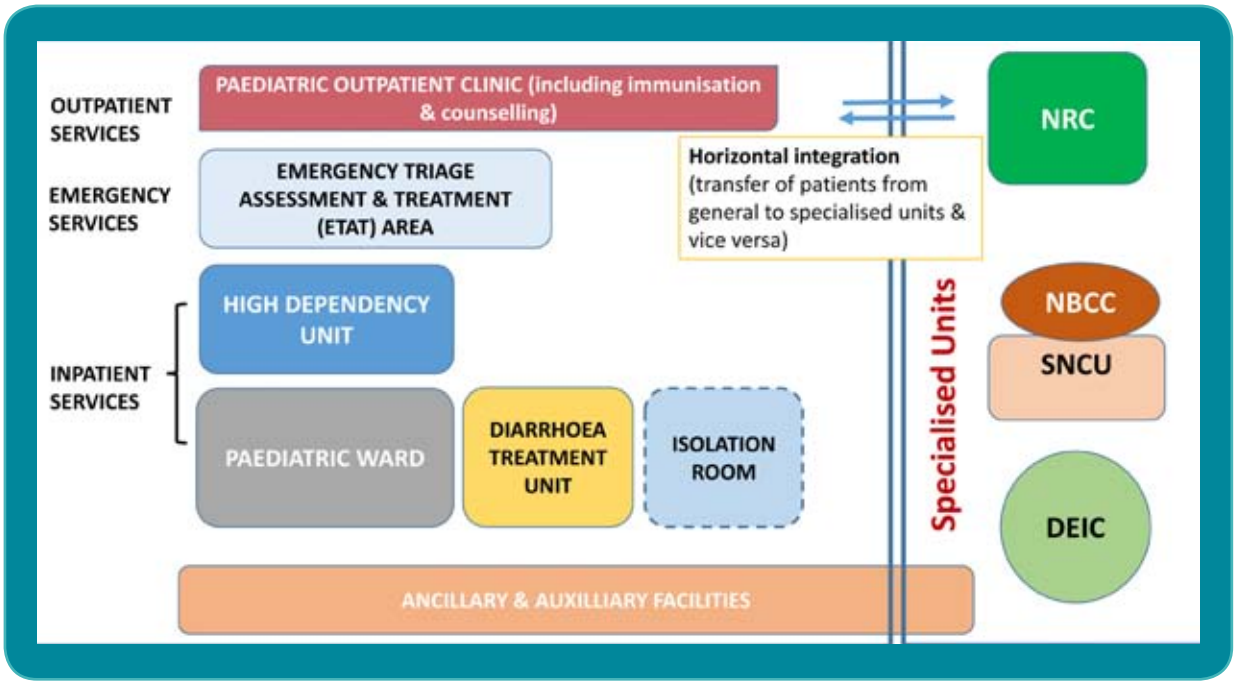
1. Paediatric Outpatient Facility (including immunisation and counselling services)
2. Emergency Triage Assessment and Treatment (ETAT) Facility
3. Paediatric Inpatient Facility
    a) High Dependency Unit
    b) Paediatric Ward
    c) Diarrhoea Treatment Unit
    d) Isolation Room
4. Ancillary (eg;laboratory, imaging, pharmacy) & Auxiliary Facilities (eg; play area, hospital kitchen)

The general paediatric care facility will function in close coordination with specialised units that already have approved guidelines for operationalisation and include the following:

- **Newborn care facilities** (Newborn Care Corners, Newborn Stabilisation Unit, Special Newborn Care Unit)
- Nutrition Rehabilitation Centre
- District Early Intervention Centre

For most effective use of these facilities, horizontal integration across general and specialised units is required. Vertical integration is achieved by establishing linkages with tertiary level facilities (public or private) that provide speciality services (such as neurosurgery, paediatric surgery, paediatric cardiac surgery etc.) that are currently not available at the level of District Hospital in most states.

Comprehensive Newborn & Paediatric Care Facilities in District Hospital



Services provided at the District Hospital, commensurate with the secondary level of care, can be grouped as **Essential (Minimum Assured Services)** and **Desirable** (which District Hospital should aspire to achieve).

As per the IPHS Guidelines for District Hospitals, Revised 2012, **Paediatrics including Neonatology and Immunization have been identified as essential services.**

Standard package of services to be delivered by Paediatric Care Unit at District Hospital is as follows:

Unit	Services	Location
OUTPATIENT SERVICES		
Paediatric OPD	• Early diagnosis & curative services on ambulatory basis for common childhood ailments • Screening for admission to hospital • Follow up care & care after discharge • Rendering of preventive healthcare services through provision of immunisation, screening, counselling • Promotion of overall growth and development of children by health education, health & nutrition counselling	• Part of general centralised OPD or • Separate Paediatric OPD
EMERGENCY SERVICES		
ETAT	• Assessment of children for emergency signs, without delay, on presentation to health facility • Triage by qualified health professional • Management of emergency conditions/ implementation of emergency guidelines e.g. for convulsions, neurological deficits, shock and respiratory distress • Stabilization of children (presenting with emergency sign) before transfer to inpatient ward	• In general emergency area Or • Trauma Centre Or • Paediatrics Unit
INPATIENT SERVICES		
High Dependency Unit	• Provision of close observation, monitoring and treatment to children who are, or have a significant potential to be physiologically unstable • Management of children requiring constant oxygen therapy, cardiorespiratory monitoring, inotropic support	• Co-located with ETAT or • In the paediatric

Unit	Services	Location
Paediatric ward	• Investigation and treatment of admitted sick children as per national standard (F-IMNCI) • Monitoring and supportive care for sick children • Identification & referral of children requiring care at tertiary facilities	• Separate Paediatric ward
Diarrhoea treatment unit	• Assessment of dehydration • Management according to degree of dehydration • Rational use of drugs in children with diarrhoea/dysentery • Demonstration of ORS preparation • Counselling on feeding, danger signs, prevention of diarrhoea	• In the ward area, preferably adjacent to paediatric ward or in emergency area
Isolation room	• Segregation and management of children with infectious diseases (source isolation) • Prevent susceptible paediatric patients from being infected (protective isolation)	• Separate room/s, preferably close to paediatric ward

In subsequent chapters each sub-unit of the District Hospital Paediatric Care Unit is described in detail in terms of location, size, design, equipment, drugs and staff requirements as well as the service package to be delivered.

CHAPTER 3

SETTING UP OUTPATIENT SERVICES

Outpatient Department (OPD)

Outpatients is an important wing of the hospital serving as the first point of contact between the patient/caregivers and the hospital staff. In all District Hospitals children should be seen in separate OPD/room by the designated health professional (paediatric specialist)/adequately qualified doctor. Regularly scheduled hours and personnel in adequate numbers should be assigned to the paediatric clinic and ancillary services.

The functional flow should be organised such that the time spent to see a doctor and the total time spent at the health facility by the children and their parents/caregivers can be minimised. This requires that special provisions are made for children presenting the OPD, including:

- Separate counter for registration of children
- Token system & electronic display
- Number of doctor/s and support staff designated according to patient load
- Prioritising children with 'priority signs' for consultation (refer to Chapter on ETAT)
- Designation of specific lab personnel for collection of blood samples in children
- Separate drug dispensing counter in the pharmacy or separate pharmacy for children

Location

The paediatric outpatient clinic can be part of centralised OPD along with other specialities. In some District Hospitals, the paediatric department is located in Jenana Hospital (Women's Hospital), away from the main hospital building. In this case the paediatric OPD can be **located in the paediatric department.**

It should however be made clear that the Emergency Department will be functional during general OPD hours. This is important because children with real or perceived emergency medical condition may have to wait for a long time in the general OPD before they are attended. If Emergency service is functional 24x7 then seriously ill children can present directly to Paediatric Emergency Triage Assessment and Treatment Services (ETAT). Otherwise the Outpatient Department should be equipped to handle emergencies.

Timing

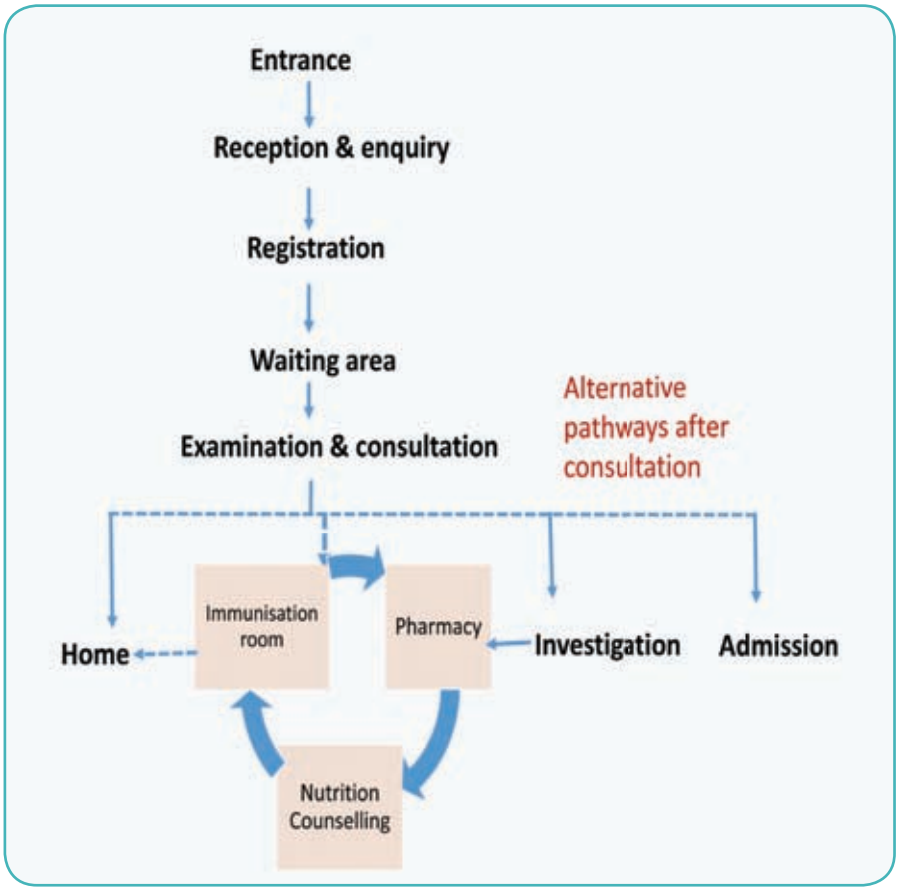
The paediatric OPD must function for at least four hours per day. Opening & closing hours can be decided and communicated by the state &/or district authorities. While there may be variation in summer and winter season opening hours, most states require morning and evening OPDs to be conducted.

The timings should be prominently displayed on the board in the reception and waiting area.

Size & design

Layout of the paediatric outpatient clinic should follow the functional flow of the paediatric patients in the OPD. A suggestive plan to organise paediatric clinic is depicted below.

Functional flow of patients in paediatric OPD



Entrance area should have easy to follow signage system that helps parents-attendants find their way to the outpatient room for children. Opening and closing hours for the children's outpatient should be clearly displayed. Services (such as drugs, diagnostics) that are offered free of cost for children of specific age groups as per the government policy should be displayed. User charges if any, and services with chargeable amounts are displayed and communicated to patients.

Reception & registration area in the centralised OPD can preferably have a separate counter and token system for paediatric patients so that they can be attended as priority and waiting time can be cut down for infants and young children. Enquiry /help desk should be available with staff fluent in local language and well versed with hospital layout and processes. It is desirable to establish computerised registration, token system for queuing and patient calling system with electronic display to systematise the outpatient consultation.

Provision for wheelchairs and stretchers should be made for children. Other desirable services include air-cooling, television, and water cooler.

Waiting area with adequate seating arrangement should be provided adjacent or close to the paediatric clinic. Waiting area at the scale of 1 square ft/per average daily patient is recommended by IPHS for District Hospitals, revised 2012.

Consultation room: Doctor's chamber should have ample space to seat 4-5 people. A single room for consultation 130-150 square feet in area with space for doctor's chair, patient's stool, follower seat, wash basin, examination couch, and equipment for examination is adequate. The room should have provision for handwashing (a washbasin) and clean wipes.

Privacy must be ensured during physical examination. Due care must be taken in examining older female child; she should be examined in the presence of a relative or a female staff even if it is not a medico legal case.

Patients should be seen on first come first basis. However, in case of emergency out of turn consultation must be provided.

Standard case recording format

Standardised format for recording patient information and clinical details should be used; important data should be maintained in the OPD Register. Sample is provided in the annexure 1. The aim should be to move towards Electronic Patient Recording system.

Equipment for paediatric outpatients clinic

Equipment related to specialty examination should be available in concerned room. Each consultation cum examination room should have wash basin for hand washing. All OPD should have one set of equipment for resuscitation of patients collapsing suddenly. Given below the list of equipment in OPD:

Equipment	Quantity
Work table/ physician's desk & chairs	1
Examination couch	1
Revolving stool (for patient)	1-2
Almirah/ wall mounted cabinets (for storage of consumables, records) etc.	1-2
Follower seat	2
X ray view box	1
Weighing scales (digital) for infants and children	1 each
Torch	1
Spatula (disposable)	multiple
Non-invasive blood pressure monitoring (infant, child, adult cuffs)	1 each
Digital thermometer	1-2
Stethoscope (paediatric)	1
Otoscope	1
Measuring tape	1
Disposables (eg; gloves)	As per consumption
Stationery (register, OPD case recording format)	As per need
Bell	1
Weight for height tables	1 set
Display material (posters etc.)	D
Resuscitation equipment	1 set
Stadiometer	D
Pulse oximeter	D

General amenities

In the outpatient area, patient amenities like drinking water, functional and clean toilets with running water, fans/ coolers should be available. Water cooler should be provided at a suitable but accessible location in the OPD. Seating arrangement should be made as per the case load. IEC panels and audio-visual aids (eg; television sets) intended to impart education on optimal feeding practices, immunisation, and diarrhoea prevention,etc. should be arranged.

Public convenience: In the OPD, one water closet (WC) & 1 washbasin should be available for every 100 male persons and 2 WC and 1 washbasin for every female persons *(IPHS for District Hospital, revised 2012).* It is proposed that two WC and a washbasin should be reserved for children visiting the OPD and fitted accordingly (low WC seats; washbasins at appropriate height, lever operated taps).

