Summer Training at
National Health Mission, Rajasthan
(April 3 to June 2, 2017)

Assessment of Special Newborn Care Units Using on NNFI Accreditation tool

By
Krishan Kumar Yadav

Under the guidance of
Dr. D.K. Mangal

MBA Hospital & Health Management
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Institute of Health Management Research
The IIHMR University, Jaipur
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INSTITUTE OF HEALTH
MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

CERTIFICATE

This is to certify that **Krishan Kumar Yadav** has undergone summer training in **National Health Mission,Rajasthan** from 3rd April to 2nd June 2017.

The candidate himself completed the project assigned to him during summer training. His approach to the project was sincere and proactive. This summer training is in partial fulfillment of the course requirement recommended for the award of MBA in Hospital and Health Management.

I wish him success in all his future endeavors.

Col. (Dr.) Ashok Kaushik

Dean (Academic & Student Affair)

The IIHMR University, Jaipur

23/8/17

Dr.Daya Krishan Mangal

Dean(Research)

The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Near Sanganer Airport, Jaipur- 302029, Rajasthan, India.
Ph.: 0141- 3924700, 2791431- 32, Fax: 0141 3924738, E-mail: iihmr@iihmr.edu.in, Web.: www.iihmr.edu.in

Government of Rajasthan
National Health Mission, Rajasthan
Department of Medical Health & Family Welfare
Swasthya Bhawan,Tilak Marg, Jaipur
Tel: 0141-2229108, E-mail id: spm_raj.nrhm@yahoo.com

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CERTIFICATE

This is to certify that **Mr Krishan Kumar Yadav**, student of MBA Institute of Health Management Research (IIHMR, Jaipur) has successfully completed his Summer Training Program at NHM, Rajasthan from 3rd April, 2017 to 2nd June 2017. He has worked on the project- **Study on quality assessment of Special Newborn Care Unit (SNCU) in Rajasthan**.

We have found him sincere and keen to do the assigned project. We extend him good wishes for a bright and successful career ahead.

Director RCH

Acknowledgment

The project was a success due to the help and support of many peoples. I would like to acknowledge the help of all people who contributed towards the completion of our project.

First of all, I would like to thanks **Secretary Govt. of Rajasthan cum MD NHM Mr. Naveen Jain** for providing me opportunity to work in public health system.

I also like to thanks **Dr. Kapil Joshi consultant (UNCIEF) Dr. Rommel Project director ,Dr. Jalaj vijay state Programme Manager,** for guiding me to proceed with the project .

Without the guidance and blessing of **Dr. S.D Gupta, Director Indian Institute of Health Management &Research University** Jaipur would not have been possible for us.

My special thanks to col. **Dr. Ashok Kaushik, Dean Academics and students Affairs ,IIHMR University ,Jaipur** for being a continuous guiding source throughout the degree, I would also like to thanks **Dr. D. K Mangal** Sir ,IIHMR University ,my mentor for providing me a support in making my project a successfully.

I would like to express gratitude and appreciation for all the people mentioned above to help us complete our study and make our project successful.

ACRONYMS

S. No.	ACRONYMS	FULL FORM
1.	MMR	Maternal mortality ratio
2.	ANM	Auxiliary nurse midwife
3.	ASHA	Accredited social health activist
4.	IMR	Infant mortality rate
5.	PHC	Primary health centre
6.	CHC	Community health centre
7.	NMR	Neonatal mortality rate
8.	NBCC	Newborn care corner
9.	NBSU	Newborn Stabilization unit
10.	SNCU	Special newborn care unit
11.	MDR	Maternal death review
12.	BMNO	Block medical nodal officer
13.	Hb	Hemoglobin
14.	AIDS	Acquired immune deficiency syndrome
15.	IFA	Iron folic acid
16	ABG	Acid Blood Gas Analysis
17	BMW	Bio- Medical Waste
18	CBC	Complete Blood Count
19	CME	Continued Medical Education
20	CPAP	Continuous positive Airway Pressure
21	DCH	Diploma in Child Health
22	DM	Doctorate in Medicine
23	DR- CPAP	Delivery room continuous Positive Airway pressure
24	EBM	Expressed breast milk
25	FBNC	Facility Based Newborn Care
26	GNM	General nursing and Midwifery
27	KMC	Kangaroo Mother Care

28	LBW	Low Birth Weight
29	NRP	Neonatal Resuscitation Protocol
30	PICC	Peripherally Inserted Central Catheter
31	ROP	Retinopathy of Prematurity
32	VAP	Ventilator associated Pneumonia
33	VLBW	Very Low Birth Weight
34	PDCH	Project director Child health

Purpose of Summer Internship

Summer training is an integral part of the PGDHM curriculum. As a part of the course, students of first year are required to undergo summer placement at any reputed organization to get in depth exposure of various departments in the organization and better understanding of the health care delivery system and its functions.

The major objectives of the summer training programme are as follows:

1. To better understand the existing health delivery system including public and private sectors.
2. To observe the implementation of various national health components at national/state/district levels.
3. To understand various functions of health system by interactions with key stakeholders, policy makers, programme managers, academicians and researchers.
4. To work on the project/task assigned by summer training organization.

During our training period we had an overview of various components undertaken in national rural health mission, Rajasthan including the current status of the components and our observations regarding the same. We also carried out a small study on the different topics assigned to us

ORGANIZATION PROFILE

Introduction

The National Health Mission Seeks to provide effective health care to all population throughout the country. It aims to undertake architectural correction of the health system to enable to effectively handle increased allocation as promised under the National Common Minimum Programme. It has as its key components provision of a female health activist in each village, a village health plan prepared through a local team headed by the Health & Sanitation Committee of the Panchayat. It aims at effective integration of health concern with determinants of health like Sanitization & hygiene, nutrition, and safe drinking water through a District plan for Health. As per mandate under NHM the State Health Society has been reconstituted under the Chairmanship of Chief Secretary, Rajasthan adopting Multi department approach and involvement of all stake holders.

Mission - Mission of NHM is to improve the quality of life of people by providing better Health Services. It strives to help people improve their productivity and reduce risks of diseases and injury in a cost – effective way.

Vision- NHM seeks to establish long term relationship with groups and individuals to enable them to continue to work to achieve optimal health. It delivers cost – competitive health promotion services with patient's satisfaction and accountability.

Duties of Health Department-

1. Provide Promotive, Preventive, Curative and rehabilitative services to the community through primary health care delivery system.

2. Provide equitable and quality health care at primary, secondary and tertiary level.

3. Extension, expansion and consolidation of health infrastructure.

4. Respond to the local community health needs and request.

5. Provide Reproductive and child Health Services with the objective of reducing MMR & IMR.

6. Provide immunization services against vaccine preventive diseases of childhood as well as pregnant mothers against tetanus during child birth.

7. Provide family welfare services.

8. Provide essential obstetric care.

9. Enforcement of PNDT Act to prevent sex Determination.

Managerial Task I did With Respect to the Departments –

During the two months of working period as summer trainee in child health department of NHM rajasthan, I observed and learned various programmes in the department . During this period I was assigned a project with assessment of SNCU and also with the on –site corrections at SNCU located at DH,SDH and medical colleges.

Learning's in Summer Training Time –

1. I came to know about various health programmes managed by the organization.

2. Work culture in govt.organizations as we think, is not the same everywhere.

In NHM Rajasthan there is lot of pressure of work in most of departments.

3. This provided me an opportunity to field exposure.

4. I came to know reality of health conditions prevalent in Rajasthan State.

INTRODUCTION

In India, 26 Million babies are born every year and 940,000 babies die before one month of life, India carries the single largest share around 25-30 % of Neonatal deaths in the world. The neonatal period is only 28 days; yet, Neonatal Mortality Rate (NMR) contributes to about two-thirds of Infant Mortality Rate (IMR) and about half of under-5 Mortality Rate (U5MR).

There is a growing recognition that to meet national goals and the millennium Development Goals (MDGs) to bring down childhood mortality, a substantial reduction in NMR is needed, and reducing deaths in the first week of life is essential to make progress. The Government of India is committed to improve 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 Health Mission (NHM) and its Reproductive and Child Health Programme.

Preventable morbidities such as hypothermia, asphyxia, infections, prematurity and respiratory distress continue to be the main causes of mortality in the neonatal period. There is an increasing need to focus on newborn care and survival for significant reduction in IMR and U5MR and strengthen the care of sick, premature, low birth weight newborns at the various levels of facilities right from the moment to birth through the neonatal period.

One of the key steps in this direction is the establishment of Facility Based New Born Care (FBNC) services at various levels of health care facilities. FBNC has a significant potential for improving newborn survival and reduce neonatal mortality by as much as 25-30 %.

Neonatal care at different levels under FBNC Program

Three levels of neonatal care under the FBNC program are as following:

Level 1 care includes referral of sick newborns from Primary Health Centre's (PHCs) to higher centre's and care at Newborn Stabilization Units (NBSU) in the first referral units. Care in the NBSU includes Stabilization of sick newborns and care of low- birth Weight (LBW) babies not requiring intensive care.

Level 2 Care includes functioning of Special Newborn Care Units (SNCUs) at the district hospital and some of the sub district hospital level. These units are being established at any health facility where the delivery load is more than 3000 per year and are equipped to handle sick newborns other than those who need ventilator support and surgical **care**. It has been estimated that around 15-20 % of all newborns require level 2 care in rural settings.

Level 3 units are the neonatal intensive care units (NICUs) which provide all care including assisted ventilation and major surgery.

Under this initiative, MOHFW established Special Newborn care Unit (SNCU) in 2009-10 focusing on comprehensive care to a sick newborn.

Special Newborn Care Unit (SNCU)

SNCU is a neonatal unit in the vicinity of the labor room which provides level 2/3 care (all care except assisted ventilation and major surgery) for sick newborns . All district hospitals and sub – district hospitals with more than 3000 deliveries per year should have a SNCU.

Services to be provided at SNCU

Table 1 : Expected services to be provided at SNCU		
Care at birth	**Care of normal newborn**	**Care of sick newborn**
• Prevention of Infection • Provision of warmth • Resuscitation • Early initiation of Breastfeeding • Weighing the newborn	• Breast – feeding / Feeding support	• Managing of LBW babies under 1800 gm • Managing all sick newborns (except those requiring mechanical ventilation and major surgical interventions) • Post – Natal Care • Follow- up of high- risk newborns • Immunization services and referral services

***(Source: facility based newborn care operational Guidelines 2011)**

Components of SNCU

Triage area: this should have 1 warming bed. First the child to be taken in triage area for resuscitate and complete care and after that shift to newborn / out born unit

Newborn care area: This should have at least 12-16 warming beds and should have divided into two interconnected rooms inborn and out born separated by transparent observation window with the nurse's work place in between.

Step- down unit: This is an additional 4 bed step down unit where recovering neonates can stay i.e., neonates who do not need intensive monitoring.

Newborn ward: This is an additional 10- 25 beds, where both mother and the newborn stay together. This facility is to be used for neonates who require minimal support such as for phototherapy, for uncomplicated LBW babies requiring only observation and those babies who require only intravenous antibiotic therapy.

Ancillary area:

Distinct support space should be provided for all other services that are routinely performed in the SNCU. The ancillary area should include space for the following:

- Nursing work station, hand washing and gowning area at the entrance
- Side laboratory room
- Follow-up clinic
- Examination area
- Clean area for mixing intravenous fluids and medications
- Store room and power room
- Teaching and training room
- Place for in- house facility for washing, drying, boiling and autoclaving
- Duty room for doctors and nurses
- Place for promotion of breast- feeding and learning mother craft etc

Human resources for Special Newborn Care Unit

A 12 bedded unit (plus 4 beds for the step- down area) requires at least one pediatrician or 4 trained MBBS doctors. It is purposed that one pediatrician trained in neonatology should be posted at the unit, supported by two or three medical officer trained in FBNC. There should be three nurses in each shift, round the clock and sufficient nurses recruited to provide for leave vacancy and contingency.

Dedicated support staff should be available to clean the unit at least once during every shift and more often depending on the need. A part- time lab technician, a counselor, and a data entry operator should also be posted at the unit

Criteria for admission to SNCU:

Any newborn with following criteria should be immediately admitted to the SNCU:

- Birth weight <1800gm or gestation <34 weeks
- Large baby (>4.0kg)
- Perinatal asphyxia
- Apnea or gasping
- Refusal to feed
- Respiratory distress (Rate >60 or grunt/retractions)
- Severe jaundice (Appears <24 hrs/stains palms and soles/lasts >2 weeks)
- Hypothermia <35.4-degree C or hyperthermia (>37.5 degree C)
- Central cyanosis
- Shock (Cold periphery with CFT>3 seconds and weak & fast pulse)
- Coma, convulsions or encephalopathy
- Abdominal Distension
- Diarrhea / Dysentery
- Bleeding
- Major malformations

Criteria for discharge from SNCU:

- Baby is able to maintain temperature without radiant warmer
- Baby is haemodynamically stable (normal CFT, strong peripheral pulses)
- Baby accepting breast feeds well
- Baby has documented weight gain for 3 consecutive days, and the weight is more than 1.5 kg
- Primary illness has resolved

Training of SNCU staff on newborn care:

To ensure that the staff has the necessary skill to provide the appropriate level of care the medical and paramedical staff posted at SNCU need to undergo:

Navjaat Shishu Suraksha Karyakram (NSSK)

NSSK address important interventions of care at birth, that is basic newborn resuscitation, prevention of hypothermia, prevention of infection, early initiation feeding, and equips the staff with 2 days knowledge and skill based training to provide essential newborn care in primary health care settings.

Facility based IMNCI (F-IMNCI) training:

F-IMNCI is skill based training, based on a participatory approach combining classroom sessions with hands- on clinical sessions. Medical officers and nurses not trained in IMNCI and working at health facilities should receive the full package of training with 11 days duration of training and 5 days for those already trained in IMNCI.

Facility based newborn care (FBNC) training:

All doctors and nurses posted in SNCUs need to undergo a more intensive training programme at a recognized centre. The training programme includes 4 days skill- based training on essential and special care. Besides skills on clinical management, additional training is provided on housekeeping and maintenance of the equipment.

Observer ship training:

This programme includes 2 week training for all doctors and nurses posted in SNCU.

Equipments for SNCU

- **Radiant warmers**
- **Incubators**
- **Transport incubator**
- **Pulse oximeter**
- **Apnea monitor**
- **BP monitor**
- **Thermometer**
- **Weighing scale**
- **Transcutaneous Bilirubin meter**
- **Blood gas monitor**
- **Phototherapy unit**
- **Infusion pump**
- **Oxygen analyzer**
- **Flux meter**
- **CPAP machine**
- **Neonatal Ventilator**
- **Suction machine**
- **Breast pump**

- **Manual resuscitator**

RATIONALE OF STUDY

There is an increasing need to focus on newborn care and survival for significant reduction in IMR and U5MR and strengthen the care of sick, premature, low birth weight newborns at the various levels of facilities right from the moment to birth through the neonatal period. Hence, the need has emerged to evaluate the overall functioning of SNCUs in terms of utilization, performance on the basis of geographical and ecological factors, treatment outcome, socio-demographic and clinical factors, and functionality, availability and adequacy of the facilities at SNCU.

As identifying the gaps, it help in the decision making process and the corrective actions can be taken immediately.

This study can be held in all the other districts of Rajasthan by Child Health Department, If State, through this tool, achieves a score of Mandatory >80 of each parameter in each of its facilities, Rajasthan can achieve the best Indian standards in Neonatal Care

- SNCUs are expected to play a key role in saving newborn lives. Huge investment required, so it becomes essential to monitor their functioning and affectivity.

- New RCH initiatives such as JSY, JSSK are gaining ground and hence SNCU network need to be well-strengthened

- The Government of India (GOI) is committed to improve 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 Programs (RCH II).

REVIEW OF LITERATURE

Operational guide on FBNC has been developed to facilitate planning, establishment, operationalisation and monitoring of newborn care facilities at various levels of public health facilities. The guidelines given here will assist programs managers

and service providers at national, state and district level in planning and delivering FBNC. The first section of the guide focuses on specifications and processes related to establishment of new facilities, while the second section provides technical guidance (key clinical protocols) to service providers working in newborn care facilities for managing sick newborns. The guidelines have been put together based on recommendations of an expert group that was set up by the Gal and included experts from medical colleges, professional bodies- National Neonatology Forum (NNF)and Indian Academy of Paediatrics (IAP), and from UNICEF,WHO,USAID and NIPI.

