Internship Training at NHM Haryana

By

Richa Rana

PGDHM

2012-2014

International Institute of Health Management Research
New Delhi

Internship Training

At

NATIONAL RURAL HEALTH MISSION, HARYANA

A study on assessment of quality of services available at special newborn care units (SNCU) as per standard protocol in various districts of Haryana

By

Dr.Richa Rana

Under the Guidance of
Dr. Vinay Tripathi

Post Graduate Diploma in Hospital and Health Management

Year 2012-2014

International Institute of Health Management Research
New Delhi

FEEDBACK FORM

Name of the Student: Dr. Richa Rana

Dissertation Organisation: National Health Mission, Haryana

Area of Dissertation: Facility Based Newborn Care

Attendance: 100% Attendence

Objectives achieved: 1) Quality Assessment of selected SNCUs using a standard checklist (Self-assessment)
2) Develop & validate the scoring system to conduct analys

Deliverables: 1) To conduct semi-structured interviews of Staff & Parents/Relat
2) Share the findings apart from the checklist – Qualitative findings to the District & State officials.

Strengths: Disciplined, Hard working, time management.

Suggestions for Improvement: Report writing

Signature of the Officer-in-Charge/ Organisation Mentor (Dissertation)

Medical Officer Child Health
National Rural Health Mission
Haryana, Panchkula

Date:
Place:

CERTIFICATE OF DISSERTATION COMPLETION

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Richa Rana** has successfully completed her dissertation in our organization from February 3, 2014 to April 30, 2014. During this dissertation she has worked on project "**Assessment Of Functionality And Availability In Special New Born Care Unit As Per Standard Protocols In 5 Districts Of Haryana**" & also co-ordinated for all child health Programmes under the guidance of me and my team at National Health Mission, Haryana .

We wish her good luck for her future assignments.

(Signature) 2/5/14

Deputy Director - MCH & EPI
Directorate General Health
Services Haryana Panchkula

Certificate of Approval

The following dissertation titled **A Study On Assessment Of Quality Of Services Available At Special New Born Care Units (SNCU) As Per Standard Protocol In Various Districts Of Haryana** is hereby approved as certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of **Post-Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation

Name	Signature	Name of the Student
S. Vivek Adhish		Richa Rana
Preetha GS		

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled "**A study on assessment of quality of services available at special new born care units as per standard protocol in various districts of Haryana**" and submitted by **Dr. Richa Rana** Enrollment No. **PG/12/073** under the supervision of **Dr. Vinay Tripathi** for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from **5/2/2014. To 30/4/2014** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature

TO WHOMSOEVER MAY CONCERN

This is to certify that **Dr.Richa Rana**, a student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of Health Management Research, New Delhi has undergone internship training at "**National Health Mission" Haryana (Child Health)** from 5/2/2014 to 30/4/2014.

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.The Internship is in fulfillment of the course requirements. I wish her all success in all his future endeavors.

Dr. A.K. Agarwal
Dean, Academics and Student Affairs
IIHMR, New Delhi

Dr. Vinay Tripathi,
IIHMR, New Delhi

ACKNOWLEDGMENT

"Any accomplishment requires the grace of god as well as help and good wishes of many people and this work is not different."

This perspicuous piece of acknowledgement is an opportunity and humble privilege for me to express my deepest sense of gratitude and indebtness to those people without whose help, assistance and guidance, the present work would have been impossible.

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I extend my sincere thanks to **Dr**. **Rakesh Gupta (MD NRHM-Haryana)** for his endeavor and genuine support. I express my gratitude to him for encouraging me at every moment throughout the internship period.

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I must render my sincere thanks to the **DIO's of these five districts** for their cooperation and support. I am also thankful to CMO's of these districts for their support.And I am thankful to state SNCU consultant **Dr.Mandar** for their guidance and support in doing of studies.

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Table of Content

List of Abbreviations

BMW	**Biomedical waste**
CME	**Continued Medical education**

CPAP	**Continuous Positive Airway Pressure**
FBNC	**Facility Based Newborn Care**
HAI	**Hospital Acquired Infections**
IPHS	**Indian Public health Standards**
KMC	**Kangaroo Mother Care**
LBW	**Low Birth Weight**
MOHFW	**Ministry of Health and Family Welfare**
NBCC	**New Born Care Corner**
NNF	**National Neonatology Forum**
SNCU	**Sick New Born Care Unit**
VLBW	**Very Low Birth Weight**
WHO	**World Health Organization**
UNICEF	**The United Nations Children's Emergency Fund**
DFID	**The Department for International Development**
RCH	**Reproductive Child Health**
ENC	**Essential Newborn Care**

Introduction:

The current Infant mortality rate in Haryana is 48/1000 live births, out of total IMR 68% contributes to Neonatal Mortality rate and Out of total NMR, 50 % contributes to Early Neonatal Mortality rate. The NMR

of Haryana is 33/1000 live births and U5MR is 55/1000 Live Births. Neonatal Mortality is highest among deliveries that occur at home. So in order to achieve the MDG-4 we need to improve institutional deliveries. The major causes for neonatal deaths in India are Prematurity and low birth weight, neonatal infections, birth asphyxia and birth trauma, pneumonia and diarrheal diseases[1].

National rural health mission was launched on 12 April 2012, initially in 18 states and gradually extended across the country. NRHM was launched to cover up systemic deficiencies like lack of holistic approach, absence of linkages with collateral health determinants, gross shortage of infrastructure and human resources, lack of community ownership and accountability, non-integration of vertical disease control programs, non-responsiveness and lack of financial resources. In order to address these issues NRHM employed five main approaches communitization, flexible financing, improved management through capacity building, monitoring progress against standards, and innovations in human resource management.

As a part of UN Millennium Development Goals; India is committed to reduce child mortality by 2/3rd of 1990 by year 2015. India had Infant Mortality Rate of 80 per 1000 live births in 1990 and MDG is 28. IMR has declined by 12 points in the decade 1990-2000. Thus, showing about 15% decline in IMR during the decade 1990-2000 and during 2000-1005. However, IMR decline has accelerated by 4% annually during the NHM period and thus 24% decline from 2005 to 2011. At present, IMR stands at 44 per 1000 live births. On the other hand, rural-urban differential of IMR was observed to be very wide before the NHM period. This gap has narrowed down during the period of 2005 to 2011 from 24 to 19 due to intensive programs aimed at rural populations [2]

Child Health Goal under RCH II/NHM

Child Health Indicator	Current status	RCH II/NHM 2010/2012	MDG 2015
IMR (Infant Mortality Rate)	44(SRS 2011)	<30	28
Neonatal Mortality rate	31 (SRS 2011)	<20	--
Under 5Mortality Rate	55(SRS 2011)		<38

Source: Sample Registration System (SRS) 2011

Skilled health care during pregnancy, childbirth and in the postnatal (immediately following birth) period prevents complications for mother and newborn, and allows for early detection and management of problems [3]. Up to two thirds of newborn deaths could be prevented if skilled health workers perform effective health measures at birth and during the first week of life.

For low birth weight babies increased attention to keeping the newborn warm, including skin-to-skin care immediately following birth for at least an hour, unless there are medically justifiable reasons for delayed contact with the mother; assistance with initiation of breastfeeding within the first hour after birth, such as helping the mother express breast milk for feeding the baby from a cup if necessary. (If a baby is unable to accept feeding from a cup, the newborn should be referred to a hospital) extra attention to hygiene, especially hand washing; extra attention to health danger signs and the need for care; and additional support for breastfeeding and monitoring growth.

There is a growing recognition that to meet national goals and the Millennium Development Goals (MDGs),a substantial reduction in NMR is needed, and reducing deaths in the first week of Iife is essential to make progress. A rapidly increasing number of newborns are being delivered in hospitals after the launch of the]anani Suraksha Yojana (JSY) scheme. The roll out of the Integrated Management of Neonatal and Childhood Illnesses (IMNCI) programme has also led to increased contact with newborns at their households and improved detection and referral of sick newborns to health facilities. Bringing these two together has resulted in an increased number of sick newborns presenting to referral hospitals.Provision and delivery of services for both essential newborn care and care of sick newborns in the existing health facilities at the district and sub-district level has however been found lacking. Facility-based newborn care (FBNC) has a significant potential for improving newborn survival. It has been estimated that health-facility based interventions can reduce neonatal mortality by as much as 25-30%.

To accelerate the achievement of national goals and MDGs to bring down childhood mortality, the Government of India {Gol) is committed to improving the availability of quality newborn care services in addition to renewing efforts in providing quality health care for women, infants and young children under the National Rural Health Mission (NRHM) and its Reproductive and Child Health Program (RCH II). One of the key steps in this direction is the setting up of newborn care facilities at various levels of public health services. Provision of newborn care facilities at various levels of health facilities will not only increase the confidence of the community in the health delivery system but also increase the coverage of services at the time of greatest risk- birth and the first days of life- and thus address the challenge of bringing down neonatal mortality in the country.

To address the issues of higher neonatal and early neonatal mortality, facility based newborn care services at health facilities have been emphasized. Setting up of facilities for care of Sick Newborn such as Special New Born Care Units (SNCUs), New Born Stabilization Units (NBSUs) and New Born Baby Corners (NBCCs) at different levels is a thrust area under NHM.

Special Newborn Care Units (SNCU)

States have been asked to set up at least one SNCU in each district. SNCU is 12-20 bedded unit and requires 4 trained doctors and 10-12 nurses for round the clock services.

Newborn Stabilization units (NBSUs)

NBSUs are established at community health centres /FRUs. These are 4 bedded units with trained doctors and nurses for stabilization of sick newborns.

New Born Care Corners (NBCCs)

These are 1 bedded facility attached to the labour room and Operation Theatre (OT) for provision of essential newborn care. NBCC at each facility where deliveries are taking place should be established.

Special Newborn Care Unit:

SNCU is a neonatal unit in the vicinity of the labor room which will provide special care (all care except assisted ventilation and major surgery) for sick newborns. Any facility with more than 3,000 deliveries per year should have an SNCU (most district hospitals and some sub-district hospitals would fulfill this criteria).

a) Care at Birth:
   - Prevention of infection
   - Provision of warmth
   - Resuscitation
   - Early initiation of breast feeding
   - Weighing the new born

b) Care of normal new born:
   - Breast feeding/ feeding support

c) Care of sick new born:
   - Managing of low birth weight infants i.e. less 1800 grams
   - Managing all sick newborns
   - Follow up of all babies discharged from the unit and high risk newborns
   - Immunization services
   - Referral services

The minimum recommended number of beds for an SNCU at the district hospital is 12, and or a 12-bedded SNCU, 1,200 sqft floor area is required. A 12-bedded unit (plus 4 beds for the step-down area) requires at least one pediatrician or a trained doctor round-the-dock. Assuming that one doctor provides back-up of 8 hours, at least three to four trained doctors should be available at the facility. It is proposed that one

pediatrician trained in neonatology should be posted at the unit, supported by two or three medical officers trained in FBNC. Such a unit will also require three nurses in each shift, round-the-clock. In addition, there should be sufficient nurses recruited to provide for leave vacancy and contingency. In addition to doctors and paramedics, dedicated support staff should be available to clean the nursery at least once during every shift and more often depending on the need. In addition, a part-time lab technician and a data operator will be required for the unit.

The National Neonatology Forum (NNF) came into existence in 1980 through the initiative of a handful of leading pediatricians working in the field of neonatology. Currently NNF is actively networking with the partners and stakeholders like Government of India and State governments; International agencies including WHO, UNICEF, DFID; NGOs like BPNI; and Professional bodies like IAP, IMA, and FOGSI to improve newborn care in the country. Currently, The Forum is assisting the government, WHO and UNICEF in adapting the Integrated Management of Childhood Illness (IMCI). NNF is involved in the design of the next phase (2003-09) of the Reproductive and Child Health (RCH II) program

NNF has developed a tool to help newborn care units to identify and implement quality care practices that lead that lead to effective utilization of the available resources. It was developed in collaboration with UNICEF.