Drug dispensing counter/Pharmacy

Some District Hospitals have a separate pharmacy for paediatric patients located close to the OPD. Separate counter for children at the outpatients' pharmacy It should be considered in all District Hospitals where patient load is high. Wherever feasible, a separate pharmacy for children should be made functional. as iIt This will cut down upon the total time spent by children and caregivers in the hospital and allow for more time with pharmacists to explain the how the medicines are to be administered.

The list of the 'Drugs Available' should be displayed outside the pharmacy and updated periodically. As far as possible the drugs prescribed by doctors should be those available in the hospital pharmacy.

JSSK guidelines must be followed for provision of diagnostics and drugs, free of cost, to all children upto one year of age.

Examining children with history of sexual assault

Separate provision should be made in the emergency area and the OPD for the assessment and examination of medico-legal cases such as rape/sexual assault survivors. Prescribed guidelines must be followed in this regard. Details are provided in the *Guidelines & Protocols for Medico-legal care for survivors/victims of sexual violence, published by Ministry of Health & Family Welfare, Government of India, 2014*

IYCF Counselling Centre

IYCF Counselling Centre are established in the outpatients' area at high case load facilities (District Hospital, Community Health Centre) and dedicated Maternal and Child Hospitals. The service provision at this centre includes:

1. Assessment of physical growth & development
2. Review of immunisation record
3. Communication and counselling on optimal infant & young child feeding practices
4. Advise & provision for micronutrient supplements (Vitamin A and iron syrup)
5. Information about child and maternal health services available through community outreach
6. Lactation management for referral cases

A Nutrition Counsellor/ IYCF counsellor and one staff (Nurse, ANM or equivalently trained personnel) are appointed to manage this centre and is available for fixed hours (coinciding with timing of outpatient services) to counsel and address referral cases. **All children below two years** should be directed from outpatients to the counselling centre for assessment of physical growth & immunisation status (if not already done in the OPD) and age-appropriate counselling services.

Group counselling sessions, on fixed days and time, should be organised at pre-decided contact points in the OPD. For children born prematurely or with low birth weight, one to one counselling session should be conducted with the mother/caregiver and follow up visits to the centre requested.

At District Hospital, advanced set of skills are required for dealing with concerns and problems related to lactation failure or breast problems. At least two service providers trained in advanced lactation management and IYCF counselling skills should be available to deal with difficult and referred cases. IYCF counselling centre should facilitate mother's/caregiver's access to these providers or ensure their availability in the centre on pre-decided days and time.

Equipment for IYCF counselling centre

- Furniture (table, chair, stools)
- Digital weighing scales for infants & children
- Stadiometer
- Infantometer
- WHO growth standards (Charts)
- MUAC tapes
- Mother Child Protection Card
- Dolls and breast models (such as for demonstrating expression of breastmilk)
- Steel bowl, spoon
- IEC (audio-visuals and print material)
- Job aides (flip chart etc.)

For more details, please refer to the Guidelines for enhancing optimal infant and child feeding, MOHFW, GOI, 2013.

Staffing for paediatric outpatient clinic

While many of the staff listed below will be those designated to the centralised OPD, doctor/s, nurse/s and paramedical staff should be designated specifically to paediatric OPD based on the patient load. These are:

- Paediatric Specialist: 1 for every 50-60 cases
- Paramedical staff: 1 with each doctor

- **Reception clerk/ Registration clerk** (only if the paediatric OPD is located independent of generalised OPD)
- **Nutrition counsellor:1**
- **Pharmacist:1**
- **Security staff : as per requirement**
- **Volunteers** (where available, for providing direction to the paediatric OPD, registration etc.)

A good OPD service can reduce repeat visits to the hospital as well as the load on in-patient services by making timely diagnosis and providing the right prescription. Therefore a doctor trained in paediatric care should be available in the paediatric clinic for providing specialist medical opinion; where registration of children is more than 100 -120 per day in one shift, two paediatricians will be required to handle the patient load. One doctor can provide services in the evening shift if the patient load is known to be lower.

In order to improve the efficiency and effectiveness of outpatient services, the role of paramedical staff is vital. At least one paramedical staff should work alongside each paediatrician in the OPD to ensure that all children are weighed & weight correctly recorded, immunisation status is checked, children < five years are screened for SAM using MUAC, and those with emergency and priority signs are triaged. **Tasking senior nurses for registration purposes should be discouraged; these roles should be shifted to clerical staff or trainee nurses or other suitable personnel**.

Besides the doctors and paramedical staff, volunteers and security personnel should be at hand to manage the queue, and to direct parent-attendants to the ancillary services (pharmacy, immunisation, imaging, laboratory, inpatient registration counter etc.) after consultation.

Where services of the nutrition counsellor is available, caregivers of all children below two years presenting to the OPD should receive nutrition information and counselling either before or following paediatric consultation.

Training

Staff positioned in the IYCF centre should receive appropriate training that provides the basic knowledge and skills to assess feeding practices and can apply lactation management and infant and young child feeding principles during counselling.

Advanced set of skills is required by at least two persons directly involved in the provision of counselling support to mothers and families in the District Hospital so that they can deal with concerns and problems related to lactation failure or breast problems like engorgement, mastitis etc, and provide special counselling to mothers with less breast milk, low birth weight babies, sick new-born, undernourished children, adopted baby, twins and babies born to HIV positive mothers.

Training packages recommended by the Ministry of Health & Family Welfare should be used.

CHAPTER 4

SETTING UP PAEDIATRIC EMERGENCY TRIAGE ASSESSMENT & TREATMENT (ETAT)

Introduction to Emergency Triage Assessment and Treatment (ETAT)

Many deaths in hospital occur within 24 hours of admission. Some of these deaths can be prevented if very sick children are quickly identified on their arrival and treatment is started without delay.

The word triage means sorting. Triage is the process of rapidly examining all sick children when they first arrive in hospital in order to place them in one of the following categories:

A. Those with **EMERGENCY** SIGNS who require immediate emergency treatment.

B. Those with **PRIORITY** SIGNS, indicating that they should be given priority in the queue, so that they can rapidly be assessed and treated without delay.

C. Those who have no emergency or priority signs and therefore are **NON-URGENT** cases. These children can wait their turn in the queue for assessment and treatment. The majority of sick children will be non-urgent and will not require emergency treatment.

Initial assessment

Triage should be carried out as soon as a sick child arrives in the hospital, well before any administrative procedure such as registration. This requires reorganizing the flow of patients in some locations.

All children attending an emergency care setting should be visually assessed immediately upon arrival and receive an initial triage assessment within 15 minutes of arrival or registration by a competent and appropriately trained nurse or doctor.

All sick newborns (0-28 days) should be directed to Special Newborn Care Unit (SNCU) for emergency care, if such unit is functional. Each functional SNCU unit should organise a space for receiving neonates with emergencies. This area should have in place a radiant warmer and an emergency trolley with required set of equipment and essential drugs.

All children (older than 1 month) should be directed to paediatric triage assessment and emergency area. Patients triaged as EMERGENCY cases should remain in the emergency care area for treatment and stabilization. Following institution of emergency treatment, children should be transferred to a High Dependency Area/Unit established as a 4-6 bedded unit (depending on space and caseload) located either in the emergency area or paediatric ward.

Patients triaged as PRIORITY need prompt assessment to determine what further treatment is needed. Initial management should be done in the emergency area itself and accordingly patient admitted to high dependency or paediatric ward. If child has trauma or surgical problems, help of surgical / orthopaedic specialist/s should be sought promptly.

Patients triaged as NON-URGENT should be directed to a registration area, after which they will proceed to the OPD.

If a child with emergency signs is identified in the outpatient queue, s/he must quickly be taken to a place where treatment can be provided immediately, e.g. the emergency room or ward equipped for ETAT.

Location

Triage can be carried out in different locations – e.g. in the emergency room, or in a ward if the child has been brought there directly. Ideally triage should be done in both these places. The location of ETAT in District Hospitals is determined by various factors. Depending on the infrastructure & functioning of the general emergency department, availability and location of paediatric ward (distance from emergency department), caseload of seriously ill children reporting to the hospital and availability of human resources for management of emergencies, the location has to be carefully selected. Triage should preferably have a distinct entry independent of OPD main entry so that minimum time is lost in giving immediate attention to emergency cases arriving in the DH. There should be easy ambulance approach. It is best located on the ground floor, with directional signage (in white text on a red background).

Ideally, the paediatric ETAT should be located in an effective area of the general emergency department of the District Hospital (or the Trauma Centre, where these exist). This means that paediatric ETAT is integrated in the overall system of management of emergencies and the resources already available in this place /department can be mobilised. Since the emergency area is most likely to have qualified health provider/s available round the clock in nearly all the hospitals, it may eliminate the need to deploy additional human resources.

In certain District Hospitals, the children's hospital/paediatric ward is co-located with obstetric facilities ('zenana' hospital) at some distance from the main hospital & thus the general emergency. A separate paediatric emergency unit should be considered for the initial reception of emergency cases only if alternative location (such as Paediatrics ward) has an appropriately staffed and equipped area for reception, triage and resuscitation.

Design of ETAT: Generic plan

Access is an important part of quality of care. Clear and proper signage at strategic points help patients in reaching their destination without losing much of their valuable time and save lot of their efforts in unnecessary enquiring from persons.

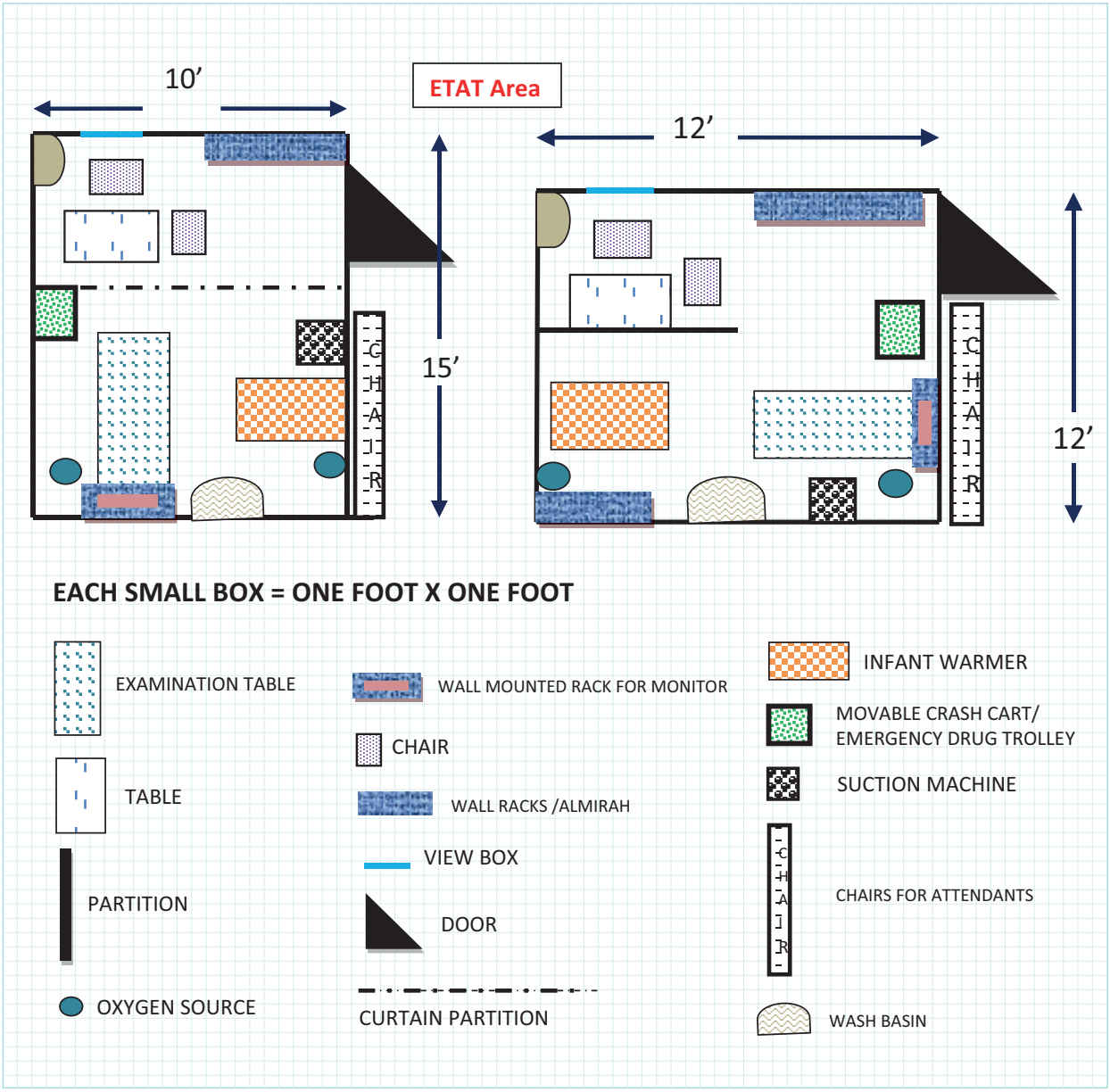
Signage indicating the location of paediatric triage & emergency should be placed both at the entrance of the hospital and within the health facility. It should be easily understood by the population visiting the District Hospital. It may therefore be a visual representation or written in local language. Where general emergency services are well functioning (streamlined), the reception and waiting area will already be in place. Where this is not, a reception desk and waiting area for caregivers should be created close to the paediatric emergency area.

The paediatric emergency should have sufficient space for:

i. Triage
ii. Resuscitation & emergency management
iii. Close monitoring/Stabilisation
iv. Reception and waiting area

Irrespective of its location, an area of at least 150 square feet and preferably bigger should be available for examination by the nurse or doctor and instituting emergency treatment. The space should be sufficient to accommodate an examination table, a radiant warmer, crash cart/emergency care trolley, equipment (such as suction pump, oxygen delivery system), hand washing facility ,space for patient trolley (stretcher) to be brought in and for health providers to be able to work around the examination table.

Proposed layout plan for ETAT area



A cubicle with a door, ensuring audio visual privacy and confidentiality for doctors&nurses during consultation and counselling sessions with parents-attendants should be available within this setup.

It is assumed that general amenities like drinking water and washrooms are available for use by attendants and ancillary areas like doctors' & nurses' duty rooms and stores etc. are in place in the emergency area.

