

# Assessment of Facility Based Newborn Care Units in a Northern State of India

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## ABSTRACT

**Background:** In 2011, in an effort to increase focus on newborn care and survival, the Ministry of Health and Family Welfare, Government of India, formally introduced the three-tier Facility Based Newborn Care (FBNC) system at various levels of health facilities. This study evaluates the functional status of newborn care facilities in a northern state of India. **Materials and Methods:** A cross sectional, mixed methods, descriptive study was conducted during the months of May to July 2021. Six districts were selected for the study representing each of the six administrative divisions of the state. A total of 31 facility based newborn care units were assessed, including six Special Newborn Care Units (SNCU), six Newborn Stabilization Units (NBSU) and 19 Newborn Care Corners (NBCC). Human resources availability and training, infrastructure, equipment and supplies, adherence to standard operating procedures, infection control protocols and regular maintenance of records were assessed. Overall functional status was ascertained using five criteria: Equipment, Human resources, Protocol, Infrastructure and Recordkeeping. **Results:** Though the prescribed strength of manpower was available at almost all facilities, most reported that they had not received specific on-the-job training on newborn care. Infrastructure and biomedical waste disposal facility was found to be adequate at all levels. However, the complete set of prescribed essential neonatal care equipment was not available and functional in any of the NBSUs and in a very small number of SNCUs and NBCCs. Most of the SNCUs and NBCCs were found to be partially functional according to the set criteria. **Conclusion:** Adequate functionality of NBSUs needs to be ensured in order to maximize the benefits of the three-tier system of FBNC.

**Keywords:** Facility based newborn care, Newborn care units, Health systems framework, Assessment, Neonatal mortality.

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## INTRODUCTION

Though the Infant Mortality Rate (IMR) of India has reduced steadily over the years from 68 per 1000 live births in 2009 to 28 per 1000 live births in 2020, a decrease by almost 36% in the last 10 years,<sup>1</sup> the decrease in Neonatal Mortality Rate (NMR) has been slower during the same period from 33 per 1000 live births to 20 per 1000 live births.<sup>2</sup> Neonatal mortality rate contributes to almost two-thirds of infant mortality and half of all deaths of children under five years of age. The '2030 Agenda for Sustainable Development' is to reduce the neonatal mortality rate to 12 per 1000 livebirths and Under-5 Mortality Rate (U5MR) to 25 per 1000 live births, by the year 2030.<sup>3</sup> India has signed up to this plan, and though at the present rate of progress is on track, major challenges still remain.<sup>4</sup> Nearly 65% of all under five child deaths

occur in the neonatal period, and 80% of neonatal deaths occur in the first week of birth.<sup>5</sup>

In 2003, in Purulia, West Bengal, the concept of using a 12-bed Level II facility for care of sick newborns was piloted to try and reduce the NMR. The facility (Special Newborn Care Unit or SNCU) allowed free access for mothers and had provision for newborn resuscitation, close-monitoring devices, warmers, medicines including intravenous fluid administration with infusion pumps, central oxygen, and exchange transfusion besides portable radiograms, and laboratory service but with no provision for mechanical ventilation or neonatal surgery. Doctors and nursing staff were provided training in newborn care. Within a month of the SNCU becoming functional, NMR in the district had reduced to 44 from a baseline of 65 per 1000 live births.<sup>6</sup> The authors suggested that further improvement was possible if delivery units had trained staff to resuscitate and stabilize babies (Stabilization units), improved transport services and better home-based neonatal care.<sup>7</sup>

In 2011, in an effort to increase focus on newborn care and survival, the Ministry of Health and Family Welfare (MOHFW),