As per the NNF criteria following are the sections where target components are need to be achieved:

1. Mandatory things.
2. Protocols and processes:
3. Human resources
4. Physical infrastructure & facilities:
5. Facilities for thermoregulation:
6. Drugs, intravenous fluids management and nutrition
7. Neonatal resuscitation in labor room
8. Infection control practices:
9. Laboratory facilities:
10. Facilities for neonatal transport:
11. Case record maintenance

Rationale of the Study

As per the norms of the government of India the minimum recommended number of beds for an SNCU at the district hospital is 12, and or a 12-bedded SNCU, 1,200-sq.ft floor area is required. A 12-bedded unit (plus 4 beds for the step-down area) requires at least one pediatrician or a trained doctor round-the-dock. The major issue is not just the availability of newborn care corner, but its functionality. The current Infant mortality rate in Haryana is 48/1000 live births, out of total IMR 68% contributes to Neonatal Mortality rate and Out of total NMR, 50 % contributes to Early Neonatal Mortality rate. The NMR of Haryana is 33/1000 live births and U5MR is 55/1000 Live Births. Neonatal Mortality is highest among deliveries that occur at home. So in order to achieve the MDG-4 we need to improve institutional deliveries.

The major causes for neonatal deaths in India are Prematurity and low birth weight, neonatal infections, birth asphyxia and birth trauma, pneumonia and diarrheal diseases. So in order to achieve the MDG-4 we need to improve institutional deliveries. Interventions combining resuscitation of newborn baby, breastfeeding, prevention and management of hypothermia and kangaroo mother care (KMC) can reduce NMR by more than half.

As Level II of care for newborn establishment requires lots of investment and without quality of care, the output of reducing NMR cannot be achieved. It is essential to know that at what level our facility is standing in comparison to standards. This study provides an opportunity to analyse the situation of the same.

Objectives:

- **General Objective:**

To assess the quality of services provided by Special Newborn Care Units (SNCU) in five districts of Haryana.

- **Specific Objectives:**

✓ To check whether all the essential elements are available at each of these five SNCUs.

✓ To monitor and identify gaps in the functioning of SNCUs in Haryana.

✓ To suggest ways to cover the gaps so as ensure a proper functioning of SNCU.

Review of Literature:

1. **Assessment of Special Care Newborn Units in India by S.B.Neogi et.al** conducted a cross sectional study in 2009 in eight rural districts of India to assess the functioning of SCNU. The major findings of this study were increased rates of admission, decrease in case fertility rate. The major reasons for admission and the major causes of deaths were birth asphyxia, sepsis, and LBW/prematurity. The average duration of stay ranged from two days to 15 days. Repair and maintenance of equipment were a major concern. The authors of the study concluded that setting up and managing quality SCNUs would improve the survival of newborns with LBW and sepsis in developing countries. On the contrary several challenges relating to human resources, maintenance of equipment, and maintenance of asepsis remain.
2. **Assessment of Essential Newborn Care Services in Secondary-level Facilities from Two Districts of India by Sumit Malhotra et.al** a cross sectional study conducted in Nagaur district in Rajasthan and Chhatarpur district in Madhya Pradesh. As part of the study the authors did record review, facility observation, and competency assessment of service providers, using structured checklists and sets of questionnaire. The major focus of the study was on resuscitation, provision of warmth, breastfeeding, kangaroo mother care, and infection prevention. The results of the study were no inpatient care was being rendered at the CHCs while, at DHs, neonates with sepsis, asphyxia, and prematurity/low birth weight were managed. Newborn care corners existed within or adjacent to the labor room in all the facilities and were largely unutilized spaces in most of the facilities. The average knowledge score amongst service providers in resuscitation was 76% and, in the remaining ENC domains, was 78%. The authors emphasize the fact on the need for improving the existing ENC services by making newborn care corners functional and enhancing skills of service providers to reduce neonatal mortality rate in India.
3. **Challenges in Scaling up of Special Care Newborn Units- Lessons from India, a secondary data review by S.B Neogi et.al.** Of the several findings by the authors the major ones were, low bed occupancy rate. Very less number of nurses and doctors SCNU. Lack of basic and lifesaving

equipment as well as lack of any annual maintenance contract. The authors concluded the study by giving the opinion that availability of good quality secondary level facilities is required before scaling up.

4. **Newborn Aides: An Innovative Approach in Sick Newborn Care at a District-level Special Care Unit Amitava Sen et.al**. : A Sick Newborn Care Unit (SNCU), established in a district hospital in India, substantially reduced the neonatal mortality rate in the district; it, however, suffered from a dearth of trained nurses. Local girls with 10-12 years of school education underwent structured and hands-on training for six months, followed by a six-month internship at the SNCU and were assigned to it as stipendiary 'Newborn Aides'. Based on the results of formal examinations, internal on-the-job assessment and interview of doctors, nurses, and parents and their technical skills and motivation were rated very high. Although the incremental cost of training is small, the cost of sustaining them, i.e. stipend and replacing attrition needs to be addressed. Trained Newborn Aides may substantially alleviate human-resource constraint for SNCUs and Sick Newborn Stabilization units in smaller peripheral hospitals for care of sick newborns at an affordable cost.
5. **Impact of a district level sick newborn care unit on neonatal mortality rate: 2-years follow-up. By A. Sen**, **et.al**. To evaluate the impact of creating a sick newborn care unit (SNCU) in a district hospital on neonatal mortality rate (NMR).Setting: A district hospital with 6500 deliveries a year. Design: Before and after study. Method: A 14 bed SNCU that included controlled environment, individual warming and monitoring devices, infusion pump, central oxygen and oxygen concentrators, resuscitation and exchange transfusion, portable X-ray and in-house laboratory was created. Doctors and nursing personnel were trained. Baseline data for 10 months were compared with 2 years data of SNCU operation. Results: Compared with the baseline neonatal mortality in the district hospital, neonatal mortality was reduced by 14% in the first year and by 21% in the second year after SNCU became functional. Estimated neonatal deaths averted were 329, which would reduce NMR of the district from 55 to 47 in 2 years. Conclusion: A modern sick newborn care facility created in a district hospital can substantially reduce hospital neonatal deaths and NMR of the district. This model may be an effective tool to reduce NMR of the country.
6. In 2000-2002, **Pattinson RC conducted a study on** ''Why babies die – a perinatal care survey of South Africa''. According to this study there were preventable delays associated with perinatal deaths in rural areas of South Africa. Out of which the followings are associated with new born care such as 4.9% of perinatal death occur due to inadequate facilities and equipment in neonatal units and nurseries. 3.5%

Perinatal death occur due to non-existent or poor antenatal care. 3.2% perinatal death due to poor intra-partum foetal monitoring. 0.8% of perinatal death due to delay in medical personnel calling for expert assistance. 0.8% perinatal death due to inadequate neonatal management plan.

Methodology

Study Area: The study was conducted in Five SNCUs of Haryana, which were established in district hospital

Study Respondents: Paediatricians, MOs and staff nurses related to SNCUs

S.No.	District Name	Department in	MO	Nursing staff	Class IV staff	Data Entry

		the Hospital				Operator
1.	Panchkula	SNCU	1	1	1	1
2.	Ambala	SNCU	1	1	1	1
3.	Karnal	SNCU	1	1	1	1
4.	Yamunanagar	SNCU	1	1	1	1
5.	Panipat	SNCU	1	1	1	1
	Total		**5**	**5**	**5**	**5**

Study Design: Descriptive, Cross-sectional study

Sampling Method: Random sampling of districts by means of lots.

Methods of data collection:

- Primary data collected from the SNCU's that have been functioning for past one year through NNF Self-Assessment Tool. Data was entered and analysed in excel.
- Review of SNCU records
    - Case sheet
    - Community follow up sheet
    - Discharge sheet
    - Admission note

Tools of Data Collection:

- National Neonatology Forum's (NNF) Accreditation Checklist for Level IIA Care.

Methodology:

The checklist for accreditation of NNF contains 11 sections, based on which each question was given 1 mark. At the end of section, total marks for particular section were counted against given targeted value by NNF measurement. Total measurement of each section will give rank for all districts individually.

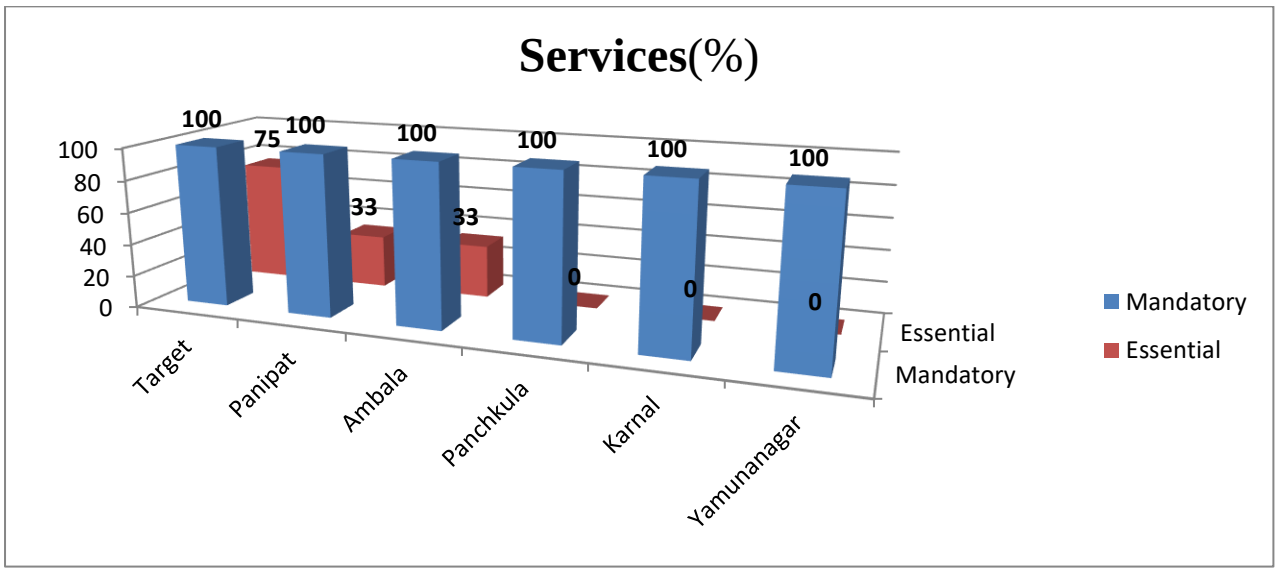
Study period: 5 February 2014 to 30 May 2014.

Result

Findings:

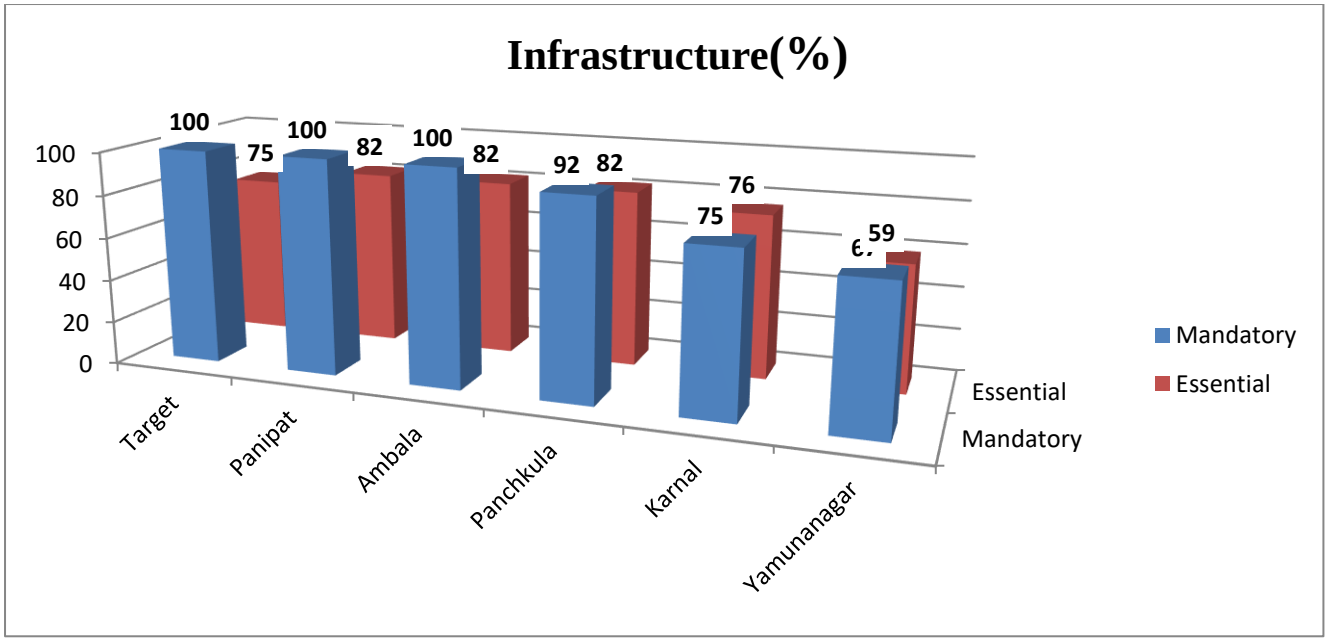
After discussions with MO and Staff Nurse, and thorough reviewing records of SNCU following were the findings according to various heads of criteria for NNF accreditation.