The floor plans on the adjoining page provide an example of how ETAT area can be organised. Adjustments can be made locally depending on the available infrastructure and possibility for renovation and fabrication.

Equipment and drugs for ETAT

Drugs & consumable for emergency paediatric care as per the list (annexure) should be made available. The drugs & consumables should be organised in the emergency trolleys/crash cart to ensure accessibility during emergencies.

a) Paediatric equipment, supplies, and medications should be appropriate for children of all ages and sizes and shall be easily accessible, clearly labelled, and logically organized.

b) Resuscitation equipment and supplies should be located in the triage & emergency area so that the items are immediately accessible to the staff. A mobile paediatric crash cart is strongly recommended.

c) Staff providing ETAT should be appropriately educated as to the location of all items.

d) Checklists should be used, to reduce the risk of missing items; functionality of equipment should checked at the start of every new shift and drugs & consumables replenished. Nurse In-charge or shift in-charge for emergency care should have a method of daily verification of proper location and function of equipment and supplies.

e) Resources to aid preparation of medications should be readily available. Pre-calculated resources for common or emergency drug doses and equipment sizes for children of all ages must be accessible, as well as dilution guidelines and charts for the preparation and administration of medications and IV fluids. ETAT logarithms and flowcharts should be displayed at appropriate locations within the ETAT and emergency area in general, to aid the decision making process and emergency management.

Equipment for paediatric emergency

Equipment	Essential /desirable	Quantity
Examination table (for receiving patients)	E	1
Radiant warmer	E	1
Emergency drug trolley	E	1
Patient trolley(for transport)	E	1
Electric & foot operated suction pumps	E	1 each
Glucometer + Test strips	E	1
Nebuliser	E	1
Self-inflating bags & mask with oxygen reservoir: newborn (250 ml), infant (500) & paediatric (750 mL)	E	1 of each size
Newborn, Infant, child masks (00,0,1,2)	E	1 of each size
Oxygen concentrator (if assured power supply) or oxygen cylinder (as backup) with regulator, pressure gauge and flow meter	E	1

Equipment	Essential /desirable	Quantity
Infusion pump	E	2
Laryngoscope handle and blades:		
curved 2,3; straight 1,2; handle 0 size	E	2 sets of each size
Tray with needle & suture	E	1
Needle cutter	E	1
Multiparameter monitor & probes	D	1
Pulse oximeter (adult / paediatric probes)	E	1
Noninvasive blood pressure monitoring (infant, child cuffs)	E	1 each
Digital thermometer	E	2
Otoscope, stethoscope (paediatric & adult)	E	1 each
Diagnostic		
Portable X ray*	D	1
Portable Ultrasound machine*	D	1

**Not specific to the paediatric ETAT, but can be used for all emergencies.*

Drugs and Consumable for paediatric emergency

List of drugs
Paracetamol (oral, per rectal)
Salbutamol Respiratory solution/MDI
Ipratropium nebuliser solution
Corticosteroids (hydrocortisone, dexona inj.); (prednisolone tab)
Inj. Furosemide
Inj. Diazepam
Inj. Phenobarbital
Inj. Phenytoin
Inj. Midazolam
Ampicillin , Amoxicillin,Cloxacillin
3rd generation Cephalosporin (Cefotaxime, Ceftriaxone)
Inj. Gentamicin/ Amikacin
All anti-malaria drugs needed according to national malaria control programme (Inj. Artesunate, Quinine / Artemisinin combination therapy)
Dopamine/Dobutamine
Digoxin elixir
Adrenaline inj.
Calcium Gluconate inj.
Sodium Bicarbonate inj.

List of drugs
Ranitidine inj.
Mannitol 20% inj.
Antihistaminics (Inj. Avil)
Potassium chloride injection (KCL)
Magnesium sulphate Inj.
Vitamin A, K inj.
Povidone-iodine for local application, spirit swabs
ORS
Glutaraldehyde (for disinfection)/formaldehyde

Consumables
Adhesive tape, at least 2 different sizes
IV Infusion sets
IV Cannulae (size 22 or 24 G)
Syringes 1ml, 2 ml, 5 ml
Disposable needles 22,23,26 G
Bone marrow aspiration needle 18G
Nasogastric tubes (sizes 6, 8,10,16 fr)
Suction catheters: size 6-7 F.G.
Oxygen tubing, nasal prongs or catheters
Nasal cannulae (infant, child, adult)
Oral airways (sizes 0–5)
Nebulising kits (single patient use)
Endotracheal tubes, uncuffed (2.5-5.5)
Dipstix for urine test
Ringer's lactate or normal saline
Half-normal saline with 5% glucose solution
Glucose 10% or 50%
General Items
ETAT algorithms /flow charts
Printed drug dosages
Measuring tape
Weighing scales (digital) for infants and children
Heating source (for infant warming) (oil filled heater)
Clock
Blankets
Torch

Eligibility to provide ETAT

All clinical staff involved in the care of sick children should be prepared to carry out rapid assessment in order to identify the few who are severely ill and require emergency treatment. In addition, people such as gatemen, record clerks, cleaners, janitors who have early patient contact should be trained in triage for emergency signs and should know where to send children for immediate management.

Initial triage assessment is designed to occur in 30 seconds. It can be done by medical staff or by non-medical staff (after appropriate training) as soon as the child arrives, and no special equipment is needed for this. This means that triage can be done by service providers, paramedics (such as pharmacist) as well as support staff (such as receptionist, gatekeeper) positioned in the emergency area and in outpatients department.

Emergency management should be done only by qualified nurses and doctors. It is preferable that both nurses and doctors have undergone ETAT training and/or F-IMNCI training in the last 2 years.

Staffing of ETAT

Doctor/s and nurse/s are already positioned in the emergency department in most District Hospitals. Some states have dedicated medical officers for emergency services, while in others all doctors posted to District Hospital perform emergency duties by rotation.

It is recommended that paediatric emergency be staffed with at least 1 nurse (total 4 for round the clock services) and 1 medical officer (total 4) trained in paediatric triage &emergency treatment. In addition one paediatrician should be on call every shift to provide specialist services for seriously ill children. Based on the review of utilisation data, staffing may be increased to 2 staff nurses during busy hours, when the patient load is high.

In addition, the gatemen and pharmacist may be provided the responsibility for “directing traffic” within the District Hospital/ Trauma Centre.

A Paediatric Specialist or Emergency Medical Officer and Head Nurse (of the department where the ETAT is established) should be designated as the overall in-charge of the ETAT services. The lead nurse with overall responsibility for the emergency department should have the explicit responsibility for developing and maintaining a suitable environment and ensuring the provision of appropriate equipment, drugs and consumables. The doctor in charge of the paediatric triage & emergency should be responsible for regular monitoring and ensuring quality of care.

Standard case recording format

Patient information and clinical details should be recorded in the standard case recording format. Format adapted from F-IMNCI training package is provided in the annexure 1.

Ancillary services

Coordination with hospital support services should be undertaken to improve the effectiveness of ETAT. For example, the laboratory and blood bank should prioritize specimen processing and blood-product release. Additionally, radiology technicians can be sensitised to prioritize under five patients for X-rays & ultrasound in an emergency.

Diagnostics

Point of care testing are tests designed to be used at or near the site where the patient is located, do not require permanent dedicated space, and are performed outside of the clinical laboratories. The classic example is bedside glucose testing using a glucometer. Empowering doctors and nurses to make decisions at the "point-of-care" has the potential to significantly improve health care delivery. Point-of-care testing allows patient diagnoses in the treatment area itself, the results are timely, and allow rapid initiation of specific treatment to the patient. Provision should therefore be made for such tests (Urine Dipstix, RDT for malaria, Typhoid, Dengue) and monitoring devices (such as pulse oximeter) for point-of-care testing. New devices are in the offing and this is likely to expand the number of tests that can be performed at bedside or outside the traditional laboratory setup.

Laboratory support: While a wide range of investigations may be routinely available, essential diagnostic tests should be available 24x7. Specimens sent from emergency should be processed on a priority and results sent back in the specified time period.

Essential lab tests	Desirable lab tests
Haemogram with peripheral smear	Test for dengue
Routine microscopy urine	Blood culture with sensitivity
Rapid diagnostic test for malaria	Urine culture with sensitivity
Blood glucose	Serum electrolytes
Test for typhoid	Serum calcium
Serum bilirubin	Kidney function Test
Blood grouping & cross matching	Liver Function Test

Imaging

A route to the imaging department which avoids other areas of the emergency care setting/hospital, if possible, should be identified so that critically ill children can be rapidly transferred.

Facilities for Chest X-ray should be available in the health facility. The radiology department should have the skills and capability to provide imaging studies of children and have the equipment (such as ultrasound probes) necessary to do so.

Blood bank

Blood-product release should be prioritised for children. Paediatric blood bags should be used for blood collection.

Stabilization of children before transfer to the paediatric ward

Children should be monitored for adequate response before transfer to the ward. It should be ensured that the vitals are stable and the child is in no immediate danger of deteriorating. Preferably, the paediatrician on call should assess the child before the transfer is made.

Stabilisation can be continued on the high dependency beds made functional in the emergency area or the paediatric ward.

Stabilisation of a child's condition is required in two situations:

- following resuscitation; and
- when an acutely sick child's condition worsens and urgent management is required to prevent further life-endangering deterioration.

Stabilisation includes some or all of the following:

- Securing the airway.
- Establishing secure venous access.
- Correcting poor perfusion and acidaemia.
- Obtaining a full history.
- Carrying out a full physical examination.
- Performing baseline investigations, eg; a chest X-ray, electrolytes or glucose.
- Performing acute 'aetiological' investigations, eg; blood culture before giving antibiotics.
- Initial treatment of the causative pathology, eg; bronchodilators for asthma and antibiotics for sepsis.
- Deciding on the location of continuing care.
- Arranging transfer to an appropriate unit (like paediatric ward) or health facility.
- The transfer itself.

CHAPTER 5

SETTING UP PAEDIATRIC INPATIENT SERVICES

Care for children at District Hospitals is often not commensurate with the secondary level of careen visaged at this health facility. As a result there is unnecessary transfer ofseriously ill children to regional or tertiary care centre leading to burdening of higher level facilities and additional costs to parents& the health system when appropriate care could have been delivered locally. Therefore it is proposed that the level of paediatric care available atDistrict Hospitalsbe enhanced with the provision for high dependency care for seriously ill children, obviating the need for referrals in many cases. Only select cases requiring specific interventions arethen referred to higher centres and most other cases can be managed at the district level.

What is high dependency care?

Paediatric High Dependency Care (HDC) is the provision of close observation, monitoring and intervention to children who are, or have a significant potential to be, physiologically unstable. Children are shifted out once their physiological condition stabilises to the point where they can be cared for on a general ward or their condition deteriorates and they require care on a tertiary care unit (Paediatric Intensive Care Unit; PICU).

Setting up of High Dependency Unit

The High Dependency Unit (HDU) provides specialist care for children requiring more observation, intervention or monitoring than can be safely provided on the general wards: it acts as a ‘step up’ from the wards and a ‘step down’ from our Paediatric Intensive Care Unit. HDU at District Hospital is envisaged as a specially staffed and equipped four to six bedded unit that provides patients with expert medical and nursing care and monitoring facilities. Once the patient has made sufficient recovery, s/he can be shifted to paediatric ward.

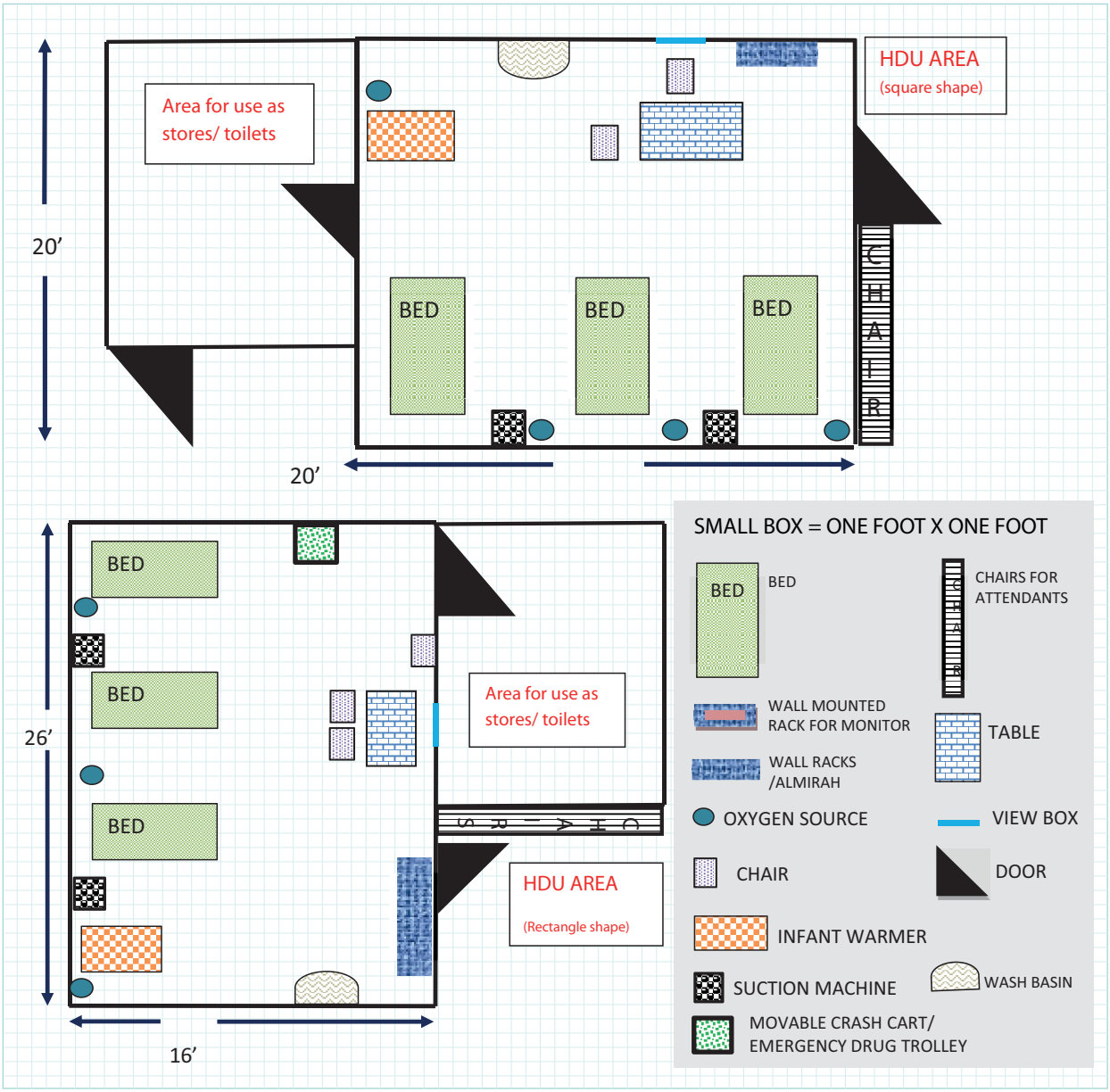
Location and size

(1). HDU can be located within or adjoining emergency area so that the patients who have been instituted emergency treatment can be placed here under direct supervision of trained health provider till the patient is stabilised.