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Government of India (GOI), formally introduced Facility Based Newborn Care (FBNC) at various levels of health facilities to provide essential newborn care as well as care of sick newborns. FBNC aims at improving neonatal survival using a risk categorization approach for newborns followed by management at the appropriate level.<sup>8</sup> The three levels of newborn care facilities under FBNC are the Newborn Care Corners (NBCCs) at Labour rooms of all facilities, Newborn Stabilization Units (NBSUs) for care of sick newborns at First Referral Units and Special Newborn Care Units (SNCUs) for care of sick newborns at tertiary care facilities. This model has now been scaled up, nationally. According to the annual report 2019-20, MOHFW, GOI, 844 SNCUs, 2421 NBSUs and 20336 NBCCs, for resuscitation after delivery are functional in India, out of which 22 SNCUs, 66 NBSUs and 318 NBCCs are located in state of Haryana.<sup>5</sup>

Pilot studies are conducted in idealized conditions, with close supervision of the oversight bodies. This kind of close monitoring helps achieve the dramatic outcomes seen in the initial studies. They are not always practical to provide in the scale-up phase. Planners and health bureaucrats who have to budget scarce health care resources, need to be reassured about benefits from more 'real-world' conditions, available during the early scale-up phase.

The present study looks at data from SNCUs, NBSUs and NBCCs in 6 districts of Haryana, representing all 6 administrative divisions of the state. We examine the facilities for their functionality including infrastructure, human resources, equipment, supplies, protocols, financing and service delivery against the requirement stated by the operational guidelines on Facility Based Newborn Care issued by the MOHFW, GOI, and present the results in this paper.

## MATERIALS AND METHODS

A cross sectional, mixed methods, descriptive study involving participant interview, direct observation and review of records was conducted in newborn care facilities of Haryana, India during the months of May to July 2021. Haryana comprises 22 districts divided into six major administrative divisions. Six districts were selected for the study representing each of the six administrative divisions of the state. The following facilities were selected for assessment:

SNCUs, NBSUs and NBCCs at District Hospitals of the six selected districts.

NBSUs and NBCCs at one randomly selected Community Health Centers (First Referral Units) from each district.

NBCCs at one randomly selected Primary Health Centre in the ambit of the selected Community Health Centers.

Therefore, a total of 31 facility based newborn care units were assessed in the present study, which included 1 SNCU, 1 NBSU

and 3 NBCCs from each major administrative division (except one division where 4 NBCCs were assessed).

Facility assessment checklists and interview schedules were developed separately for SNCUs, NBSUs and NBCCs based on the Operational Guidelines on Facility Based Newborn Care, Ministry of Health and Family Welfare, Government of India, 2011.<sup>8</sup> The parameters for assessment included human resources availability and training, infrastructure, equipment and supplies, adherence to standard operating procedures, infection control protocols and regular maintenance of records. Information related to the selected parameters was obtained through direct observation and staff interview. The facility-in-charge and/or medical officer and labor room staff were interviewed at each selected facility for information related to training, adherence to standard operating procedures and service delivery. The facilities were observed for infrastructure, availability and functionality of equipment, availability of supplies and maintenance of records.

All data was entered into a database and analyzed using Microsoft Excel. Analysis was done in two parts; first, the functionality of NBCCs at three levels of service delivery (primary, secondary and tertiary level), and second, the functionality of SNCUs, NBSUs and NBCCs was assessed and compared. This paper discusses four main assessment components: human resources for health, availability of functional equipment and essential drugs, infrastructure and infection control protocol. Qualitative data was expressed in frequencies and percentages.

Ethical clearance for the study was obtained from the Student Ethics Review Board of International Institute of Health Management Research (IIHMR) Delhi. The study was approved by the Department of Health and Family Welfare Haryana. Administrative approvals were taken from the relevant authorities before conducting the study. Research ethics principle with regard to informed consent, confidentiality of data and individual's privacy were strictly followed.