Ten mandatory criteria for SNCU in the selected districts of Haryana were analysed. All components are required for accreditation of SNCU. In which presence of Head of Unit (Paediatrician), availability of Vit K, helping to initiate breast feeding were available and among which written documentation of disinfection instruction and disinfection of equipment was not present in any district.



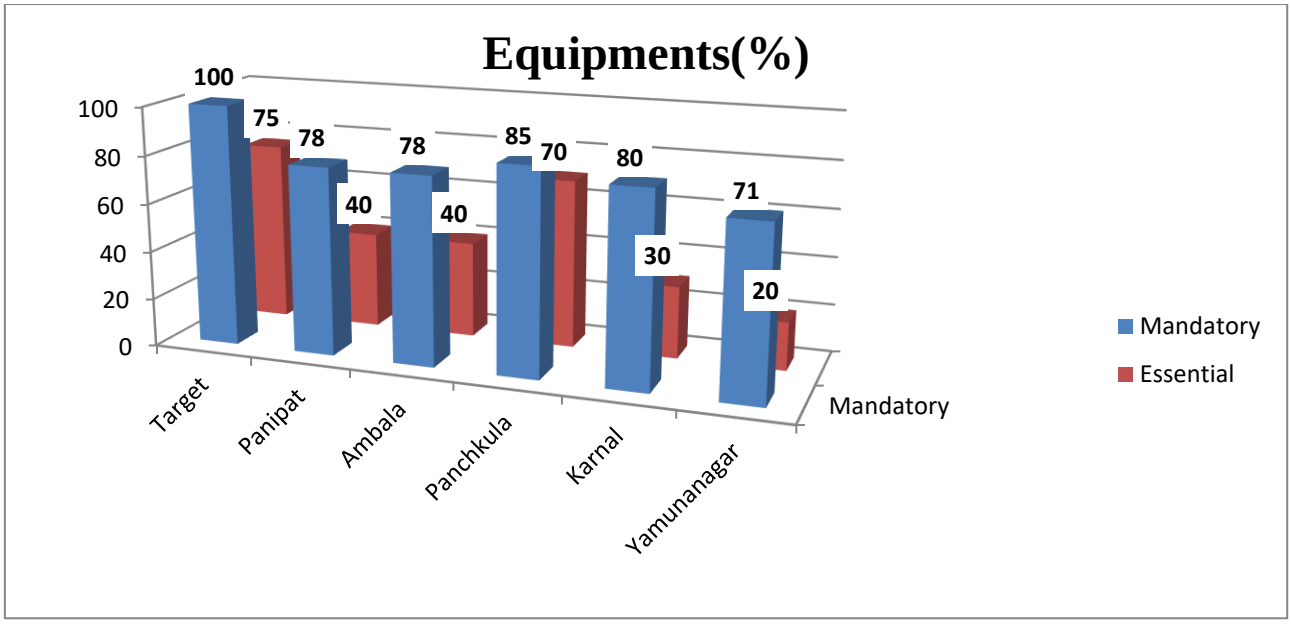
In this service section of NNF Assessment; 7 mandatory and 3 essential criteria were assessed in all 5 districts. The outcome of this assessment showed that all the district hospital SNCU has met the mandatory target by 100 percent. Whereas none of the districts were successful in achieving essential criteria which includes facility for BERA screening, exchange transfusion and obstetric unit to be attached with the SNCU.

Distribution of Physical Infrastructure and facilities in SNCU



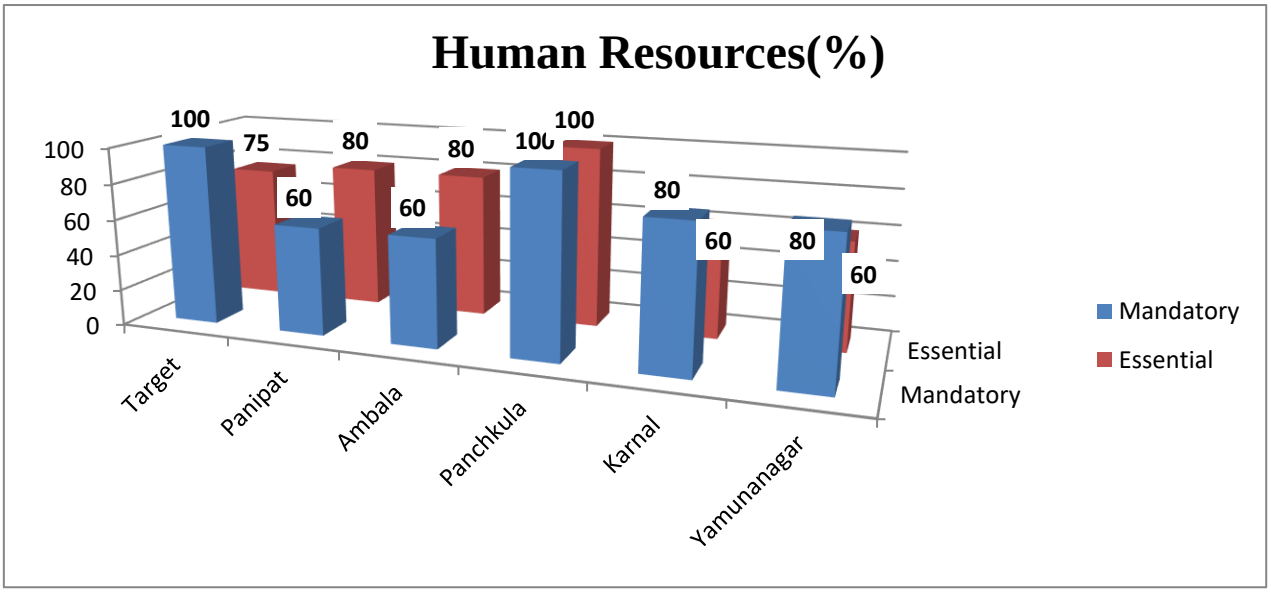
This section of NNF explains the 12 mandatory and 17 essential criteria to be met regarding the infrastructure in SNCU. Out of five districts panipat and ambala fulfils the 100 percent mandatory criteria, while panchkula, karnal and yamunanagar are nearing to fulfil the mandatory infrastructure requirements. Whereas in all five districts except for district yamunanagar essential criteria has been met. In district yamunanagar there was no designated area for clean and dirty utiliy and Hospital did not have a room for providing separate stay facility for all mothers of <2000gms babies within unit's/hospital's premises. As observed, that in almost 5 districts, gowns, caps and mask were not used during examination of newborn. Not each bed is accommodated in 100 square feet of space as per the mandatory protocol of NNF. There was no AC or room heater in all the SNCU.

Distribution of equipments in SNCU



In equipment section 41 mandatory and 10 essential criteria were assessed for accreditation. Out of five districts none of the district is successful in meeting the mandatory and essential criteria. None had washing machine with dryer, infantometer, and few district hospital like panipat and yamunanagar did have electronic weighing machine with minimum 5g sensitivity. Whereas all districts are way far from meeting the target of essential criteria for equipment except for panchkula which is almost nearing the target of achieving essential criteria. Sterile fluid with laminar flow, Cold light source for detection of pneumothorax, 2D ECHO facility on call, and Flux Meter was not available in any SNCU.

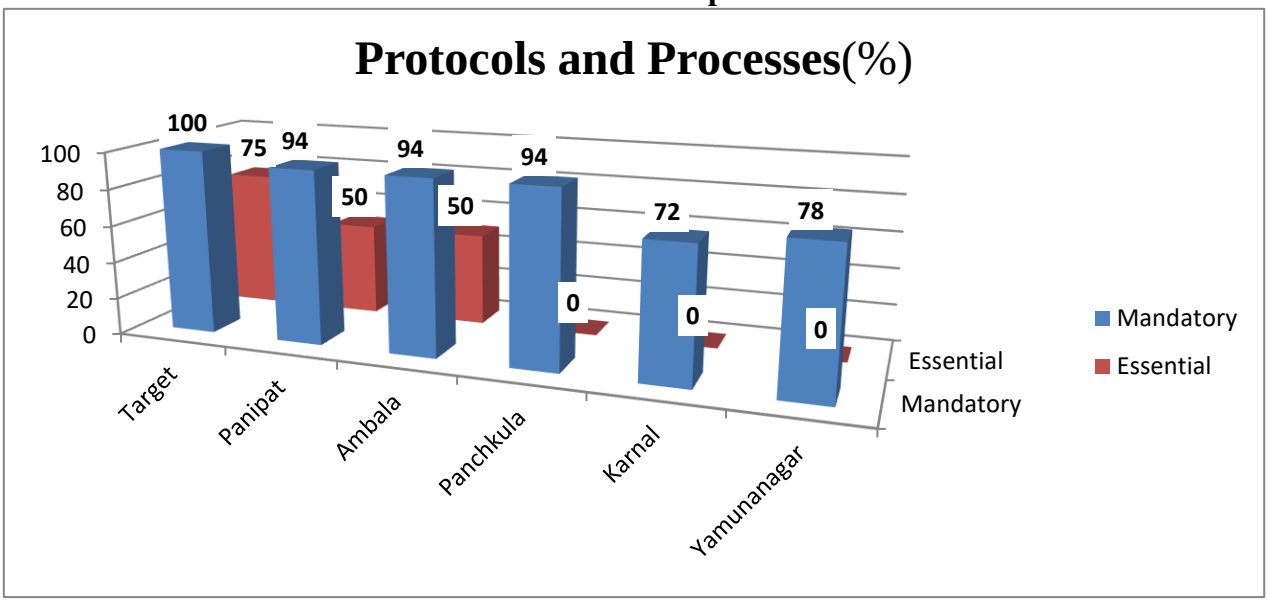
Distribution of Human Resources in SNCU



In human resources section 6 mandatory and 5 essential criteria were assessed. Out of five districts only panchkula was able to meet the target of mandatory as well as essential requirement of human resources for

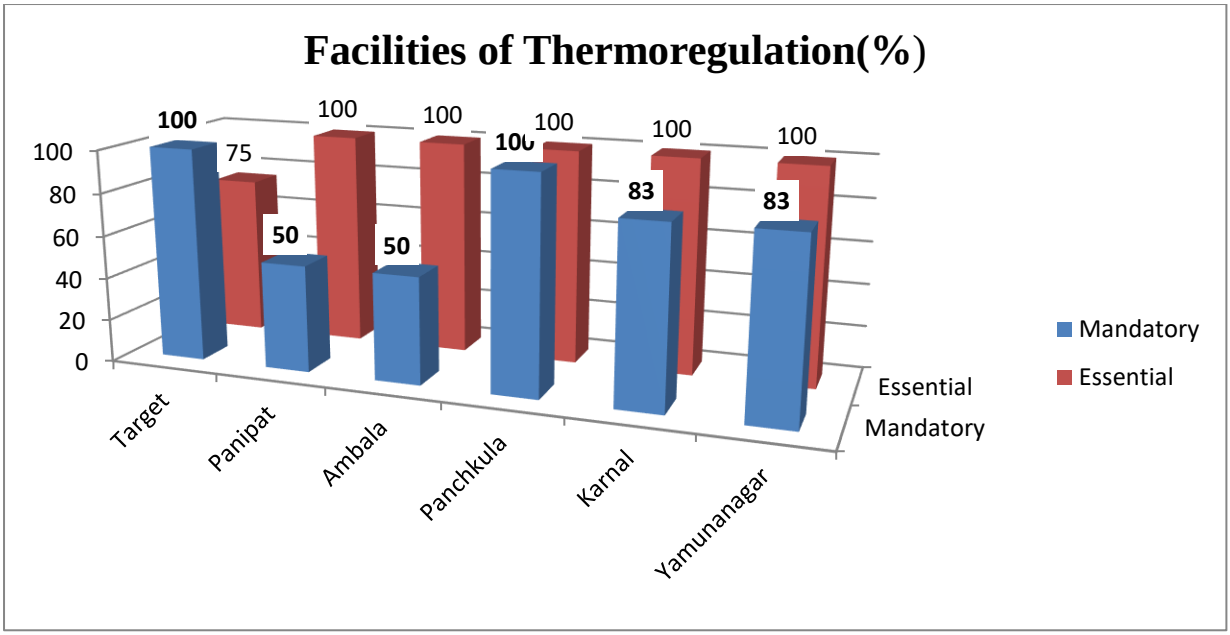
SNCU. As in remaining four districts total four medical officers with experience in neonatology and one nurse per bed ratio was not achieved. Out of five essential criteria, an identified ophthalmologist for ROP screening and Security personnel 1 per shift were not available.