(2). Second option is to establish HDU within or adjacent to the paediatric ward. It is preferable to allocate a separate room for HDU. However ifit is located within the ward, it should be partitioned off from rest of the ward area and located close to the nursing station.

HDU will require 425-500 square feet of space in order to accommodate 4 beds, equipment, hand washing and toilet facilities. Additional space will be required for nursing station, doctors and nurses rooms and toilet if these are not available in the adjoining ward or emergency area.

Proposed layout plan for HDU area (adjecent to paediatric ward)



Admission and discharge criteria

All children with emergency signs and unstable vital signs are to be admitted to HDU. Once the underlying physiologic condition that prompted High dependency care has been resolved or the disease process has stabilised, the child can be considered for step down (to ward) from high dependency care.

Equipment for HDU

Equipment	Quantity
Beds	4-6
Neonatal cot with radiant warmer/servo controlled radiant warmer	1
X ray view box	1
Tables & chairs for staff	2+4
Bedside stools	4
IV stands	4-6
Electric & foot operated suction pumps	4
Oxygen concentrator (if assured power supply) or oxygen cylinder (backup) with regulator, pressure gauge and flow meter	2/3
Heating source (oil filled heater)	2
Pulse oximeters (adult / paediatric probes)	2
Noninvasive blood pressure monitoring (infant, child, adult cuffs)	2
Digital thermometer	4
Otoscope, stethoscope (paediatric)	1 each
Patient trolley(for transport)	1
Glucometer with test strips	1
Nebuliser	2
Infusion pumps/syringe pump	4
Needle cutter	1
Monitors	3-4 Desirable
Resuscitation equipment set	1
Almirahs for storage of consumables, drugs, records	2

The medicines included in the essential drug list for emergency management of children should also be available for use in the HDU.

Staffing of HDU

The important aspect of high dependency care is the availability of expert medical and nursing care round the clock. The ratio of nurses to patients is therefore higher than in most general wards. This level of clinical care requires atleast one nurse per 3-4 beds (preferable nurse: bed ratio of 1:3) in each of the three shifts and the presence of a doctor round the clock.
One medical officer should be present in the HDU in each shift. This means that atleast 4 medical officers should be allocated to HDU in addition to Paediatric Specialists. Medical officer must take at least one clinical round of paediatric ward during his/her shift and make more frequent assessment of cases in the HDU.

Depending on the location of the HDU, the scope of doctor's services can be extended to the paediatric emergency and the paediatric ward. This should improve the re-assessment of inpatients and thus their overall clinical management.

Paediatric ward

The Paediatric ward provides care for children from 1 month of age up to 12 years, who meet the criteria for admission. The ward should have provision for one parent -attendant to stay (per patient) on the ward overnight.

Recommended Service Mix (suggested actions) for different illnesses concerning paediatric speciality as per the IPHS 2012 for District Hospitals have been adapted and are as follows:

Name of the Illness	Suggested actions
1 ARI/Bronchitis Asthmatic	Assess & classify severity Investigate Diagnose Manage as per clinical protocols (Nebulization , Oxygen)
2 Diarrhoeal Diseases	Diagnose Treat ORT Centre or DTU Referral of cases requiring specific investigation for malabsorption syndrome
3. Severe acute malnutrition, vitamin deficiencies and micronutrient deficiencies	Diagnose Management of acute illness/medical complications Investigate, and then continue management in NRC Treat with help of Dietician

Name of the Illness	Suggested actions
4. Pyrexia of unknown origin	Diagnose Treat Refer cases requiring specific investigations
5. Haematological Disorders	Investigate & Treat Referral of cases requiring blood component therapies not available at DH
6. Diseases of Bones and Joints	Investigate & Treat
7. Childhood Malignancies	Investigate then refer & then supportive treatment in liaison with the specialized centre & manage
8. Liver Disorders	Investigate & Manage Refer cases with hepatic failure and those requiring further investigation for confirmation of specific etiological diagnosis
9. Paediatric Surgical Emergencies	Investigate & Manage Refer cases for which surgical intervention is not available at DH
10. Poisoning, Sting, Bites	Treat

Inter-facility referrals

While most childhood illnesses can be managed at District Hospital, some of them will require referral to a tertiary level facility for specialist care.

Patients referred from District Hospitals should be provided with referral notes stating the condition, reason for referral and any treatment given. Referred patients receive appropriate pre-referral treatment when indicated.

Where the District Hospital/ state policies allow for provision of free transportation in between facilities, these should be arranged for.

Conditions when referral to tertiary level is required:

- Intractable shock
- Intractable convulsions
- Respiratory failure
- Acute renal failure
- Acute hepatic failure
- Intractable congestive heart failure
- Conditions requiring paediatric surgical intervention
- Conditions requiring specialised laboratory services
- Childhood malignancies
- Metabolic disorders
- Neurological conditions for which investigations and treatment not available at DH level
- Blood component therapy

Location of paediatric ward and allocation of beds

The location of the paediatric ward should be away from the crowded area of the hospital. The corridors should be wide and the ward located preferably close to the lift. Preferably there should be a single door entrance in order to restrict the passage of traffic (such as trolleys) and visitors.

As per the IPHS 2012, 8-10% of hospital beds (depending on the total bed strength of the DH) are to be allocated topaediatric ward. Assuming that most District Hospitals on average are 300 bedded, the paediatric ward should have 24-30 beds. However it is important to note that this does not reflect the actual requirement for the reason that District Hospitals have fewer beds than required according to population norms. Children under five constitute about 9% while children in age group 0-12 years, constitute about 24% of total population. The aim therefore should be to allocate morebeds to paediatric care as and when new beds are added to the District Hospital.

Number of total beds in DH	300 beds	400 beds	500 beds
Bed allocation to paediatric ward	24-30	32-40	40-50

Size & design

The paediatric ward should be designed with the objective of facilitating the nursing staff to observe each patient and keep a close watch on them. In the open ward arrangement, beds can be arranged perpendicular to the wall on either side of the nursing station or with nursing station on one end. While open wardis economical to build and allows better observation, there are chances that the ward will provide little privacy and space between beds will be reduced, increasing the risk of cross infection.

The other arrangement is that of 4-6 or more beds in cubicles separated by low partitions with nursing station either on one side or in the centre. The disadvantages are the lack of direct observation and requirement for more nursing staff although this arrangement may provide privacy to patients with less risk of transmission of infection.

However in many DHs, the current arrangement is such that paediatric beds are organised in a number of small adjacent rooms with nursing station is located in the corridor outside, often at a distance. This arrangement should be avoided since the patients are not in direct view of the staff and this makes monitoring and nursing care more difficult, especially when the number of staff on duty is few.

The size of paediatric ward will depend on the availability of space but also whether the arrangement of beds in open ward or cubicles and positioning of nursing station. The open ward should have a width of 20 feet. The space between 2 rows of beds is 5 feet and space between two beds 3.5-4.00 feet. Clearance of bedhead from the wall is 1 feet and 2 feet from the opposite bed.

A 4 bedded cubicle requires about 320 square feet of space and 6 bedded 400 square feet. The nursing station requires about 20 x 20 feet with sisters' changing room and toilet, cupboards or lockers. The procedure room,attached or adjoining to the ward, should include an examination couch, dressing trolley, hand washing facilities and routine equipment such as spot light, BP instrument, stethoscope, etc.

Ambience

Colours play an important role in creating cheerful ambience of the paediatric wards. Colourful mural on the wall with cartoons, under water themes or jungle themes creates a soothing environment and its helps children ease their anxiety and trauma.

Natural lighting has a positive impact and benefits the child in the healing process.

Renovation or new construction?

Most DHs already have existing infrastructure for paediatric services. In many DHs, a number of small adjoining rooms are designated as the paediatric ward,with the nursing often located at a distance. This arrangement not only makes it difficult for the staff to monitor patients but also tires them out as the few staff of duty move between the nursing station and the rooms.

It should therefore be assessed whether the existing paediatric ward fits into the general design and if existing parts can be converted into functional spaces to fit into the recommended structure.If existing structures are too old to become part of the new setup, then other options can be considered; one such opportunityis to utilise the infrastructure in upcoming 'Mother and Child Health' (MCH) wings. As an initiative to improve & expand the hospital infrastructure, 100 bedded MCH wing are under construction within the premises of nearly 470 District Hospital /District Women's Hospital and some are nearing completion. As per the original floor plan, 15 out of 100 total beds have been allocated to paediatric ward and another 12 to SNCU. Since many DHs have already invested in the last 2-3 years in upgrading or creating new infrastructure for SNCU and are functioning optimally at the present

site, there may not be an immediate need for this allocated space. These 25 beds can be allocated to the paediatric ward where existing infrastructure is inadequate or limits the functionality of paediatric services in the District Hospital.

Sanitary arrangements

For maintaining hygiene, there should be sufficient and adequate toilets which are easily accessible; mothers should have access to running water and to an appropriate space, near the ward, to wash themselves and their child.

Sanitary facilities for inpatients should be located in the area outside the ward. *IPHS guideline for DH, revised 2012* recommends 1 WC (water closet) for every 6 indoor beds, two washbasins for up to 24 persons; and one bath with shower for every 6 beds. For a 24 bed unit this would mean 4 WCs, 2-3 washbasins and 4 bathrooms. The fact that these facilities will be used by children should be kept in view and designed accordingly (eg; low toilet seats). This is in addition to the dirty utility room (where soiled linen, bedpans etc. are stored); janitor's room (for used mops, brooms, buckets etc.) and handwashing facilities in the ward and treatment room. Bed pan washing sinks (1 for every 6 beds) and Cleaners sink (one for the each ward) should also be in place.

Amenities

There should be bedside lockers andcall bells with switches for all beds with indicator lights and location indicator in the nurses' duty room.

Water cooler and refrigerator should be provided in the ward or at a suitable but accessible location. Seating arrangement in the ward should be made as all children are accompanied by parent-attendant. Arrangements for rooming in with children should receive attention, otherwise, parents often end up sleeping on the patient's bed. The ward should preferably be air-cooled with temperature maintained in the range of 28 +/- 2 degree centigrade.

Equipment in paediatric ward (determine as per bed strength)

Weighing scales for children
Measuring board to measure length and height
Paediatric & adult stethoscopes
Thermometers
Heat source(for keeping the ambient room temp)
Oxygen source: oxygen cylinder /oxygen concentrator/ central supply
Flow-meters and humidifiers for oxygen
Equipment for the administration of warm and humidified oxygen: nasal prongs, catheters , masks
Self-inflating bags for resuscitation 250ml, 500ml

Masks: infant & child size
IV-giving sets with chambers for paediatric use (pedia drip set)
IV cannulas of paediatric size (22-24)
NG-tubes, paediatric size (8,10 FG)
Suction equipment (Catheter 6,8,10FG)
Nebulisers for administration of salbutamol
Spacers with masks for administration of metered doses (spray) of salbutamol
Torch
Pulse Oximeter
Needle cutter

Drugs that should be available in the paediatric ward

Paediatric Maintenance fluid (Isolyte-p)
Glucose 10 % IV
Glucose 5 % IV
Glucose 25 % IV
Normal saline IV
Ringer's lactate IV
Salbutamol Respiratory solution/MDI
Corticosteroids IV or oral
Furosemide IV
First line anti-convulsant: *Diazepam/Midazolam IM, IV
Phenobarbital IM, IV.
Ampicillin / Amoxicillin
Benzyl penicillin
Anti-staphylococcal penicillin (e.g. Cloxacillin)
3rd generation Cephalosporins oral & IV
Chloramphenicol
Ciprofloxacin
Gentamicin/ Amikacin
Co-trimoxazole
All anti-Tb drugs according to National Tuberculosis Control Programme

All anti-malaria drugs according to National Malaria Control Programme: Chloroquine, Artesunate, Quinine
Dopamine/Dobutamine
Anti-fungal (including topical applications)
Digoxin
Iron syrup (Nat Iron Plus)
Iron tablets (paediatric)
Vitamin A oral
Vitamin K injection
ORS
Adrenaline
Vaccines
Calcium Gluconate

Staffing of Paediatric ward

For care of inpatients, atleast one paediatrician assisted by a medical officer (trained in F-IMNCI or equivalent government recommended training package)and one nurse for every 4-6 functional beds should be available in the ward during routine hours. For example, a minimum of 4 nurses in each shift {(24/6) x3=12; + 30% leave reserve) and total of 15-16 nurses are required for 24 bedded paediatric ward. It is important that nurses trained in facility based paediatric care not be shifted or rotated out of this unit. Where there is no immediate consensus on this issue, the nurses should be rotated individually and not as a group to facilitate their induction into paediatric nursing.

After routine hours, the paediatrician should be available on call during evening and night shifts. Evening round is mandatory for the 'paediatrician on call' so that new admissions and seriously ill children (in HDU) are assessed on the same day. Where Medical Officers are positioned in HDU, they can conduct reassessment of children in the evening shift.

Class IV employees (one Ayah/one ward boy and one sanitary worker) /shift should be available to assist in cleaning and support services.

Standard case recording format

Inpatient case recording format for inpatients and nurse's monitoring sheet is provided in the annexure 1.

Diarrhoea Treatment Unit

In a large hospital where treatment of diarrhoea cases is a major activity, the Diarrhoea Treatment Unit (DTU) should be assigned a permanent area in the health facility, close to the paediatric ward and with the possibility of expansion in the high season for diarrhoea. The space in DTU is arranged such that there are three areas for management of diarrhoea cases.