The operational guide includes information on various aspects that need to be addressed for ensuring quality newborn care services and is organized in two sections.

Section I: Setting up, costing and operational steps

Section II: Key clinical protocols and other technical documents

Terminology

Newborn Care Corner (NBCC)

NBCC is a space within the delivery room in any health facility where immediate care is provided to all newborns at birth. This area is MANDATORY for all health facilities where deliveries are conducted.

Newborn Stabilization Unit (NBSU)

NBSU is a facility within or in close proximity of the maternity ward where sick and low birth weight newborns can be cared for during short periods. All FRUs/CHCs need to have a neonatal stabilization unit, in addition to the newborn care corner.

Special Newborn Care Unit (SNCU)

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).

1…The study was conducted to assess the functioning of SCNUs in eight rural districts of India. The evaluation was based on an analysis of secondary data from the eight units that had been functioning for at least one year. A cross-sectional survey was also conducted to assess the availability of human resources, equipment, and quality care. Descriptive statistics were used for analyzing the inputs (resources) and outcomes (morbidity and mortality). The rate of mortality among admitted neonates was taken as the key outcome variable to assess the

performance of the units. Chi-square test was used for analyzing the trend of case-fatality rate over a period of 3-5 years considering the first year of operationalisation as the base. Correlation coefficients were estimated to understand the possible association of case-fatality rate with factors, such as bed: doctor ratio, bed: nurse ratio, average duration of stay, and bed occupancy rate, and the asepsis score was determined. The rates of admission increased from a median of 16.7 per 100 deliveries in 2008 to 19.5 per 100 deliveries in 2009. The case-fatality rate reduced from 4% to 40% within one year of their functioning. Proportional mortality due to sepsis and low birth weight (LBW) declined significantly over two years (LBW <2.5 kg). The major reasons for admission and the major causes of deaths were birth asphyxia, sepsis, and LBW/prematurity. The units had a varying nurse: bed ratio (1:0.5-1:1.3). The bed occupancy rate ranged from 28% to 155% (median 103%), and the average duration of stay ranged from two days to 15 days (median 4.75 days). Repair and maintenance of equipment were a major concern. It is possible to set up and manage quality SCNUs and improve the survival of newborns with LBW and sepsis in developing countries, although several challenges relating to human resources, maintenance of equipment, and maintenance of asepsis remain.

2….Evidence-based, cost-effective interventions: how many newborn babies can we save?

Gary L Darmstadt, Zulfiqar A Bhutta, Simon Cousens, Taghreed Adam, Neff Walker, Luc de Bernis, for the Lancet Neonatal Survival Steering Team

In this article of the neonatal survival series, we identify 16 interventions with proven efficacy (implementation under ideal conditions) for neonatal survival and combine them into packages for scaling up in health systems, according to three service delivery modes (outreach, family-community, and facility-based clinical care). All the packages of care are cost effective compared with single interventions. Universal (99%) coverage of these interventions could avert an estimated 41–72% of neonatal deaths worldwide.

3…. To evaluate the impact of creating a sick newborn care unit (SNCU) in a district hospital on neonatal mortality rate (NMR). This study was conducted in a district hospital with 6500 deliveries a year. 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. 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. 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

4…A study of neonatal admission into anewborn special care unit.Nigeria journal of peadiatric 1994:21:20:A retrospective study of newborn babies admitted over aperiod of six year into the Newborn special care unit(NBSCU).the number of babies admitted was 5376.babies of LBW comprised 25.7percent of total admission.there was progressive annual increase in the admission of outborn babies from 0.7 percent in 1982 to 21.4 in 1987.there similar annual increase in admission of babies of LBW from 17.3 to 51.8percent.the overall mortality was high at 10.5 percent of the cases.

Objective

"To assess the status of Special Newborn Care Units (SNCU) in Rajasthan state according to NNFI accreditation tool"

Method and Tools:

- **Study area-** Special Newborn Care Unit of Rajasthan
  - 14 District hospital
  - 1 Sub District hospital
  - 3 Medical colleges
- **Study Design** - Cross-sectional study.
- **Study period** – April 3rd to June 2nd 2017
- **Study population-** Special newborn care units
- **Sampling Frame –** All Special newborn care units in Rajasthan (37)

- **Sample Size –** 50% Sampling as per convenience : 18 SNCUs

- **Study Tool –** A pre-designed, pre-tested structured National Neonatology Forum India Accreditation Tool questionnaire

- **Data Collection Technique** – at first facility based newborn care operational guideline was reviewed but some criteria did not fulfill according to the study objective , hence national neonatology forum accreditation tool was taken for data collection under guidance of PDCH. Primary data collected from 18 SNCUs that are functional from past one year. NNF Self-Assessment Tool was used for primary data and secondary data was obtained from online software of SNCU. Then data was analyzed using Ms excel.

Assessment tour table			
S.NO	**Unit Name/ District**	**Unit In-charge Name**	**Date**
1	SNCU DH Alwar	Dr Mahesh Sharma	25/04/2017
2	SNCU MC Ajmer	Dr Kanwar SINGH	2/05/2017
3	SNCU DH Beawar	Dr P. M Bohara	21/04/2017
4	SNCU DH Bhilwara	Dr R.S Shrotiya	03/05/2017
5	SNCU DH Barmer	Dr Harish Chauhan	14/05/2017
6	SNCU DH Chittaurgarh	Dr Jai Singh Meena	04/05/2017
7	SNCU DH Dausa	Dr Ravindar Sharma	24/04/2017
8	SNCU DH Dholpur	Dr Rakesh Sharma	16/05/2017
9	SNCU HBK Hospital Jaipur	Dr Mohammad siraj	26/04/2017
10	SNCU JK Loan Hospital	Dr J.N Sharma	05/05/2017
11	SNCU DH Jalore	Dr Trilok Chauhan	13/05/2017
12	SNCU DH Karauli	Dr Ramkesh Meena	16/05/2017
13	SNCU DH Nagaur	Dr R.K Suthar	22/04/2017

14	SNCU DH Rajsamand	Dr Lalit Purohit	12/05/2017
15	SNCU DH Sawai Madhopur	Dr Sunil Sharma	15/05/2017
16	SNCU DH Sirohi	Dr Rajendar Kothari	13/05/2017
17	SNCU DH Tonk	Dr Vinod Parewariya	06/05/2017
18	SNCU MC Udaipur	DR Pradeep Meena	12/05/2017

SNCU Performance Report-

Year	Infants Admitted	% Infant Referred	Survival at the time of discharge
2014-15	56123	11.12	72.23
2015-16	65139	11.50	74.56
2016-17	70351	11.71	75.51

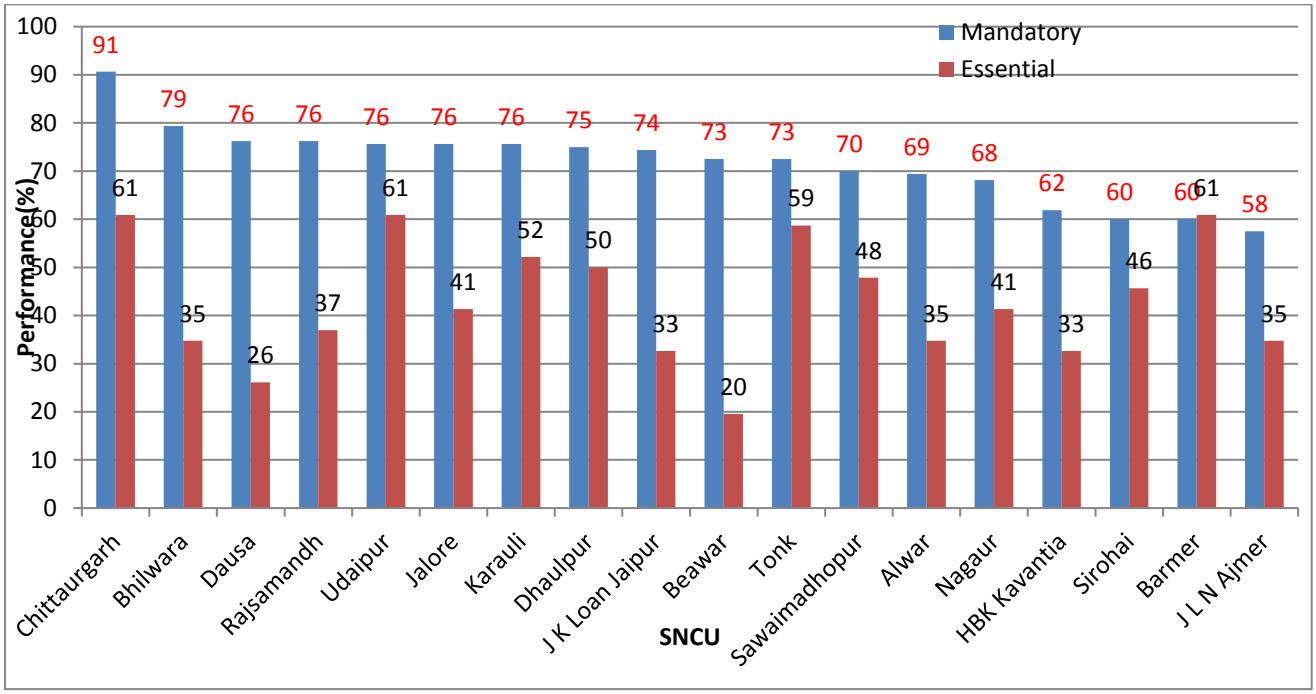
SNCU Profile Table:

			Outcome				
S.N0.	District / Unit Name	Total Treated	Avg. Stay (Days)	Discharge	Lama	Referred	Mortality
1	SNCU DH Alwar	3775	Avg. Stay (Days)	71.95	5.46	10.73	11.87
2	SNCU MC Ajmer	1997	6.87	64.25	15.07	10.02	10.67
3	SNCU DH Beawar	1845	2.56	76.42	0.6	16.21	6.78
4	SNCU DH Bhilwara	3055	2.66	73.62	6.45	6.91	13.03

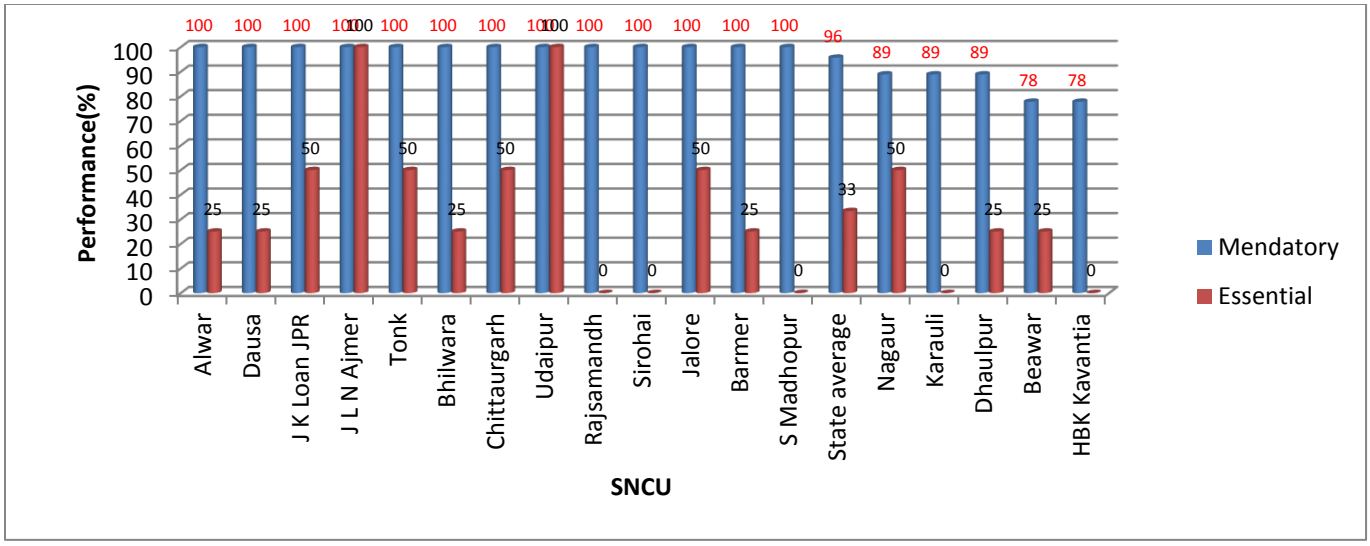
5	SNCU DH Barmer	2394	2.11	78.74	7.81	7.31	6.14
6	SNCU DH Chittaurgarh	2522	3.98	86.56	0.12	9.91	3.41
7	SNCU DH Dausa	668	5.4	76.35	2.25	17.96	3.44
8	SNCU DH Dholpur	2385	2.32	65.41	0.04	21.68	12.87
9	SNCU HBK Hospital Jaipur	350	4.22	84.29	4.57	11.14	0
10	SNCU JK Loan Hospital	517	7.95	68.28	7.35	23.21	1.16
11	SNCU DH Jalore	997	3.32	64.59	13.34	14.54	7.52
12	SNCU DH Karauli	1797	2.1	79.24	2.23	8.79	9.74
13	SNCU DH Nagaur	2023	2.84	74.94	3.02	16.36	5.68
14	SNCU DH Rajsamand	1088	2.15	66.45	2.21	27.76	3.58
15	SNCU DH Sawai Madhopur	2242	5.36	79.53	4.06	7.45	8.97
16	SNCU DH Sirohi	790	2.62	83.8	0	13.29	2.91
17	SNCU DH Tonk	2742	3.2	87.42	0.51	9.12	2.95
18	SNCU MC Udaipur	6520	5.23	77.02	8.51	0.43	14.03

	Total	37707	3.82	75.49	4.64	12.93	6.93

Overall Status of SNCUs:

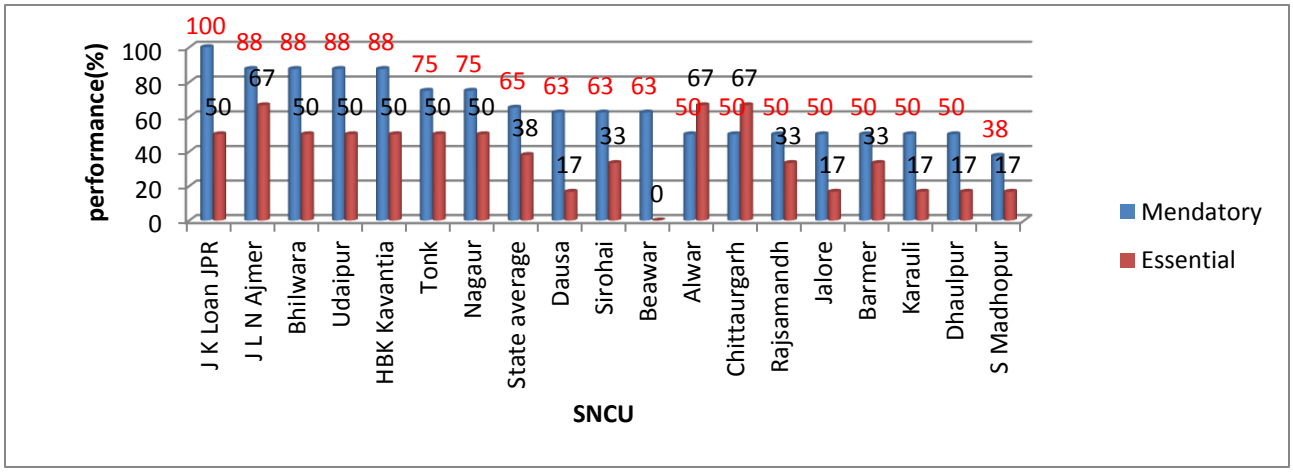


Above graph show that the overall status of SNCU in each districts of as per mandatory and essential scoring in which Chittaurgarh scored mandatory 91% Essential 60 % is highest score in selected 18 SNCU and lowest scored J.L.N Ajmer Mandatory 58 % and Essential 35% .Scope of improvement is there in all the districts with AJMER, Barmer, Sirohi, HBK Jaipur, Nagaur, Alwar, Sawaimadhopur, Tonk, J.k Loan Jaipur, Dholpur, Karauli, Jalore, Udaipur, Rajsamand, Dausa, Bhilwara, Beawar, need more focus on both the mandatory and essential criteria. As seen in the graph improvement is required in all the districts regarding the achievement of Mandatory & essential criteria of accreditation



