THE CHALLENGE INITIATIVE
HEALTHY CITIES INDIA

SETTING UP AN INTEGRATED PAEDIATRIC UNIT (IPU) IN DISTRICT HOSPITALS

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Maternal and Child Survival Program
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An integrated paediatric unit (IPU) is a dedicated wing in district hospital, which provides comprehensive and specialized curative services to newborns and children under five years of age. These units have a special newborn care unit (SNCU), a neonatal high dependency unit (HDU), a paediatric intensive care unit (PICU), an infectious disease ward, separate infant and paediatric wards, and a follow up OPD, along with other supplementary and ancillary services in an all-inclusive service delivery package.

PURPOSE

Provide guidance to the policy makers, program managers, hospital administration, professional associations, and development organizations to set up an IPU at secondary healthcare facilities in a standardized layout for rationalization of the existing resources.

AUDIENCE

- National Health Mission (NHM): State Programme Managers
- Department of Health and Family Welfare (DHFW): Nodal Officer (Child Health) and other staff and divisions concerned
- District: Civil Surgeon/Chief Medical Officer, Medical Superintendent, Hospital Managers, DPMU, doctors and nursing staff
- Professional associations and development organisations

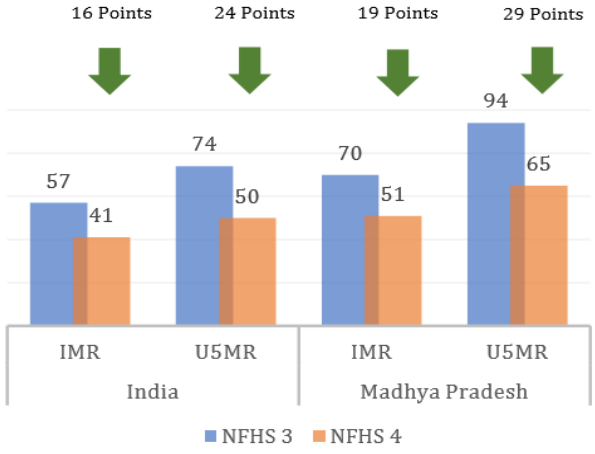
CONTEXT

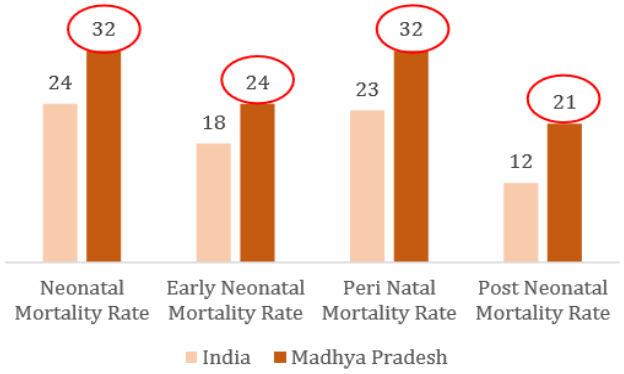
India's RMNCH+A strategy emphasises integration of comprehensive child health interventions to promote the health and nutritional status of children and address factors contributing to new-born and under-five mortality and morbidity.

Government of Madhya Pradesh has shown sustained commitment towards health systems strengthening to provide equitable, affordable and quality healthcare services to its children. The state's commitment is reflected in evaluation surveys (NHFS 3 and 4) that have consistently recorded improvement in terms of mortality statistics related to infants and under-five children.

- India has approximately 17.7% share of world's 0-4-year child population.
- India's 112 million 0-4-year children are 9.7% of the country's total population
- In Madhya Pradesh, proportion of 0-4 year children is 10.6%.

Madhya Pradesh achieved higher reduction in mortality rates in recent years compared to national figures. Even then the overall statistics are poor in the state and demand innovative strategies to meet the challenges hindering child survival.