Reception & triage area: where cases are assessed and classified for treatment. Mothers of children without signs of dehydration are educated on management of diarrhoea at home and presentation of diarrhoea. They practise mixing and administering ORS. They learn to recognise danger signs of dehydration and return if these signs reappear.

ORT area, where benches with side tables (or other seats like chairs or mats) are provided, with space for movement of staff and mothers.

Children with diarrhoea are given ORS by parent/ attendant, under supervision. There is adequate ventilation and access to toilet and washing facilities in the vicinity. ORS is mixed in bulk volumes.

Diarrhoea ward, where cases with severe dehydration and cases with complications are managed as inpatients. They receive IV or nasogastric fluid initially and ORS is started as soon as appropriate. The mother/parent can stay next to the patient's bed.

Staffing of DTU

A staff (such as ANM, nurse) who is trained in preparation of ORS solution and Zinc administration, should be posted to manage the ORT area. The management of children in the ward should be supervised by the doctor; one nurse should be available in each shift to administer the treatment, and provide supportive care.

Requirements of DTU

- 1 Table, 6-8 chairs, 2-4 benches
- Beds , 4-6
- Tray or trolley for supplies
- Sufficient ORS packets & potable drinking water
- Zinc tablets
- Jars (commonly available sizes and one marked with volume measurements)
- Reconstituted ORS in a clean container
- 5-10 glasses (200 ml), bowl / cup, one litre vessel, clean spoons
- Health education materials including pamphlets, and posters on preparation of ORS , diarrhoea prevention, and management including feeding during and after diarrhoea, use of zinc
- IV stands, paedia drip sets
- Weighing scales for infants & children
- IV fluids
- IV Cannula
- Antibiotics
- Linen supplies
- Waste bins, needle cutter
- Weighing scales
- Registers for record keeping
- Soap, wash basin and towel rack
- Handwash/handrub

Isolation room

An isolation room is a specially constructed area in a hospital designed for housing patients in order to prevent patients with an infectious disease (eg; meningococcemia, rabies, H1N1 infection) from infecting others (source isolation)and/or prevent susceptible patients from being infected (protective isolation).

The general principles to be followed in the isolation unit are provided in the annexure 4.

CHAPTER 6

ADDITIONAL REQUIREMENTS FOR PHYSICAL INFRASTRUCTURE, INFECTION CONTROL & PATIENT SAFETY

Additional requirements for physical infrastructure

i. **Barrier free access:** for the differently abled children should be made as per the guidelines. This includes making provisions for more lifts, ramps, and asking the Public Works Department (PWD) to implement designs compliant with wheel chairs, vertical and horizontal access, accessible sanitary facilities and signage to assist the visually challenged.

ii. **Privacy & confidentiality:** All spaces where consultation and physical examination is carried out should have provision for providing auditory and visual privacy and mitigating unintended interruptions and distractions.

iii. **Temperature:** Temperature should be maintained in the ward and HDU in the range of 28 +/- 2 degree centigrade round the clock, for the comfort of paediatric patients and staff preferably by thermostatic control (using air coolers or hot air convectors).

iv. **Lighting:** There should be adequate daylight in the triage & emergency area and HDU. For illumination at night, cool white fluorescent tubes, preferably CFL or LED can be mounted. Illumination of 100 lux in the ward and 150 lux at bedside is recommended.

v. **Power supply:** The emergency area and HDU should have a 24-hour uninterrupted power supply. Where power supply is irregular, back up is required and atleast 1-2 outlets should be connected to the generator supplying the vital areas of the paediatric unit.

In the HDU, electrical outlets will be required for individual beds for use of suction machines and oxygen concentrators. Availability of outlets of both 5 amperes and 15 amperes will facilitate the use of various equipment.

vi. **Water supply:** Arrangement should be made for round the clock piped water supply along with an overhead water storage tank with pumping and boosting arrangements. The emergency area and HDU should have assured 24x7 water supply.

vii. **Communication:** 24x7 working telephone should be available for the ward, OPD and the emergency department. Internal communication system for connecting important areas of hospitals like emergency, wards, kitchen, laboratory, radiology and pharmacy should be established.

viii. **Display of IEC:** Standard operating procedures and treatment protocols should be displayed at strategic locations in the hospital. Appropriate IEC material (eg; posters) in local language should be displayed at strategic locations (eg; waiting areas, outside labour room, outdoor consultation rooms, obstetric and paediatric wards) in the health facility.

ix. **Maintenance of equipment:** AMC should be taken for all equipment which need special care and preventive maintenance done to avoid breakdown. The nurse in charge of the paediatric traige, HDU and ward should be provided with a clear plan of action and contact details of the agency to reduce downtime in case of breakdown. Back up of equipment such as suction machines, nebuliser, pulse oximeters, should be available in the hospital store or with the Paediatric ward, where possible, to ensure smooth functioning.

x. **Family centered care:** It must be acknowledged that family will play a significant role in the child's hospital experience, and thus provisions must be made to accommodate their presence. For example, family centred care should encourage parents and sibling interaction with the patient. Since parent/s may spend all the time in the hospital with the sick child, and thus need to eat and sleep near their child, required facilities (such as toilets, drinking water, chairs, pantry etc.) must be provided.

xi. **Grievance redressal:** Mechanism for grievance redressal must be established in all areas: OPD, emergency and inpatients. Complaint boxes must be prominently located; phone number of officers/ authorities (name, designation, contact details) to be contacted for complaint registration and redressal should be displayed.

Infection control, patient & staff safety

xii. **Flooring, walls:** The walls & flooring should be tiled so as to allow for effective cleaning, long-term durability and ease of maintenance. Floor should be cleaned once per shift and should be able withstand the use of disinfectants /chemicals. Vitrified tiles can be used as these serve all these purposes well. With the existing infrastructure, these specifications may not be met in many sites. Decisions must be taken accordingly to maintain the hygiene in the service area.

xiii. **Ventilation:** Wards should be well ventilated with fresh air in order to prevent the spread and reduce the concentration of infectious droplet nuclei in ambient air. Arrangements for ventilation can be achieved either through natural supply (cross ventilation through windows & doors) or by mechanical exhaust of air. Windows must have nets to keep out mosquitoes and flies. Ventilation by central air conditioning with Millipore filters and fresh air exchange of 12/hour is recommended.

xiv. **Hand hygiene:** Hand washing facilities in all OPD clinics, wards, emergency, ICU and OT areas. Compliance to correct method of hand hygiene by health care workers should be ensured.

Provision of locally made Hand rub solution in critical care areas like ETAT and HDU can promote hand hygiene by service providers at the point of care.

xv. **Health Care Workers Safety:** Provision of protective gears like gloves, masks, and their use by service providers as per standard protocols should be encouraged.

Promotion of practice of Universal precautions by Health care workers. Regular Training of health care workers in universal precautions, patient safety, infection control and Bio-medical waste management must be undertaken.

Infection control practices, including hand-hygiene and use of personal protective equipment, should be implemented and monitored in all areas including the laboratory where these are frequently violated by health care workers at great personal risk.

xvi. **Safe BMW Management:** While safe disposal of Bio-medical waste as per rules is followed in certain areas of the hospital such as the labour room and the OT, these are often neglected in the outpatients and ward areas. Colour bins are used in many hospitals but not in all strategic points. Standard practices for housekeeping and biomedical waste management must be followed as per the national guidelines in all locations including the outpatients, indoor and emergency. IEC materials on bio medical waste management protocol with instruction for service providers should be displayed at appropriate locations.

xvii. **Sharps disposal:** Needles and syringes should be disposed of in a special puncture proof container at point of care for preventing accidents in children (patients and their siblings). Needle and hub cutter must be available at points for care to mutilate/ cut the tip of the syringe and the needle before disinfecting them.

CHAPTER 7

IMPROVING ANCILLARY & AUXILIARY FACILITIES FOR PAEDIATRIC CARE

Ancillary facilities

1. Laboratory services

The District Hospital Laboratory should be able to perform all tests required to diagnose important diseases from patient and public health point of view. The laboratory should have the skills and capability to perform laboratory tests for children of all ages, including obtaining samples, and where possible, should have the availability of micro technique for small or limited sample size. Availability of following tests is important for optimal management of paediatric cases:

I Clinical Pathology	
a. Haematology	Haemoglobin estimation Total Leukocytes count Differential Leucocytes count Absolute Eosinophil count Reticulocyte count Total RBC count E. S. R. PCV Platelet count
b. Immunoglobin Profile (IGM, IGG, IGE, IGA)	Bleeding time
c. Fibrinogen Degradation Product	Clotting time

I Clinical Pathology	
	Prothrombin time
	Peripheral Blood Smear Malaria Platelet count Blood grouping Rh typing Blood Cross matching
d. Urine & stool analysis	Routine and microscopy
e. CSF Analysis	CSF for protein, sugar; cell count
II Pathology	
Haematology	Sickle cell anaemia Thalassemia
III Microbiology	
	Culture and sensitivity for blood, pus, urineetc. Grams Stain for Throat swab, sputum etc.
IV Serology	
	WIDAL test Elisa test for HIV, HBsAg, HCV RA factor ELISA for HIV, HCV, HBs Ag ELISA for TB
V Biochemistry	
	Blood Sugar Blood urea Serum bilirubin Liver function tests Kidney function tests Serum electrolytres Serum calcium Thyroid T3 T4 TSH

The sample collection time should be displayed on the board along with the list of investigations for which samples are collected. User charges, if any should be specified. The time and place when reports can be collected should also be mentioned.

2. Radiology services

The IPHS 2012 recommends following radiological services;

a) X-ray for Chest, Skull, Spine, Abdomen, bones

b) Dental Xray

c) Ultrasonography

d) CT scan

3. Blood Bank services

Blood bank is functional at most District Hospitals. However there is often lack of coordination between the paediatric department and blood bank staff so that very small proportion of units are ever used for paediatric patients.

Unavailability of paediatric blood collection bags is often cited as a bottleneck. Normal blood collection bags should not be used for collecting lesser volume after removing proportionate amount of anti-coagulant solution.

Paediatric blood collection bags are available and are preferable for use.

4. Pharmacy

The pharmacy should be located in an area conveniently accessible from all outdoor clinics. For every 200 OPD patients daily there should be one dispensing counter. It is proposed that a separate pharmacy counter be dedicated to dispensing of paediatric drugs so as to cut down on the total time spent in the health facility by children and their caregivers. The basic aim is to ensure that prescribed drugs are made available, conveniently.

In states like Rajasthan, separate pharmacy is functional exclusively for children and is located within the same area as the paediatric OPD. Where feasible, similar arrangements should be considered. The essential drug list should be displayed and the availability status updated regularly.

Auxiliary facilities

5. Play and recreation

Children visiting the outpatients or staying in hospital (inpatients) have a basic need for play and recreation that should be met routinely in all hospital departments providing a service to children. Play may also be used for therapeutic purposes, as part of the child's care plan, and prepare to cope with procedures and interventions. Play area should be created in the inpatients. The idea is to create an environment where children enjoy themselves and learn while waiting to be treated; healthcare providers are under less pressure because children are not crying to go home; and it's easier for parents to keep their children waiting. Guidelines for establishing play area are provided in the annexure5.

6. Hospital Kitchen (Dietary Service)

The importance of food during illness and recovery cannot be overstated. The dietary service of a hospital is thus an important and often therapeutic aspect of overall care. While food is provided in many District Hospitals, it seldom takes into account the dietary requirement of children of various ages. Children are supplied the same food as for adults, which is not always palatable for various reasons. The nutritional value of food not eaten is nil. Arrangements should be made to ensure that age appropriate diet is made available in consultation with the dietician/ nutrition counsellor and the doctor.

The objective must also be to ensure that children eat sufficient food to meet their nutritional requirements as soon as possible after admission, and particularly following surgery or during treatment, when they are most vulnerable. Children need to be tempted to eat. This means they should be able to decide what they want to eat; unfamiliar or 'strange' foods should be avoided. The menu should include choices that are appropriate to the different cultural needs of children and their families. Semi solid and liquid diet distributed in covered container, good quality fresh fruit and drinks, including water should be made available.

Hospitals should take every opportunity to encourage and facilitate breast feeding.

Since children always require the presence of the caregiver, the provision of food for the parent-attendant should be made from the hospital kitchen. This would essentially mean two meals per paediatric bed per shift (breakfast, lunch & dinner).

CHAPTER 8

TOTAL STAFF REQUIREMENT AND CAPACITY BUILDING OF SERVICE PROVIDERS

Total staff requirement for paediatric care unit

The IPHS guideline for DH, 2012 proposes four paediatric specialists 15-19 medical officers & 135 nurses for 300 bedded DH and 5 paediatric specialists, 23 medical officers & 225 Staff nurses for 500 bedded DH. Within this framework, it is proposed that adequate number of doctors and nurses be designated for emergency, outpatient and inpatient paediatric services.

It is recommended to have 4 paediatricians allocated to children's ward, OPD and emergency services. (In addition, the paediatricians and medical officers for SNCU are to be placed as per the national guidelines.) However, the availability of paediatric specialists, medical officers and nurses at DHs varies across states and districts. Therefore it is useful to discuss the staffing in terms of personnel available for each of the services.