Performance of Services in SNCUs of Rajasthan State, 2017-

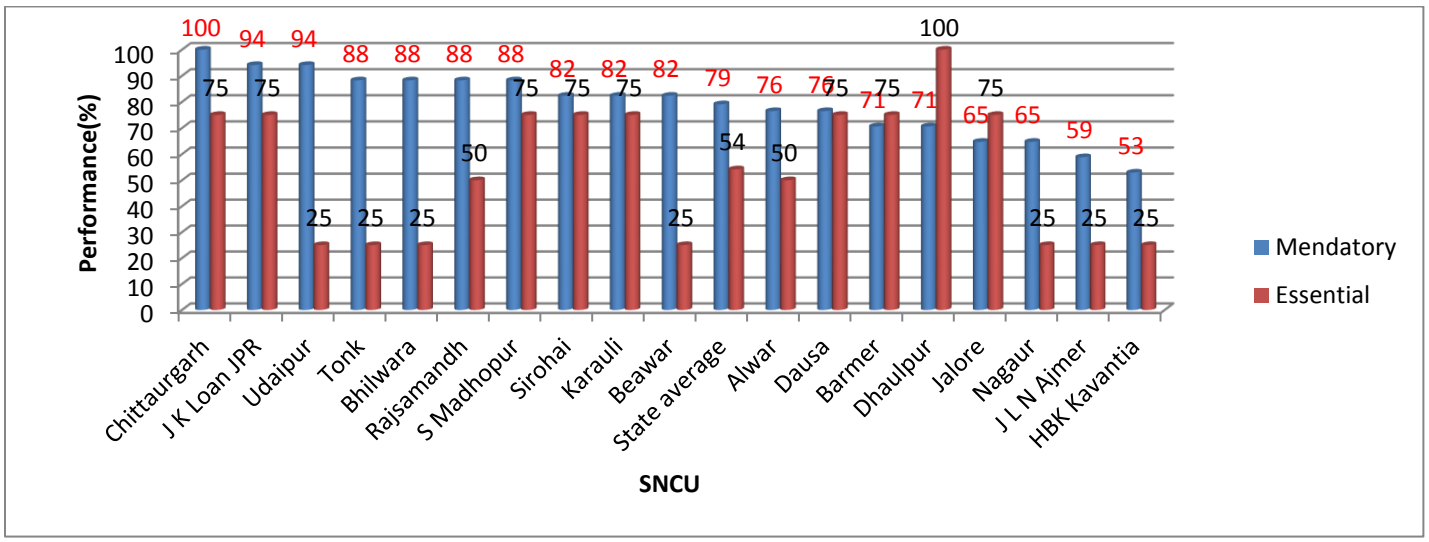
Above Graph shows that most of SNCU has achieved 100% in mandatory but Nagaur, Karauli, Dholpur, Beawar, HBK kanvatia not achieved 100% mandatory fields. Essential criteria score was very low in all SNCU. Improvement need in essential fields in all SNCU and Mandatory Nagaur, Karauli, Dholpur, Beawar, HBK kanvatia.



Performance of Human Resources in SNCUs of Rajasthan State, 2017-

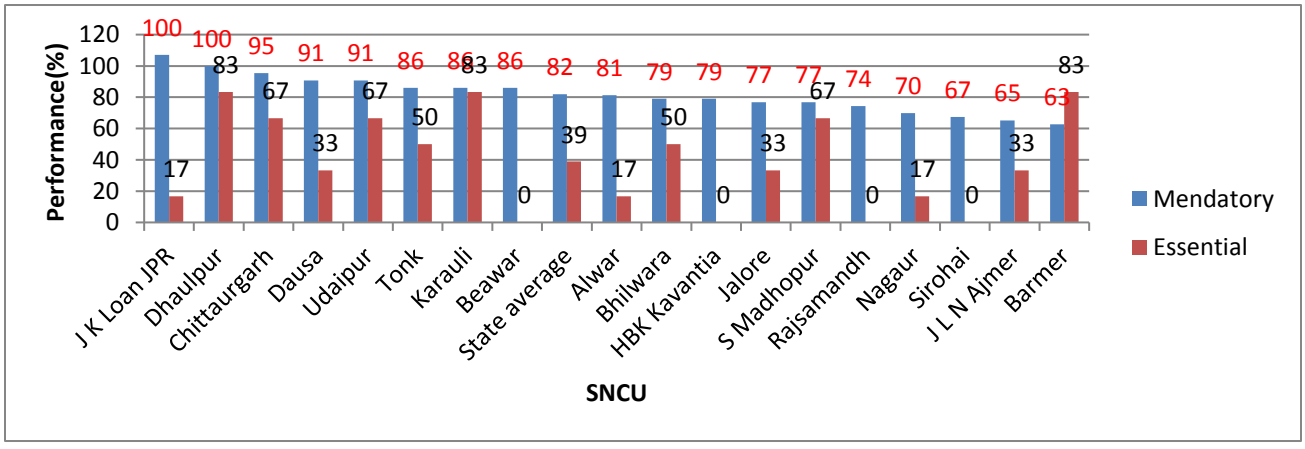
Above graph show that only J.K. loan Jaipur has achieved 100 % in the mandatory criteria. So great improvement need in mandatory fields Ajmer, Bhilwara, Udaipur, HBK kanvatia, Tonk,

Nagaur, Dausa, Sirohi, Beawar, Alwar, Chittaurgarh, Rajsamand, Jalore, Barmer, Karauli, Dholpur, Sawai Madhopur and essential Ajmer, Bhilwara, Udaipur, HBK kanvatia, Dausa, Sirohi, Beawar, Alwar, Chittaurgarh, Rajsamand, Jalore, Barmer, Karauli, Dholpur, Sawai Madhopur, J K loan Jaipur.



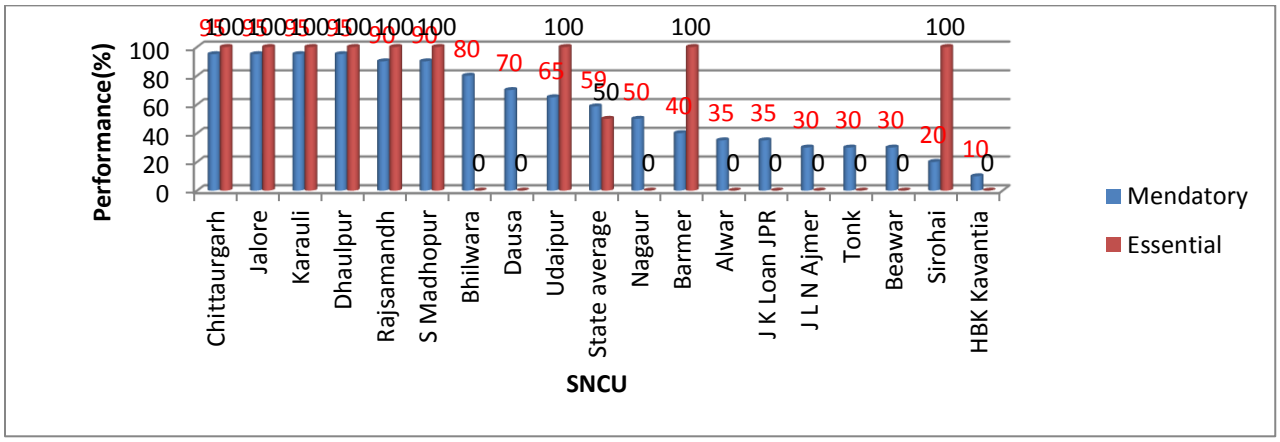
Performance of Infrastructure in SNCUs of Rajasthan State, 2017-

Above graph show that only Chittaurgarh has achieved 100% mandatory criteria and Dholpur 100% Essential criteria. So improvement need in both mandatory Ajmer, Bhilwara, Udaipur, HBK kanvatia, Tonk, Nagaur, Dausa, Sirohi, Beawar, Alwar, Rajsamand, Jalore, Barmer, Karauli, Dholpur, Sawai Madhopur and essential Ajmer, Bhilwara, Udaipur, HBK kanvatia, Tonk, Nagaur, Beawar, Alwar, Rajsamand, Sawai Madhopur .



Performance of Equipment in SNCUs of Rajasthan State, 2017-

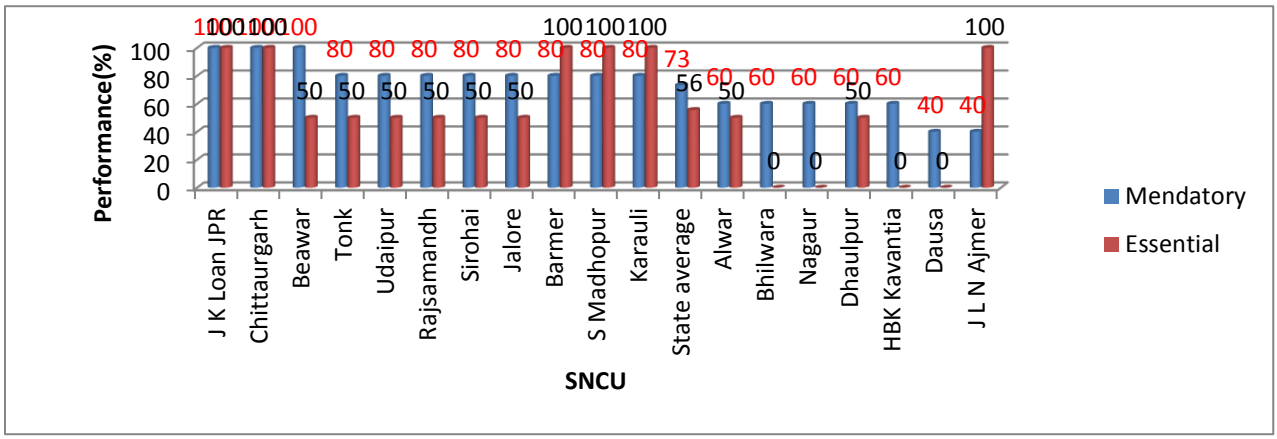
Above graph show that only J.k loan Jaipur and Dholpur has achieved 100 % mandatory score so Improvement need in Ajmer, Bhilwara, Udaipur, HBK kanvatia, Tonk, Nagaur, Dausa, Sirohi, Beawar, Alwar, Chittaurgarh, Rajsamand, Jalore, Barmer, Karauli, Sawai Madhopur and essential Ajmer, Bhilwara, Udaipur, HBK kanvatia, Tonk, Nagaur, Dausa, Sirohi, Beawar, Alwar, Chittaurgarh, Rajsamand, Jalore, Barmer, Karauli, Sawai Madhopur



Performance of Protocol in SNCUs of Rajasthan State, 2017-

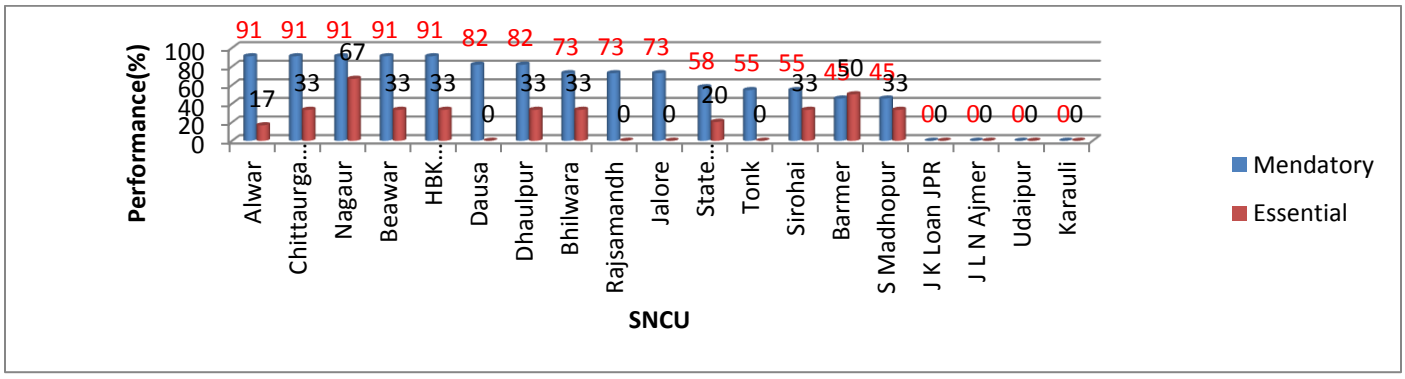
Above graph show that Chittaurgarh, Udaipur, Rajsamand, Sirohi, Jalore, Barmer, Sawai Madhopur, Karauli, Dholpur have achieved above 75 % essential criteria. Need of improvement in mandatory Ajmer, Bhilwara, Udaipur, HBK kanvatia, Tonk, Nagaur, Dausa, Sirohi, Beawar, Alwar, Chittaurgarh, Rajsamand, Jalore, Barmer, Karauli, Dholpur, Sawai Madhopur , J K loan Jaipur and essential Ajmer, Bhilwara, HBK kanvatia, Tonk, Nagaur, Dausa, Beawar, Alwar, Barmer, Dholpur.

Drug Fluids and Nutrition Status:



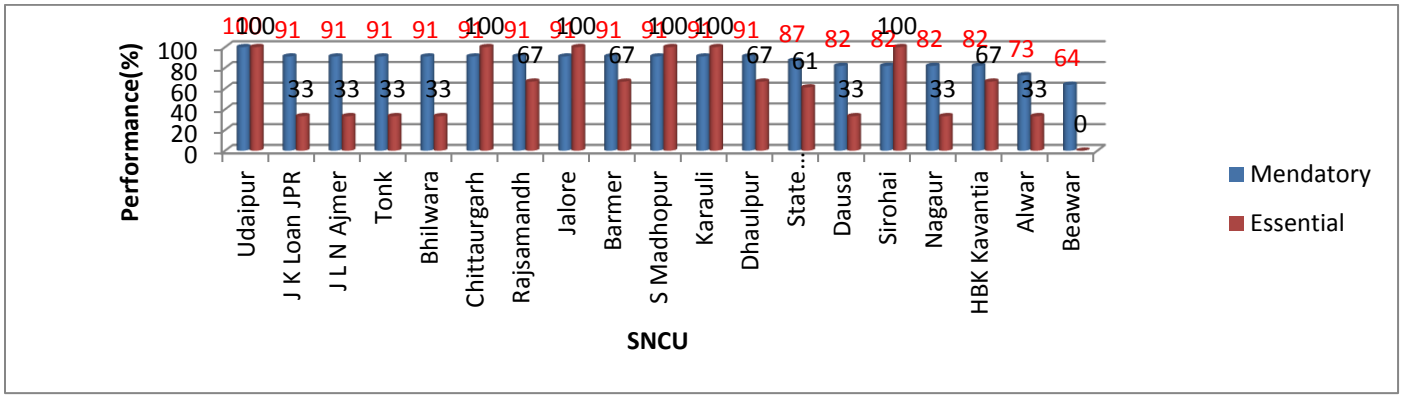
Performance of Drug, Fluid & Nutrition in SNCUs of Rajasthan State, 2017-

Above graph show that only J.k loan Jaipur, Chittaurgarh has achieved 100% score in both Mandatory and essential fields. J.L.N Ajmer, Barmer, Karauli, Sawai Madhopur has achieved above 75% score in Essential fields. So improvement need in both mandatory Ajmer, Bhilwara, Udaipur, HBK kanvatia, Tonk, Nagaur, Dausa, Sirohi, Beawar, Alwar, Rajsamand, Jalore, Barmer, Karauli, Dholpur, Sawai Madhopur and essential fields Ajmer, Bhilwara, Udaipur, HBK kanvatia, Tonk, Nagaur, Dausa, Sirohi, Beawar, Alwar, Rajsamand, Jalore, Dholpur.