Causes of deaths and required interventions

Age group	Three causes of death	Required interventions
Newborns	Prematurity/low birth weight Birth asphyxia/trauma Acute respiratory infections	Early newborn care and resuscitation after birth (NBCC) Management of prematurity and infections (SNCU) Prevention of hypothermia (neonatal HDU)
Infants	Prematurity/low birth weight Acute respiratory infections Birth asphyxia/trauma	Management of prematurity (PICU) Management of infections (infectious diseases and infant ward)
1-5 years	Acute respiratory infections Diarrhoea Injuries	Management of infections (infectious disease and paediatric ward)

Gaps and challenges

- Inadequate and non-uniform distribution of infrastructure
- Inadequate specialized staff
- Lack of equipment and sub-optimal utilization of equipment due to lack of skilled staff
- Delay in procurement of medicines and supplies
- Inadequate referral mechanism and community linkages
- Poor health seeking behaviour of community (delay in reaching appropriate health facility)

RATIONALE

High mortality among children under five years is a major concern for both program managers and caregivers. The underlying causes of mortality are many and different for newborns, infants, and older children of the 1-5-year age group. There cannot, therefore, be one solution for all sick children.

Under NHM, specialized units like SNCU, PICU etc. have been established for providing curative services to sick newborns, infants, and 1-5 years old. Generally, these are located in different areas of the hospital building and are often far from one another. This causes unnecessary delay in finding the appropriate unit, reaching there with a sick child and initiating treatment. Minimising such delays can make the difference between life and death for a critically ill child.

Newborns and children referred to District Hospitals by the community or primary healthcare facilities are often seriously ill and at high risk of dying. Correct treatment in such cases entail triage, emergency management, and specialised in-patient care administered promptly and without any administrative, logistical and operational delay.

To design and implement an effective need-based service delivery package, it is essential to look into the three aspects below and follow up to overcome delay in initiating treatment and for optimal utilization of resources;

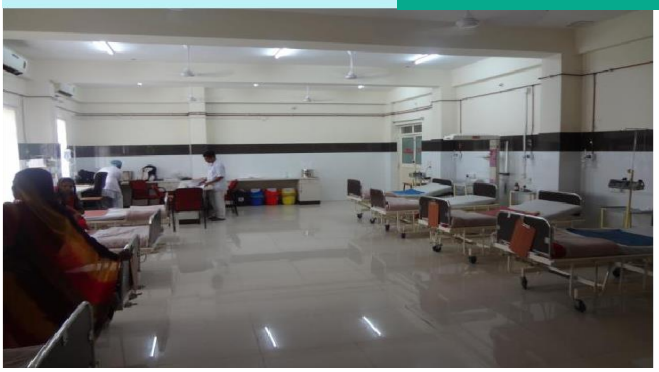
- Causes of mortality in different age groups
- Services and structures available
- Gaps and challenge

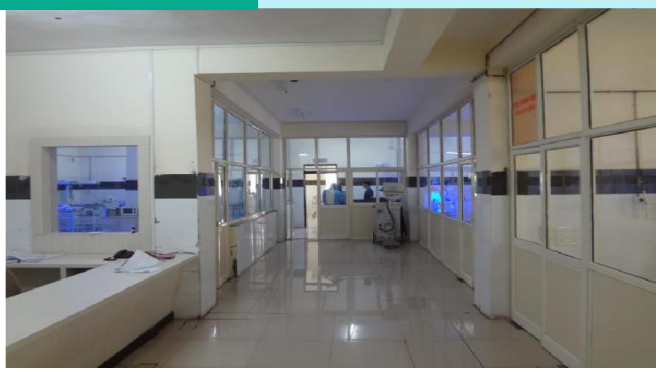
APPROACH

With a vision to reduce mortality and improve child survival, Child Health Division (Directorate of Health & Family Welfare, Government of Madhya Pradesh) undertook a consultative process and developed an innovative approach for delivering a quality service package to children under five years, addressing various challenges and minimising delays.
This approach brings together different units under one roof for providing various curative services to under five children along with ancillary services.

An IPU comprises of paediatricians and nursing staff. Driven by the encouraging initial results, the model was scaled up at Shri P. C. Sethi Hospital, Indore.