Distribution of Protocols and processes in SNCU



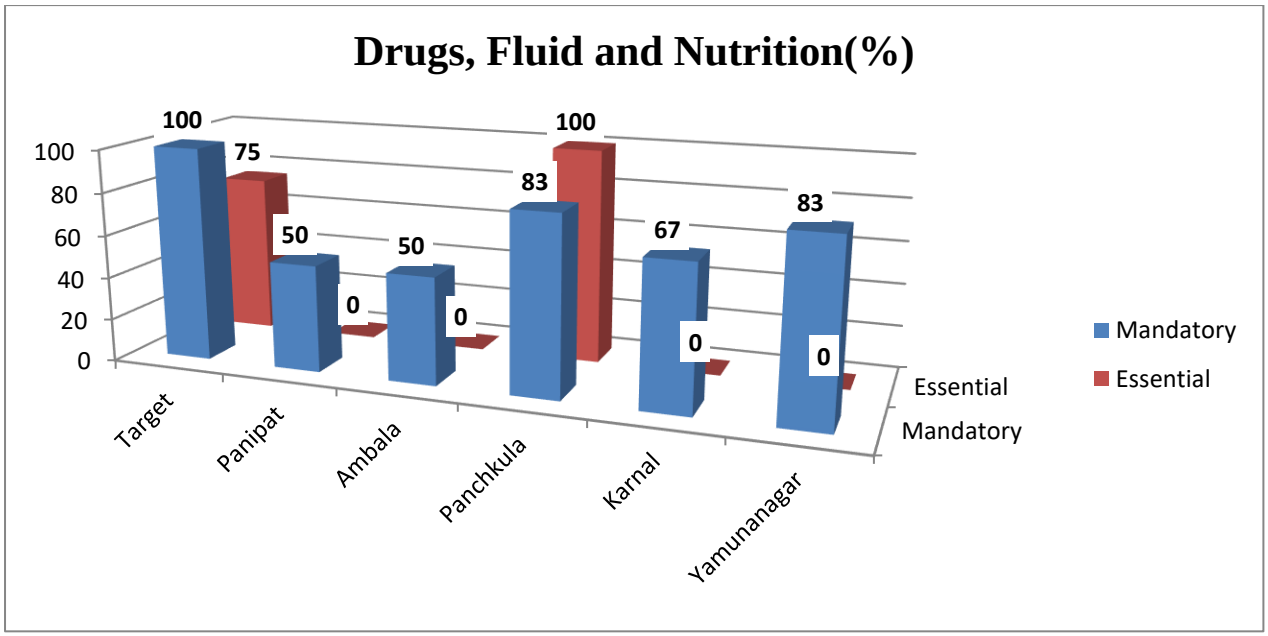
For protocols and processes, 18 mandatory criteria and 2 essential criteria have been assessed. Out of which Ambala, Panipat, and Panchkula are nearing the mandatory target. Whereas Karnal and Yamunanagar yet far from target to be achieved. As observed in these two districts that protocols for hearing, ROP, transport protocol were not available. Only Panchkula and Ambala has facility for blood culture for neonatal sepsis. Except for ambala none of the districts has facility for Incident reporting and closure of loop documentation.

Distribution of Facilities for Thermoregulation in SNCU



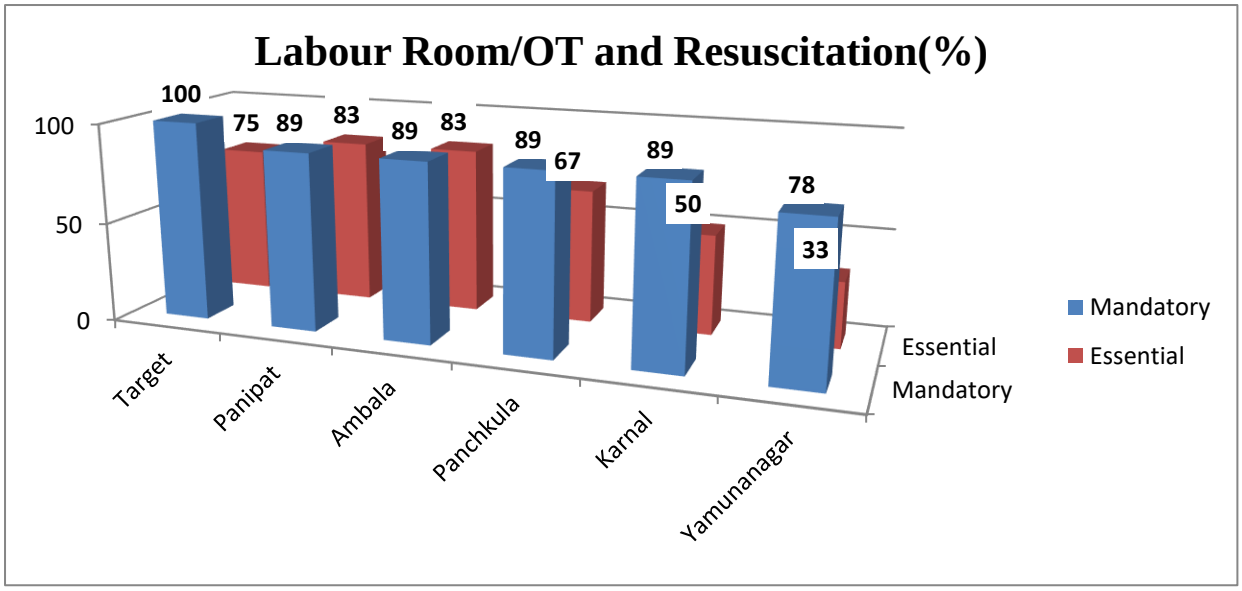
In the section of facilities of thermoregulation 6 mandatory and 1 essential criteria were assessed. Essential criteria were met by all SNCUs. Whereas mandatory requirements are fully achieved by only district panchkula while panipat and ambala has reached 50 percent of target. In which a log book with daily shift-wise recording of temperature of SNCU was not maintained by any of districts except for panchkula. Skin to skin contact immediately after birth was practiced (routine care) by all SNCUs, which is the essential criteria.

Distribution of Drugs, IV Fluids Management and Nutrition in SNCU



Above graph explains about five mandatory criteria and one essential criterion, which were assessed. All five districts were not successful meeting the mandatory requirements. None of the SNCU were maintaining growth chart of newborn. Few out of five districts hospital SNCUs were not having refrigerator to store feed and drugs for newborn. Not all SNCUs had facility for administering fluids by Infusion Pumps. None of the SNCUs Use scientifically designed breast pumps (Electronic/Manual) which is the essential criterion.

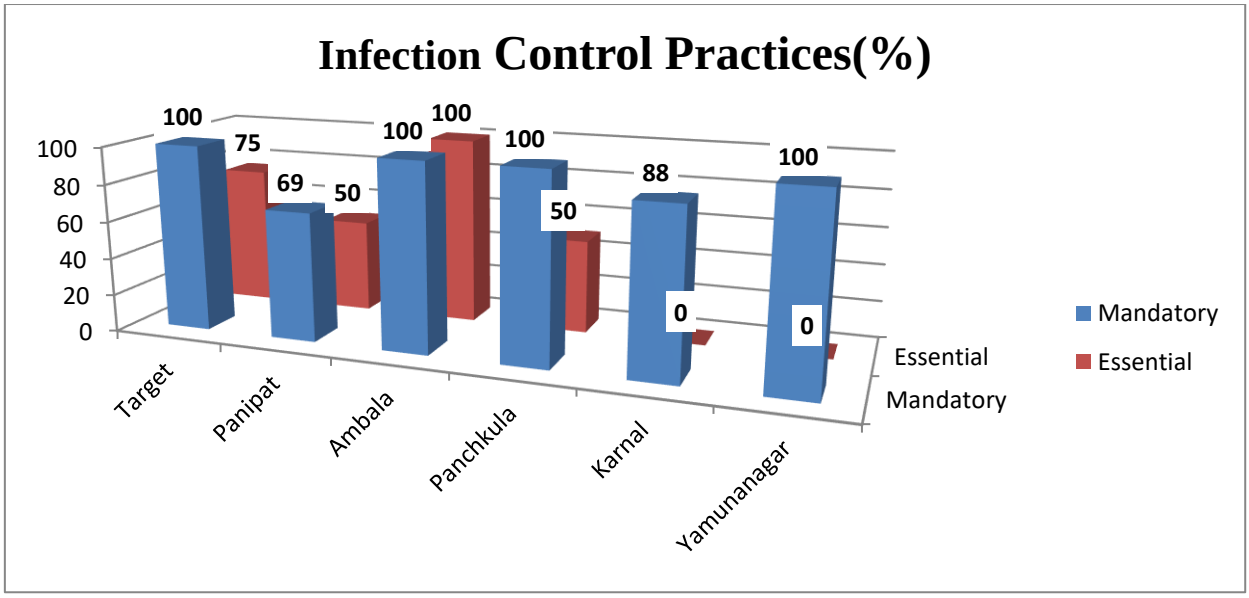
Distribution of Neonatal Resuscitation in Labour Rooms in SNCU



This particular represents the status of Newborn care corner in the Labour room/OT and resuscitation facility of the same. In this section, 9 mandatory and 6 essential criteria were assessed. The achievement of

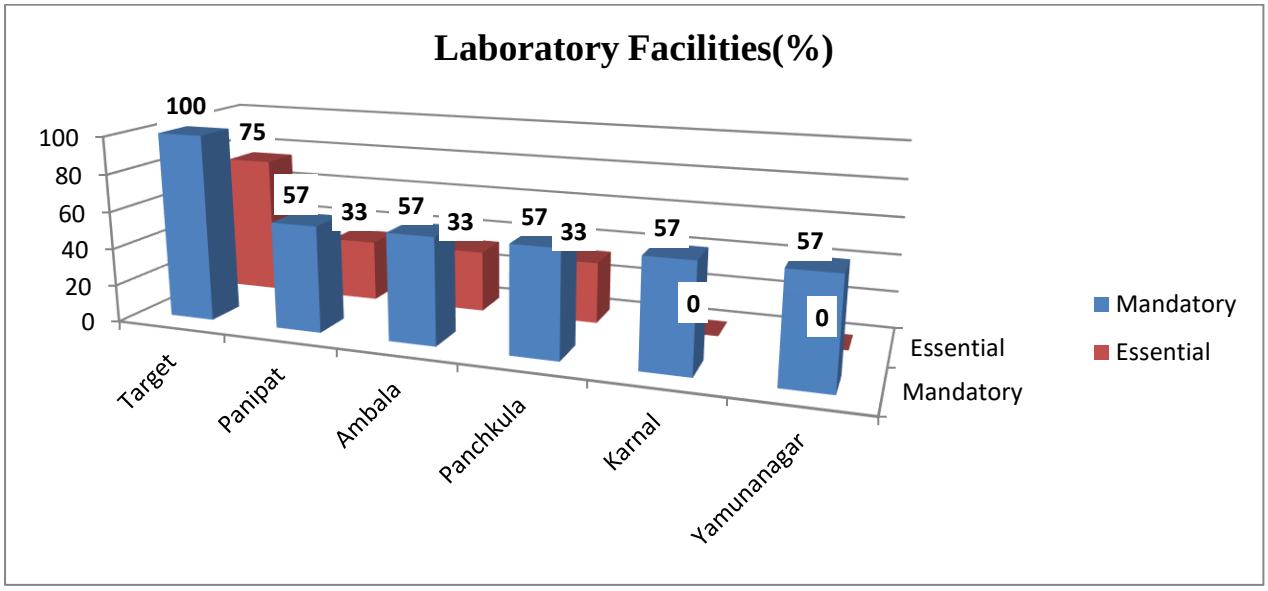
mandatory targets by all district SNCUs were satisfactory but have not completely met. Few of the labour room did not have NRP algorithm and availability of "essential and emergency resuscitation drugs" (e.g. adrenaline, RL, 0rmal saline, etc.) that is replenished on daily basis. In case of essential criteria to be meeting, district yamunanagar is not satisfactory in its achievement of targets as compared to other districts. Heater Pads / Re-sealable plastic (Zip pouch) to be used for preterm deliveries and umbilical vein cannulation set(s) to be used during resuscitation were not available in any five of the district hospital SNCUs.