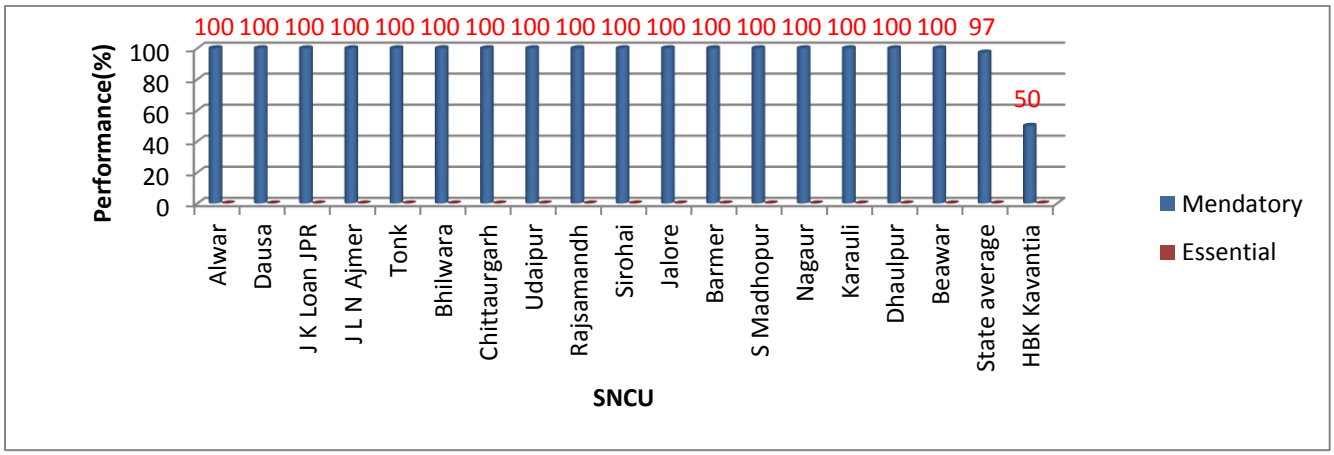
Performance of Labor room, O.T & Resuscitation in SNCUs of Rajasthan State, 2017-

Above graph show that No one achieved 100 % criteria in Mandatory fields and 75 % essential. Great focus need in both mandatory and essential criteria in all SNCU.J K Loan Jaipur, J L N Ajmer 0% both mandatory and Essential because delivery not conducted by facility. Udaipur and Karauli not allow for observation.



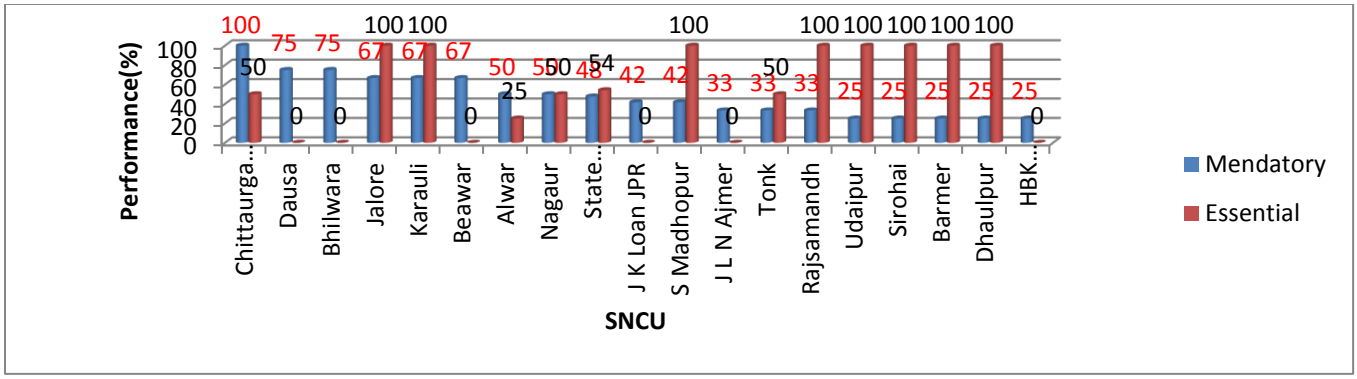
Performance of Case Record Maintenance in SNCUs of Rajasthan State, 2017-

Above graph show that only Udaipur has achieved 100% mandatory and essential above 75 % s Chittaurgarh , Jalore, Sawai Madhopur, Karauli . So need improvement Mandatory Ajmer, Bhilwara, J K loan Jaipur, HBK kanvatia, Tonk, Nagaur, Dausa, Sirohi, Beawar, Alwar, Chittaurgarh, Rajsamand, Jalore, Barmer, Karauli, Dholpur, Sawai Madhopur & essential Ajmer, Bhilwara, Udaipur, HBK kanvatia, Tonk, Nagaur, Dausa, Sirohi, Beawar, Alwar, Rajsamand, Barmer, Dholpur,



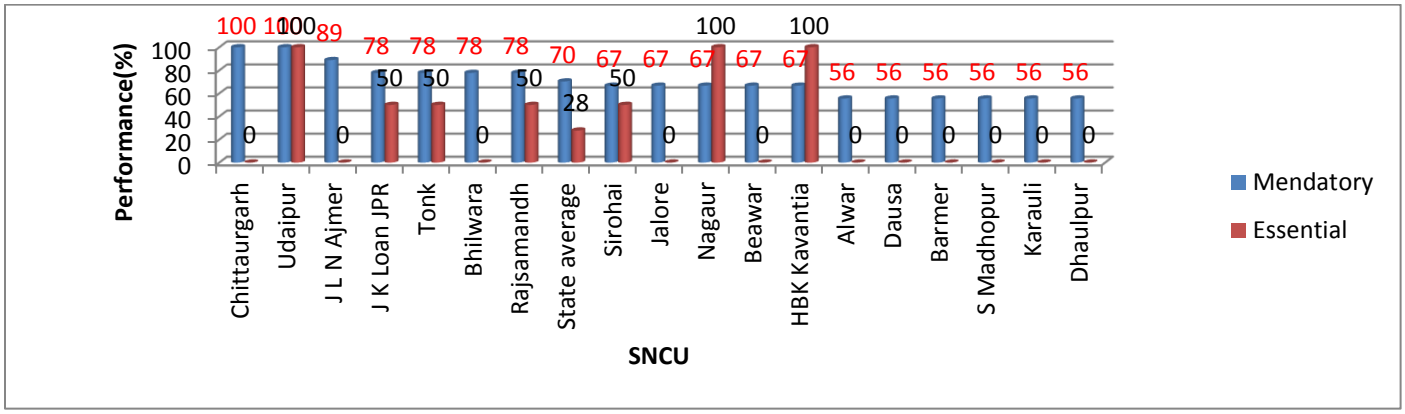
Performance of Miscellaneous in SNCUs of Rajasthan State, 2017-

Above graph show that 17 SNCU has achieved 100% Mandatory fields but essential fields has achieved 0%. So great focus need in essential fields and Mandatory HBK kanvatia



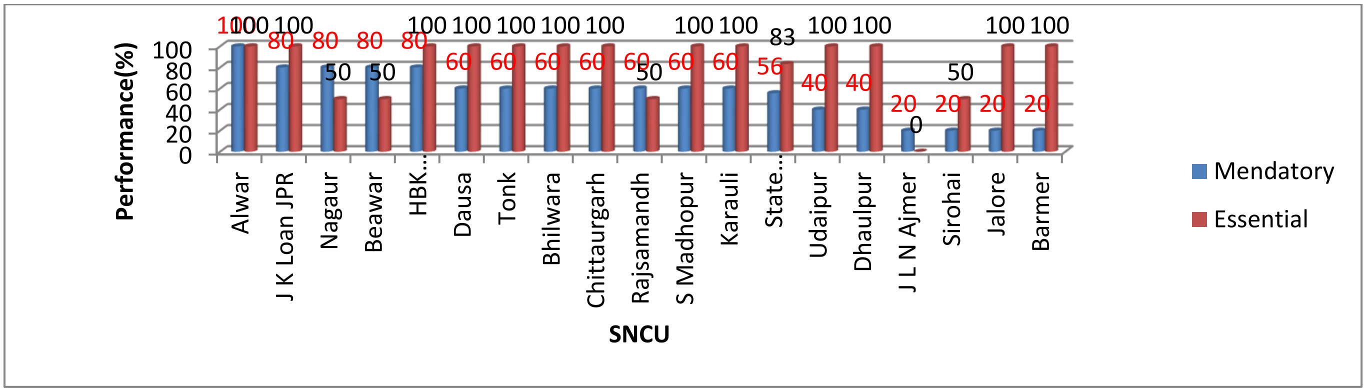
Performance of Infection Control Practices in SNCUs of Rajasthan State, 2017-

Above graph show that only Chittaurgh has achieved that 100% mandatory score. Udaipur, Rajsamand, Sirohi, Jalore, Barmer, Sawai Madhopur, Karauli, Dholpur has achieved 100% essential score. So improvement need in both Mandatory Ajmer, Bhilwara, Udaipur, HBK kanvatia, Tonk, Nagaur, Dausa, Sirohi, Beawar, Alwar, Rajsamand, Jalore, Barmer, Karauli, Dholpur, Sawai Madhopur and essential Ajmer, Bhilwara, HBK kanvatia, Tonk, Nagaur, Dausa, Beawar, Alwar, Chittaurgarh, Karauli, Dholpur,



Performance of Laboratory Facilities in SNCUs of Rajasthan State, 2017-

Above group show that only Udaipur has achieved 100% in both mandatory and essential fields. HBK Jaipur, Nagaur, Chittaurgarh has achieved above 75%essential fields. So improvement need in both Mandatory Ajmer, Bhilwara, Udaipur, HBK kanvatia, Tonk, Nagaur, Dausa, Sirohi, Beawar, Alwar, Rajsamand, Jalore, Barmer, Karauli, Dholpur, Sawai Madhopur and Essential Ajmer, Bhilwara, Tonk, Dausa, Sirohi, Beawar, Alwar, Chittaurgarh, Rajsamand, Jalore, Barmer, Karauli, Dholpur, Sawai Madhopur .



Performance of Facilities of Thermoregulation in SNCUs of Rajasthan State, 2017-

Above graph show that Alwar has achieved 100% mandatory and essential fields. Most of SNCU has achieved above 75% essential fields. So improvement need in mandatory in Ajmer, Bhilwara, Udaipur, HBK kanvatia, Tonk, Nagaur, Dausa, Sirohi, Beawar, Chittaurgarh, Rajsamand, Jalore, Barmer, Karauli, Dholpur, Sawai Madhopur and Essential Ajmer, Nagaur, Sirohi, Beawar, Rajsamand.

S.NO	**Mandatory Fields**	**No. of institutions those Fulfilled criteria**		**No. of institutions those Not Fulfilled this Criteria**	
		No	**%**	**No**	**%**
1	**Resuscitation at birth to all babies**	**18**	**100**	**0**	**0**
2	**CARE of sick neonate**	**18**	**100**	**0**	**0**
3	**CPAP ventilation**	**15**	**83**	**3**	**17**
4	**Short term basic mechanical ventilation**	**15**	**83**	**3**	**17**
5	**Stabilization of patients prior to**	**18**	**100**	**0**	**0**

	referral				
6	**Transport facility for higher level of care**	**18**	**100**	**0**	**0**
7	**Follow-up**	**18**	**100**	**0**	**0**
8	**The unit should be working / operational for at least 24 months**	**17**	**94**	**1**	**6**
9	**Patient care load of at least 300 patients**	**18**	**100**	**0**	**0**
10	**Should have minimum 12 beds**	**16**	**88**	**2**	**12**
11	**One basic mechanical ventilation devices**	**13**	**72**	**5**	**28**
12	**Two devices for non – invasive ventilation**	**13**	**72**	**5**	**28**
13	**Every bed should have the space of 100 sq.ft**	**6**	**33**	**12**	**67**
14	**A separate marked area/room for expression of milk and breastfeeding**	**15**	**83**	**3**	**17**
15	**Mothers stay facility available in Facility**	**17**	**94**	**1**	**6**
16	**designated areas for clean utility and dirty utility**	**11**	**61**	**7**	**39**
17	**maintaining temperature of the baby care area**	**15**	**83**	**3**	**17**
18	**Availability of compressed air facility**	**9**	**50**	**9**	**50**
19	**Availability of oxygen facility**	**18**	**100**	**0**	**0**
20	**Well illuminated but adjustable day and night lighting**	**15**	**83**	**3**	**17**
21	**light of 1000-1500 lux shadow free illumination for examination**	**13**	**72**	**5**	**28**
22	**Availability of continuous water supply round the clock**	**15**	**83**	**3**	**17**

23	**There should be at least 4-6 sockets /beds in available in SNCU**	**16**	**88**	**2**	**12**
24	**Blood bank /storage unit available in Facility**	**17**	**94**	**1**	**6**
25	**availability of power supply through a generator / ups etc**	**15**	**83**	**3**	**17**
26	**ONE STETHOSCOPE with each neonatal bed**	**5**	**27**	**13**	**73**
27	**All warmer should have temperature sensing with servo control**	**17**	**94**	**1**	**6**
28	**two electronic weighing machine available in SNCU**	**15**	**83**	**3**	**17**
29	**One pulse – oximeter available in SNCU**	**16**	**88**	**2**	**12**
30	**One multi- Para monitor for every two level 2B bed**	**17**	**94**	**1**	**6**
31	**A portable x- ray machine available round the clock**	**16**	**88**	**2**	**12**
32	**ABG analysis machine within unit or hospital premises**	**16**	**88**	**2**	**12**
33	**At least 2 gulcometer in unit**	**16**	**88**	**2**	**12**
34	**USG/CT/MRI facility that is present either with in the hospital /conveniently outsourced**	**17**	**94**	**1**	**6**
35	**Phototherapy machine one for each 2 beds**	**18**	**100**	**0**	**0**
36	**Two infusion pumps for each level 2B beds**	**18**	**100**	**0**	**0**
37	**Resuscitation equipment with all sizes of blades and mask , at least 4 such sets**	**17**	**94**	**1**	**6**

38	**Phototherapy unit , single head ,high intensity**	**18**	**100**	**0**	**0**
39	**Resuscitator , hand- operated, neonate, 250 ml**	**18**	**100**	**0**	**0**
40	**Resuscitator , hand- operated, neonate, 500 ml**	**18**	**100**	**0**	**0**
41	**Laryngoscope set, neonate**	**18**	**100**	**0**	**0**
42	**Pump, suction , portable , 220 v and /or pump , suction , foot operated**	**16**	**88**	**2**	**12**
43	**Surgical instruments (suture/ SET)**	**0**	**0**	**18**	**100**
44	**Syringe pump ,10, 20, 50 ml , single phase**	**18**	**100**	**0**	**0**
45	**Oxygen hood ,S and M**	**17**	**94**	**1**	**6**
46	**Thermometer, clinical ,digital, 32-43 C**	**16**	**88**	**2**	**12**
47	**Scale, baby, electronic 10kg, 5 kg**	**16**	**88**	**2**	**12**
48	**Pulse oximeter, bedside, neonatal**	**17**	**94**	**1**	**6**
49	**Sphygmomanometer, neonate electronic**	**16**	**88**	**2**	**12**
50	**Light for examination , (mobile) 220w-12 v**	**12**	**66**	**6**	**34**
51	**Hub cutter, syringe**	**17**	**94**	**1**	**6**
52	**Tape, measure, vinyl-coated, 1.5 m.**	**15**	**83**	**3**	**17**
53	**Basin, kidney, stainless steel , 825 ml**	**15**	**83**	**3**	**17**
54	**Tray, dressing, 300*200*30mm**	**13**	**72**	**5**	**28**
55	**Stand, infusion, double hook ,on castors**	**17**	**94**	**1**	**6**
56	**Infantometer , plexi 3 1/2ft/105 cm**	**17**	**94**	**1**	**6**
57	**Washing machine with dryer**	**9**	**50**	**9**	**50**
58	**Gowns for staff and mothers**	**12**	**66**	**6**	**34**
59	**Washable slippers**	**14**	**77**	**4**	**23**