## RESULTS

We assessed NBCCs at primary, secondary and tertiary level facilities along with SNCUs at tertiary level facilities and NBSUs at secondary level facilities in the six selected districts of Haryana, India (Yamuna Nagar, Kaithal, Jind, Rohtak, Rewari and Palwal). Distribution of newborn care facilities was as follows: 6 NBCCs located in PHCs, 7 NBCCs located in CHCs and 6 NBCCs located in district hospitals along with 6 SNCUs and 6 NBSUs from district hospitals and CHCs respectively. This sums up to a total of 6 SNCUs, 6 NBSUs and 19 NBCCs.

Table 1 depicts the functional status of NBCCs at primary, secondary and tertiary level facilities with respect to 16 indicators. The number of facilities found to be compliant with the Facility Based Newborn Care (FBNC) guidelines of the Ministry of Health and Family Welfare, Government of India have been enumerated.

NBCCs were seen to be best performing at the secondary care level with an average of 73.3% facilities being compliant to MOHFW guidelines, closely followed by tertiary level at 72.8%. In contrast, an average of 62.5% NBCCs at PHCs were found to be compliant.

The comparison between NBCCs, NBSUs and SNCUs is summarized in Table 2. The areas where all three types of facilities

performed well (>80% facilities were compliant) were availability of prescribed number of Medical Officers, 24x7 water supply and biomedical waste disposal facility.

Among prescribed equipment in NBCCs, only weighing scale and sterile equipment for clean cord cut and tie were found to be present at all centers. All essential drugs were available in sufficient amount at District Hospital NBCCs but not in FRU or

**Table 1: Assessment of Newborn Care Corners (NBCCs) at primary, secondary and tertiary care facilities.**

Domain	Indicator	Compliance at Primary level (PHC) [n=6] n (%)	Compliance at Secondary level (FRU) [n=7] n (%)	Compliance at Tertiary level (DH) [n=6] n (%)	Overall compliance [n=19] n (%)
Manpower	Prescribed number of Medical Officers available.	5 (83%)	7 (100%)	6 (100%)	18 (95%)
	Prescribed number of Staff Nurses available.	6 (100%)	7 (100%)	6 (100%)	19 (100%)
Training	All Medical Officers trained under NSSK.	5 (83%)	7 (100%)	6 (100%)	18 (95%)
	All Staff Nurses trained under NSSK.	6 (100%)	7 (100%)	6 (100%)	19 (100%)
	All Medical Officers trained in KMC.	3 (50%)	4 (57%)	1 (17%)	8 (42%)
	All Staff Nurses trained in KMC.	5 (83%)	7 (100%)	2 (33%)	14 (74%)
Equipment	Complete set of prescribed equipment available and functional.	4 (67%)	4 (57%)	5 (83%)	13 (68%)
Drugs	Complete set of prescribed drugs available.	4 (67%)	5 (71%)	6 (100%)	15 (79%)
Infrastructure	Prescribed area (sq. Ft.) available.	6 (100%)	7 (100%)	6 (100%)	19 (100%)
	Power supply (24x7) available.	4 (67%)	5 (71%)	6 (100%)	15 (79%)
	Water supply (24x7) available.	4 (67%)	7 (100%)	6 (100%)	17 (90%)
	Toilets available for use by mothers.	4 (67%)	6 (86%)	6 (100%)	16 (84%)
	Handwashing station available (functional).	3 (50%)	3 (43%)	5 (83%)	11 (58%)
Infection control protocol	BMW disposal facility available.	5 (83%)	7 (100%)	6 (100%)	18 (95%)
	Cleaning of facility (once every shift) done.	1 (17%)	2 (29%)	4 (67%)	7 (37%)
	Cleaning of linen (autoclaving) done.	1 (17%)	2 (29%)	2 (33%)	5 (26%)

**Table 2: Assessment of Special Newborn Care Unit (SNCU), Newborn Stabilization Unit (NBSU) and Newborn Care Corner (NBCC).**

