Regional Resource Training Centre

Mentoring Model Programme - Strengthening First Referral Units in Madhya Pradesh

REGIONAL RESOURCE Training Centre

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ABBREVIATIONS

AC	Aortic Compression
ACS	Additional Chief Secretary
ANC	Antenatal Care
APH	Antepartum Haemorrhage
AV	Audio-Visual
BEmONC	Basic Emergency Obstetric and Newborn Care
BF	Breastfeeding
BMC	Bimanual Compression
CDR	Child Death Review
CEmONC	Comprehensive Emergency Obstetric and Newborn Care
CH	Civil Hospital
CHC	Community Health Centre
CME	Continued Medical Education
CoE	Centre of Excellence
DH	District Hospital
DHO	District Health Officer
DME	Directorate of Medical Education
EmONC	Emergency Obstetric and Newborn Care
ENBC	Essential Newborn Care
FRU	First Referral Unit
FY	Financial Year
GMC	Gandhi Medical College
GO	Government Order
GoI	Government of India
GoMP	Government of Madhya Pradesh
GRMC	Gajra Raja Medical College
HoD	Head of Department
HPD	Hypertensive Disorders of Pregnancy
HRP	High Risk Pregnancy
IHAT	India Health Action Trust
KMC	Kangaroo Mother Care
LBW	Low Birth Weight
LSAS	Life Saving Anaesthesia Skills
MCH	Maternal Child Health
MD	Mission Director
MDSR	Maternal Death and Surveillance Response
MgSO4	Magnesium Sulphate
MMR	Maternal Mortality Ratio
MO	Medical Officer
MoU	Memorandum of Understanding
MP	Madhya Pradesh
MRP	Manual Removal of Placenta

NBR	Newborn Resuscitation
NHM	National Health Mission
ObGy	Obstetrics & Gynaecology
OSCE	Objective Structured Clinical Evaluation
PEDS	Paediatrician
PG MO	Post Graduate Medical Officer
PPH	Postpartum Haemorrhage
PROM	Premature Rupture of Membranes
RMNCH	Reproductive, Maternal, Newborn and Child Health
RoP	Removal of Retained Products
RP	Retained Placenta
SDG	Sustainable Development Goal

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MONITORING AND MANAGEMENT OF LABOUR

BACKGROUND

Madhya Pradesh (MP), with a population exceeding 72 million[1] has the highest maternal mortality ratio and neonatal mortality rate among India's larger states. The current MMR is 142[3] per 100,000 live births) and NMR is 29[2] per 1000 live births These rates translate to approximately eight maternal and 180 neonatal deaths each day. Notably, the state's significant tribal population (21%) is disproportionately affected by these adverse outcomes[4].

India is committed to reducing maternal and neonatal mortality to <70 per 100000 live births and <12 per 1000 live births, respectively, by 2030. In order to achieve the Sustainable Development Goals (SDGs), it is essential that pregnant women, especially those with a high risk pregnancy (HRP), have access to both basic and comprehensive emergency obstetric and newborn care (BEmONC/ CEmONC) services.

CEmONC services involve the availability of all nine signal functions at a health facility, including the capacity to perform caesarean sections (C-sections) and provide blood transfusion services (see Table 1).

Table 1: Signal Functions in BEmONC and CEmONC Facilities

BEmONC Services	CEmONC Services
	All signal functions 1-7 (BEmONC Services). Plus:
1. Administer parenteral antibiotics	8. Perform surgery (eg., Caesarean Section)
2. Administer uterotonic drugs (i.e., parenteral oxytocin)	9. Perform Blood Transfusion
3. Administer parenteral anti-convulsants for pre-eclampsia and eclampsia (i.e. magnesium sulphate)	
4. Manual removal of placenta	
5. Removal of retained products (eg., Manual vacuum extraction, dilatation & curettage)	
6. Perform assisted vaginal delivery (eg., Vacuum extraction, forceps delivery)	
7. Perform basic neonatal resuscitation (eg., with bag & mask)	
A BEmONC Facility is the one in which all functions 1-7 are performed.	A CEmONC facility is one in which all functions 1-9 are performed.

[1]*Census of India 2021. Ministry of Home Affairs, Government of India*

[2]*Source: NFHS-5*

[3]*Source: Sample Registration System (SRS), 2021-2023*

[4]*IHAT: Maternal and Neonatal Health in Madhya Pradesh, https://www.ihat.in/wp-content/uploads/2021/09/The-MNH-Brief-Trends-Insights-Scope.pdf*

Every district hospital (DH) and designated First Referral Unit (FRU) is expected to be fully equipped to deliver all nine CEmONC signal functions. Operationalising FRU requires the assured availability of the following key components:

1

Specialist human resources (including Obstetrician + Anaesthetist + Paediatrician)

2

An operation theatre equipped with all essential instruments, equipment and medical supplies

3

Blood transfusion services with access to a licensed blood bank or blood storage unit with adequate infrastructure, trained human resources, and necessary approvals (valid licenses)

4

Newborn care facilities such as Sick Newborn Care Units (SNCUs) or Newborn Stabilisation Units (NBSUs), depending on case load and facility level

While the availability of CEmONC functions enhances physical access to emergency care, improving utilisation of services depends equally on the quality of maternal and newborn care. Enhancing quality of care requires (i) regular mentorship and ongoing training in updated clinical protocols, procedures, and skills; (ii) a responsive and well-coordinated emergency medical transportation system and; (iii) an effective and streamlined referral mechanism to ensure timely and appropriate care.