60	**Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor**	**0**	**0**	**18**	**100**
61	**Gulcometer with dextrostix**	**16**	**88**	**2**	**12**
62	**Generator logbook available in Facility**	**14**	**77**	**4**	**23**
63	**Refrigerator**	**15**	**83**	**3**	**17**
64	**Voltage servo – stabilizer (three phase) 25-50 KVA**	**17**	**94**	**1**	**6**
65	**Wall clock with second hand**	**8**	**44**	**10**	**56**
66	**ONE FULL time in charge of unit should be MD/DNB/DCH 3/3/5 years experience in neonatology after post-graduation (on call)**	**18**	**100**	**0**	**0**
67	**One Resident doctor / junior consultant with MD/DNB/DCH (MIN . 1.5 YR. Experience post –DCH)[non-rotational basis**	**6**	**33**	**12**	**67**
68	**One resident doctor available in each shift**	**6**	**33**	**12**	**67**
69	**One nursing In charge – who should have at least 1 year experience of working in a neonatal unit on a non rotational basis**	**17**	**94**	**1**	**6**
70	**There should be at least one nurse /shift /level 2B bed**	**16**	**88**	**2**	**12**
71	**There should be one nurse for every level 2B and one third of the staff is trained in FBNC and has undertaken 14-day NNF observer ship training or has work experience of at least 1 month in an NICU**	**15**	**83**	**3**	**17**

72	**At least one cleaner /helper should be present per shift**	**11**	**61**	**7**	**39**
73	**ROP Screening (in house)**	**6**	**33**	**12**	**67**
74	**Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative**	**0**	**0**	**18**	**100**
75	**Hospital must have a policy for providing separate stay facility for all mothers**	**14**	**77**	**4**	**23**
76	**Structured process to educate the mother of a normal as well as a LBW baby in the skill of home care**	**14**	**77**	**4**	**23**
77	**Communication Process for mothers and relatives**	**13**	**72**	**5**	**28**
78	**A defined protocol / process for conducting grievance counseling of the parents and family by the doctor in case of newborn death**	**13**	**72**	**5**	**28**
79	**Protocol for adequate and effective warming for high risk babies during special care/ procedure displayed in the unit and followed**	**6**	**33**	**12**	**67**
80	**Admission and discharge policy defined and displayed**	**9**	**50**	**9**	**50**
81	**Is there a protocol for identifying babies in unit**	**13**	**72**	**5**	**28**
82	**Protocol for level 2 care**	**9**	**50**	**9**	**50**
83	**A defined policy on equipment maintenance**	**10**	**55**	**6**	**45**
84	**Protocol of orientation of new staff and refresher course**	**8**	**44**	**10**	**56**

85	**Sepsis screen & blood culture be done on babies prior to starting antibiotics / are labs equipped & focused**	**9**	**50**	**9**	**50**
86	**A separate follow –up clinic for the high risk NICU graduates**	**13**	**72**	**5**	**28**
87	**Protocol to screen all high risk babies for ROP**	**8**	**45**	**10**	**55**
88	**Protocol for universal hearing screen of all babies prior to discharge**	**10**	**55**	**8**	**45**
89	**Availability of written protocols manual for FBNC in the unit**	**10**	**55**	**8**	**45**
90	**Written instruction for trouble shooting of individual equipment**	**8**	**45**	**10**	**55**
91	**Proper formats for communication & counseling of parents, consent forms , for vital signs**	**17**	**94**	**1**	**6**
92	**Transport protocol available in SNCU**	**13**	**72**	**5**	**28**
93	**Proper documentation on incident reporting and closure of loop**	**11**	**61**	**7**	**29**
94	**Adequate number of functional room thermometers**	**14**	**77**	**4**	**23**
95	**Servo system of all warmers is working**	**17**	**94**	**1**	**6**
96	**digital thermometers monitor for severe hypothermia**	**12**	**66**	**6**	**34**
97	**A log book for KMC to be maintained in unit**	**5**	**27**	**13**	**73**
98	**A log book with daily shift –wise recording of temperature**	**2**	**12**	**16**	**88**
99	**GROWTH chart used for day to day**	**15**	**83**	**3**	**27**

	monitoring				
100	**Separate containers storage of the EBM**	**12**	**66**	**6**	**34**
101	**A separate emergency tray for every 4 babies**	**6**	**34**	**12**	**66**
102	**All fluid administration by infusion pumps**	**18**	**100**	**0**	**0**
103	**Availability of a refrigerator**	**15**	**83**	**3**	**27**
104	**AVAILABILITY of a wall clock with seconds hand in at all birthing areas**	**7**	**38**	**11**	**62**
105	**Availability of functional radiant warmer at all Birthing areas**	**12**	**66**	**6**	**34**
106	**Availability of a functioning pressure controlled suction machine**	**11**	**61**	**7**	**39**
107	**A separate set of working infant laryngoscopes with all blade seizes**	**12**	**66**	**6**	**34**
108	**Availability of separate self – inflating resuscitation bag and well- fitting neonatal face mask (all sizes)**	**13**	**72**	**5**	**28**
109	**Display of the NRP Algorithm at all the birthing places**	**7**	**38**	**11**	**62**
110	**Staff aware of and helps mother initiate successful breastfeeding within the first hour**	**14**	**77**	**4**	**23**
111	**Availability of essential and emergency resuscitation drugs**	**12**	**66**	**6**	**44**
112	**Availability of oxygen with a flow meter**	**13**	**72**	**5**	**38**
113	**Availability of umbilical vein cannulation sets to be used during resuscitation**	**0**	**0**	**18**	**100**

114	**The record sheets of resuscitation**	**12**	**66**	**6**	**34**
115	**Availability of a wash area with gown changing area entry into the NICU**	**9**	**50**	**9**	**50**
116	**Presence of at least one wash basin for every baby care area**	**4**	**22**	**14**	**78**
117	**hand washing instructions displayed in the wash area**	**15**	**83**	**3**	**17**
118	**Staff aware of technique of hand washing**	**18**	**100**	**0**	**0**
119	**availability of alcohol – based hand rub – one between two beds ?**	**6**	**33**	**12**	**67**
120	**Is there a written down unit antibiotic policy?**	**6**	**33**	**12**	**67**
121	**written guidelines for method of equipment cleaning and disinfection**	**8**	**44**	**10**	**56**
122	**written guideline for units cleaning, disinfection routines ?**	**9**	**50**	**9**	**50**
123	**Disinfection & cleaning practices being followed**	**3**	**16**	**15**	**86**
124	**unit follow the bio medical waste management norms**	**6**	**33**	**12**	**67**
125	**Protocol for handling and disposal of soiled linen?**	**6**	**33**	**12**	**67**
126	**CBC**	**18**	**100**	**0**	**0**
127	**Serum Bilirubin(both direct and indirect)**	**18**	**100**	**0**	**0**
128	**Plasma Glucose**	**18**	**100**	**0**	**0**
129	**Serum Urea and Creatinine**	**18**	**100**	**0**	**0**
130	**Serum Electrolytes and Calcium**	**18**	**100**	**0**	**0**
131	**Microbiological lab facilities (inclusive of Blood Culture , fungal**	**10**	**55**	**8**	**45**

	,culture, lab CRP, etc)				
132	**ABG analysis**	**0**	**0**	**18**	**100**
133	**TORCHES Screen**	**4**	**22**	**14**	**78**
134	**Coagulogram**	**3**	**16**	**15**	**84**
135	**FACILITY for provision of warmth , oxygenation , suction and resuscitation kit in the ambulance**	**7**	**38**	**11**	**62**
136	**Adequate number of ambulance drivers and / or paramedics**	**14**	**77**	**4**	**23**
137	**Availability of the neonatal nursing staff or trained doctors in all transport**	**2**	**12**	**16**	**88**
138	**Points for pulse oximeter and the Infusion pumps in the ambulance**	**3**	**17**	**15**	**83**
139	**Transport incubator available with the unit for use during transport of babies**	**12**	**66**	**6**	**34**
140	**Record of all transport**	**15**	**83**	**3**	**17**
141	**Display of contact details of higher and lower referral linkage**	**12**	**66**	**6**	**34**
142	**Outcome records of these referred patients/ follow-up of such patients**	**10**	**55**	**8**	**45**
143	**Case sheets have daily record of examination and daily orders with signature of the treating doctor**	**17**	**94**	**1**	**6**
144	**Record of daily charting of temperature , pulse and fluid input/output in case sheets with signature (identity) of on duty nurse**	**18**	**100**	**0**	**0**
145	**verbal orders by doctors verified by them in 24 hours**	**17**	**94**	**1**	**6**

146	**Documentation of all procedures done in the unit in appropriate format**	**16**	**88**	**2**	**12**
147	**Use of growth charts regularly in the unit especially for small babies**	**15**	**83**	**3**	**17**
148	**Use of the special charts for exchange transfusion**	**16**	**88**	**2**	**12**
149	**Electronic/manual medical records and data sharing with NNF**	**4**	**22**	**14**	**78**
150	**Monthly and annual sepsis data maintained**	**17**	**94**	**1**	**6**
151	**Monthly and annual morbidity data maintained**	**18**	**100**	**0**	**0**
152	**Monthly and annual equipment status report**	**18**	**100**	**0**	**0**
153	**AT least one computer with printer and internet access in unit**	**18**	**100**	**0**	**0**
154	**Unit should have an adequately stocked library with audio –visual aids**	**17**	**94**	**0**	**6**

According to NNF tools Mandatory fields should be100% in SNCU. 25 fields availability was 100% and 129 fields do not fulfill 100% criteria in SNCU. So, 129 fields need to be focused.

S.NO	**Mandatory Fields**	**Mandatory fields of Lacking (%)**
1	**ABG analysis**	**100**
2	**Availability of umbilical vein cannulation sets to be used during resuscitation**	**100**
3	**Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative**	**100**

4	**Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor**	**100**
5	**Surgical instruments (suture/ SET)**	**100**
6	**Every bed should have the space of 100 sq.ft**	**67**
7	**One Resident doctor / junior consultant with MD/DNB/DCH (MIN . 1.5 YR. Experience post – DCH)[non-rotational basis**	**67**
8	**One MBBS doctor available in each shift**	**57**
9	**ROP Screening (in house)**	**68**
10	**A log book for KMC to be maintained in unit**	**73**
11	**Presence of at least one wash basin for every baby care area**	**78**
12	**Availability of alcohol – based hand rubs – one between two beds?**	**67**
13	**Disinfection & cleaning practices being followed**	**86**
14	**unit follow the bio medical waste management norms**	**67**
15	**Coagulogram**	**78**
16	**Availability of the neonatal nursing staff or trained doctors in all transport**	**88**
17	**FACILITY for provision of warmth , oxygenation , suction and resuscitation kit in the ambulance**	**68**
18	**Points for pulse oximeter and the Infusion pumps in the ambulance**	**88**
19	**TORCHES Screen**	**78**
20	**written guidelines for method of equipment cleaning and disinfection**	**68**

According to NNF tools Mandatory fields should be100% in SNCU. A need of focused in 20 Mandatory Fields Because above 50% SNCU not Fulfill these criteria.

S.NO	Essential Field	NO of institute those Fulfilled this Criteria		NO of institute those Not Fulfilled this Criteria	
		NO	(%)	NO	(%)
1	SURFACTANT therapy	2	88	16	12
2	Partial parenteral nutrition	12	66	6	34
3	Facility for carrying out exchange transfusion	7	38	11	62
4	Facility for oto-acoustic emission(OAE) /BERA screening (	3	17	15	83
5	FACILITY of dimming of general lighting in the NICU for development care	16	88	2	12
6	Sound absorbent walls	18	100	0	0
7	Has there been a power audit of the unit	12	66	6	34
8	There should be provision for contingency space/ room for shifting the unit in case of temporary closure of the unit due to epidemics	11	61	7	39

9	**Availability of laminar flow station**	**11**	**61**	**7**	**39**
10	**T-piece resuscitator in unit**	**0**	**0**	**18**	**100**
11	**Cold light source for detection of pneumothorax**	**6**	**34**	**12**	**66**
12	**2D ECHO facility on call**	**6**	**34**	**12**	**66**
13	**Invasive BP monitoring for ventilated babies**	**9**	**50**	**9**	**50**
14	**Flux meter**	**8**	**34**	**12**	**66**
15	**An attached ophthalmologist for ROP screening**	**9**	**50**	**9**	**50**
16	**ICU Technician for the unit 1 per shift with 20 % reserve (minimum 4)**	**0**	**0**	**18**	**100**
17	**Lactation counselor (in 9 am – 4 pm shift)**	**6**	**34**	**12**	**66**
18	**Respiratory therapist : 1 per shift**	**5**	**28**	**13**	**72**
19	**Nursing staff trained in the developmental supportive care**	**16**	**88**	**2**	**12**
20	**Security personnel 1 per shift**	**6**	**34**	**12**	**66**
21	**Protocol for metabolic screen**	**9**	**50**	**9**	**50**

22	**SKIN to skin contact immediately after birth practiced**	**15**	**83**	**3**	**17**
23	**Transcutaneous billirubinometer**	**15**	**83**	**3**	**17**
24	**PROTOCOL for partial parenteral nutrition defined and followed**	**11**	**61**	**7**	**39**
25	**Use of scientifically designed breast pumps**	**9**	**50**	**9**	**50**
26	**AVAILABILITY of facility for blending for graded oxygen delivery**	**4**	**22**	**14**	**78**
27	**Availability of the pulse oximeter for monitoring of the baby**	**18**	**100**	**0**	**0**
28	**Availability of the T-piece resuscitator for the preterm babies**	**1**	**6**	**17**	**94**
29	**Availability of the heater pads/ re-sealable plastic (zip pouch) to be used for preterm deliveries**	**5**	**27**	**13**	**73**

30	**The facility for administration of surfactant (drug and logistics) in birthing place**	**1**	**6**	**17**	**94**
31	**A stand by CPAP machine for initiating DR-CPAP when indicated**	**0**	**0**	**18**	**100**
32	**Bundles for VAP prevention**	**8**	**44**	**10**	**56**
33	**Provision for insertion of PICC lines**	**8**	**56**	**10**	**44**
34	**Infection surveillance and audit of the unit is done on regular basis**	**12**	**66**	**6**	**34**
35	**Periodic bacteriological surveillance done of the unit by infection control committee**	**11**	**61**	**7**	**39**
36	**FACILITY FOR IEM screen including thyroid profile**	**7**	**38**	**11**	**62**
37	**Karyotyping / RFLP Studies**	**3**	**83**	**15**	**17**
38	**Percentage of babies transported –in from lower centers (level 1**	**13**	**72**	**5**	**28**

	& level 2A)				
39	**Record of outcomes of such transported – in babies from lower centers**	**14**	**77**	**4**	**23**
40	**A neonatal transport ambulance**	**10**	**55**	**8**	**45**
41	**NEONATAL transport ventilator in the ambulance**	**0**	**0**	**18**	**100**
42	**MONTHLY Perinatal – neonatal meeting with documented record of such discussions**	**11**	**61**	**7**	**39**
43	**Enrolment into a data network (multi centric)**	**7**	**39**	**11**	**61**
44	**Structured sequential developmental follow up of discharged babies till 2 years with all records**	**15**	**83**	**3**	**17**
45	**Unit should have a community outreach programme**	**0**	**0**	**18**	**100**

46	**THE unit should be undertaking short research in community –based neonatology /neonatology**	**0**	**0**	**18**	**100**

According to NNF tools Essential fields should be 75% in SNCU. 10 fields availability was 75% and 36 fields do not fulfill 75% criteria in SNCU. So, 36 fields need to be focused.

General observation

- Bio-medical waste management policy not being followed at facility
- Triaging of newborn is not being followed at unit
- x- Ray machine at SNCU is not in use.
- ABG machine not is use due to unavailability of reagents.
- Stethoscope available in store but not use in unit
- In NBCC hygienic and infection control practices not followed

General Mandatory Fields of Lacking:

- One Stethoscope with each neonatal bed not available in SNCU.
- Clean and dirty utility area not designated.
- A log book with daily shift –wise recording of temperature is not maintained in SNCU.
- One resident doctor (post MBBS) for the unit in each shift not available in SNCU.
- The neonatal nursing staff or trained doctors in all transports (documentary proof) not available in Ambulance**.**
- A separate emergency tray for every 4 babies not available in SNCU.
- Breastfeeding policy is not available at SNCU.
- Surgical instruments (suture/ SET) not available in SNCU.

- **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 SNCU. Protocols and processes, Human Resources, Drugs, IV Fluids Management and Nutrition, Neonatal Resuscitation in Labor Rooms, Infection Control Practices and Case Record Maintenance criteria were met by Chittaurgarh districts whereas SNCU Barmer, Sirohi, Rajsamand, HBK Jaipur lacks in all.