Distribution of Infection Control Practices in SNCU



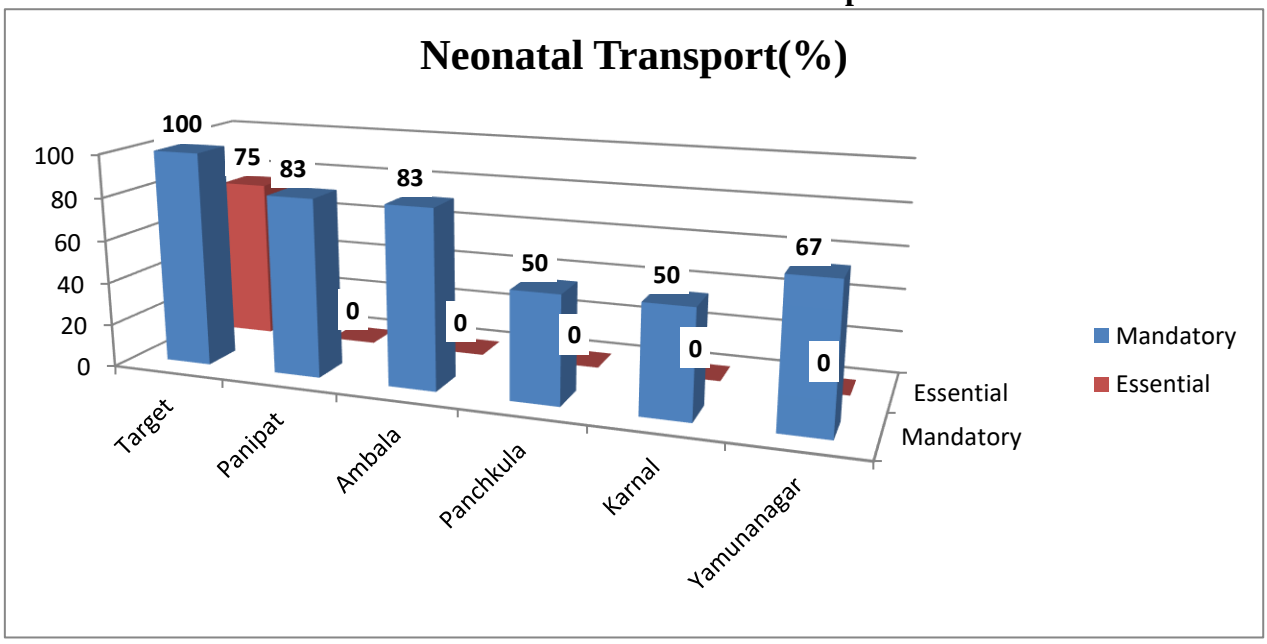
In this section of infection control practices 16 mandatory and 2 essential criteria were assessed. Ambala district SNCU has reached the targets of both essential and mandatory criteria. Whereas panipat is yet far from achieving targets. It did not have protocol for handwashing, antibiotic policy, equipment cleaning/disinfectant and unit cleaning and disinfection routine. No district SNCU have facility for periodic bacteriological surveillance done of the unit by infection control committee

Distribution of Lab Facilities in SNCU



In this section, 7 mandatory and 3 essential criteria were assessed for laboratory facility. In which none of the district SNCUs score is satisfactory. All 5 District hospital's laboratory do not have facility to perform Serum Electrolytes and Calcium and TORCHES screening which are amongst mandatory criteria. ABG Analysis and Facility for IEM Screen including thyroid profile are factors included in essential criteria, which are not performed by any district hospital laboratory.

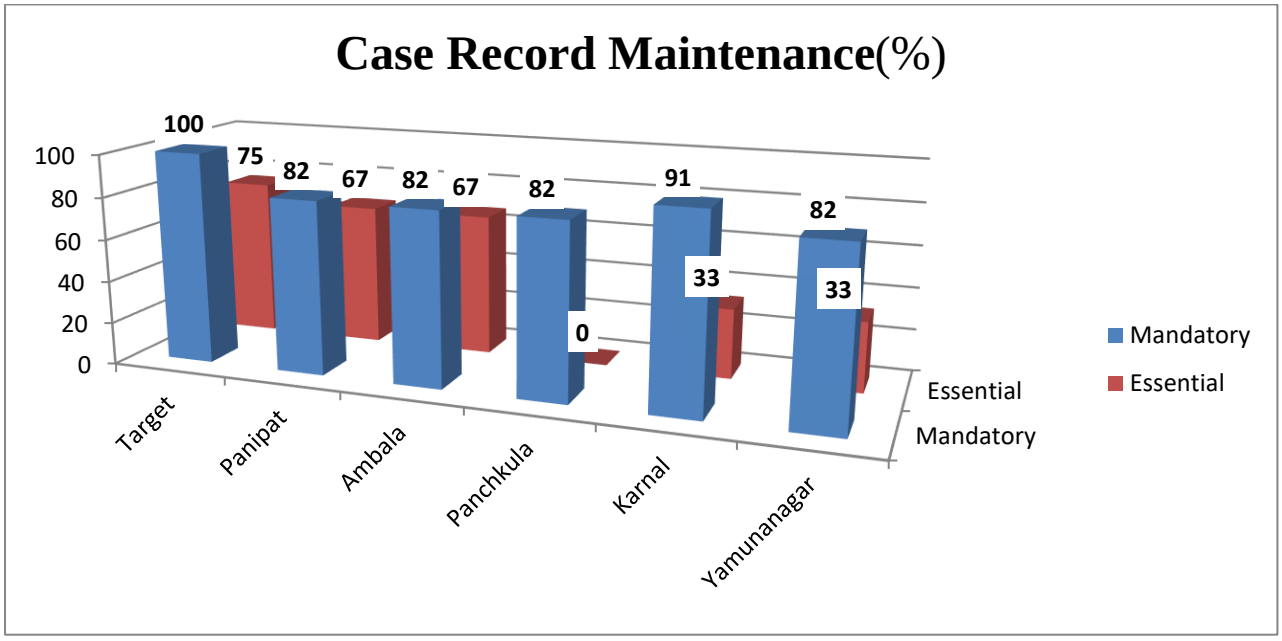
Distribution of Facilities for Neo-natal Transport in SNCU



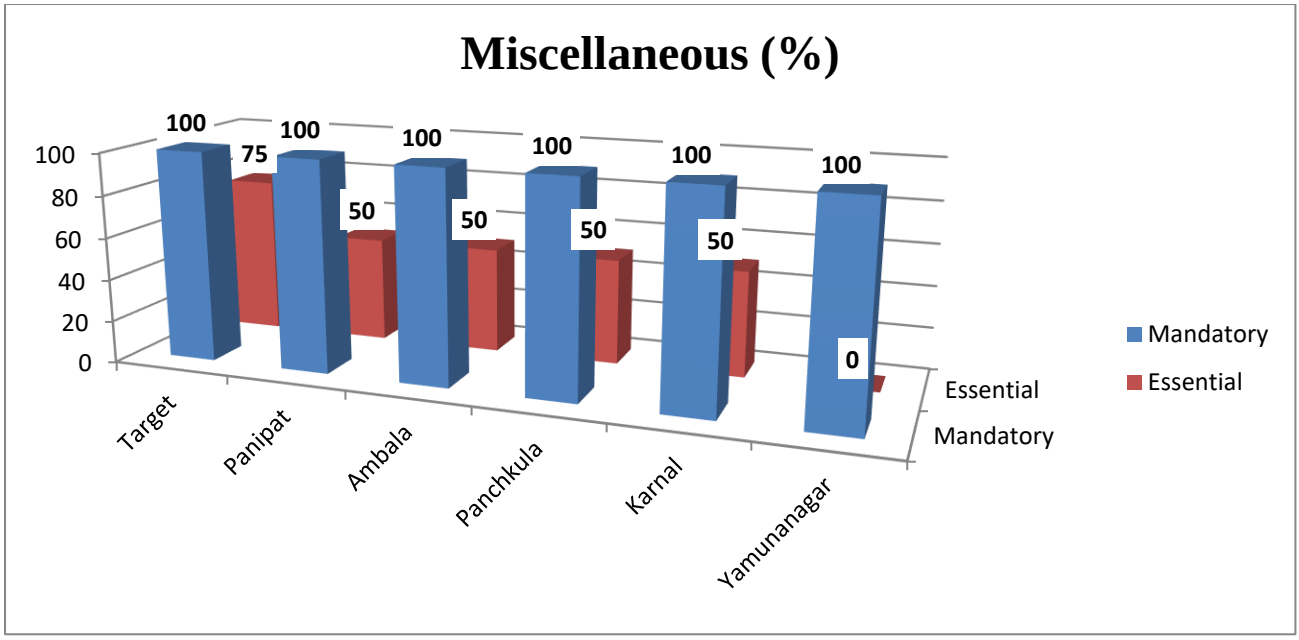
In this section, 6 mandatory and 3 essential criteria were assessed. Mandatory criteria like availability of the Neonatal nursing staff or trained doctor in all transports and points for Pulse Oximeter and the Infusion

pumps in the ambulance were not fulfilled by any of the district hospital neonatal transport. None of the district have met the target for essential criteria.

Distribution of Case Record Maintenance in SNCU

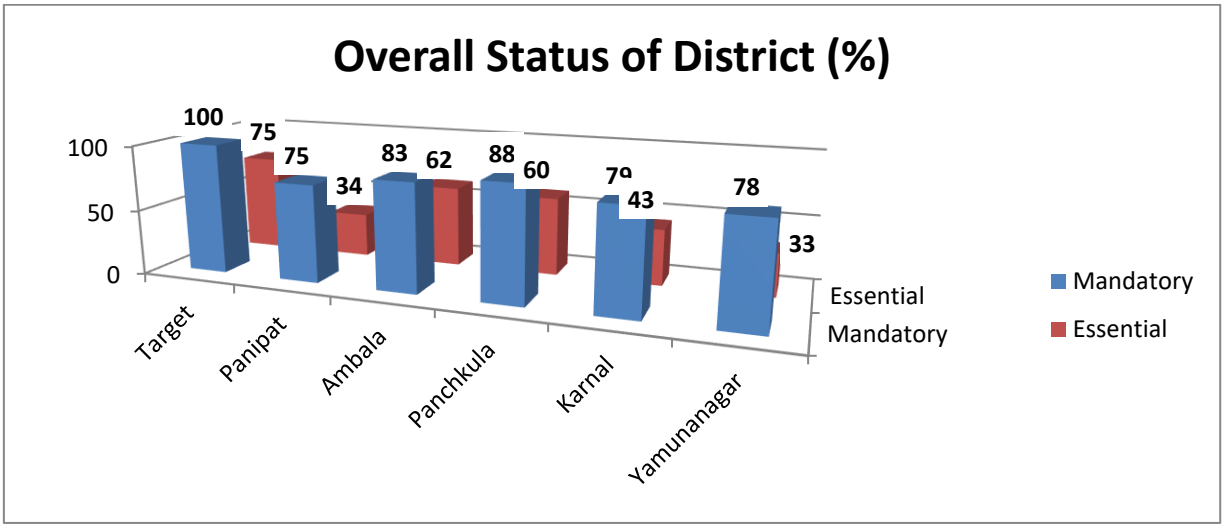


In this section 11 mandatory criteria and 3 essential criteria were assessed for maintenance of case records in SNCU. No district Hospital SNCUs were making use of growth charts regularly in the unit especially for small babies and of the special charts for Exchange transfusion / Partial Exchange transfusion / ABG-Ventilation etc which were the part of mandatory criteria. Out of 3 essential criteria Monthly Perinatal-Neonatal meetings with documented record of such discussions and Medical record data sharing with NNF (these should be inclusive of M8-M11 elements of this section) was not done. Third criteria regarding follow up until 2 years was not done but was done for few months after discharge.