Staff Requirement in Various Paediatric Sub Units

Outpatient paediatric clinic:	• 1 paediatrician / medical officer trained in paediatric care, for every 60 patients, per shift • 1 paramedical staff for every 60 OPD patients per shift (morning and evening OPD)
Triage & Emergency:	• 1 medical officer on duty (trained in paediatric ETAT) in each shift • 1 nurse (trained in ETAT/paediatric nursing) in each shift • 1 paediatric specialist on call round the clock*

High Dependency Unit:	• 1 medical officer on duty per shift (total 3-4); serves HDU primarily but also available for ward management • 1 nurse for every 3-4 beds (for 4 bedded unit, the total requirement is at least 4 nurses) • 1 paediatric specialist on call round the clock*
Paediatric ward:	• 1 nurse for every 4-6 beds in paediatric ward (for a 24 bed unit it translates to at least 4 nurses in every shift + 30% leave reserve=15-16) • One paediatric specialist on call round the clock* • Paramedical staff: one sanitary worker in each shift + 1 ward boy or ayah per shift
IYCF Counselling centre:	• One nutrition counsellor during OPD hours** • 1 paramedical worker during OPD hours • Lactation management specialist/s during specified hours only
DTU:	• One nurse for each shift; during high season, staff strength should be increased according to case load & number of beds • One paramedical worker for each shift • 1 sanitation staff in each shift

** The same paediatric specialist can provide cover to emergency, HDU and paediatric ward on a given day; on call duty will be on rotational basis*
***the nutrition counsellor appointed in the NRC or in the already functional IYCF counselling centres; new appointment is required only where a trained nutrition counsellor is not in position*

Staff allocation for paediatric ward according to bed strength

Total bed strength of DH	Beds allocated to paediatrics	Doctors (Paediatricians & Medical Officers) as per IPHS	Positions for Nurses (total) as per IPHS,2012	Proposed allocation of nurses to paediatric ward
300 beds	24-30	8*	135	16-20
400 beds	32-40	9**	180	18-22
500 beds	40-50	10**	225	20-24

**As per IPHS Guideline 2102, 4 paediatricians/ doctor with paediatric qualifications and 4 medical officers*
****As per IPHS Guideline 2102, 5 paediatricians/ doctor with paediatric qualifications and 4-5 medical officers*

It must be ensured that High Dependency Unit has doctor and nurse round the clock; contractual staff may be appointed if the requirements are not met out of the staff in position at the DH.

The paediatrician on call provides specialist opinion for cases in HDU, paediatric ward as well as paediatric emergency.

Clerical staff can be hired on contractual basis to undertake routine tasks such asregistration and weighing.

Capacity building

Currently, trainings recommended by the MOHFW for service providers at District Hospital include the F-IMNCI package (or equivalent MOHFW recommended package), which is quite comprehensive and takes care of various aspects of care including outpatient management of children with common childhood illnesses, triaging and emergency management and inpatient management. Both nurses and doctors should undergo this training in order to deliver paediatric care in facility based setting.
In addition to F-IMNCI, the states should provide, as feasible, on the job mentoring that enhances diagnosis and case management skills of doctors and nursing skills for other staff.

Where feasible, the key skills should be refreshed by establishing a skills lab for F-IMNCI preferably at the level of the medical college or tertiary level institutions.

The training plan will reflect in detail the overall training workload and gradual coverage of all the paediatricians, medical officers providing paediatric emergency & inpatient care and nurses in all paediatric services areas of the District Hospital.

Training of staff dealing with paediatric emergencies

All clinical staff (doctors & nurses) who provide emergency services should have minimum competencies including recognition of the sick or injured child, basic life support skills, the ability to initiate appropriate treatment in accordance with ETAT/F-IMNCI agreed protocols and effective communication skills.

Since paediatric on-site support is unavailable 24x7, the skills of the emergency department staff to deal with paediatric patients should be enhanced.

Nurses working in emergency care settings in which children are seen require a minimum level of knowledge, skill and competence in both emergency nursing skills and in the care of children. Emergency nurses should know when and how to access more senior or specialist advice promptly for children. Urgent help should be available for advanced airway management and intubation and ventilation, which is to be carried out by competent staff, which in context of the District Hospital is the Medical Officer on duty in emergency.

Selected MOs, nurses, and paediatricians should be trained in ETAT protocols. Gatemen and Pharmacist who are often the first contact for patients, will also receive triage orientation, so that they can recognise patients with emergency signs.

CHAPTER 9

RECORD KEEPING AND MONITORING

Record keeping

Records of cases presenting to the OPD, emergency and inpatients should be maintained in (1) registers and (2) standard case recording formats. Samples of case recording format for outpatients, paediatric emergency and inpatient are provided in the annexure 1. These can be adapted as per the State/District requirements.

The services of the Data Entry Operator (DEO) recruited to SNCU and for HMIS can be utilised to collate preliminary data and share on monthly basis with district/ state/national programme managers. The aim should be to gradually computerise data recording and collation; data flow from district hospital to district and state authorities should be clearly established.

Periodic reporting

Monthly/Quarterly report should be prepared by District Hospital sourcing data from emergency, out and inpatient services. Signed copy of the report should be submitted to relevant authorities as per the data flow agreed by districts and state.

Periodic review by the CMO/CDMO and District Child Health Nodal officers should be undertaken. Utilisation data, patient characteristics, profile of conditions managed and outcomes (such as discharges and referrals) should be reviewed on monthly and quarterly basis.

The nodal person at the District Programme Management Unit (DPMU) and State Programme Management Unit (SPMU) should analyse the reports and provide relevant feedback to the hospital administrators and health care providers for responsive planning and specific actions.

A sample of the reporting format that can be further adapted by states is provided in the annexure 2.

Review of performance

Currently there are various challenges to monitor the performance of the health facilities in context of child health services. These include the absence of standard case recording formats in health facilities, incomplete recording of patient information and clinical data, manual record keeping, difficulty in retrieving records, and non-inclusion of any relevant performance indicator in the HMIS. Some of these issues are being addressed at the systems level.

Three different mechanisms for performance review are described here:

1. Monitoring indicators
2. Supervisory visits
3. Mentoring institutions

Recommendations are made in this guidelines for use of monitoring indicators, the data source for which are mainly the patient information registers maintained at different sites in the paediatric unit. Key indicators that program managers, hospital managers & administrators can use to quickly assess the overall performance of the paediatric care unit and guide priority areas for improvement are included in the Dashboard. The dashboard can be expanded (especially including parameters of quality of care) as other measures become available with better record keeping over time. These will primarily be derived from clinical information in case recording formats and require a computerised system.

Dashboard Indicators

S. No	Indicator	Numerator	Denominator	Data source
1	Percentage of inpatient beds available for paediatric care in health facility	Total number of beds allocated for paediatric inpatient services in health facility	Total number of functional beds in health facility	Facility records
2.	Percentage of Human Resource available for paediatric care in health facility:			
	Doctors	Total number of doctors (Paediatricians & Medical officers) designated for paediatric care	Total Number of doctors (Paediatricians & Medical officers) recommended in the guideline	Facility records

S. No	Indicator	Numerator	Denominator	Data source
	Nurses	Total number of nurses available	Total number of Nurses recommended in the guideline	Facility records
3	Percentage of children (0 month to 12 years) attended in paediatric emergency	Total number of children (0 month to 12 years) attended in paediatric emergency	Total number of children (0 month to 12 years) attended in paediatric OPD & ETAT	Emeregncy and OPD Register
4	Percentage of children with emergency signs received initial treatment in paediatric emergency	Total number of children with emergency signs received initial treatment in paediatric emergency	Total number of children attended in paediatric emergency	ETAT Register/ case records
5	Mortality rate in Paediatric Inpatient	Total number of deaths in children admitted to Paediatric inpatient	Total number of admission in paediatric inpatient	Inpatient Register
Case fatality rates				
6	Pneumonia	Total number of inpatients with diagnosis of pneumonia who died	Total number of inpatients diagnosed with Pneumonia	Inpatient register
7	Diarrhoea	Total number of inpatients with diagnosis of diarrhoea who died	Total number of In-patient admitted with diagnosis of diarrhoea	Inpatient register

The purpose of the supervisory visit is to assess the functionality of the District Hospital to deliver Paediatric Care services. The Supervisors conducting rapid assessment or hospital visit are anticipated to be programme managers & administrators from district or state. Supervisory checklist in accordance with the guidelines are provided in the annexure 3 and these can be suitably adapted as per the requirements of the state/district.

However, supervisory visits most often do not address quality issues on clinical side. The assessment of clinical practices can best be made by mentors/ mentoring institutions and requires that trainings and on the job skills issues are also addressed by them. Appropriate assessment formats can be developed by mentoring institutions for this purpose referring to standard clinical packages recommended by Govrnment of India.

To address the issues comprehensively, the assessment by Supervisors and Mentoring institutions should be both be conducted as they are complementary to each other.

Facility based child death review

Detailed investigation should be conducted in all cases of child deaths taking place in a hospital. The detailed procedure is described in the *Operational Guidelines for Child Death Review, published by MOHFW, GOI, 2014.* Effort should also be made to generate **Facility Specific Child Death Review report** so that the main causes of death and delays at various levels can be identified. It is to be noted that cause of child's death should be assigned as per ICD 10. (Final Diagnosis noted on the case sheets are often not in accordance with ICD 10 and therefore it would therefore causes of death are not being reviewed in periodic reports). Facility & area specific causes may emerge and can be addressed locally. State level reports should also be prepared in order to plan, build capacities and improve systems to better manage specific health conditions in the future.

CHAPTER 10

PAEDIATRIC SURGERY AND OTHER HOSPITAL WARDS

Paediatric surgery at DHs has not been given due consideration as part of paediatric care till date. Guidelines for DHs, IPHS standards, 2012 provides a list of paediatric surgical procedures that should be performed at the level of DH. No assessment has been made till date to estimate the number of types of procedures generally performed at DHs, and additional requirements in terms of staff and facilities. In light of the recently launched RBSK, referrals to DHs for various surgical condition are likely to increase. Therefore paediatric surgery and rehabilitation requires attention as one of the components of paediatric care in District Hospital.

A list of procedures that should be performed at the DH has been provided in the IPHS guidelines. However, the procedures actually performed at DH is determined to a large extent by the expertise of the general surgeon/s positioned there and the possibility of providing close monitoring and supportive care with the existing resources at DH.

Paediatric cases admitted to other speciality wards (such as orthopaedics, ENT, Ophthalmology) should be under primary care of the concerned specialist. However it is recommend that paediatricians be involved in the medical management and supportive care as children undergoing surgical intervention have special requirements in terms of feeding, fluid requirement, pain relief, temperature stabilisation, safety of drugs etc.

Linkages and close coordination with DEIC should be maintained for domain specific Assessments such as testing for vision, speech, cognition, development and neuromotor impairment. Interventions at DEIC include physical/occupational therapy, psychological services, speech therapy and so on. The details are provided in the *Operational Guidelines for DEIC, published by MOHFW, GOI in 2014.*

CHAPTER 11

INDICATIVE COST OF STRENGTHENING PAEDIATRIC CARE UNIT

Outpatient and inpatient services are integral part of essential services provisioned at District Hospitals. However, their functionality varies from state to state and sometimes in districts where Sub District Hospitals have been upgraded to DH but the infrastructure and HR has not been enhanced accordingly.

The add-on component proposed in this guideline are the emergency services (ETAT) and High Dependency Unit for which costing is provided below.

Activity	Indicative Unit cost	Total cost	Remarks
Emergency care (ETAT) and HDU			
Purchase of essential and desirable equipment (for both emergency & HDU)	6 lakhs (one time cost)	6.00	List of equipment provided
Infrastructure upgradation/ renovation	4 lakhs (one time cost)	4.00	Infrastructure cost includes renovations, partitions, paint, furniture, toilets, washbasins etc.
Salary of medical officers (4) / nurses (4) for HDU & emergency care			Will vary according to salary scales in the state
Maintenance cost	30,000 per month (recurring cost)	3.6 lakhs	For AMC of equipment, consumables etc.
Sub total			

Activity	Indicative Unit cost	Total cost	Remarks
Paediatric OPD & Ward			
Gap filling for essential and desirable equipment in paediatric OPD and ward	3 lakhs (one time cost)	3.00	List of equipment provided
Furniture for paediatric ward (beds; chairs, stools, benches for parent-attendant)	2 lakh (one time cost)	2.00	As per number of beds
Play area			
	1.5 lakh (one time cost)	1.50	Guidelines provided in annexure 5
Sub total			
Total			

Cost of outpatient and inpatient services (paediatric ward), auxiliary services is inbuilt into the budget provided for the DH.

Additional cost for food for parent/attendant and special dietary requirement for children can be considered as per state norms.

Training cost for all CH trainings on government approved health packages, IEC/BCC, essential drugs is already provided for in the NHM budget.

CHAPTER 12

IMPLEMENTATION OF GUIDELINES AT DISTRICT HOSPITALS

The Child Health Nodal Officer in the State and District are entrusted with the primary responsibility of strengthening the paediatric care at District Hospitals. While there are ongoing efforts to improve services, this document provides guidance for taking specific actions based on the assessment of existing facilities and services at the District Hospital.

A. Gap assessment of District Hospital

The first step for the programme managers designated to child health/RMNCH+A is to undertake the gap assessment of District Hospital especially in context of the functionality of paediatric unit as described in this document. Many states and districts have already undertaken a comprehensive review of the district hospitals as part of RMNCH+A gap analysis in the districts. A rapid assessment from the programmatic perspective can be made by using the 'supervisory checklist for paediatric care' provided in the annexure 3.

The analysis can be complemented with the data compiled during the district Gap Analysis. Surveys such as the Annual Health Survey and the District level Health Survey (DLHS IV) will provide district level data to bolster the case for prioritising general child health services in the health facility.

While specialised services (such as SNCU, NRC) are important for saving lives of children in specific age group or with specific health condition, general paediatric care essentially caters to nearly all of the sick children who seek services at the District Hospital. They can go a long way in preventing serious illnesses amongst children who present in early stages or by pre-emeptive management in children with poor dietary history, weight and height below standards malnutrition, deficiencies)

B. Dissemination of guidelines

The first step in implementation of these guidelines is its dissemination to key stakeholders. The buy-in of district authorities (such as the District Collector, District Magistrate, RCH nodal officer/s) and the hospital administration (Principal Medical Officer, Civil Surgeon; District Medical Officer) is essential to bring about change; the commitment for improve the quality of care has to be local. The rationale for improving facility based services for children should be emphasised and backed by data (eg; district under five mortality, paediatric case load in District Hospital, referral rates and deaths at facility within 24 hours of admission). Joint Dissemination Meeting involving local branches of professional bodies such as IAP and development partners' representatives should also be considered since improving paediatric care is a shared agenda.

C. Developing a detailed plan for the District Hospital

The aim should be formulate a detailed plan for strengthening of paediatric care services. The plan should describe various services that are to be initiated, for example triage and emergency services for children and high dependency care. Other services that are offered currently but require strengthening such as inpatient management in paediatric ward will require delineation of specific inputs. The requirements in terms of infrastructure, trained HR, drugs &equipment, services, records, referrals, IEC, ancillary facilities (such as laboratory, kitchen)should be identified. Many of these requirements can be met from the available resources from within the district itself; for those that cannot be mobilised, a detailed budgeted plan and timeline should be prepared and shared with the state for inclusion in State PIP.