Karauli, Dholpur districts need improvement in Facilities for Neo-natal Transport. The criteria in Physical Infrastructure Facilities are need to improve in district Barmer, Karauli and Beawar.

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

Suggestion

On the basis of analysis, an attempt has been made to present recommendations for strengthening SNCU's service delivery in Rajasthan. These recommendations are organized in sections as given below:

1) Manpower:

- Number of sanctioned positions (4) of class IV staff must be fulfilled for the proper cleaning and dusting of SNCU.
- Sanctioned positions of Medical Officers (4) for SNCU must be fulfilled for the better and smooth functioning of SNCU.

2) Training:

- All medical staff must be FBNC trained as early as possible after joining in SNCU and at least one FBNC trained MO must be available round the clock at the SNCU.
- All staff members of SNCU must be trained in handling equipments independently.

3) Infrastructure:

- There must be separate area in SNCUs for mothers of out born babies and also a separate area for keeping asymptotic high risk babies along with their mothers with good nursing cover, beds and separate toilets/washrooms for mothers.

- There must be some contingency space for shifting the unit in case of epidemics.

- Power audit must be done in the unit.

- There must be some medium like mike/bell for communication between staff available in the SNCU and parents/relatives of baby outside the SNCU so that no outsider have to enter inside the SNCU to know the condition of their admitted baby or to talk with the staff for any other reason. e.g. Mike was available at the entrance of SNCU Dholpur for the parents/relatives of admitted baby to contact with the SNCU staff easily without entering into the unit.

- Lab facility must be available at the unit. Facilities like blood culture, exchange transfusion, CPAP, short term ventilation, CT scan, echocardiography, portable X-ray be available also at the unit to improve the functioning of SNCU and also to reduce referral rate.

Equipments and Supply:

- Equipments for SNCU like radiant warmers, monitors, pulse oximeter, suction machines, oxygen concentrators, breast pumps, head boxes etc. must be provided on the basis of delivery/admission load in each SNCU instead of as per standard only. But at least, each SNCU must have all equipments as per standard. During the visits for this study, it was seen that most of the SNCUs were placing two babies under one radiant warm

- Repair of any equipment of SNCU must be done as early as possible and within the time limit.

- Guidelines/written instructions/protocols must be displayed in the unit to handle or operate equipments and also for management of common newborn conditions. Staff must follow these guidelines. As in above study only few districts having protocols.

- Other general equipments like washing machine for laundry, refrigerator for storing mother's milk and vaccines, vacuum cleaner for cleaning of unit, adequate number of surgical equipment sets and spot lamps must be provided separately to the unit.

4) Cleaning and disinfection:

- Guidelines/written instructions/protocols must be displayed in the unit for the unit's cleaning, disinfection and fumigation routines, for method of equipment cleaning and disinfection. Staff must follow these guidelines.

- There must be at least one wash basin with soap having mechanism which doesn't require use of washer's hands (e.g. elbow or foot operated taps) for every 5 beds. Poster on hand washing should be displayed at all hand washing stations

- Adequate quantity of disinfectants, soaps, diapers, eye patches for phototherapy, disposable hand wipes/sterile paper, color coded BMW bins must be available in the unit.

- There must be an infection control committee for the periodic bacteriological surveillance of the unit.

- There must be separate uniform or gowns, slippers', masks, caps and gloves to enter in the unit and it must be followed by everyone entering into the Unit.

- There must be separate routes for clean and dirty linen going in and out of the unit and housekeeping staff must do vacuum cleaning of the unit regularly.

5) Case record management:

- Case sheets and old records related to SNCU must be available at any time and kept properly within the hospital.

- Signature of "on duty nurse'' must be present with the daily charting of temperature, pulse and fluid input/output in case sheets and growth chart which include height and weight regurly.

6) Improvement in admissions:

It is observed from analysis that there is a big difference in number of inborn and out born admissions in some SNCUs in Rajasthan. So it is important to increase number of out born admissions in SNCU by increasing their catchment area by maximizing referral from community and other health facilities to SNCU. There is a need to-

- Create awareness among community about all services provided at SNCU without any charges to save lives of newborns.
- Create awareness among community about free ambulance service provided by government for referral.
- Sensitize staff of private hospitals or nursing homes and peripheral health facilities to refer sick newborns as soon as possible to nearby SNCU.

7) Improvement in referral rate:

There is a need to reduce number of referrals from SNCU to higher centers by providing all required facilities (e.g. lab tests) at that unit.

Annexure-1

Gaps identified during SNCU Dholpur visits

Date of visit: 16/05/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Step down unit not functional	In SNCU premises space available can be used to establish Step down unit.	District	PMO, 15 days.
2	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	District Hospital	PMO, 15 days.
3	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
4	Laminar flow station not in use	Laminar flow should be used at facility.	District Hospital	PMO, 3 days.
5	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.
6	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	PMO, 15 days.
7	Shoe rakes not installed at entrance of unit	Shoe rakes should be installed at entrance of facility	SNCU	SNCU IC, Immediate
8	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.

9	Infantometer not in use.	In charge SNCU may direct all staff to ensure use of infantometer and record detail on case sheet.	SNCU	SNCU IC, Immediate
10	Hand washing practice is not being followed at facility by FCC care giver mothers.	SNCU in charge may direct all nursing staff to ensure hand washing of all mothers.	SNCU	SNCU IC, immediate
11	Gown changing room for SNCU staff and mothers are not being used at facility	Available room can be used as gown changing room	District	SNCU IC, immediate
12	Breast feeding room not established at unit	Available space at SNCU premises can be used to establish breast feeding room	District	PMO, 1 Month

Mandatory fields of lacking-

Are there designated areas for clean utility and dirty utility
ONE STETHOSCOPE with each neonatal bed
Surgical instruments (suture/ SET)
Light for examination , (mobile) 220w-12 v
Tray, dressing, 300*200*30mm
Gulcometer with dextrostix
Spot lamps
One Resident doctor / junior consultant with MD/DNB/DCH (MIN . 1.5 YR. Experience post – DCH)[non-rotational basis
One resident doctor (post MBBS) for the unit in each shift
At least one cleaner /helper should be present per shift

ROP Screening (in house)
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A log book with daily shift –wise recording of temperature of NICU is maintained
A separate emergency tray for every 4 babies
Display of the NRP Algorithm at all the birthing places
Availability of umbilical vein cannulation sets to be used during resuscitation
Availability of a dedicated wash area with gown changing area , prior to entry into the NICU
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)
Is there availability of alcohol – based hand rub – one between two beds ?
Are there written instruction / guidelines for method of equipment cleaning and disinfection
Disinfection & cleaning practices being followed and documented properly (verify logbook)
Does the unit follow the bio medical waste management norms as prescribed by government of India?
Is there a defined protocol for handling and disposal of soiled linen?
ABG analysis
TORCHES Screen
Coagulogram

Gaps identified during SNCU Sawai madhopur visit

Date of visit: 15/05/2017

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	District Hospital	PMO, 15 days.
2	Step down unit not functional	In SNCU premises space available can be used to establish Step down unit.	District	PMO, 15 days.
3	As per guideline newborn should admitted either In born and out born unit. it is observed no separate unit are available in SNCU	PMO may direct SNCU in charge ensure to separate inborn and out born unit	District Hospital	PMO, 1 month
4	Toilets facility not available in step dawn room	PMO may direct SNCU in charge ensure to toilet facility in Step down room	District Hospital	PMO, 1 month
5	Elbow tape not available in every hand washing area	PMO may direct SNCU in charge ensure to elbow tape every hand washing area in SNCU	District Hospital	PMO, 15 days
6	Gown changing room not functional in facility	In SNCU premises space available can be used to establish gown changing room	District	PMO, 15 days.

7	Stethoscope available in store but not use in unit	In charge SNCU may direct nursing in charge to ensure availability of stethoscope in every radiant warmer in SNCU	SNCU	SNCU IC, Immediate
8	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
9	Ventilator machine at SNCU is not in use.	PMO Direct to in charge ensure to use ventilator machine at SNCU	District Hospital	PMO, 3 days.
10	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.

Mandatory fields of lacking-

Availability of compressed air facility
ONE STETHOSCOPE with each neonatal bed
At least 2 gulcometer in unit
Surgical instruments (suture/ SET)
Tray, dressing, 300*200*30mm
Washing machine with dryer with AMC for maintenance
Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor
Refrigerator

One resident doctor (post MBBS) for the unit in each shift
At least one cleaner /helper should be present per shift
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A log book with daily shift –wise recording of temperature of NICU is maintained
A separate emergency tray for every 4 babies
AVAILABILITY of a wall clock with seconds hand in at all birthing areas
Availability of functional radiant warmer (newborn care corner) at all Birthing areas
Display of the NRP Algorithm at all the birthing places
Availability of umbilical vein cannulation sets to be used during resuscitation
Availability of a dedicated wash area with gown changing area , prior to entry into the NICU
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)
Provisions for hand washing instructions displayed in the wash area
Is there availability of alcohol – based hand rub – one between two beds?
Disinfection & cleaning practices being followed and documented properly (verify logbook)
Does the unit follow the bio medical waste management norms as prescribed by government of India?
Is there a defined protocol for handling and disposal of soiled linen?
ABG analysis
TORCHES Screen
Coagulogram

Gaps identified during SNCU Karauli visit

Date of visit: 16/05/2017

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Both inborn and out born unit under in one room	PMO must and ensure to separate room inborn and out born unit at SNCU	District Hospital	PMO, 1 month
2	Step down unit not functional	PMO ensure to availability of step down room in SNCU premises	District	PMO, 1 month
3	FCC room not available in facility	PMO ensure to availability of FCC room in SNCU Premises	District	PMO, 1 month
4	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
5	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.
6	Gown changing room not available in facility	PMO ensure to availability of Gown changing room in SNCU premises	District	PMO, 15 days.
7	Ventilator machine at SNCU is not in use.	PMO Direct to in charge ensure to use ventilator machine at SNCU	District Hospital	PMO, 3 days.
8	In NBCC hygienic and infection control practices not followed	PMO direct to in charge ensure to follow infection practices in NBCC	SNCU	In charge immediate

9	As per guideline transport facility 108/104 available for refer patient but other ambulance services MOU not available for SNCU patient	Ensure to availability of transport services in SNCU	District Hospital	PMO, 1 month
10	Hand washing practice is not being followed at facility by FCC care giver mothers.	SNCU in charge may direct all nursing staff to ensure hand washing of all mothers.	SNCU	SNCU IC, immediate
11	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	PMO, 15 days.
12	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.

Mandatory fields of lacking-

Every bed should have the space of 100 sq.ft.(this is inclusive of 50 sq. ft of the ancillary areas
Availability of compressed air facility
ONE STETHOSCOPE with each neonatal bed
Surgical instruments (suture/ SET)
Light for examination , (mobile) 220w-12 v
Gowns for staff and mothers
Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor

One resident doctor (post MBBS) for the unit in each shift
At least one cleaner /helper should be present per shift
ROP Screening (in house)
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A separate emergency tray for every 4 babies
Availability of a dedicated wash area with gown changing area , prior to entry into the NICU
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)
Is there availability of alcohol – based hand rub – one between two beds?
Does the unit follow the bio medical waste management norms as prescribed by government of India?
ABG analysis
TORCHES Screen
Coagulogram
Availability of the neonatal nursing staff or trained doctors in all transports (documentary proof)
Electronic/manual medical records and data sharing with NNF (these should be inclusive of m8 m11 mentioned below)

Gaps identified during SNCU Barmer visit

Date of visit: 14/05/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	District Hospital	PMO, 15 days.
2	Step down unit not functional	In SNCU premises space available can be used to establish Step down unit.	District	PMO, 15 days.
3	In out born and in born unit many of newborn kept under radiant warmers covered with blanket	SNCU in charge direct to all staff not use blanket in radiant warmer	SNCU	In charge , immediately
4	Injections and used syringes kept at fluid mixing area and nursing station	SNCU in charge direct to nursing staff followed infection control practices in SNCU	SNCU	In charge , immediately
5	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.
6	CPAP machine at SNCU not use	PMO direct to in charge ensure use of CPAP machine in SNCU	District	PMO, 3 days
7	As per guideline	In charge direct to all staff	SNCU	In charge, immediate

	inborn and out born unit window should close but observation time window open at SNCU	closed to window every time in SNCU		
8	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	PMO, 15 days.
9	Shoe rakes not installed at entrance of unit	Shoe rakes should be installed at entrance of facility	SNCU	SNCU IC, Immediate
10	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.
11	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.

Mandatory fields of lacking-

Every bed should have the space of 100 sq.ft.(this is inclusive of 50 sq. ft of the ancillary areas
Are there designated areas for clean utility and dirty utility
Availability of compressed air facility
ONE STETHOSCOPE with each neonatal bed
All warmer (equivalent to the neonatal bed) should have temperature sensing with servo control

A portable x- ray machine (in unit /in house) available round the clock
Acid blood gas analysis machine within unit or hospital premises
Surgical instruments (suture/ SET)
Scale, baby, electronic 10kg, 5 kg
Pulse oximeter, bedside, neonatal
Light for examination , (mobile) 220w-12 v
Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor
Spot lamps
Wall clock with second hand
One Resident doctor / junior consultant with MD/DNB/DCH (MIN . 1.5 YR. Experience post – DCH)[non-rotational basis
One resident doctor (post MBBS) for the unit in each shift
ROP Screening (in house)
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
A defined process for communication of newborns condition regularly to the parents/ relatives , at least once a day
Admission and discharge policy defined and displayed
Protocol for level 2 care (CPG Guideline) /FBNC or Equivalent should be retained & followed
A defined policy on equipment maintenance (including the AMC /CMC) where ever indicated
Protocol of orientation of new staff and refresher course (like CME) for existing staff
A separate follow –up clinic for the high risk NICU graduates
Protocol to screen all high risk babies for ROP
Availability of written protocols manual for FBNC in the unit
Adequate number of functional room thermometers (at least one for each baby care room)
Servo system of all warmers is working (assessor can ask one of staff to demonstrate it)
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A separate emergency tray for every 4 babies
AVAILABILITY of a wall clock with seconds hand in at all birthing areas
Availability of functional radiant warmer (newborn care corner) at all Birthing areas

Display of the NRP Algorithm at all the birthing places
Availability of essential and emergency resuscitation drugs (e.g. adrenaline, normal saline, etc)that is replenished on daily basis
Availability of umbilical vein cannulation sets to be used during resuscitation
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)
Are there written instruction / guideline for units cleaning, disinfection routines?
Disinfection & cleaning practices being followed and documented properly (verify logbook)
Does the unit follow the bio medical waste management norms as prescribed by government of India?
Is there a defined protocol for handling and disposal of soiled linen?
ABG analysis
TORCHES Screen
Coagulogram
Availability of the neonatal nursing staff or trained doctors in all transports (documentary proof)
Points for pulse oximeter and the Infusion pumps in the ambulance

Gaps identified during SNCU Jalore visit

Date of visit: 13/05/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	District Hospital	PMO, 15 days.
2	FCC room not available in facility	PMO ensure to availability of FCC room in SNCU Premises	District	PMO, 1 month
3	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
4	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.
5	Gown changing room not available in facility	PMO ensure to availability of Gown changing room in SNCU premises	District	PMO, 15 days.
6	Ventilator machine at SNCU is not in use.	PMO Direct to in charge ensure to use ventilator machine at SNCU	District Hospital	PMO, 3 days.
7	In NBCC hygienic	PMO direct to in charge	SNCU	In charge

	and infection control practices not followed	ensure to follow infection practices in NBCC		immediate
8	Both inborn and out born unit under in one room	PMO must and ensure to separate room inborn and out born unit at SNCU	District Hospital	PMO, 1 month
9	Hand washing practice is not being followed at facility by FCC care giver mothers.	SNCU in charge may direct all nursing staff to ensure hand washing of all mothers.	SNCU	SNCU IC, immediate
10	Breast feeding room not established at unit	Available space at SNCU premises can be used to establish breast feeding room	District	PMO, 1 Month

Mandatory fields of lacking-

Are there designated areas for clean utility and dirty utility
Availability of compressed air facility
ONE STETHOSCOPE with each neonatal bed
Surgical instruments (suture/ SET)
Basin, kidney, stainless steel , 825 ml
Tray, dressing, 300*200*30mm

Washing machine with dryer with AMC for maintenance
Wall clock with second hand
One resident doctor (post MBBS) for the unit in each shift
At least one cleaner /helper should be present per shift
ROP Screening (in house)
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
Adequate number of functional room thermometers (at least one for each baby care room)
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A log book with daily shift –wise recording of temperature of NICU is maintained
A separate emergency tray for every 4 babies
AVAILABILITY of a wall clock with seconds hand in at all birthing areas
Availability of umbilical vein cannulation sets to be used during resuscitation
Availability of a dedicated wash area with gown changing area , prior to entry into the NICU
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)
Disinfection & cleaning practices being followed and documented properly (verify logbook)
Does the unit follow the bio medical waste management norms as prescribed by government of India ?
ABG analysis
TORCHES Screen
Coagulogram
Outcome records of these referred patients/ follow-up of such patients
Are the verbal orders by doctors verified by them within 24 hours of giving such orders?