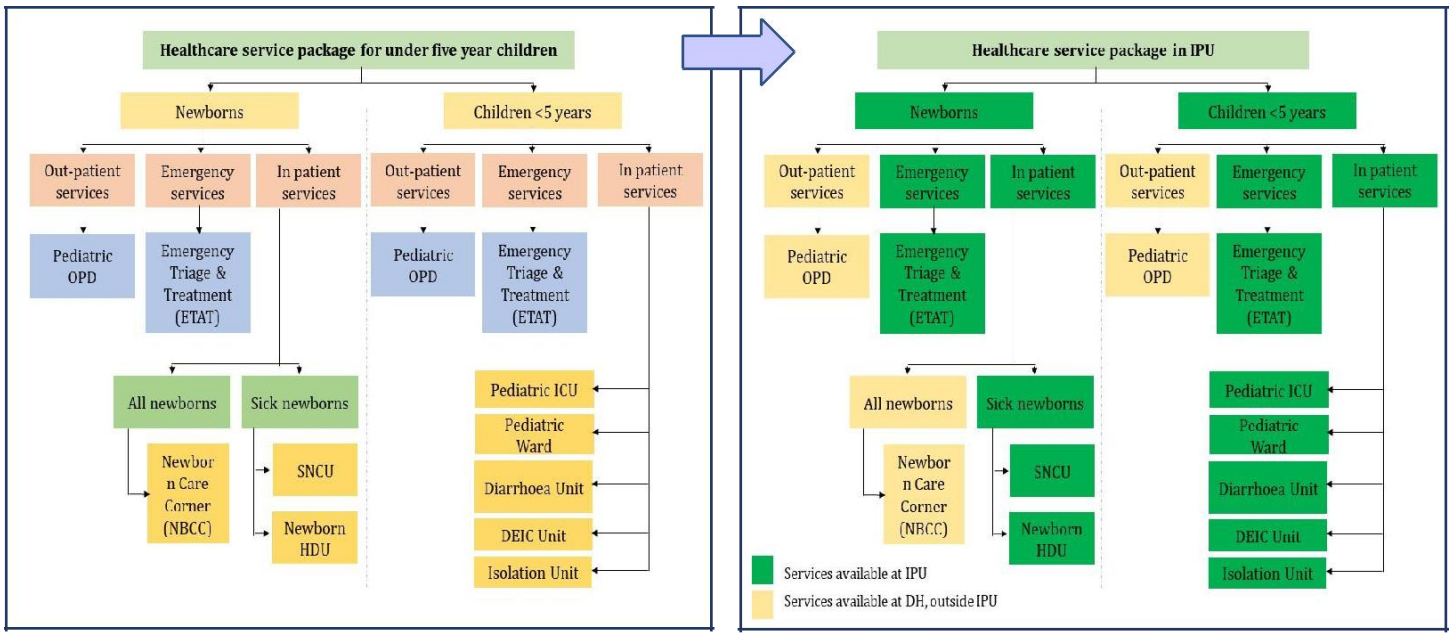
PICU and SNCU in IPU at District Hospital,





Current service package available for newborns and 1-5 years-old children at district hospitals