Domain	Indicator	Compliance of SNCUs; [n=6] n (%)	Compliance of NBSUs; [n=6] n (%)	Compliance of NBCCs; [n=19] n (%)	Overall compliance [n=31] n (%)
Manpower	Prescribed number of Medical Officers/ doctors available.	5 (83%)	5 (83%)	18 (95%)	28 (90%)
	Prescribed number of Staff Nurses available.	2 (33%)	4 (67%)	19 (100%)	25 (81%)
Training	All Medical Officers/doctors trained under NSSK.	0	3 (50%)	5 (26%)	8 (26%)
	All Staff Nurses trained under NSSK.	1 (17%)	3 (50%)	12 (63%)	16 (52%)
	All Medical Officers/doctors trained in KMC.	1 (17%)	3 (50%)	8 (42%)	12 (39%)
	All Staff Nurses trained in KMC.	5 (83%)	4 (67%)	14 (74%)	23 (74%)
	All Medical Officers/doctors trained in NRP.	0	0	0	0
	All Staff Nurses trained in NRP.	0	0	0	0
	All Medical Officers/doctors trained in FBNC.	1 (17%)	NA	NA	-
	All Staff Nurses trained in FBNC.	3 (50%)	NA	NA	-
Equipment	Complete set of prescribed equipment available.	1 (17%)	0	13 (68%)	14 (45%)
Drugs	Complete set of prescribed drugs available.	2 (33%)	4 (67%)	15 (79%)	21 (68%)
Infrastructure	Prescribed area (sq. Ft.) available.	0	3 (50%)	19 (100%)	22 (71%)
	Power supply (24x7) available.	1 (17%)	5 (83%)	15 (79%)	21 (68%)
	Water supply (24x7) available.	6 (100%)	6 (100%)	17 (89%)	29 (94%)
	Toilets available for use by mothers.	4 (67%)	3 (50%)	16 (84%)	23 (74%)
	Handwashing station available (functional).	4 (67%)	1 (17%)	11 (58%)	16 (52%)
Infection control protocol	BMW disposal facility available.	6 (100%)	6 (100%)	18 (95%)	30 (97%)
	Cleaning of facility (per shift).	2 (33%)	2 (33%)	7 (37%)	11 (36%)
	Cleaning of linen (daily).	1 (17%)	1 (17%)	5 (26%)	7 (23%)

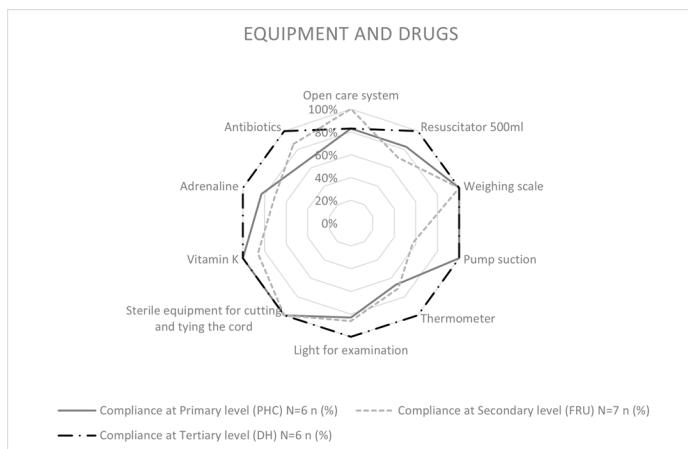
PHC = Primary Health Centre; FRU = First Referral Unit; DH = District Hospital; NSSK = Navjat Shishu Suraksha Karyakram; KMC = Kangaroo Mother Care; NRP = Neonatal Resuscitation Protocol; FBNC = Facility Based Newborn Care; BMW = Biomedical waste.

PHCs (Figure 1). None of the prescribed drugs or equipment was uniformly found in all NBSUs. Equipment and drugs found in 5 or more SNCUs included light for examination, hand operated newborn resuscitator, Vitamin K, Adrenaline and Amikacin.