Gaps identified during SNCU Sirohi visit

Date of visit: 13/05/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	District Hospital	PMO, 15 days.
2	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
3	Laminar flow station not in use	Laminar flow should be used at facility.	District Hospital	PMO, 3 days.
4	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.
5	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	PMO, 15 days.
6	Shoe rakes not installed at entrance of unit	Shoe rakes should be installed at entrance of facility	SNCU	SNCU IC, Immediate
7	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.
8	Infantometer not in use.	In charge SNCU may direct all staff to ensure use of infantometer and	SNCU	SNCU IC, Immediate

		record detail on case sheet.		
9	Hand washing practice is not being followed at facility by FCC care giver mothers.	SNCU in charge may direct all nursing staff to ensure hand washing of all mothers.	SNCU	SNCU IC, immediate
10	Gown changing room for SNCU staff and mothers are not being used at facility	Available room can be used as gown changing room	District	SNCU IC, immediate
11	Breast feeding room not established at unit	Available space at SNCU premises can be used to establish breast feeding room	District	PMO, 1 Month
12	Stethoscope available in store but not use in unit	In charge SNCU may direct nursing in charge to ensure availability of stethoscope in every radiant warmer in SNCU	SNCU	SNCU IC, Immediate

Mandatory fields of lacking-

Every bed should have the space of 100 sq.ft.(this is inclusive of 50 sq. ft of the ancillary areas
Availability of compressed air facility
ONE STETHOSCOPE with each neonatal bed

At least 2 gulcometer in unit
Surgical instruments (suture/ SET)
Light for examination , (mobile) 220w-12 v
Gowns for staff and mothers
Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor
Spot lamps
Wall clock with second hand
One resident doctor (post MBBS) for the unit in each shift
ROP Screening (in house)
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
Admission and discharge policy defined and displayed
Is there a protocol for identifying babies (along with details of their mother) admitted in the unit ?
Protocol for level 2 care (CPG Guideline) /FBNC or Equivalent should be retained & followed
A defined policy on equipment maintenance (including the AMC /CMC) where ever indicated
Protocol to screen all high risk babies for ROP
Protocol for universal hearing screen of all babies prior to discharge
Availability of written protocols manual for FBNC in the unit
Transport protocol , both to and from higher and lower level
Adequate number of functional room thermometers (at least one for each baby care room)
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A log book with daily shift –wise recording of temperature of NICU is maintained
A separate emergency tray for every 4 babies
AVAILABILITY of a wall clock with seconds hand in at all birthing areas
Display of the NRP Algorithm at all the birthing places
Availability of oxygen (central or from cylinder) with a flow meter
Availability of umbilical vein cannulation sets to be used during resuscitation
The record sheets of resuscitation as per the NRP guideline /CPG guideline
Availability of a dedicated wash area with gown changing area , prior to entry into the NICU
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)

Is there availability of alcohol – based hand rub – one between two beds?
Disinfection & cleaning practices being followed and documented properly (verify logbook)
Does the unit follow the bio medical waste management norms as prescribed by government of India?
Is there a defined protocol for handling and disposal of soiled linen?
ABG analysis
TORCHES Screen
Coagulogram
FACILITY for provision of warmth , oxygenation , suction and resuscitation kit in the ambulance
Availability of the neonatal nursing staff or trained doctors in all transports (documentary proof)
Points for pulse oximeter and the Infusion pumps in the ambulance
Case sheets have daily record of examination and daily orders with signature of the treating doctor

Gaps identified during SNCU Rajsamand visit

Date of visit: 12/05/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	District Hospital	PMO, 15 days.
2	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
3	Laminar flow station not in use	Laminar flow should be used at facility.	District Hospital	PMO, 3 days.
4	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.
5	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	PMO, 15 days.
6	Shoe rakes not installed at entrance of unit	Shoe rakes should be installed at entrance of facility	SNCU	SNCU IC, Immediate
7	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.
8	Infantometer not in use.	In charge SNCU may direct all staff to ensure use of	SNCU	SNCU IC, Immediate

		infantometer and record detail on case sheet.		
9	Hand washing practice is not being followed at facility by FCC care giver mothers.	SNCU in charge may direct all nursing staff to ensure hand washing of all mothers.	SNCU	SNCU IC, immediate
10	Gown changing room for SNCU staff and mothers are not being used at facility	Available room can be used as gown changing room	District	SNCU IC, immediate
11	Breast feeding room not established at unit	Available space at SNCU premises can be used to establish breast feeding room	District	PMO, 1 Month
12	Stethoscope available in store but not use in unit	In charge SNCU may direct nursing in charge to ensure availability of stethoscope in every radiant warmer in SNCU	SNCU	SNCU IC, Immediate
13	CPAP machine at SNCU not use	PMO direct to in charge ensure use of CPAP machine in SNCU	District	PMO, 3 days

Mandatory fields of lacking-

Every bed should have the space of 100 sq.ft.(this is inclusive of 50 sq. ft of the ancillary areas
Availability of compressed air facility
ONE STETHOSCOPE with each neonatal bed
Surgical instruments (suture/ SET)
Tray, dressing, 300*200*30mm
Washing machine with dryer with AMC for maintenance
Gowns for staff and mothers
Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor

Wall clock with second hand
One resident doctor (post MBBS) for the unit in each shift
At least one cleaner /helper should be present per shift
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A log book with daily shift –wise recording of temperature of NICU is maintained
A separate emergency tray for every 4 babies
AVAILABILITY of a wall clock with seconds hand in at all birthing areas
Display of the NRP Algorithm at all the birthing places
Availability of umbilical vein cannulation sets to be used during resuscitation
Availability of a dedicated wash area with gown changing area , prior to entry into the NICU
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)
Is there availability of alcohol – based hand rub – one between two beds ?
Disinfection & cleaning practices being followed and documented properly (verify logbook)
Does the unit follow the bio medical waste management norms as prescribed by government of India?
Is there a defined protocol for handling and disposal of soiled linen?
TORCHES Screen
Coagulogram
Availability of the neonatal nursing staff or trained doctors in all transports (documentary proof)
Points for pulse oximeter and the Infusion pumps in the ambulance

Gaps identified during SNCU Udaipur visit

Date of visit: 12/05/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	Medical college	M.S, 15 days.
2	x- ray machine at SNCU is not in use.	M.S X-Ray technician should be directed to take bedside X-Ray.	Medical college al	M.S, 3 days.
3	Laminar flow station not in use	Laminar flow should be used at facility.	Medical college	M.S, 3 days.
4	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.
5	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	M.S, 15 days.

Mandatory fields of lacking-

Every bed should have the space of 100 sq.ft.(this is inclusive of 50 sq. ft of the ancillary areas
ONE STETHOSCOPE with each neonatal bed
Washing machine with dryer with AMC for maintenance

Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor
At least one cleaner /helper should be present per shift
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
A defined protocol / process for conducting grievance counseling of the parents and family by the doctor in case of newborn death
Protocol for adequate and effective warming for high risk babies during special care/ procedure displayed in the unit and followed
Protocol for level 2 care (CPG Guideline) /FBNC or Equivalent should be retained & followed
Adequate number of digital thermometers / alternate device to monitor for severe hypothermia
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A log book with daily shift –wise recording of temperature of NICU is maintained
A separate emergency tray for every 4 babies
Availability of a dedicated wash area with gown changing area , prior to entry into the NICU
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)
Is there availability of alcohol – based hand rub – one between two beds?
Is there a written down unit antibiotic policy?
Availability of adequate quantity of disinfectants , e. g
Are there written instruction / guidelines for method of equipment cleaning and disinfection
Disinfection & cleaning practices being followed and documented properly (verify logbook)
Does the unit follow the bio medical waste management norms as prescribed by government of India?
Is there a defined protocol for handling and disposal of soiled linen?
Availability of the neonatal nursing staff or trained doctors in all transports (documentary proof)
Points for pulse oximeter and the Infusion pumps in the ambulance

Gaps identified during SNCU Tonk visit

Date of visit: 06/05/2017

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	District Hospital	PMO, 15 days.
3	As per guideline newborn should admitted either In born and out born unit. it is observed no separate unit are available in SNCU	PMO may direct SNCU in charge ensure to separate inborn and out born unit	District Hospital	PMO, 1 month
4	Toilets facility not available in step dawn room	PMO may direct SNCU in charge ensure to toilet facility in Step down room	District Hospital	PMO, 1 month
5	Elbow tape not available in every hand washing area	PMO may direct SNCU in charge ensure to elbow tape every hand washing area in SNCU	District Hospital	PMO, 15 days
6	Gown changing room not functional in facility	In SNCU premises space available can be used to establish gown changing room	District	PMO, 15 days.
7	Stethoscope	In charge SNCU may direct	SNCU	SNCU IC,

	available in store but not use in unit	nursing in charge to ensure availability of stethoscope in every radiant warmer in SNCU		Immediate
8	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
9	Ventilator machine at SNCU is not in use.	PMO Direct to in charge ensure to use ventilator machine at SNCU	District Hospital	PMO, 3 days.
10	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.

Mandatory fields of lacking-

Every bed should have the space of 100 sq.ft.(this is inclusive of 50 sq. ft of the ancillary areas
Availability of compressed air facility
Surgical instruments (suture/ SET)
Tray, dressing, 300*200*30mm
Washing machine with dryer with AMC for maintenance
Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor
Wall clock with second hand
One resident doctor (post MBBS) for the unit in each shift
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
A defined process for communication of newborns condition regularly to the parents/ relatives , at least once a day
Protocol for adequate and effective warming for high risk babies during special care/ procedure displayed in the unit and followed

Admission and discharge policy defined and displayed
Is there a protocol for identifying babies (along with details of their mother) admitted in the unit?
Protocol for level 2 care (CPG Guideline) /FBNC or Equivalent should be retained & followed
A defined policy on equipment maintenance (including the AMC /CMC) where ever indicated
Protocol to screen all high risk babies for ROP
Protocol for universal hearing screen of all babies prior to discharge
Availability of written protocols manual for FBNC in the unit
Proper documentation on incident reporting and closure of loop
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A log book with daily shift –wise recording of temperature of NICU is maintained
A separate emergency tray for every 4 babies
AVAILABILITY of a wall clock with seconds hand in at all birthing areas
Display of the NRP Algorithm at all the birthing places
Availability of umbilical vein cannulation sets to be used during resuscitation
The record sheets of resuscitation as per the NRP guideline /CPG guideline
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)
Is there availability of alcohol – based hand rub – one between two beds ?
Is there a written down unit antibiotic policy?
Availability of adequate quantity of disinfectants , e. g
Are there written instruction / guidelines for method of equipment cleaning and disinfection
Are there written instruction / guideline for units cleaning, disinfection routines ?
Disinfection & cleaning practices being followed and documented properly (verify logbook)
Is there a defined protocol for handling and disposal of soiled linen?
TORCHES Screen
Coagulogram

Gaps identified during SNCU J.k. Loan Jaipur visit

Date of visit: 05/05/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	Medical college	M.S, 15 days.
2	x- ray machine at SNCU is not in use.	M.S X-Ray technician should be directed to take bedside X-Ray.	Medical college al	M.S, 3 days.
3	Laminar flow station not in use	Laminar flow should be used at facility.	Medical college	M.S, 3 days.
4	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.
5	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	M.S, 15 days.
6	Shoe rakes not installed at entrance of unit	Shoe rakes should be installed at entrance of facility	SNCU	SNCU IC, Immediate
7	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	Medical college	M.S, 15 days.
8	Infantometer not in use.	In charge SNCU may direct all staff to ensure use of infantometer and record detail on case sheet.	SNCU	SNCU IC, Immediate
9	Hand washing practice is not being followed at	SNCU in charge may direct all nursing staff to ensure	SNCU	SNCU IC, immediate

	facility by FCC care giver mothers.	hand washing of all mothers.		
10	Gown changing room for SNCU staff and mothers are not being used at facility	Available room can be used as gown changing room	Medical college	SNCU IC, immediate
11	Breast feeding room not established at unit	Available space at SNCU premises can be used to establish breast feeding room	Medical college	M.S, 1 Month

Mandatory fields of lacking-

Surgical instruments (suture/ SET)
Light for examination , (mobile) 220w-12 v
Washing machine with dryer with AMC for maintenance
Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor
Wall clock with second hand
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
A defined process for communication of newborns condition regularly to the parents/ relatives , at least once a day
A defined protocol / process for conducting grievance counseling of the parents and family by the doctor in case of newborn death
Protocol for adequate and effective warming for high risk babies during special care/ procedure displayed in the unit and followed

Admission and discharge policy defined and displayed
Protocol for level 2 care (CPG Guideline) /FBNC or Equivalent should be retained & followed
A defined policy on equipment maintenance (including the AMC /CMC) where ever indicated
Protocol to screen all high risk babies for ROP
Protocol for universal hearing screen of all babies prior to discharge
Availability of written protocols manual for FBNC in the unit
Written instruction for trouble shooting of individual equipment
Adequate number of digital thermometers / alternate device to monitor for severe hypothermia
Provisions for hand washing instructions displayed in the wash area
Are there written instruction / guidelines for method of equipment cleaning and disinfection
Are there written instruction / guideline for units cleaning, disinfection routines?
Disinfection & cleaning practices being followed and documented properly (verify logbook)
Does the unit follow the bio medical waste management norms as prescribed by government of India?
Is there a defined protocol for handling and disposal of soiled linen?
TORCHES Screen
Coagulogram

Gaps identified during SNCU Bhilwara visit

Date of visit: 03/05/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	District Hospital	PMO, 15 days.
2	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
3	Laminar flow station not in use	Laminar flow should be used at facility.	District Hospital	PMO, 3 days.
4	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.
5	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	PMO, 15 days.
6	Shoe rakes not installed at entrance of unit	Shoe rakes should be installed at entrance of facility	SNCU	SNCU IC, Immediate
7	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.
8	Infantometer not in use.	In charge SNCU may direct all staff to ensure use of	SNCU	SNCU IC, Immediate

		infantometer and record detail on case sheet.		
9	Hand washing practice is not being followed at facility by FCC care giver mothers.	SNCU in charge may direct all nursing staff to ensure hand washing of all mothers.	SNCU	SNCU IC, immediate
10	Gown changing room for SNCU staff and mothers are not being used at facility	Available room can be used as gown changing room	District	SNCU IC, immediate
11	Breast feeding room not established at unit	Available space at SNCU premises can be used to establish breast feeding room	District	PMO, 1 Month

Mandatory fields of lacking-

Every bed should have the space of 100 sq.ft.(this is inclusive of 50 sq. ft of the ancillary areas
Are there designated areas for clean utility and dirty utility
ONE STETHOSCOPE with each neonatal bed
Surgical instruments (suture/ SET)
Washing machine with dryer with AMC for maintenance
Gowns for staff and mothers
Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor

Spot lamps
Wall clock with second hand
One resident doctor (post MBBS) for the unit in each shift
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
Transport protocol , both to and from higher and lower level
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A log book with daily shift –wise recording of temperature of NICU is maintained
A separate emergency tray for every 4 babies
AVAILABILITY of a wall clock with seconds hand in at all birthing areas
Availability of a functioning pressure controlled suction machine
Availability of umbilical vein cannulation sets to be used during resuscitation
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)
Is there a written down unit antibiotic policy ?
Disinfection & cleaning practices being followed and documented properly (verify logbook)
TORCHES Screen
Coagulogram
FACILITY for provision of warmth , oxygenation , suction and resuscitation kit in the ambulance
Availability of the neonatal nursing staff or trained doctors in all transports (documentary proof)
Points for pulse oximeter and the Infusion pumps in the ambulance

Gaps identified during SNCU J.L.N Ajmer visit

Date of visit: 02/05/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	Medical college	M.S, 15 days.
2	x- ray machine at SNCU is not in use.	M.S X-Ray technician should be directed to take bedside X-Ray.	Medical college al	M.S, 3 days.
3	Laminar flow station not in use	Laminar flow should be used at facility.	Medical college	M.S, 3 days.
4	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.
5	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	M.S, 15 days.
6	Shoe rakes not installed at entrance of unit	Shoe rakes should be installed at entrance of facility	SNCU	SNCU IC, Immediate
7	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	Medical college	M.S, 15 days.