In a section 1 mandatory that is at least one computer with printer and internet access in unit were present in all district SNCUs. 2 essential criteria were assessed out of which unit should have a community outreach programme which was fulfilled by all district SNCUs except for Yamunanagar and none of the unit were undertaking short research in community-based neonatology/ neonatology.

Overall Results in SNCU



Discussion

It was observed that the mandatory criteria were not met in any of the SNCUs. According to the guidelines, each component should meet criteria for accreditation; nevertheless, the total score was satisfactory. Status of each SNCU was reported to the respective SNCU in-charge and necessary actions were taken to meet up the requirements.

District yamunanagar has a very low overall score. They have to improvise in many fields like Mandatory Requirements, Protocols and Processes, Human Resources, Physical Infrastructure and facilities, Facilities for thermoregulation, intravenous fluids management and nutrition, neonatal resuscitation in labour room, infection control practices, laboratory facilities, and facilities for neonatal transport. In case of protocols and processes, Only yamunanagar is the district which was not able to meet the requirements. These protocols help the facility to give proper guidance at the time of service delivery. In case of Human resource, only district Panchkula has met the criteria. In physical infrastructure and facilities, only Panchkula and Ambala had good infrastructure other institute ons are lacking in this. Thermoregulation is main issue after the delivery of the child. So, all the five criteria are required to get the accreditation. Almost all districts was near the target in IV fluids management and Nutrition, eight criteria are required. As far as neonatal resuscitation in the labour rooms is concerned all the selected districts have well equipped labour rooms to manage any emergency arising in the newborn immediately after delivery.

In case of infection control practices, eight criteria were used to assess infection control practices in the SNCUs. Panipat has very poor score in this segment. Karnal and yamunanagar was on average score and Ambala have achieved the full score. In lab facilities, five criteria were required. All the districts have feeble score. The facility for neonatal transport plays a main role in the hospital because if the infant is in critical condition, he/she has to refer to higher institution. Therefore, no district had achieved all the five criteria. In case record maintenance, four criteria are required and all the districts have an average score but none have reached the target score.

Conclusion

A modern sick newborn care facility created in a district hospital can substantially reduce hospital neonatal deaths and NMR of the district. This model may be an effective tool to reduce NMR of the country. Mandatory Requirements and Facilities for Thermoregulation were not met by any of the districts. Protocols and processes, Human Resources, Drugs, IV Fluids Management and Nutrition, Neonatal Resuscitation in Labour Rooms, Infection Control Practices and Case Record Maintenance criteria were met by maximum districts whereas district Yamunanagar and Panipat lacks in all.

Lab Facilities need improvements in Karnal and Yamunanagar. The criteria in Physical Infrastructure Facilities have exceeded by district Ambala, Panipat, and Panchkula, whereas Yamunanagar lacks far behind with score one. Facilities for Thermoregulation also need much improvement by every district.

Depending upon the NMR, SNCU's are much required in each district to prevent the deaths of newborn.

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Annexure:

National Neonatology Forum of India's Newborn Care Accreditation Program

with support of UNICEF India

APPLICATION FORM CUM SELF-ASSESSMENT TOOLKIT & ASSESSOR REPORTING FORMAT FOR NNF ACCREDITATION

NOTE FOR FILLING IN APPLICATION FORM & SELF ASSESSMENT TOOLKIT

- ❑ APPLICATION FORM & SELF-ASSESSMENT SECTION is to be completed by applicant at the time of applying for NNF Accreditation.
- ❑ Please mention clearly all the required details at appropriate places.
- ❑ Self-Assessment Toolkit has been divided into certain section covering various aspects of Neonatal Care. Each section has certain **"MANDATORY ELEMENTS" which have to be met COMPULSARILY by all newborn care units wanting to be accredited.**
- ❑ In case a unit falls short of a Mandatory Criteria, it should try to rectify the shortcoming and then re-self-assess itself before applying for accreditation.
- ❑ Besides Mandatory elements, there are certain "**ESSENTIAL ELEMENTS**" in each section. These essential elements are to be marked with a **"1" for YES or "0" for NO** response to show that requirement for that element is **MET or NOT-MET** by the unit.
- ❑ Total marks thus accumulated for each section and for overall toolkit will be compiled and accordingly final score for the unit will be arrived at.
- ❑ These "**ESSENTIAL ELEMENTS**" offer us the way forward in delivering quality newborn care. These elements have been put in order to define the frontiers of newborn care within the level II environment.
- ❑ **ONLY SCORES FROM THE ESSENTIAL ELEMENTS WOULD BE USED FOR SCORING A UNIT.**
- ❑ This score will be used by assessors along with onsite assessment of unit to arrive at their recommendation for the unit. These scores and assessors recommendation will be sent to NNF's Accreditation Review Committee for final decision.
- ❑ **SCORING - A UNIT SHOULD SCORE AT LEAST 75% TO BE CONSIDERED FOR NNF ACCREDITATION.**

APPLICATION FORM *(to be filled by applicant only)*

GENERAL INFORMATION ABOUT THE UNIT

Particulars	Details
1) Name of unit along with full address, phone numbers & email address of unit	Name:
	Full Address:
	Phone (with STD code):
	Email:
2) Date of starting operations of the unit (dd-mm-yyyy) and Functional Age of the unit (in years)	
3) Date of self-assessment (dd-mm-yyyy)	
4) Name of unit in charge with qualifications and other details	Name:
	Full Address:
	Phone (with STD code):
	Email:
5) Accreditation requested for	**Level II-A**
6) Available number of beds in the unit total and different level beds (level IIA, IB)	
7) Surface area of unit (sq. feet), please attach floor diagram of unit with dimensions of various areas *(as Annexe to this format)*	
8) Name of consultants with their qualification & experience (in no. of years after PG)	1)
	2)
	3)
	4)
	5)
	6)
	7)
	8)
	9)
9) No of Junior Doctors (Post MBBS)	
10) No of Nurses	
11) Total Deliveries/year	
12) Total Admissions in your newborn care unit/year	

13) No. of ventilated patient per year (if applicable)	
14) Patient ventilation days in a year (if applicable)	
15) Self-Assessment score (in numbers as scored by the summation of essential criteria only)	
16) Is the unit part of a hospital/institution?	YES / NO *(please encircle appropriate answer)*
If yes **a)** Please mention - no. of beds	a)
b) Specialties offered by the hospital	b)
c) Special care areas in the hospital	c)
d) Other facilities in the hospital	d)
17) Recognition for fellowship training for doctors/nurses has been requested and its fee submitted, if yes give details of payment made?	
18) Any other teaching/training programs undertaken by the unit e.g. DCH, DNB, DM, etc.	
19) Teaching experience of consultant(s)	1)
	2)
	3)
	4)
	5)
	6)
	7)
	8)
	9)
20) Facilities for nurses training (if any, e.g. nursing college, etc.)	

21) Any additional information:	
22) Date of Application (dd-mm-yyyy)	
23) Signature of Unit In charge with their official seal/stamp	

A. UNIT'S PERFORMANCE DATA (Three years or since when unit is functioning)

S.no.	Parameter	Value/Details Year 1	Value/Details Year 2 (if applicable)	Value/Details Year 3 (if applicable)
1	Total, inborn and outborn babies admitted (yearly)			
2	Total number of babies admitted with LBW (low birth weight), VLBW and ELBW & their respective percentages	LBW: VLBW: ELBW:	LBW: VLBW: ELBW:	LBW: VLBW: ELBW:
3	Total number of babies referred-out for surgical & nonsurgical reasons (yearly)			
4	Total number of babies referred-in (yearly)			
5	Mortality figures – total, inborn and out born (yearly)and their group mortality %			
6	Mortality in total, LBW, VLBW, ELBW babies (yearly) and their group mortality %			
7	LAMA (Left Against Medical Advice)/ DOR (Discharge On Request) rate in total, LBW, VLBW, ELBW babies (yearly) and their group %			
8	Hospital acquired infection (HAI) rates, VAP rates (ventilator associated pneumonia), and BSI rates (blood stream infections)	HAI: VAP: BSI:	HAI: VAP: BSI:	HAI: VAP: BSI:

9	Five (5) commonest major diagnoses			
10	Five commonest major mortality causes			
11	Any other important data			
12	Sign and seal of unit in-charge			

B. CLINICAL SUPPORT SERVICES

S.no.	**Services**	**Response** Mention whether service is available **(YES)** or not **(NO)** [in Col. 1]. If YES, then by which mode – **In house/ Parent Hospital/ Outsourced** [mention in Col. 2]. **Col.1**

		Col. 2	
1	Housekeeping services		
2	Ambulance services		
3	Autoclaving / CSSD (of parent hospital)		
4	Laundry		
5	Kitchen services (for mothers)		
6	Information Technology (facilities in the unit but managed by parent hospital or by an outsourced agency)		
7	Maintenance of facility		
8	Management of Bio-Medical Waste (BMW)		
9	Pharmacy		
10	Security		
11	Supply Chain Management (drugs, consumables and other materials)		
12	Referral services (if yes, mention the name of the most commonly, referred to centre)		

** For all "outsourced" services, the unit should have at least a copy of MOU for the same.*

C. STATUTORY/ REGULATORY REQUIREMENTS

Requirements *Facility should be aware of these requirements and should know where and with whom documents for same are available, these could be In house (for stand-alone units) or with the parent hospital*	**Availability -** Please mention **YES / NO**
1. Registration Under Clinical Establishment Act (or similar such act)	
2. Registration With Local Authorities	
3. Building Occupancy / Completion Certificate	

4. Fire Department's (No Objection Certificate)	
5. License for Diesel Storage (if using a generator)	
6. License for Electrical Installations	
7. License to Store Compressed Gas	
8. AERB approval for X-ray (including portable)	
9. PNDT Act Registration	
10. Pharmacy (if over multiple locations license for each of them separately)	
11. Drugs license	
12. License for Possession and Use of Methylated Spirit, Denatured spirit and Methyl alcohol	
13. License for Possession of Rectified Spirit	

SECTIONS	ELEMENTS IN SECTIONS	SELF-ASSESSMENT (To be completed by applicant at the time of application)	ASSESSOR'S ASSESSMENT (To be verified and completed by the Assessors on inspection of the unit)
SERVICES		**Mark - 1 for YES / 0 for NO**	**Mark - 1 for YES / 0 for NO**
M	**MANDATORY:**		
M1	Resuscitation at birth to all babies by NRP trained doctor preferably paediatrician		
M2	Care of sick neonate including babies >= 1000gms or >= 30 weeks		
M3	Stabilization of patients prior to referral		
M4	Transport facilities for Higher level of care		
M5	Follow-up of the High risk SNCU graduates		
M6	The Unit should be working/ operational for at least 12 months before applying for accreditation.		
M7	Patient care load of at least 200 patients deserving admission in a level II unit / year.		
E	**ESSENTIAL**		
E1	Attached to active obstetric unit with facility of perinatal care		
E2	Facility for carrying out exchange transfusion		
E3	Facility for oto-acoustic emission (OAE)/ BERA screening (in house/outsourced)		
	TOTAL SCORE…		

Note :
The rows "X" and "Y" should be filled ONLY by the Assessor
Finally , the Assessor will ADD Scores in different AREAS
The Gaps and Suggestions should be written in concerned area only

X	CRITERIA	MAX. SCORE	UNIT'S SCORE
	MANDATORY	**ALL YES**	

Y	**ESSENTIAL**	**03**	
	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		
	ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		