All facilities were assessed for overall functional status using five criteria: Equipment, Human resources, Protocol, Infrastructure and Recordkeeping (Table 3). None of the newborn care facilities

were found to be fully functional. The SNCUs and majority of NBCCs were partially functional whereas majority of NBSUs were non-functional (Table 4).

Between 19 and 36% of admissions in SNCU were due to low birth weight, and 4 to 19% admissions were referred from another facility. Most deaths in the SNCU were seen in premature and low birth weight babies (Table 5).



**Figure 1:** Availability of functional equipment and drugs at New-born Care Corners (NBCCs) at primary, secondary and tertiary health care facilities.

PHC = Primary Health Centre; FRU = First Referral Unit; DH = District Hospital.

**Table 3: Functional status of newborn care facilities.**

Functional Status	Criteria
Fully functional (fulfilling all the five criteria)	(1) Equipment: All equipment is functional; (2) Human resources: All staff are trained and skilled; (3) Protocol: Asepsis maintained, and protocols followed strictly; (4) Infrastructure: As per prescribed norms; (5) Records and reports: Recordkeeping was good, and report sent to State Health Society regularly.
Partially functional	Fulfilling at least one criterion but including Human resources.
Non-functional	Not fulfilling any of these criteria.

**Table 4: Categorization of SNCUs, NBSUs and NBCCs according to functional status.**

Functional Status	SNCUs (n=6)	NBSUs (n=6)	NBCCs (n=19)			
			NBCCs at Primary level (n=6)	NBCCs at Secondary level (n=7)	NBCCs at Tertiary level (n=6)	Total NBCCs (n=19)
Fully functional	0	0	0	0	0	0
Partially functional	6	2	3	4	5	12
Non-functional	0	4	3	3	1	7

SNCU = Special Newborn Care Unit; NBSU = Newborn Stabilization Unit; NBCC = Newborn Care Corner.

**Table 5: Admissions and deaths in Special Newborn Care Units (SNCUs) 2018-2021.**

Indicators	SNCU 1	SNCU 2	SNCU 3	SNCU 4	SNCU 5	SNCU 6
% SNCU admissions for low birth weight.	34.4	36.2	30.5	19.71	28.43	27.07
% admissions who left against medical advice.	1.78	1.94	1.68	0.58	2.84	1.48
% admissions referred from another facility.	14.5	19.31	12.97	5.15	8.51	4.48
% admitted babies who died while in SNCU.	0.65	2.38	0.48	0.06	0.12	0.35
% babies who died by cause – Sepsis.	0.065	0	0	0	0	0.17
% babies who died by cause – Asphyxia.	0.065	0.17	0.16	0	0	0.044
% babies who died by cause – Prematurity/ Low birth weight.	0.23	0.097	0.038	0	0.017	0.006

Note: Denominator for all estimates = total number of SNCU admissions in the study period; SNCU = Special Newborn Care Unit.



## DISCUSSION

In Haryana the number of SNCUs has increased due to the construction of facilities in district hospitals and medical colleges, but reduction in child morbidity and mortality is dependent on the availability of a comprehensive variety of therapies. Among them, facility-based treatments have a strong impact, particularly in India. The three-tier structure of FBNC saves large unnecessary infant deaths, and maximal child mortality reduction can be achieved if it is linked with community-based interventions. Improvements in neonatal health are targeted at providing a thorough continuum of care from the hospital to the community through context-specific interventions.<sup>9</sup> It has been estimated that in Purulia, where first SNCU was set up, at least 270 deaths could be averted in the district hospital alone which is approximately 8% of the estimated 3464 neonatal deaths per year in the district.