D. Mobilising resources from within the district

This guideline has made recommendations within the framework of IPHS guidelines for DHs including that for human resources, equipment and drugs. Therefore it should be possible to mobilise these from within the hospital setting and funds made available to District Hospitals in annual PIP. Funds required for gap filling should be reflected in the annual district plan and budget.

Human resources required for outpatient services and paediatric ward should be designated out of the HR in position at the District Hospital. Only where there is severe shortfall, should contractual hiring be considered for critical services like the triage &emergency and high dependency care.

Infrastructure required may be deficient in many districts where DH is still functioning out of old building or sub-district hospital. Identifying unutilised space within hospital premises or infrastructure under construction (eg; MCH wing, new building for DH) and bringing it under functional use of paediatric care should be actively taken up. Costs relating to renovation and minor construction work can be sought under the budget head for child health.

E. Training

Training needs of various cadres are addressed through Child Health Training Plan developed each year for budgeting in Annual PIP. Service providers with varying needs for orientation and training include:

- Emergency Medical Officers
- Medical Officers in paediatric unit
- Paediatricians
- Nurses
- Nutrition Counsellor
- Paramedical staff

It is important that the programme mangers take stock of training received so far by health care providers positioned at Paediatric care unit at District Hospital. In-service training' for all these providers should be planned in a phased manner, distinguishing between those who require refresher training and those that need to undergo complete training. The recommended packages by MOHFW at the time of panning should be considered.

Involving mentoring institutions or State Resource Centres for 'hands on' training on the job or at teaching hospitals is highly recommended.

F. Institutional support for mentoring health care providers in paediatric unit

While the programme managers are equipped to review the systems and processes, it is equally important that the quality of clinical care is also reviewed periodically by clinicians so that it conforms to the national standards. Therefore it is recommended that institutions at state and district level, with capacity to undertake clinical mentoring be brought on board. Formal agreements should preferably be made between the state/district and the mentoring institution (by signing a MOU if required, for example) and budgeting for such costs/ expenses in the PIP so that the mentoring process is institutionalised. If faculty and infrastructure is available, the same institution can also be assigned the responsibility for training and skill building of these health care providers. This will thus allow for continuous training and access to updated standards/guidelines/protocols and their correct use.

STANDARD CASE RECORDING FORMATS

1. Paediatric outpatient record

For Hospital Use Only…….. O.P.D. Reg. No. ……..

Date …… Unit/Room No……..……..

Name ……..…….. Age…… Sex……

NAME OF THE HEALTH FACILITY STATE

Weight..... Height……..…….....……

Immunization Status

BCG					
O.P.V.	birth	1st	2nd	3rd	booster
D.P.T.		1st	2nd	3rd	booster
Hepatitis B	birth	1st	2nd	3rd	
Hib		1st	2nd	3rd	
Measles		1st dose			booster
MMR					
Others					

Provisional Diagnosis .

Presenting symptoms: **Findings:**

Treatment: **Investigations:**

Name of the doctor
.....……

……..
Signature

2. Paediatric Triage & Emergency Patient Record

Inpatient Number/ID	
Name	
Mother's name	
Age	Years ☐☐ Months ☐☐ Days ☐☐ (if < 1 month)
Sex	Male ☐ Female ☐
Address (including Block, District, State)	
Date of presentation to emergency	--/--/----
Whether this is repeat visit to emergency within 48 hours of discharge /assessment	☐ Yes ☐No
Time of presentation to emergency	--:--
Time when first assessment made	--:--

ASSESS (tick against those seen in the patient) • Check for head/neck trauma before treating child – do not move neck if cervical spine injury possible•
AIRWAY & BREATHING
☐ Not breathing at all or gasping
☐ Obstructed breathing
☐ Central cyanosis
☐ Severe respiratory distress *(Respiratory rate ≥ 70/min, Severe lower chest in-drawing, Grunting, Head nodding, Apnoeic spells, Unable to feed due to respiratory distress, Stridor in a calm child)*
CIRCULATION
☐ **Shock** Cold hands with • Capillary refill longer than 3 seconds and • Weak and fast pulse
COMA, CONVULSING
☐ Coma (AVPU) or ☐ Convulsing (now)

SEVERE DEHYDRATION (ONLY IN CHILDREN WITH DIARRHOEA)
Diarrhoea plus any two of these: ☐ Lethargy ☐ Sunken eyes ☐ Very slow skin pinch
Priority signs (tick against those seen in the patient)
☐ Tiny baby (young infant)
☐ Temperature (very high)
☐ Trauma or other urgent surgical condition
☐ Pallor (severe)
☐ Poisoning (history of)
☐ Pain (severe)
☐ Respiratory distress
☐ Restless, continuously irritable, or lethargic
☐ Referral (urgent)
☐ Malnutrition: visible severe wasting
☐ Oedema of both feet
☐ Burns (major)
PATIENT CATEGORISED AS: (tick against one category)
☐ Emergency ☐ Priority ☐ Non-urgent

EXAMINATION

Temperature	Pulse	Resp. Rate	Spo2
Weight	Weight for Length/height		
Sensorium	Neck Rigidity		
Pallor	Jaundice	Pedal oedema	

Investigations	Results
☐ Blood glucose	
☐ Hb	
☐ RDT for typhoid	
☐ RDT for dengue	
☐ RDT for malaria	
☐ Serum bilirubin	
☐ Chest X ray	
☐ Any other (specify)……..	

TREATMENT DETAILS (circle the treatment given)	
Resuscitation performed (yes/no)	
Oxygen	
IV Fluids	
Oral medications	
IV medication	
Other interventions	

OUTCOME		
Admitted to ward	☐ Yes	☐ No
Referred to higher facility (government)	☐ Yes	☐ No
Referred to private facility	☐ Yes	☐ No
Died	☐ Yes	☐ No
Left against medical advice	☐ Yes	☐ No

Provisional Diagnosis on admission:

Presentation with:

☐ Diarrhoeal disease
☐ Cough or difficult breathing (respiratory causes)
☐ Cough or difficult breathing (non- respiratory causes such as diabetic ketoacidosis, heart conditions)
☐ Febrile conditions (such as malaria, meningitis, typhoid, septicaemia etc.)
☐ Severe Acute Malnutrition
☐ Injury
☐ Poisoning, bites
☐ Any other……

Signature of the doctor on duty

Name

Designation

3. Paediatric Inpatient Record

Name of the health facility……State ……..District……

Inpatient registration number……

Name……..……Age……Sex……Unit/Ward……

Father's Name……..……Mother's Name……..…

Address ……

Pin Code…….....Telephone No……....

Date of birth----------
Date & Time of admission……
Date & Time of Discharge/Death……

Provisional Diagnosis at admission ……..
Result: Discharged /Death /LAMA /Referred to
..……

Final Diagnosis at discharge/death…….....

Chief Complaint:	Number of days for which complaint is present
Cough……	
Breathing difficulty……..	
Diarrhoea……	
Persistent vomiting……..	
Fever……	
Convulsion……	
Altered sensorium……..	
Bleeding……	
Skin rash……..	
Pain Abdomen……..	
Swelling on feet……..	
Animal bite……..	
Others……	

Past History:

Developmental milestones: Age appropriate Delayed

Immunization Status: Fully Immunized /Partially Immunized /Unimmunized

BCG					
Measles		1st dose	booster		
O.P.V.	birth	1st	2nd	3rd	
D.P.T.		1st	2nd	3rd	booster
Hepatitis B	birth	1st	2nd	3rd	
Hib		1st	2nd	3rd	

General examination:

Weight……Height……MUAC……

Weight for age……(percentile)

Height for age……(percentile)

MUAC:

Severe Acute Malnutrition: PRESENT / ABSENT

Pulse BP RR Spo2

Hydration status

Pallor Jaundice Cyanosis

Sensorium Neck rigidity

Lymphadenopathy

Pedal oedema

Eye- pus/bitots spots/corneal involvement

Skin- depigmentation/desquamation/petichae/purpura/ecchymosis

Systemic examination:

Investigations	Date	Results				
☐ Blood glucose						
☐ CBC		HB	TLC	DLC	ESR	ANY OTHER
☐ Urine analysis (routine / microscopy)						
☐ Renal function test						
☐ Liver function test						
☐ Malaria						
☐ Widal test						
☐ Dengue						
☐ CSF analysis						
☐ Culture (blood, urine etc.)						
☐ Others (Specify)						
☐ Imaging						

TREATMENT advised:

Daily Sheet

Date	Daily notes	Treatment orders

4. Nurse's daily monitoring chart (for inpatients)

Date of admission:		**Inpatient Id No.**	
Child Name:		**Age:**	
Diagnosis:			
Vital Signs		**Day 1**	**Day 2**
a. Consciousness level (AVPU)			
b. Temperature			
c. Respiratory rate			
d. Pulse rate			
Treatment given at the time of Shift			
Name of treatment	Dose , (where applicable)		
i.			
ii.			
iii.			
iv.			
v.			
Feeding/Nutrition			
a. Breast feeding/other feeds	(no. of times)		
b. Urine passed	(no. of times)		
Investigations sent:			
Remarks			

REPORTING FORMAT FOR PAEDIATRIC CARE SERVICES AT DISTRICT HOSPITAL

Name of State: _____ Name of District: _____

Name of DH: _____

Total number of beds in DH:----------

Reporting authority: Name :---------- Designation:----------Contact number:----------

Reporting period ----------(dd/mm/yyyy) to----------(dd/mm/yyyy)

Provision for paediatric triage & emergency treatment (Y/N)

Dedicated functional paediatric OPD (Y/N)

No. of functional beds in Paediatric Ward ----------

No. of dedicated beds for high dependency care ----------

Human Resources designated for paediatric care:

Paediatrician	MO	SN	Paramedical staff (such as Lab tech)	Support staff (such as sanitary staff, ward boy etc.)	Others (eg; clerical staff, DEO)

Sl. No	Indicators	(Number)
OPD details		
1.0	**Number of children attended in OPD (Total)**	
1.1	**Gender**	
1.1.1	Male	
1.1.2	Female	
1.2	**Age group**	
1.2.1	0-1 month	
1.2.2	1 month to 1 year	
1.2.3	1 year above to 5 years	
1.2.4	Above 5 years	
Paediatric triage & emergency details		
2.0	**Number of children reported to paediatric triage & emergency (Total)**	
2.1	**Gender**	
2.1.1	Male	
2.1.2	Female	
2.2	**Age group**	
2.2.1	0-1 month	
2.2.2	1 month to 1 year	
2.2.3	1 year above to 5 years	
2.2.4	Above 5 years	
2.3	No. of children with emergency signs initiated treatment in ETAT	
2.4	No. of children admitted to in-patient (high dependency or paediatric ward)	
2.5	No. of children referred to higher facility (without admission to DH)	

Sl. No	Indicators	(Number)
2.6	No. of children died	
2.7	**Causes of presentation**	
2.7.1	Diarrhoea	
2.7.2	Respiratory difficulty	
2.7.3	Convulsions	
2.7.4	Febrile illness	
2.7.5	Severe Acute Malnutrition	
2.7.6	Accident (Injury, drowning, burns)	
2.7.7	Poisoning, bites	
2.7.8	Others	
Inpatient details		
3.0	**Number of children admitted (Inpatient) (Total)**	
3.1	**Gender**	
3.1.1	Male	
3.1.2	Female	
3.2	**Age group**	
3.2.1	0-1 month	
3.2.2	1 month to 1 year	
3.2.3	1 year above to 5 years	
3.2.4	Above 5 years	
3.3	Number of children admitted to high dependency care	
3.4	**Duration of stay in the health facility:**	
3.4.1	<48 hours	
3.4.2	48 hours-7 days	
3.4.3	More than 7 days	
3.5	**Number of sick children admitted due to:**	
3.5.1	Lower respiratory infection/Bronchitis/ Asthma	
3.5.2	Diarrhoeal Diseases	
3.5.3	Severe Acute malnutrition	
3.5.4	Severe Malaria	
3.5.5	Dengue	
3.5.6	Measles	
3.5.7	Enteric fever	
3.5.8	CNS Infection (Encephalitis, Tuberculosis, Meningitis etc)	
3.5.9	Congenital heart diseases	
3.5.10	Rheumatic heart diseases	
3.5.11	Suspected Malignancies	
3.5.12	Hemoglobinopathic disorder (Sickle Cell, Thalassemia etc)	
3.5.13	Poisoning, Sting, Bites	
3.5.14	Others	
3.6	**Outcome**	
3.6.1	Discharged	
3.6.2	Referral	
3.6.3	Left against medical advice (LAMA)	
3.6.4	Died	
3.6.4a	Within 24 hours	
3.6.4b	After 72 hours of inpatient care	

Name & designation of the Reporting authority:
Signature: _____Date:----------

SUPERVISORY CHECKLIST FOR ASSESSING PAEDIATRIC CARE AT DISTRICT HOSPITAL

Purpose: Rapid assessment of the functionality of Paediatric Care services in the District Hospital

Intended users: Programme managers, Hospital managers & administrators

Name of the District hospital_____
Dates of visit_____dd/mm/yyyy_____
Name of Assessor/Supervisor_____
Designation of Assessor/Supervisor_____

Section 1: Infrastructure

Sl No	Items	Available (Yes/No)		Remarks
Emergency care				
1.1	Signage of Pediatric Emergency prominently placed	☐ Yes	☐ No	
1.2	Paediatric triage & emergency area clearly delineated & equipped	☐ Yes	☐ No	
Paediatric outpatient				
1.3	Provision of separate Paediatric OPD (as per guideline)	☐ Yes	☐ No	
1.4	Separate Pharmacy counter / window for children	☐ Yes	☐ No	
Paediatric inpatient				
1.5	Provision of dedicated beds (at least 4) for High Dependency Care either in emergency or Paediatric ward (as per guideline)	☐ Yes	☐ No	
1.6	Recommended number of beds (8% of total beds) are allocated to Paediatric ward (as per guideline)	☐ Yes	☐ No	
Amenities				
1.7	Provision of toilet facilities in OPD	☐ Yes	☐ No	
1.8	Provision of drinking water facilities in OPD	☐ Yes	☐ No	
1.9	Seating arrangements in OPD	☐ Yes	☐ No	
1.10	Provision of toilet and washing facilities in Ward area	☐ Yes	☐ No	
1.11	Seating arrangements for parents in inpatient	☐ Yes	☐ No	
1.12	Play area for children in hospital	☐ Yes	☐ No	