Re-organization of same service package under umbrella of an IPU

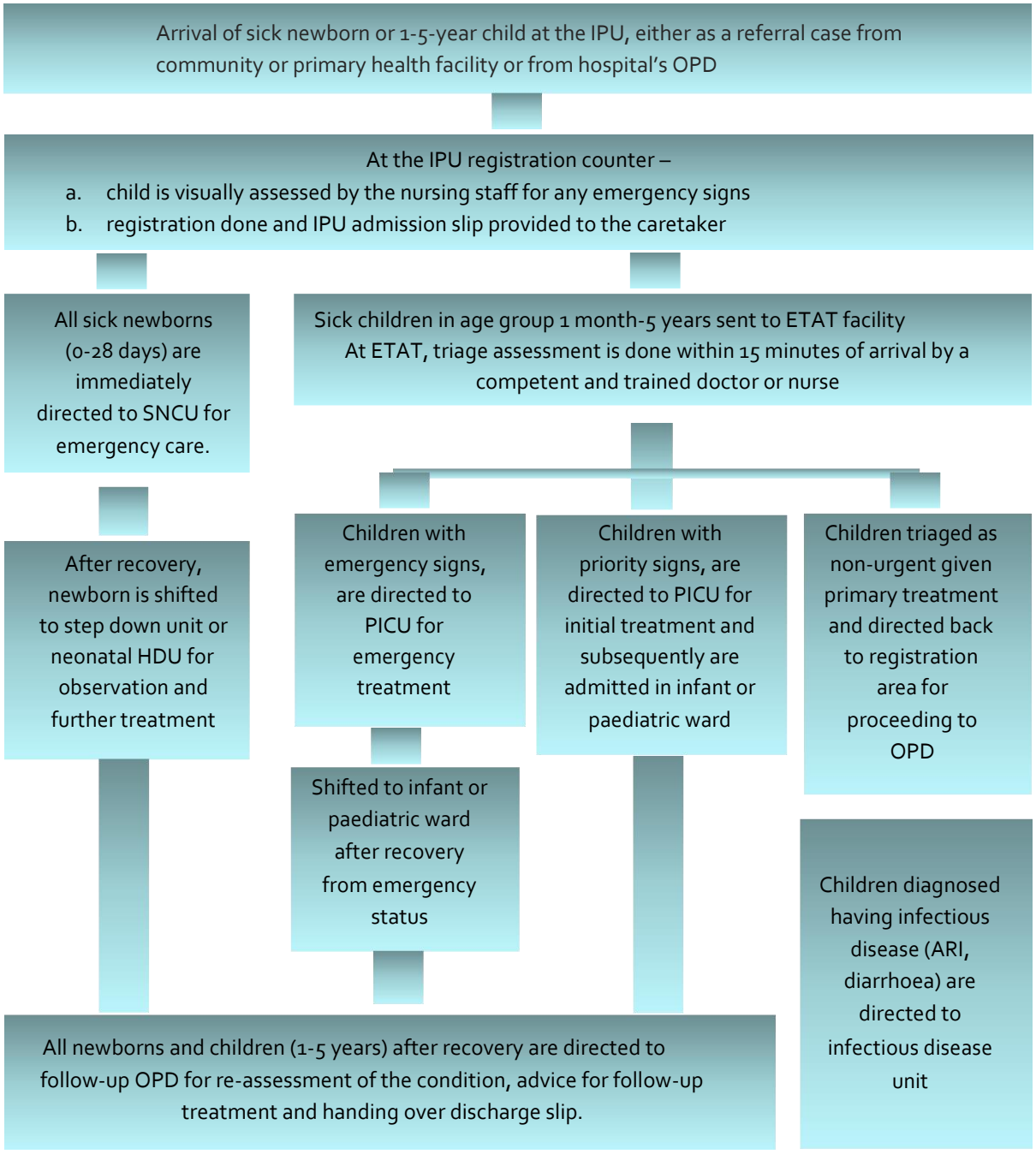


Conceptually, IPU integrates all emergency and in-patient services for newborns, infants, and 1-5 years children in the form of one dedicated section within the hospital premise.

LAYOUT OF AN IPU

1. Registration area
2. Waiting area
3. ETAT facility: Receiving room for rapid triage
4. Newborn care area (from birth to 28 days)
    a. Special Newborn Care Unit (SNCU) together with Infected Newborn Unit: 20 bedded (10 beds each for inborn and out-born)
    b. Neonatal High Dependency Unit: 6-10 bedded, with waiting/dining area
    c. Follow up OPD
    d. Kangaroo Mother Care Ward (adjoining SNCU)
5. Under five-year care area (from one month to five years)
    a. Paediatric Intensive Care Unit (PICU): 8-10 bedded
    b. Infant ward (1 month to 12 months): 8-10 bedded, with waiting/dining area for mother
    c. Paediatric ward (1-5 years): 15 bedded, with waiting, dining, and play area
    d. Infectious disease unit: Separate 4-bedded isolation ward or a section of paediatric ward
    e. Neurodevelopmental Assessment Unit
6. Auxiliary units and services
    a. Nursing station
    b. Duty doctor's room
    c. Storeroom
    d. Wash area and autoclave room