Our assessment of selected newborn care facilities in the state of Haryana, India, showed that newborn care corners were best performing at the secondary/first referral unit level, though newborn stabilization units (secondary level newborn care facilities) were not optimally functional. Most facilities had the required number of Medical Officers and Staff Nurses. However, many of the doctors and nurses had not received MOHFW mandated training on neonatal resuscitation protocol and kangaroo mother care under the Navjaat Shishu Suraksha Karyakram (NSSK) programme. About half of the facilities had the complete set of essential medicines and equipment available and functional. on a comprehensive scale of functionality, most facilities were found to be partially functional.

According to the WHO health systems framework, human resources for health is one of the key components of the health systems building blocks. Human resources are one of three primary components of the health system, the other two being physical capital and consumables. The system's performance and the benefits it may provide are heavily reliant on the knowledge, abilities, and motivation of those in charge of providing health care. This includes not just the availability of health care staff in recommended numbers but also focuses on the required competency and skill mix in order to provide quality services. MOHFW recommends one Medical Officer and one Staff Nurses designated to provide care in NBCC, one Medical Officer and four Staff Nurses per NBSU, and three to four doctors and three Staff Nurses (per shift) in SNCU. In our study, the prescribed numbers of Medical Officers were available in 5 out of 6 NBCC in primary care level facilities as opposed to all NBCC in secondary and tertiary level facilities. However, there was no shortage with respect to Staff Nurses in any of the 19 NBCCs studied. Neither all NBSUs nor all SNCUs had the required number of doctors posted to the facility. Shortage of human resources had time and again raised many questions on health care delivery system. There lies a huge gap between sanctioned posts and filled posts of medical

officers especially in rural settings. India has been identified as one of the 57 countries with critical shortage of health workers.<sup>10</sup> Addressing the issue is important because the health system of countries with a shortage of health workforce are unable to offer even the basic health services to their population. Empirical evidence indicates that an adequate size of health workforce is essential to achieve a minimum level of health indicators.<sup>11</sup> Studies from India have shown a shortage of human resources for health in the country, especially in rural areas. Despite many efforts in India to address the shortage of doctors in rural public health centers, India has largely failed to attract and retain Medical Officers in rural health centers and the shortage of doctors has been a matter of concern for many years. India targets to achieve a doctor-population ratio of at least 1:1400 (WHO norm 1:1000) and nurse population ratio of at least 1:500 (WHO norm 1:400) by 2022-23.<sup>12</sup>

With respect to training in essential newborn care, MOHFW recommends that all Medical Officers and Staff Nurses should undergo training under NSSK, which is a programme aimed to train health personnel in basic newborn care and resuscitation at every delivery point. In addition, health care providers at NBSU are recommended to be trained in facility based integrated management of neonatal and childhood illnesses (F-IMNCI) and in SNCU to undergo further training in FBNC. It was observed that the training status was poor at all newborn care facilities and in all levels of health care. Most newborn deaths are preventable by a variety of measures. Evidence from many poor nations suggests that training spending can mean the difference between success and failure in the effort to save lives. The outcomes of our current study point to the need for the establishment of comprehensive training programmes such as Nutritional Rehabilitation Programme and FBNC to improve newborn resuscitation and care. A study from Gujarat found that among large population of nurses and doctors which undergo training, very few are pediatrician.<sup>13</sup>

As there are no legal binding by any authority to undergo NSSK before conducting delivery, this gap will continue if we do not take some serious measures. A study by Sachan *et al.* aligns with our findings and confirms that written knowledge of participants is improved significantly with trainings and there is a need to include performance assessment of skill and mentoring visit to the facility to monitor the retention of knowledge and skill as an integral part of the FBNC programme.<sup>14</sup>