Section 2: Equipment and Supplies

Sl No	Items	Available (Yes/No)		Remarks
2.1	**Paediatric OPD**			
2.1.1	Weighing scales for infants and children	☐ Yes	☐ No	
2.1.2	Examination couch	☐ Yes	☐ No	
2.2	**Paediatric triage & emergency**			
2.2.1	Crash cart/ emergency trolley with drugs & equipment	☐ Yes	☐ No	

Sl No	Items	Available (Yes/No)		Remarks
2.2.2	Pulse oximeter	☐ Yes	☐ No	
2.2.3	Resuscitation equipment	☐ Yes	☐ No	
2.2.4	Glucometer + Test strips	☐ Yes	☐ No	
2.2.5	Nebuliser	☐ Yes	☐ No	
2.2.6	Oxygen supply (concentrator; or oxygen cylinder) with regulator, pressure gauge and flow meter	☐ Yes	☐ No	
2.3	**High Dependency Unit (HDU)**			
2.3.1	Electric & foot operated suction pumps	☐ Yes	☐ No	
2.3.2	Functional Oxygen source (concentrator; or oxygen cylinder) with regulator, pressure gauge and flow meter	☐ Yes	☐ No	
2.3.3	Pulse oximeter (adult / Paediatric probes)	☐ Yes	☐ No	
2.3.4	Glucometer with test strips	☐ Yes	☐ No	
2.3.5	Resuscitation equipment set	☐ Yes	☐ No	
2.3.6	Paediatric drip sets			
2.4	**Paediatric care ward**			
2.4.1	Weighing scales for children	☐ Yes	☐ No	
2.4.2	Measuring board to measure length and height	☐ Yes	☐ No	
2.4.3	Functional Oxygen source: oxygen cylinder /oxygen concentrator/ central supply	☐ Yes	☐ No	
2.4.4	IV-giving sets with chambers for Paediatric use (Paediatric drip set)	☐ Yes	☐ No	
2.4.5	Nebuliser	☐ Yes	☐ No	
2.4.6	Digital thermometers in use (at least 2-3)	☐ Yes	☐ No	

Section 3: Drugs & Commodities

Sl No	Items	Available (Yes/No)		Remarks
3.1	**Paediatric triage & emergency**			
3.1.1	Inj. Ampicillin / Amoxicillin	☐ Yes	☐ No	
3.1.2	Inj. Gentamicin/ Amikacin	☐ Yes	☐ No	
3.1.3	Inj. Adrenaline	☐ Yes	☐ No	
3.1.4	First line anti-convulsant(Inj. Diazepam, Inj. Midazolam)	☐ Yes	☐ No	
3.1.5	Inj. Artesunate, Quninine/Artemisinin	☐ Yes	☐ No	
3.1.6	Inj. dopamine/dobutamine	☐ Yes	☐ No	
3.1.7	Corticosteroids IV or oral	☐ Yes	☐ No	
3.1.8	Inj. Calcium Gluconate	☐ Yes	☐ No	
3.1.9	Normal Saline IV	☐ Yes	☐ No	
3.1.10	Ringer's lactate IV	☐ Yes	☐ No	
3.1.11	Ipratropium nebuliser solution	☐ Yes	☐ No	
3.1.12	Nasogastric tubes (sizes 6, 8,10,16 fr)	☐ Yes	☐ No	
3.1.13	Oxygen tubing, nasal prongs or catheters	☐ Yes	☐ No	
3.1.14	ORS	☐ Yes	☐ No	

Sl No	Items	Available (Yes/No)	Remarks
3.2	**Paediatric ward**		
3.2.1	Paediatric Maintenance fluid (Isolyte-p)	☐ Yes ☐ No	
3.2.2	Glucose 5% IV, 10 % IV	☐ Yes ☐ No	
3.2.3	First line anti-convulsant: *Diazepam/Midazolam	☐ Yes ☐ No	
3.2.4	Ampicillin / Amoxicillin	☐ Yes ☐ No	
3.2.5	Gentamicin/ Amikacin	☐ Yes ☐ No	
3.2.6	Anti-malaria drugs according to National Malaria Control Programme: Chloroquine, Artesunate, Quinine	☐ Yes ☐ No	
3.2.7	3rd generation Cephalosporin (Cefotaxime, Ceftriaxone)	☐ Yes ☐ No	
3.2.8	Paracetamol syrup	☐ Yes ☐ No	
3.2.9	ORS	☐ Yes ☐ No	
3.2.10	Zinc	☐ Yes ☐ No	

Section 4: Maintenance of records & data

Sl No	Items	Available/ Response (Yes/No)	Remarks
4.1	**Paediatric OPD**		
4.1.1	Register in place, with individual patient details recorded legibly	☐ Yes ☐ No	
4.1.2	OPD cards available	☐ Yes ☐ No	
4.2	**Paediatric triage & emergency**		
4.2.1	Standard patient case sheet (case recording format) completed for emergency cases managed	☐ Yes ☐ No	
4.2.2	Individual patient record maintained in register including outcomes	☐ Yes ☐ No	
4.2.3	Records of children referred available	☐ Yes ☐ No	
4.3	**High Dependency Unit (HDU)**		
4.3.1	‘ Nurses daily records’ maintained for inpatients	☐ Yes ☐ No	
4.4	**Paediatric care ward**		
4.4.1	Standard patient case record format available	☐ Yes ☐ No	
4.4.2	Ward Register maintained (patient outcome recorded)	☐ Yes ☐ No	
4.5	**Compilation of reports**		
4.5.1	Reports prepared in standard reporting format* (format can be decided by the state, sample provided in this guideline)	☐ Yes ☐ No	
4.5.2	Reports shared with state as per the required frequency	☐ Yes ☐ No	

Section 5: Support system and housekeeping protocol

Sl No	Items	Available/ Response (Yes/No)	Remarks
5.1	24x7 power backup available:		
5.1.1	For Paediatric triage & emergency	☐ Yes ☐ No	
5.1.2	For Paediatric ward	☐ Yes ☐ No	
5.2	Housekeeping :floor, walls cleaned once in each shift)		
5.2.1	In Paediatric triage & emergency	☐ Yes ☐ No	
5.2.2	In Paediatric ward	☐ Yes ☐ No	
5.3	Biomedical waste management (waste segregated in coloured bins),		
5.3.1	In OPD	☐ Yes ☐ No	
5.3.2	In Paediatric triage & emergency	☐ Yes ☐ No	
5.3.3	In Paediatric ward	☐ Yes ☐ No	

Section 6: Processes assessment

Sl No	Items	Available/ Response (Yes/No)	Remarks
6.1	At least 10 cases are being managed every day in Paediatric triage & emergency	☐ Yes ☐ No	
6.2	Separate Pediatric registration counter/ separate window for registration	☐ Yes ☐ No	
6.3	Computerized registration system in place	☐ Yes ☐ No	
6.4	Qualified staff (doctor trained in paediatric care) available in OPD	☐ Yes ☐ No	
6.5	Qualified staffs available in Paediatric triage & emergency 24x7	☐ Yes ☐ No	
6.6	Nurses available in Ward in every shift as per guideline (1 nurse for 6 beds)	☐ Yes ☐ No	
6.7	Prescription of medicines & fluids is as per weight , in the inpatient	☐ Yes ☐ No	
6.8	No user charges for children below 1 year	☐ Yes ☐ No	
6.9	Provision of free diet for inpatients	☐ Yes ☐ No	
6.10	Referrals transport provided for inter facility referral	☐ Yes ☐ No	
6.11	Essential lab tests (as per guideline) performed 24x7	☐ Yes ☐ No	

GENERAL PRINCIPLES TO BE APPLIED FOR ISOLATION UNIT

1. The door of the room or cubicle should be kept closed at all times. An extraction fan may be fitted. Any unnecessary furniture should be removed; room may be equipped with special items needed to nurse the patient eg. pedal bins, plastic bags etc.

2. Hand washing before and after contact with the patient is the most important measure in preventing the spread of infection. Either a non-medicated soap or a detergent antiseptic preparation should be adequate for most purposes. 70% alcohol is more effective in removing transient as well as residual flora and should be used in high risk situations.

3. Disposable or autoclavable equipment should be used whenever possible. Essential items of patient care such as stethoscopes should be left in the room and disinfected when the patient is discharged or before being used on another patient. Thermometers should be kept in the isolation room until the patient is discharged.

4. Hard surfaces may be disinfected by wiping with a phenolic or hypochlorite solution. Other equipment may be disinfected by wiping with 70% alcohol.

5. All clinical waste should be disposed of in a colour-coded bag for incineration.

6. Patients should be sent to other departments only if it is essential to do so. The department should be notified in advance so that they may take suitable measures to prevent the spread of infection.

7. Personal protective gear: Although disposable aprons are preferable, non-disposable plastic aprons may be used and should be disinfected by heat or alcohol. Gloves should be worn when handling infected material and sites.

8. Masks if used they should be of the high efficiency filter type, which should provide protection for 10-15 minutes.

9. Linen from infected patients should be placed in a colour-coded linen bag for transfer to the laundry. Linen which may present a hazard to the laundry staff eg. hepatitis B, should first be sealed in labelled bag.

10. When sending laboratory specimens, some warning should be given to the laboratory staff. Containers should be placed in a biohazard bag.

11. Patient's charts/records/case sheets should be kept outside the contaminated areas.

GUIDELINES FOR THE PLAY AREA IN THE HOSPITALS

Introduction

Playtime for a child is an important part of the healing process. Play areas offer safe, fun-filled places of refuge where no medical procedures are performed. The Inpatient Playroom provides a variety of toys, games, arts, crafts, music and daily activities for inpatient children, their siblings and families.

- Activity areas or playrooms must be designed to ensure safety and provide supervision by staff at all times.
- The room should be finished and furnished to encourage children to be engaged in a safe and comfortable environment.
- The activities given to children for play should not consume a lot of child's energy as these children are recuperating from illness.
- The space should be designed to be flexible and support a variety of activities such as quiet and active play, creative play.
- The design should encourage children to both explore the room and engage in variety of activities.

Physical requirements

- The room should be located preferably adjacent to ward but not inside the ward.
- A play activity room for not more than 24 children with an unobstructed floor area of 2.8 mt square per child aged 4-6 years is required.
- The shape of the room is important. Rooms with sharp or acute angles that limit program flexibility should be avoided. Rooms that are "L" shaped can be difficult to supervise and long narrow rooms may limit natural light.
- Room with provision of natural light is preferred. Windows and doorways: Every doorway window or other opening that is used to provide ventilation for children must be screened to prevent pest infestation. Children's play should not be interrupted by others passing through.
- Just inside the door& near the wall place should be provided for removal of shoes.
- Space should be kept uncluttered so that it improves the movement from one activity to another.
- Rooms is designed with flexibility to accommodate a variety of activity settings.
- For a group of 15 to 30 children ages 3 to 10 years located in one space, it isrecommended that the room be set up to provide separate activity areas to promote a small group activity environment, privacy and a sense of order.
- Ratio of care-taker/ayah may be1:5 at any given time.
- Room temperature should be maintained at 20 degreecentigrade or warmer
- Good storage area (such as cupboards) should be provided

Interior of the room

A conducive and appropriate environment should be created for children to explore different types of play.

Materials for free play shall include the following types of play:

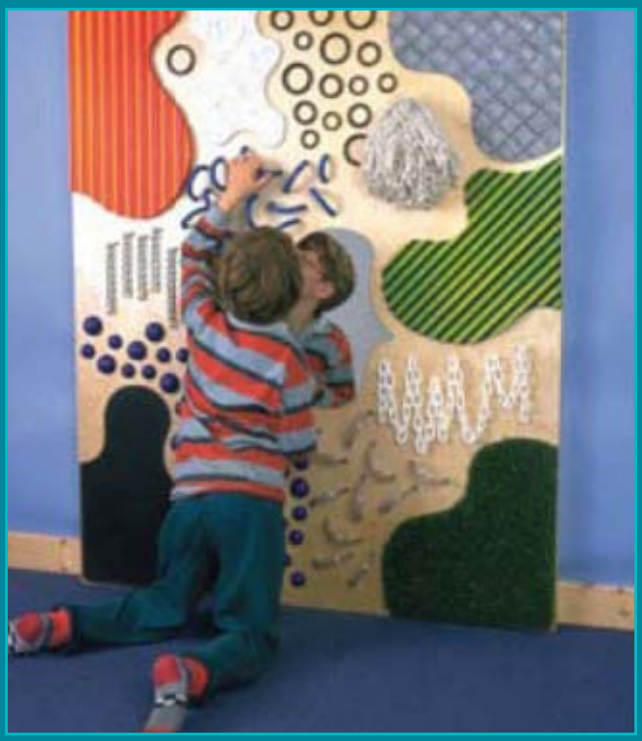
- Sensorimotor play
- Object play
- Physically active play usually fine motor depending upon the illness (it should not consume a lot of energy)
- Social play
- Constructive play
- Language play
- Creative play
- Symbolic play

Equipment inside the room (Nontoxic colours should be used)

1. Small stair case with ramp with hand rails at one side of the corner; ball pool can be provided
2. Small table and chairs where two to three children can sit and do colouring/creative play/clay/picture reading
3. Fine motor work station for the kids who cannot run or have low activity levels
4. On one side of the room swing can be provided which is very low and easily accessibility to children
5. Tactile wall panel for sensory input and where children of different age groups can play at the same time
6. Activity table for the toddlers where they are able to sit on the chair and play.
7. Different types of tricycles and cars.
8. Foam blocks
9. Building blocks
10. Puzzles
11. Mirror to one side of the wall at a lower level for infants and toddlers.

PLASTIC SWING, TABLE & CHAIR

EXAMPLES OF TACTILE WALL PANEL



BUILDING BLOCKS AND GAMES FOR FINE MOTOR PLAY

FOAM BLOCKS & OTHER PLAY EQUIPMENT MADE OF FOAM

Empowered lives.
Resilient nations.

UNDP NEW BORN PROJECT
United Nations Development Programme
71 Lodhi Estate, 1st Floor
New Delhi-110003

Promoting Health in India