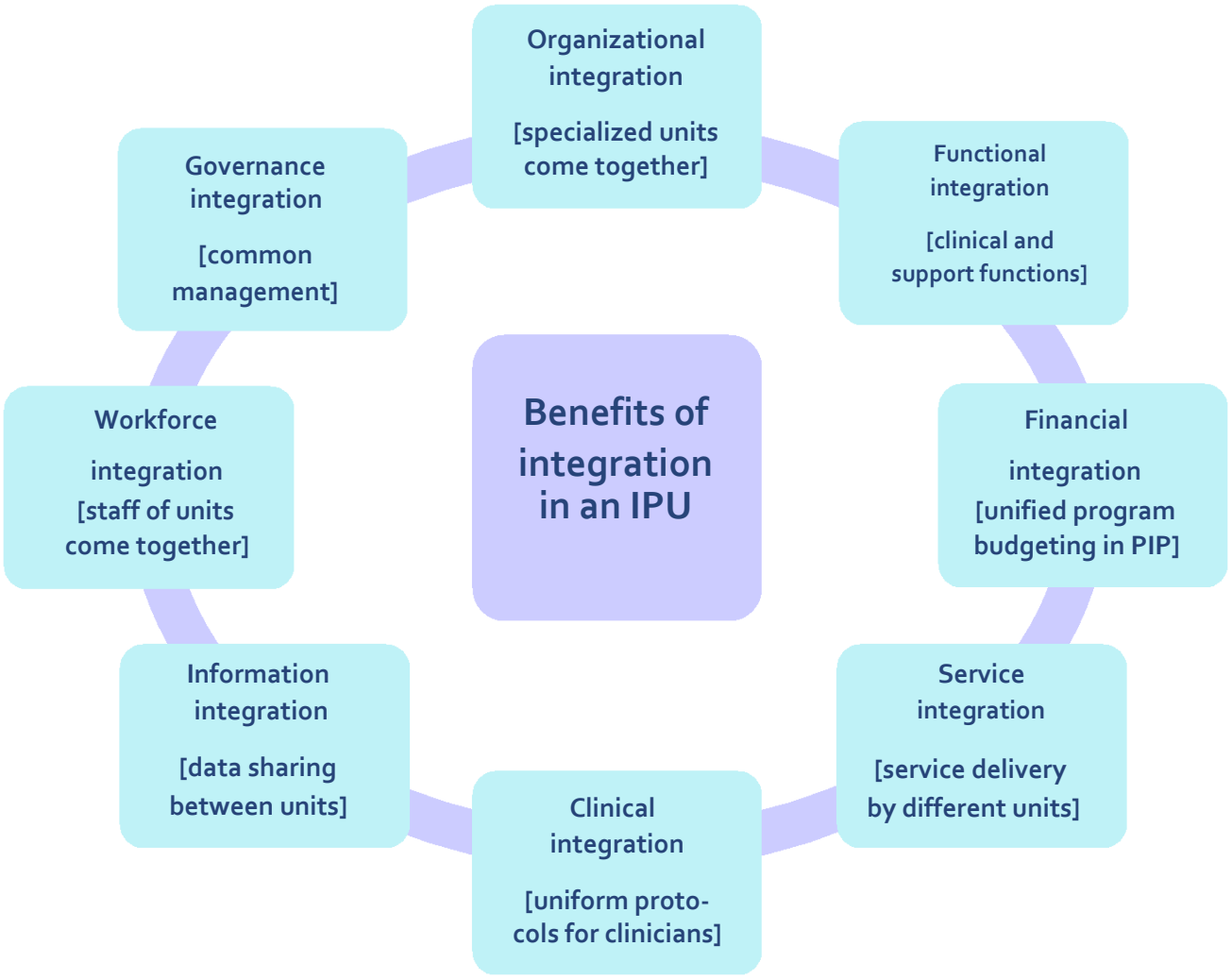
MOVEMENT OF SICK NEWBORNS AND 1-5 YEARS CHILDREN IN IPU



- Respecting the rights of every child (and mother) to stay safe and with dignity
- Child friendly environment
- Providing integrated child health services with standard protocols and required competence
- Designing the infrastructure for easy mobility and comfortable stay
- Training the service providers for necessary behavioural and technical skills
- Establishing assured referral linkages at community and different levels of health facilities
- Monitoring quality of service delivery and quality improvement