INFRASTRUCTURE		**Mark - 1 for YES / 0 for NO**	**Mark - 1 for YES / 0 for NO**
M	**MANDATORY**		
M1	Unit should have minimum 12 bThe unit may be bigger in the same proportion if there are > 12 beds		
M2	Every bed should have the space of 100 sq. ft. (this is inclusive of the 50 sq. ft. of ancillary areas)		
M3	A separate marked area/room for expression of milk and breastfeeding		
M4	Hospital must have a room for providing separate stay facility for all mothers of <2000gms babies within unit's/hospital's premises		
M5	Are there designated areas for clean utility and dirty utility?		
M6	Adequate measures for maintaining the ambient temperature of the baby care area, like use of air conditioning (hot climate) and of room warmers (cold climate) to maintain the temperature between the 26-28 degree Celsius range		
M7	Well illuminated but adjustable day and night lighting. Cool white fluorescent tubes or CFL unit with reflection grid providing 10-20 foot candles or 100-200 lux.		
M8	Reinforced light of 1000-1500 lux shadow free illumination for examination.		
M9	Blood Bank/Storage unit services available 24x7 in the hospital/conveniently outsourced		
M10	Availability of continuous water supply round the clock		
M11	There should be at least 4 - 6 sockets/bed of appropriate amperage		

M12	Uninterrupted availability of power supply through a generator / UPS etc.		
E	**ESSENTIAL**		
E1	Availability of suction facility		
E2	Facility for dimming of general lighting in the SNCU for developmental care		
E3	Sound absorbent walls and ceiling of the SNCU. Background noise should not be more than 45db and peak intensity should not be more than 80 db.		
E4	Has there been a power audit of the unit (to ascertain if electrical load of the unit was calculated and accordingly electrical wiring and installations done)		
E5	Provision for contingency space/rooms for shifting the unit in case of temporary closure of the unit in times of need		
E6	***Are the following areas designated within the unit?*** Hand wash and gowning area		
E7	Receiving room with examination area		
E8	Charting/staff work area, e.g. nursing station, cupboard/almirah for records, books, manuals, etc.		
E9	Breast feeding, expression of breast milk area		
E10	Duty room for doctors		
E11	Nurses changing room		
E12	Clean utility/holding area		
E13	Soiled utility/holding area		
E14	Stores		
E15	Side lab		
E16	Autoclaving room/area		
E17	Counselling room/area		
	TOTAL SCORES…		

Note :
The rows "X" and "Y" should be filled ONLY by the Assessor
Finally , the Assessor will ADD Scores in different AREAS
The Gaps and Suggestions should be written in concerned area only

X	**CRITERIA**	**MAX.**	**UNIT'S**

		SCORE	**SCORE**
	MANDATORY	**ALL YES**	
	ESSENTIAL	**17**	
	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		
Y			
	ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		

EQUIPMENTS		**Mark - 1 for YES / 0 for NO**	**Mark - 1 for YES / 0 for NO**
M	**MANDATORY**		
M1	One Stethoscope with each Neonatal Bed		
M2	All warmers (equivalent to the neonatal bed) should have temperature sensing with Servo control		
M3	At least two Electronic weighing machine with minimum 5g sensitivity		
M4	One pulse-oximeter for every two level II beds		
M5	At least two Glucometer in unit		
M6	At least 1 CPAP per 6 beds		
M7	There should be 1 Oxygen delivery point for every 2 beds in the unit. Oxygen delivery could be from cylinder/concentrators/central supply		
M8	2 sets of sterile resuscitation equipment with all sizes of blades and mask in unit at all times		
M9	Phototherapy machine one for each 2 beds		
M10	At least one infusion pumps for each bed		
M11	Resuscitation equipment with all sizes of blades and mask, at least 4 such sets for each 12 level II beds		
M12	***Following equipment are present with the unit:*** Open care system: radiant warmer, fixed height, with trolley,		

	drawers, oxygen bottles		
M13	Phototherapy unit, single head, high intensity		
M14	Resuscitator, hand-operated, neonate, 250 ml		
M15	Resuscitator, hand-operated, neonate, 500ml		
M16	Laryngoscope set, neonate		
M17	Pump, suction, portable, 220V and/or Pump, suction, foot-operated		
M18	Surgical instruments (suture/SET)		
M19	Syringe pump, 10, 20, 50 ml, single phase		
M20	Oxygen hood, S and M, set of 3 each, including connecting tubes		
M21	Thermometer, clinical, digital, 32-43ºC		
M22	Scale, baby, electronic, 10 kg <5g>		
M23	Pulse oximeter, bedside, neonatal		
M24	Sphygmomanometer, neonate, electronic		
M25	Light, examination, mobile, 220-12V		
M26	Hub cutter, syringe		
M27	Tape, measure, vinyl-coated, 1.5m in length		
M28	Basin, kidney, stainless steel, 825ml		
M29	Tray, dressings, 300x200x30mm		
M30	Stand, infusion, double hook, on castors		
M31	Infantometer, plexi, 3½ft/105cm		
M32	Washing machine with dryer		
M33	Gowns for staff and mothers		
M34	Washable slippers		
M35	Centrifuge, hematocrit, bench-top, up to 12000 rpm, including rotor		
M36	Glucometer with Dextrostix		
M37	Generator of appropriate load bearing capacity		
M38	Refrigerator		
M39	Voltage Servo-Stabiliser (three phase): 25-50 KVA		
M41	Spot Lamps		
M42	Wall Clock with second hand		

E	ESSENTIAL		
E1	One Multi-Para Monitor for every two beds		
E2	A portable X-ray machine (in unit/in house) available round the clock		
E3	Acid Blood Gas analysis Machine within unit or hospital premises		
E4	USG/CT/MRI facility that is present either with in the Hospital/conveniently Outsourced		
E5	Sterile fluid preparation area with laminar flow station		
E6	T-piece Resuscitators in unit		
E7	Cold light source for detection of pneumothorax		
E8	2D ECHO facility on call		
E9	Invasive BP monitoring for ventilated babies		
E10	Flux Meter		
	TOTAL SCORE…		

Note :
The rows "X" and "Y" should be filled ONLY by the Assessor
Finally , the Assessor will ADD Scores in different AREAS
The Gaps and Suggestions should be written in concerned area only

	CRITERIA	MAX. SCORE	UNIT'S SCORE
X	**MANDATORY**	**ALL YES**	
	ESSENTIAL	**10**	
	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		
Y	**ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)**		

HUMAN RESOURCES		Mark - 1 for YES / 0 for NO	Mark - 1 for YES / 0 for NO
M	**MANDATORY**		
M1	One full time In charge of Unit, who should be an MD/DNB/DCH with 3/3/5 years' experience in Neonatology after post-graduation (on call)		
M2	Total four medical officers with experience in neonatology *(6 months in neonatal unit OR FBNC trained with 14-day NNF observership training undertaken)*		
M3	One Nursing In charge, who should have at least 1 year experience of working in a neonatal unit (non-rotational)		
M4	Unit maintains ratio of one nurse per bed, and one-third of the staff is trained in FBNC and has undertaken 14-day NNF observership training OR has work experience of at least 1 month in an NICU		
M5	At least 1 cleaner/helper per shift		
D	**ESSENTIAL**		
E1	An identified ophthalmologist for ROP screening (where the babies may be sent)		
E2	Identified ICU technician /bio medical technician or engineer who is committed to provide support to unit for its equipment		
E3	Lactation counsellor (in 9am-4pm shift) for difficult cases (who can be shared with maternal unit, if present within the hospital)		
E4	Nursing staff trained in the developmental supportive care (certification & demonstration for same can be asked by Assessor during assessment)		
E5	Security personnel 1 per shift		
	TOTAL SCORE…		

Note :
The rows "X" and "Y" should be filled ONLY by the Assessor
Finally , the Assessor will ADD Scores in different AREAS
The Gaps and Suggestions should be written in concerned area only

X	**CRITERIA**	**MAX. SCORE**	**UNIT'S SCORE**
	MANDATORY	**ALL YES**	
	ESSENTIAL	**05**	

Y	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)
	ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)

PROTOCOLS & PROCESSES		Mark - 1 for YES / 0 for NO	Mark - 1 for YES / 0 for NO
M	**MANDATORY**		
M1	Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital Initiative (BFHI)		
M2	Hospital must have a policy and space for providing separate in house facility for all mothers of <2000gms		
M3	Hospital should have policy for promoting KMC		
M4	Structured process to educate the mothers about basic newborn care		
M5	A defined process for communication of newborn's condition regularly to the parents/relatives, at least once a day		
M6	A defined protocol/process for conducting grievance counselling of the parents and family by the doctor in case of newborn death		
M7	Protocol(s) for adequate and effective warming for high risk babies during special care/ procedures displayed in the unit and followed		
M8	Admission and discharge policy defined and displayed		
M9	Protocols for Level II Care (NNF CPG Guideline) / FBNC or Equivalent should be retained and followed		
M10	A defined policy on equipment maintenance (including the AMC / CMC) where ever indicated		
M11	Protocol of orientation of new staff and refresher course (like CME) for existing staff		

M12	Sepsis screen & Blood culture done on babies prior to starting antibiotics		
M13	A Separate follow-up clinic for the High Risk SNCU graduates (at least 1/wk.)		
M14	Hearing Screen for the High Risk Babies at discharge		
M15	Protocol to screen all high risk babies for ROP		
M16	Individual written instruction for trouble shooting of equipment		
M17	Documented Communication, counselling, consent forms, vital signs monitoring, procedures, medications, notes, nursing sheet formats		
M18	Transport protocols, both to and from higher and lower level		
E	**ESSENTIAL**		
E1	Incident reporting and closure of loop – properly documented		
E2	Facility for metabolic Screen (e.g. TSH, PKU, Galactosemia etc.) on all babies		
	TOTAL SCORE…		

Note :
The rows "X" and "Y" should be filled ONLY by the Assessor
Finally , the Assessor will ADD Scores in different AREAS
The Gaps and Suggestions should be written in concerned area only

	CRITERIA	**MAX. SCORE**	**UNIT'S SCORE**
X	**MANDATORY**	**ALL YES**	
	ESSENTIAL	**02**	
	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		
Y	**ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)**		

FACILITIES FOR THERMOREGULATION		Mark - 1 for YES / 0 for NO	Mark - 1 for YES / 0 for NO
M	**MANDATORY**		
M1	Unit's temperature should be maintained between 26-28 degree Celsius, at all times		
M2	Adequate number of functional room thermometers (at least one for each baby care room)		
M3	Servo systems of all warmers is working *(Assessor can ask one of staff to demonstrate it)*		
M4	Adequate number of digital thermometers/alternate device to monitor for severe hypothermia		
M5	A log book for KMC to be maintained in unit (with documentation of mother's & baby's details)		
M6	A log book with daily shift-wise recording of temperature of SNCU is maintained		
D	**ESSENTIAL**		
E1	Skin to skin contact immediately after birth practiced (routine care)		
	TOTAL SCORE…		

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	CRITERIA	MAX. SCORE	UNIT'S SCORE
X	**MANDATORY**	**ALL YES**	
	ESSENTIAL	**01**	
	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		
Y			
	ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		

DRUGS, FLUIDS AND NUTRITION		Mark - 1 for YES / 0 for NO	Mark - 1 for YES / 0 for NO
M	**MANDATORY**		
M1	Growth chart used for day to day monitoring		
M2	Separate containers with lids for storage of the EBM being used		
M3	At least 2 separate emergency tray for unit		
M4	Each of the patient care rooms/area in the unit should have an emergency tray/crash cart with all necessary medicines and resuscitation equipment in adequate numbers		
M5	All fluid administration by Infusion Pumps		
M6	Availability of refrigerator exclusively for storing feeds and drugs in baby care area		
E	**ESSENTIAL**		
E1	Use of scientifically designed breast pumps (Electronic/Manual)		
	TOTAL SCORE…		

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Finally , the Assessor will ADD Scores in different AREAS
The Gaps and Suggestions should be written in concerned area only

	CRITERIA	MAX. SCORE	UNIT'S SCORE
X	**MANDATORY**	**ALL YES**	
	ESSENTIAL	**01**	
	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		
Y			
	ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS		