Quality service provision requires the availability and functionality of essential equipment and continuous supply of essential medicines. The complete set of prescribed essential neonatal care equipment was available and functional in less than half of the facilities assessed. NBCCs fared comparatively better than other facilities with respect to drug availability. Availability of functional infrastructure is one important aspect to improve quality of service delivery. This includes functional

prescribed floor area designated to the newborn care facility, and availability of power supply, water supply, functional toilets and functional handwashing station. All the NBCCs, some of the NBSUs but none of the SNCUs complied to required floor space area. Availability of 24x7 power supply, functional toilets and functional handwashing stations were a cause of concern in all three types of newborn care facilities. Previous research has reported that the breakdown time varied from one week to over six months for essential equipment across the units. In many units, by the time the SCNU was completely taken over by the Government, the warranty period of the equipment had expired. The authors highlight the attention for the need of Annual Maintenance Contract for preserving the functionality of neonatal care equipment.<sup>15,16</sup>

Infection control protocol is one of the most important standard operating procedures in any healthcare facility, especially in newborn care settings. Biomedical waste management procedures were followed in all facilities in our study. However, cleaning of facility per shift was not observed in most facilities. As per the report published by the Haryana State Health Resource Centre in 80% of the SNCUs, periodic bacteriological surveillance was not done by infection control committee and 26% of SNCUs did not have adequate availability of coloured biomedical waste bins 26% SNCUs did not have adequate availability of coloured biomedical waste bins.<sup>17</sup>

Our study is the first of its kind, which has assessed facility based newborn care across primary, secondary and tertiary levels in a representative sample across the state. The research highlights the variability in quality and functional status of newborn care facilities, especially the sub-optimal functioning at secondary level. Though the three-tier newborn care facility program in India is a successful model which can substantially reduce neonatal deaths in the country, quality of services needs to be maintained across facilities to see an improvement in neonatal health status.

Despite being a novel study, our research is not without its limitations. We could not undertake an assessment of the processes including adherence to neonatal protocols, which could have increased the scope of our assessment. Secondly, data was not available regarding neonatal outcomes in NBSUs and NBCCs thereby restricting outcome analysis to only tertiary level SNCUs. Future research focusing on these aspects is recommended.

## CONCLUSION

The existing newborn care facilities need to be strengthened to ensure that newborn care services are delivered as envisioned, which can then contribute to meeting the SDG targets of reducing neonatal mortality. Shortage of human resources, training of available staff, and maintenance and repair of equipment are some issues which need to be resolved to improve functionality

of existing facilities. Strong linkages between SNCU, NBSU and NBCC can ensure timely referral which is crucial for maintaining continuum of care and improving neonatal outcomes.

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## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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## AUTHOR CONTRIBUTION

SKD and RB conceptualized the study, GP performed data collection, GP and JKR analysis, RB, GP and JKR prepared the manuscript, SKD and RB gave final approval for the manuscript version submitted. All authors agree to be accountable for all aspects of the work and in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

## ABBREVIATIONS

**BMW:** Biomedical Waste; **DH:** District Hospital; **FBNC:** Facility Based Newborn Care; **F-IMNCI:** Facility-based Integrated Management of Neonatal and Childhood Illnesses; **FRU:** First Referral Unit; **GOI:** Government of India; **IIHMR:** International Institute of Health Management Research Delhi; **IMR:** Infant Mortality Rate; **KMC:** Kangaroo Mother Care; **MOHFW:** Ministry of Health & Family Welfare; **NBCC:** Newborn Care Corner; **NBSU:** Newborn Stabilization Unit; **NMR:** Neonatal Mortality Rate; **NRP:** Neonatal Resuscitation Protocol; **NSSK:** Navjat Shishu Suraksha Karyakram; **PHC:** Primary Health Centre; **SDG:** Sustainable Development Goals; **SNCU:** Special Newborn Care Unit; **U5MR:** Under-five Mortality Rate; **WHO:** World Health Organization.

## SUMMARY

An assessment of 31 Facility Based Newborn Care units across primary, secondary and tertiary levels of health care was conducted in Haryana, India. The assessment revealed adequate human resource availability, infrastructure and infection control protocols in the facilities, but training and availability of medicines and equipment was found to be lacking. Most of the facilities were partially functional according to the operational assessment criteria in the study.

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