RECOMMENDED TIME FRAME FOR OPERATIONALIZING IPU

	Activities	Months											
		1	2	3	4	5	6	7	8	9	10	11	12
1	**State level activities**												
1.1	Constitution of a State Nodal Team	√											
1.2	Organization of State Planning Meeting	√	√										
1.3	Prioritization of districts		√										
1.4	Expression of interest from high focus districts		√	√									
1.5	Planning under NHM Programme Implementation Plan			√	√	√							
1.6	Supervisory visits and review meetings				√	√	√	√	√	√	√	√	√
2	**District level activities**												
2.1	Gap assessment of District Hospital			√									
2.2	Setting up a multi-disciplinary team				√								
2.3	Developing and disseminating guidelines to District Hospital					√	√	√					
3	**Hospital level activities**												
3.1	Sharing the guidelines and instructions						√	√					
3.2	Developing detailed plan for the District Hospital						√	√					
3.3	Development of architectural layout of IPU							√	√				



BENEFITS FOR BENEFICIARIES AND CARETAKERS

- Improved access: all specialized newborn and paediatric healthcare units functioning in a defined section of the facility.
- Reduced delay: administrative, operational, and logistical delays in initiating the treatment at appropriate unit are minimized.
- Improved availability of supplies: single store/pharmacy for all units improves availability of supplies, including medicines.
- Participation of mothers (and family members) in taking care of newborns and children (opportunity for family participatory care and kangaroo mother care).
- Better utilization of available specialized workforce based on Doctor-Nurse-Beds ratio (as per norms).
- Better overall management, including crowd management and strict visiting hours, record keeping, reporting, monitoring of quality of services.

'For the user, integration means health care that is seamless, smooth and easy to navigate. Users want a co-ordinated service which minimizes both the number of stages in an appointment and the number of separate visits required to a health facility. They want health workers to be aware of their health as a whole (not just one clinical aspect) and for health workers from different levels of a system to communicate well. In short, clients want continuity of care.'

- World Health Organisation

BUDGETARY PROVISIONS FOR SETTING UP IPU (NATIONAL PIP GUIDELINES 2018-19)

Cost element (PIP Budget Head)	New FMR	Old FMR
Upgradation of facility based newborn care centres	5.1.1.1.g	B.5.6.3
Upgradation of existing district hospitals as per the guidelines	5.1.1.2.a	B4.1.1.2
Civil works	5.3.1	B4.1.5.4
Operationalizing infection management and environmental plan	5.3.6	B.5.9
Procurement of equipment	6.1	B.16.1
Procurement of equipment for PICU and paediatric wards	6.1.1.2	B16.1.2.1
Procurement of any other equipment	6.1.1.2.b	B16.1.2.2
Free diagnostics for sick infants under JSSK	6.4.4	A.2.9.1
Setting up of skill lab	9.1.1	A.9.1.2.2
Hiring of human resource for skill lab	9.2.1	A.9.1.2.1
Child health trainings	9.5.2/9.5.2.23	A.2
Recurring costs on consumables, communication, miscellaneous, etc.	10.4/10.4.2	E.3.2
Referral network of laboratories	10.4.3	E.3.4
Printing activities under child health	12.2/12.2.10	
Other innovations	18.5	


A glimpse of SNCU and general ward in an integrated pediatric unit.

RESOURCE MATERIAL

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For more details

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Disclaimer: this document is based on the learnings from the technical assistance by TCIHC team for setting up an IPU in a selected city of Madhya Pradesh. This document is not prescriptive, rather it provides guidance to program managers on how to administer this approach for replication and scale up.