	(ONLY FOR ASSESSORS)		
LABOR ROOM/OT & RESUCITATION		**Mark - 1 for YES / 0 for NO**	**Mark - 1 for YES / 0 for NO**
M	**MANDATORY**		
M1	Availability of a wall clock (seconds) in at all Birthing Areas		
M2	Availability of functional radiant warmer (Newborn care corner) at all Birthing areas		
M3	Availability of a functioning pressure controlled suction machine/mucus extractor		
M4	Availability of separate self-inflating resuscitation bag (<750ml) and well-fitting neonatal face masks (all sizes)		
M5	Prominent display of the NRP Algorithm at all the birthing areas		
M6	Availability of oxygen (central or from cylinder) with a flow meter		
M7	Staff aware of and helps mother initiate successful breastfeeding within the first hour		
M8	Availability of "essential and emergency resuscitation drugs" (e.g. adrenaline, RL, normal saline, etc.) that is replenished on daily basis.		
M9	The record sheets of resuscitation as per the NRP guidelines/CPG Guidelines		
E	**ESSENTIAL**		
E1	Availability of facility for blending for graded oxygen delivery (at least differential flow blending)/blender		
E2	Availability of the Pulse Oximeter for monitoring of the baby (preferably SET technology)		
E3	Availability of the T-Piece resuscitator for the Preterm babies		
E4	Availability of the Heater Pads / Re-sealable plastic (Zip pouch) to be used for preterm deliveries		
E5	Two sets of working infant laryngoscopes with all blade sizes (0 & 1) with ETT in various sizes (2.5, 3, 3.5, 4)		

E6	Availability of umbilical vein cannulation set(s) to be used during resuscitation		
	TOTAL SCORE…		

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The Gaps and Suggestions should be written in concerned area only

	CRITERIA	**MAX. SCORE**	**UNIT'S SCORE**
X	**MANDATORY**	**ALL YES**	
	ESSENTIAL	**06**	
	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		
Y	**ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)**		

INFECTION CONTROL PRACTICES		**Mark - 1 for YES / 0 for NO**	**Mark - 1 for YES / 0 for NO**
M	**MANDATORY**		
M1	Availability of a dedicated Wash area with Gown changing area, prior to entry into the SNCU		
M2	Presence of at least one wash basin for every 5 beds in baby care area (room) with shower tap (elbow or foot operated)		
M3	Provisions for hand washing instructions displayed in the wash area		
M4	Staff aware of technique of hand washing		
M5	Is there availability of alcohol-based hand rub – one between 2-3 beds?		

M6	Is there a written down unit antibiotic policy?		
M7	Availability of adequate quantity of disinfectants e.g. • Floor (e.g. Lysol, Phenol) • Surface (Bacillocid etc.) • Tubes/ Circuits (e.g. Glutaraldehyde) • Hands / Baby (e.g., Hand rubs, Betadine, Chlorhexidine) • Autoclave/EtO (in unit's/hospital's premises)		
M8	Are there written instructions/guidelines for method of equipment cleaning and disinfection?		
M9	Are there written instructions/guidelines for unit's cleaning, disinfection routines?		
M10	Disinfection & Cleaning practices being followed and documented properly		
M11	Does the unit follow the bio-medical waste management norms as prescribed by Government of India?		
E	**ESSENTIAL**		
E1	Infection Surveillance and Audit of the unit is done on regular basis		
E2	Periodic bacteriological surveillance done of the unit by infection control committee		
	TOTAL SCORE…		

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The Gaps and Suggestions should be written in concerned area only

X	**CRITERIA**	**MAX. SCORE**	**UNIT'S SCORE**
	MANDATORY	**ALL YES**	
	ESSENTIAL	**02**	
	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		
Y			
	ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		

LABORATORY FACILITIES *(within unit/hospital/outsourced [MOU for the same should be present with the unit])*		**Mark - 1 for YES / 0 for NO**	**Mark - 1 for YES / 0 for NO**
M	**MANDATORY :**		
M1	CBC		
M2	Serum Bilirubin (Both Direct and Indirect)		
M3	Plasma Glucose		
M4	Serum Urea and Creatinine		
M5	Serum Electrolytes and Calcium		
M6	CRP		
M7	TORCHES Screen		
E	**ESSENTIAL**		
E1	Microbiological lab facilities (inclusive of Blood Culture, fungal culture, etc.)		
E2	ABG Analysis		
E3	Facility for IEM Screen including thyroid profile		
	TOTAL SCORE…		

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	CRITERIA	**MAX. SCORE**	**UNIT'S SCORE**
X	**MANDATORY**	**ALL YES**	
	ESSENTIAL	**03**	
	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		
Y			

	ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		

NEONATAL TRANSPORT		Mark - 1 for YES / 0 for NO	Mark - 1 for YES / 0 for NO
M	**MANDATORY**		
M1	Facility for Provision of Warmth, oxygenation, Suction and Resuscitation kit in the ambulance		
M2	Availability of the Neonatal nursing staff or trained doctor in all transports		
M3	Adequate number of ambulance drivers and/or paramedics (in-house/outsourced) – who should be training equivalent to ER-technician/EMT		
M4	Points for Pulse Oximeter and the Infusion pumps in the Ambulance		
M5	Display of contact details of higher and lower referral linkages of the unit		
M6	Outcome records of these referred patients/follow-up of such patients		
E	**ESSENTIAL**		
E1	Neonatal Transport incubator in the Ambulance		
E2	Doctors accompanying during transport (documentary proof)		
E3	A Neonatal Transport Ambulance (either in-house or outsourced, in which case MOU for same should be present with SNCU/NICU unit in-charge)		
	TOTAL SCORE…		

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X	CRITERIA	MAX. SCORE	UNIT'S SCORE

	MANDATORY	**ALL YES**	
	ESSENTIAL	**03**	
	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		
Y	**ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)**		

CASE RECORD MAINTAINENCE		**Mark - 1 for YES / 0 for NO**	**Mark - 1 for YES / 0 for NO**
M	**MANDATORY**		
M1	Case sheets should have daily record of examination and daily orders with name & signature of the treating doctor		
M2	Record of daily charting of temperature, pulse and fluid input/output in case sheets with signature (Identity) of on duty nurse		
M3	Are the verbal orders by doctors verified by them within 24 hours of giving such orders?		
M4	Documentation of all procedures done in the unit in appropriate format		
M5	Use of growth charts regularly in the unit especially for small babies		
M6	Use of the special charts for Exchange transfusion / Partial Exchange transfusion / ABG-Ventilation etc.		
M7	Electronic/Manual medical record keeping (inclusive of M8-M11 mentioned below)		
M8	Monthly and Annual Sepsis data maintained		
M9	Monthly and Annual Morbidity data maintained		
M10	Monthly and Annual Mortality data maintained		

M11	Monthly and Annual Equipment status report		
E	**ESSENTIAL**		
E1	Monthly Perinatal-Neonatal meetings with documented record of such discussions		
E2	Medical record data sharing with NNF (these should be inclusive of M8-M11 elements of this section)		
E3	Structured sequential developmental follow-up of discharged babies till 2-years with all records		
	TOTAL SCORE…		

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X	**CRITERIA**	**MAX. SCORE**	**UNIT'S SCORE**
	MANDATORY	**ALL YES**	
	ESSENTIAL	**03**	
	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		
Y	**ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)**		

MISCELLANEOUS		**Mark - 1 for YES / 0 for NO**	**Mark - 1 for YES / 0 for NO**
M	**MANDATORY**		
M1	At least one computer with printer and internet access in unit		

E	ESSENTIAL		
E1	The unit should be undertaking short research in community-based neonatology/ neonatology		
E2	Unit should have a community outreach programme		
	TOTAL SCORE…		

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The Gaps and Suggestions should be written in concerned area only

	CRITERIA	MAX. SCORE	UNIT'S SCORE
X	MANDATORY	ALL YES	
	ESSENTIAL	02	
	ANY GAPS IDENTIFIED IN THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		
Y	ANY SUGGESTIONS FOR UNIT PERTAINING TO THIS SECTION OF STANDARDS (ONLY FOR ASSESSORS)		

LIST OF ABBREVIATIONS USED IN NNF's ACCREDITATION STANDARDS (2013 Version)

17-OH	17 Hydroxy (OH) Progesterone
ABG	Acid Blood Gas Analysis
aEEG	Amplitude-Integrated Electroencephalography
AMC	Annual Maintenance Contract
BERA	Brainstem Evoked Response Audiometry
BMW	Bio-Medical Waste
BSc	Bachelor of Science
CBC	Complete Blood Count
CMC	Comprehensive Maintenance Contract
CME	Continued Medical Education
CO_2	Carbon Dioxide
CPAP	Continuous Positive Airway Pressure
CPG	Clinical Practice Guidelines (issued by NNF)
CRP	C-Reactive Protein
CT	Computed Tomography (imaging)
DCH	Diploma in Child Health
DEXA	Dual-Energy X-Ray Absorptiometry
DHEA	Dehydroepiandrosterone
DM	Doctorate in Medicine
DNB	Diplomate of National Board
DR-CPAP	Delivery Room Continuous Positive Airway Pressure
EBM	Expressed Breast Milk
ECHO	Echocardiography
ELBW	Extremely Low Birth Weight
EMT	Emergency Medical Technician
ER	Emergency Room also known as Casualty or Emergency
ET CO_2	End Tidal CO_2
EtO	Ethylene Oxide
ETT	Endotracheal Tube
FBNC	Facility Based Newborn Care
GNM	General Nursing & Midwifery
HIS	Hospital Infection Surveillance
ICD	Inter Costal Drainage
ICU	Intensive Care Unit
IEM	Inborn Errors of Metabolism
iNO	Inhaled Nitric Oxide
IT-ratio	Immature-to-Total Neutrophil Ratio
IV	Intra Venous
KMC	Kangaroo Mother Care
LBW	Low Birth Weight
MBBS	Bachelor of Medicine and Bachelor of Surgery
MD	Doctor of Medicine
MRI	Magnetic Resonance Imaging
NIBP	Non-Invasive Blood Pressure (Monitoring)
NICU	Neonatal Intensive Care Unit
NNF	National Neonatology Forum
NRP	Neonatal Resuscitation Protocol
PICC	Peripherally Inserted Central Catheter
PKU	Phenylketonuria
RFLP	Restriction Fragment Length Polymorphism
ROP	Retinopathy of Prematurity
SET	Signal Extraction Technology
SCNU/ SNCU	Special Care Newborn Unit / Special Newborn Care Unit
TORCHES	Acronym for Toxoplasmosis, Rubella, Cytomegalovirus, Herpes Simplex, Syphilis
TPN	Total Parenteral Nutrition
TSH	Thyroid Stimulating Hormone
VAP	Ventilator-Associated Pneumonia
VLBW	Very Low Birth Weight

FOR ASSESSORS USE ONLY, NOT TO BE FILLED BY CENTRE

NOTE FOR ASSESSORS	
1) ASSESSOR'S ASSESSMENT is to be completed by the Assessors only upon inspection of the unit 2) Any other/ information that Assessor want to share should be mentioned in "Remarks" column	
Date of Assessor's Assessment (dd-mm-yyyy)	
Name & Organization of Assessor 1 **(Team Leader)**	
Name & Organization of Assessor 2	
Remarks/Final Comments by the Assessor/s:	

LETTER OF RECOMMENDATION

To,

Chairperson - NNF Accreditation Review Committee,

I/We, have conducted onsite assessment of the applicant unit as per NNF's Accreditation Standards (2013 version) and recommend that this unit be given – full accreditation/ conditional accreditation* / no accreditation *(please tick the appropriate level)* as a LEVEL II-A UNIT.

Signature of Assessor 1 (Team Leader)

Signature of Assessor 2

Dated:

**** <u>Conditional Accreditation</u> is given when Assessor(s) wants to ensure that the unit is continually following adherence to the protocols and processes at least for a period of six months. This will be re-verified on a surprise inspection after the said period to convert conditional accreditation to full accreditation.***

FOR USE OF NNF OFFICE ONLY

TOTAL SCORE	MAX. SCORE	UNIT'S SCORE	PERCENT SCORE
MANDATORY (ALL DOMAINS)	ALL YES		ALL HAVE TO BE YES
ESSENTIAL (ALL DOMAINS)	58		_____%

**** 75% score required for accreditation for Level II-A unit is 44 out of 58***