Mandatory fields of lacking-

Every bed should have the space of 100 sq.ft.(this is inclusive of 50 sq. ft of the ancillary areas

A separate marked area/room for expression of milk and breastfeeding
Are there designated areas for clean utility and dirty utility
ONE STETHOSCOPE with each neonatal bed
Surgical instruments (suture/ SET)
Washing machine with dryer with AMC for maintenance
Gowns for staff and mothers
Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor
Gulcometer with dextrostix
Refrigerator
Voltage servo – stabilizer (three phase) 25-50 KVA
Spot lamps
Wall clock with second hand
At least one cleaner /helper should be present per shift
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
Protocol for adequate and effective warming for high risk babies during special care/ procedure displayed in the unit and followed
Admission and discharge policy defined and displayed
Protocol for level 2 care (CPG Guideline) /FBNC or Equivalent should be retained & followed
A defined policy on equipment maintenance (including the AMC /CMC) where ever indicated
Protocol to screen all high risk babies for ROP
Availability of written protocols manual for FBNC in the unit
Written instruction for trouble shooting of individual equipment
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A log book with daily shift –wise recording of temperature of NICU is maintained
Separate containers with lids for storage of the EBM being used
A separate emergency tray for every 4 babies
Availability of a refrigerator exclusively for storing feeds/vaccines and drugs in baby care area
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated

)
Is there availability of alcohol – based hand rub – one between two beds ?
Is there a written down unit antibiotic policy ?
Availability of adequate quantity of disinfectants , e. g
Are there written instruction / guidelines for method of equipment cleaning and disinfection
Are there written instruction / guideline for units cleaning, disinfection routines ?
Disinfection & cleaning practices being followed and documented properly (verify logbook)
Coagulogram
FACILITY for provision of warmth , oxygenation , suction and resuscitation kit in the ambulance
Availability of the neonatal nursing staff or trained doctors in all transports (documentary proof)
Points for pulse oximeter and the Infusion pumps in the ambulance
Electronic/manual medical records and data sharing with NNF (these should be inclusive of m8 m11 mentioned below)

Gaps identified during SNCU Beawar visit

Date of visit: 21/04/2017

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	District Hospital	PMO, 15 days.
3	As per guideline newborn should admitted either In born and out born unit. it is observed no separate unit are available in SNCU	PMO may direct SNCU in charge ensure to separate inborn and out born unit	District Hospital	PMO, 1 month
4	Toilets facility not available in step dawn room	PMO may direct SNCU in charge ensure to toilet facility in Step down room	District Hospital	PMO, 1 month
5	Elbow tape not available in every hand washing area	PMO may direct SNCU in charge ensure to elbow tape every hand washing area in SNCU	District Hospital	PMO, 15 days
6	Gown changing room not functional in facility	In SNCU premises space available can be used to establish gown changing room	District	PMO, 15 days.
7	Stethoscope available in store but not use in unit	In charge SNCU may direct nursing in charge	SNCU	SNCU IC, Immediate

		to ensure availability of stethoscope in every radiant warmer in SNCU		
8	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
9	Ventilator machine at SNCU is not in use.	PMO Direct to in charge ensure to use ventilator machine at SNCU	District Hospital	PMO, 3 days.
10	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.

Mandatory fields of lacking-

Every bed should have the space of 100 sq.ft.(this is inclusive of 50 sq. ft of the ancillary areas
Surgical instruments (suture/ SET)
Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor
One resident doctor (post MBBS) for the unit in each shift
ROP Screening (in house)
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
Admission and discharge policy defined and displayed
Is there a protocol for identifying babies (along with details of their mother) admitted in the unit ?
Protocol for level 2 care (CPG Guideline) /FBNC or Equivalent should be retained & followed
Protocol to screen all high risk babies for ROP
Protocol for universal hearing screen of all babies prior to discharge
Written instruction for trouble shooting of individual equipment

Proper documentation on incident reporting and closure of loop
A log book with daily shift –wise recording of temperature of NICU is maintained
Availability of umbilical vein cannulation sets to be used during resuscitation
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)
Is there availability of alcohol – based hand rub – one between two beds?
Is there a written down unit antibiotic policy?
Does the unit follow the bio medical waste management norms as prescribed by government of India ?
ABG analysis
TORCHES Screen
FACILITY for provision of warmth , oxygenation , suction and resuscitation kit in the ambulance
Availability of the neonatal nursing staff or trained doctors in all transports (documentary proof)
Points for pulse oximeter and the Infusion pumps in the ambulance
Documentation of all procedures done in the unit in appropriate format

Gaps identified during SNCU Nagour visit

Date of visit: 22/04/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Step down unit not functional	In SNCU premises space available can be used to establish Step down unit.	District	PMO, 15 days.
2	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	District Hospital	PMO, 15 days.
3	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
4	Laminar flow station not in use	Laminar flow should be used at facility.	District Hospital	PMO, 3 days.
5	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.
6	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	PMO, 15 days.
7	Shoe rakes not installed at entrance of unit	Shoe rakes should be installed at entrance of facility	SNCU	SNCU IC, Immediate
8	ABG machine not is use due to unavailability of	Reagents should be made available.	District	PMO, 15 days.

	reagents.			
9	Infantometer not in use.	In charge SNCU may direct all staff to ensure use of infantometer and record detail on case sheet.	SNCU	SNCU IC, Immediate
10	Hand washing practice is not being followed at facility by FCC care giver mothers.	SNCU in charge may direct all nursing staff to ensure hand washing of all mothers.	SNCU	SNCU IC, immediate

Mandatory fields of lacking-

Every bed should have the space of 100 sq.ft.(this is inclusive of 50 sq. ft of the ancillary areas
Are there designated areas for clean utility and dirty utility
ONE STETHOSCOPE with each neonatal bed
One pulse – oximeter for every two level 2-A beds one pulse – oximeter for every level 2B bed
Surgical instruments (suture/ SET)
Tape, measure, vinyl-coated, 1.5 m.
Basin, kidney, stainless steel , 825 ml
Washing machine with dryer with AMC for maintenance
Gowns for staff and mothers
Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor
Spot lamps
One resident doctor (post MBBS) for the unit in each shift
ROP Screening (in house)
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
Admission and discharge policy defined and displayed

Protocol for level 2 care (CPG Guideline) /FBNC or Equivalent should be retained & followed
Protocol to screen all high risk babies for ROP
Availability of written protocols manual for FBNC in the unit
A log book with daily shift –wise recording of temperature of NICU is maintained
A separate emergency tray for every 4 babies
Display of the NRP Algorithm at all the birthing places
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)
Is there availability of alcohol – based hand rub – one between two beds?
Are there written instruction / guidelines for method of equipment cleaning and disinfection
Are there written instruction / guideline for units cleaning, disinfection routines?
Disinfection & cleaning practices being followed and documented properly (verify logbook)
ABG analysis
TORCHES Screen
FACILITY for provision of warmth , oxygenation , suction and resuscitation kit in the ambulance
Availability of the neonatal nursing staff or trained doctors in all transports (documentary proof)
Points for pulse oximeter and the Infusion pumps in the ambulance
Electronic/manual medical records and data sharing with NNF (these should be inclusive of m8 m11 mentioned below)

Gaps identified during SNCU Dausa visit

Date of visit: 24/04/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
2	Laminar flow station not in use	Laminar flow should be used at facility.	District Hospital	PMO, 3 days.
3	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.
4	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	PMO, 15 days.
5	Shoe rakes not installed at entrance of unit	Shoe rakes should be installed at entrance of facility	SNCU	SNCU IC, Immediate
6	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.

Mandatory fields of lacking-

Pump, suction , portable , 220 v and /or pump , suction , foot operated
Surgical instruments (suture/ SET)
Spot lamps
One resident doctor (post MBBS) for the unit in each shift
ROP Screening (in house)
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
Protocol to screen all high risk babies for ROP
Protocol for universal hearing screen of all babies prior to discharge
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A log book with daily shift –wise recording of temperature of NICU is maintained
GROWTH chart used for day to day monitoring
Availability of a refrigerator exclusively for storing feeds/vaccines and drugs in baby care area
Availability of umbilical vein cannulation sets to be used during resuscitation
Is there a written down unit antibiotic policy?
Disinfection & cleaning practices being followed and documented properly (verify logbook)
Does the unit follow the bio medical waste management norms as prescribed by government of India?
ABG analysis
TORCHES Screen
Coagulogram
FACILITY for provision of warmth , oxygenation , suction and resuscitation kit in the ambulance
Availability of the neonatal nursing staff or trained doctors in all transports (documentary proof)

Gaps identified during SNCU Alwar visit

Date of visit: 25/04/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
2	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	District Hospital	PMO, 15 days.
3	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
4	Laminar flow station not in use	Laminar flow should be used at facility.	District Hospital	PMO, 3 days.
5	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.
6	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	PMO, 15 days.
7	Shoe rakes not installed at entrance of unit	Shoe rakes should be installed at entrance of facility	SNCU	SNCU IC, Immediate
8	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.
9	Infantometer not in use.	In charge SNCU may direct all staff to ensure use of infantometer and record detail on case sheet.	SNCU	SNCU IC, Immediate
10	Hand washing practice is not being followed at	SNCU in charge may direct all nursing staff to ensure hand	SNCU	SNCU IC, immediate

	facility by FCC care giver mothers.	washing of all mothers.		

Mandatory fields of lacking-

Every bed should have the space of 100 sq.ft.(this is inclusive of 50 sq. ft of the ancillary areas
Availability of compressed air facility
ONE STETHOSCOPE with each neonatal bed
Surgical instruments (suture/ SET)
Basin, kidney, stainless steel , 825 ml
Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor
Wall clock with second hand
One resident doctor (post MBBS) for the unit in each shift
ROP Screening (in house)
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
A defined process for communication of newborns condition regularly to the parents/ relatives , at least once a day
Protocol for adequate and effective warming for high risk babies during special care/ procedure displayed in the unit and followed
Admission and discharge policy defined and displayed
Protocol to screen all high risk babies for ROP
Protocol for universal hearing screen of all babies prior to discharge
Availability of written protocols manual for FBNC in the unit
Written instruction for trouble shooting of individual equipment
Availability of umbilical vein cannulation sets to be used during resuscitation
Provisions for hand washing instructions displayed in the wash area
Are there written instruction / guidelines for method of equipment cleaning and disinfection

Are there written instruction / guideline for units cleaning, disinfection routines?
Disinfection & cleaning practices being followed and documented properly (verify logbook)
ABG analysis
TORCHES Screen
Coagulogram
FACILITY for provision of warmth , oxygenation , suction and resuscitation kit in the ambulance
Availability of the neonatal nursing staff or trained doctors in all transports (documentary proof)
Points for pulse oximeter and the Infusion pumps in the ambulance

Gaps identified during SNCU H.B.K Jaipur visit

Date of visit: 26/04/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Step down unit not functional	In SNCU premises space available can be used to establish Step down unit.	District	PMO, 15 days.
2	Triaging of newborn is not being followed at unit	Triage can be established by using available space at SNCU.	District Hospital	PMO, 15 days.
3	x- ray machine at SNCU is not in use.	DH X-Ray technician should be directed to take bedside X-Ray.	District Hospital	PMO, 3 days.
4	Laminar flow station not in use	Laminar flow should be used at facility.	District Hospital	PMO, 3 days.
5	Staff and mothers not wearing gowns, mask, cap and PPE.	SNCU in charge may direct all staff to follow protocols at unit.	SNCU	SNCU IC, Immediate.
6	Bio-medical waste management policy not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	PMO, 15 days.
7	Shoe rakes not installed at entrance of unit	Shoe rakes should be installed at entrance of facility	SNCU	SNCU IC, Immediate
8	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.

9	Infantometer not in use.	In charge SNCU may direct all staff to ensure use of infantometer and record detail on case sheet.	SNCU	SNCU IC, Immediate
10	Hand washing practice is not being followed at facility by FCC care giver mothers.	SNCU in charge may direct all nursing staff to ensure hand washing of all mothers.	SNCU	SNCU IC, immediate
11	Gown changing room for SNCU staff and mothers are not being used at facility	Available room can be used as gown changing room	District	SNCU IC, immediate
12	Breast feeding room not established at unit	Available space at SNCU premises can be used to establish breast feeding room	District	PMO, 1 Month

Mandatory fields of lacking-

Every bed should have the space of 100 sq.ft.(this is inclusive of 50 sq. ft of the ancillary areas
Are there designated areas for clean utility and dirty utility
Availability of compressed air facility
Reinforced light of 1000-1500 lux shadow free illumination for examination
Availability of continuous water supply round the clock
ONE STETHOSCOPE with each neonatal bed
Surgical instruments (suture/ SET)
Refrigerator

Spot lamps
Wall clock with second hand
ROP Screening (in house)
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
Admission and discharge policy defined and displayed
Is there a protocol for identifying babies (along with details of their mother) admitted in the unit?
Protocol for level 2 care (CPG Guideline) /FBNC or Equivalent should be retained & followed
A defined policy on equipment maintenance (including the AMC /CMC) where ever indicated
Sepsis screen & blood culture be done on babies prior to starting antibiotics / are labs equipped & focused
Protocol to screen all high risk babies for ROP
Protocol for universal hearing screen of all babies prior to discharge
Availability of written protocols manual for FBNC in the unit
A log book with daily shift –wise recording of temperature of NICU is maintained
Availability of a refrigerator exclusively for storing feeds/vaccines and drugs in baby care area
Availability of umbilical vein cannulation sets to be used during resuscitation
Availability of a dedicated wash area with gown changing area , prior to entry into the NICU
Presence of at least one wash basin for every baby care area (room) shower tap (elbow or foot operated)

Gaps identified during SNCU Chittaurgarh visit

Date of visit: 04/05/2017

Gaps Identified-

S.No	Gap identified	Probable suggestion	Level	Responsibility and timeline
1	Bio-medical waste management policy Guideline 2016 not being followed at facility	BMW management 2016 protocols should be followed at unit.	SNCU	PMO, 15 days.
2	Stethoscope not available every radiant warmer in SNCU	In charge SNCU may direct nursing in charge to ensure availability of stethoscope in every radiant warmer in SNCU	SNCU	SNCU IC, Immediate
3	ABG machine not is use due to unavailability of reagents.	Reagents should be made available.	District	PMO, 15 days.

Mandatory fields of lacking-

Centrifuge, hematocrit, bench-top , up to 1200 rpm including rotor
One Resident doctor / junior consultant with MD/DNB/DCH (MIN . 1.5 YR. Experience post – DCH)[non-rotational basis
One resident doctor (post MBBS) for the unit in each shift
Committed breastfeeding policy being followed & displayed 10 steps of Baby Friendly Hospital initiative
A log book for KMC to be maintained in unit (with documentation of mothers &baby details)
A log book with daily shift –wise recording of temperature of NICU is maintained

Availability of umbilical vein cannulation sets to be used during resuscitation
Availability of the neonatal nursing staff or trained doctors in all transports (documentary proof)
Points for pulse oximeter and the Infusion pumps in the ambulance

Annexure-3

G:\NNFI ACCREDITATION GUIDELINE TOOLS 2.xlsx

References

- Facility based newborn care operational guide 2011, MOHFW.
- Facility based care of sick neonate at referral health facility, UNICEF
- National neonatology forum of India website www.nnfi.org.