The Need

Madhya Pradesh requires 177 FRUs (one per 500,000 population) to effectively manage maternal and newborn complications. As of 2023, 148 health facilities across 53 districts in the state, [DH, Civil Hospital (CH), Community Health Centre (CHC)] have been designated as FRUs . However, only 80 of these FRUs are currently functional, based on established criteria (see Table 1), and are capable of providing CEmONC services.

The current number of FRUs are insufficient to meet the needs of the estimated 300,000 women annually, who are expected to experience maternal or newborn complications and require timely, quality care.

A positive development has been the recognition of a specialist cadre in 2023, which has improved the overall availability of specialists (obstetricians, paediatricians, and anaesthetists) from just 20% to >50%. However, this gain is offset by significant urban-rural disparities, as most specialists prefer to be based in urban areas, leaving rural and tribal regions critically underserved. Efforts are ongoing to recruit and deploy specialists to fill remaining vacancies and ensure more equitable distribution across the state.

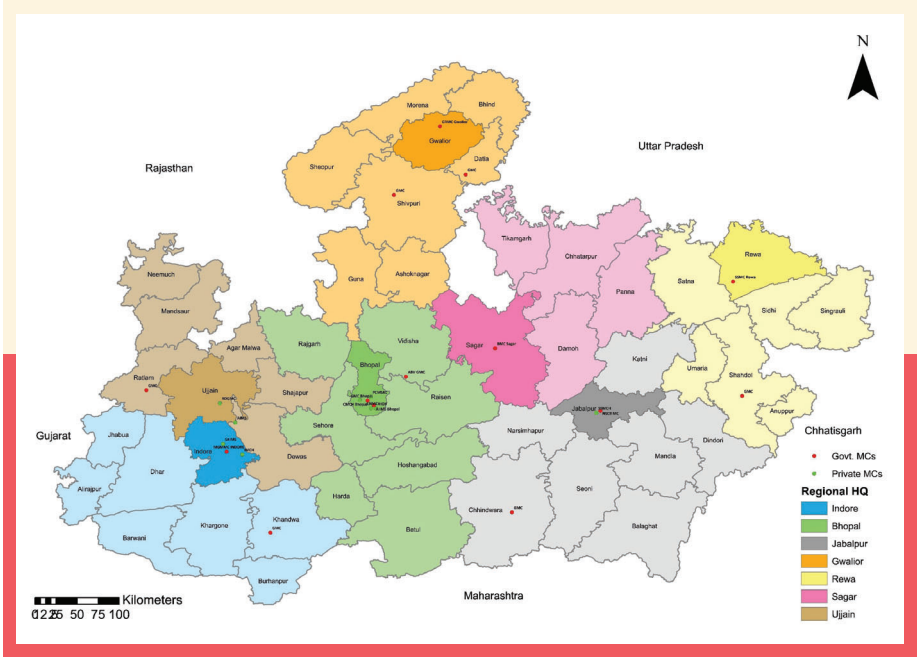
This situation underscores the urgent need to accelerate the operationalisation of additional FRUs and to strengthen the quality of CEmONC services within existing facilities across the state.

[5]*Maternal and Newborn Health (MNH) toolkit, Ministry of Health and Family Welfare, Government of India (GoI), 2013 (http://www.dkhfw.in/wp-content/uploads/2017/07/Maternal_Newborn_Health_Toolkit.pdf)*

REGIONAL RESOURCE TRAINING CENTRE (MENTORING MODEL) IN MADHYA PRADESH

The Government of Madhya Pradesh (GoMP) invited IHAT (Madhya Pradesh Innovation Hub (MPIH) to demonstrate the mentoring model to demonstrate RRTC Programme implemented in Uttar Pradesh. IHAT with strategic support from the Institute for Global Public Health, University of Manitoba (IGPH-UoM), works in Madhya Pradesh under the framework of the Madhya Pradesh Innovation Hub instituted under a memorandum of understanding signed with the GoMP. The MPIH supports the GoMP to identify public health challenges and co-design interventions to improve population health outcomes. IHAT launched the RRTC (Mentoring Model) Programme in 2022, aims to strengthen the competencies of healthcare teams including doctors and nurses at FRUs, track their functional status, and facilitate their activation.

Medical Colleges (Govt & Private) in Madhya Pradesh



As of 2025, the RRTC initiative has been incorporated into the GoMP's Project Implementation Plan (PIP), expanding its reach from three to six medical colleges across six divisions of the state.

In the first phase, RRTCs were established at three medical colleges namely Gandhi Medical College (GMC) Bhopal, Mahatma Gandhi Memorial Medical College (MGM MC), Indore & Netaji Subash Chandra Bose Medical College (NSCB MC), Jabalpur, to serve as mentoring hubs for FRUs across 24 districts within three divisions. In the second phase, the initiative is extended to three more medical colleges, namely, Shyam Shah Medical College (SSMC) Rewa, Gajra Raja Medical College (GRMC) Gwalior, and Bundelkhand Medical College (BMC) Sagar.

From the second phase, all six Medical Colleges are being developed as **Centre of Excellence (CoE)**. Each medical college, acting as CoE, is responsible for strengthening FRUs within its assigned region by helping activate specific CEmONC signal functions and improve the overall quality of BEmONC and CEmONC services.

Medical college faculty provide both classroom training and onsite mentoring to teams of specialists, medical officers, and nursing officers posted at FRUs. Mentoring focuses on (i) early identification, (ii) on-site management of maternal and newborn complications, (iii) pre-referral stabilisation, and (iv) timely referral to higher facilities when needed.

The effectiveness of RRTC model is assessed using Objective Structured Clinical Examination (OSCE) scores, to track skill improvements in trained service providers; and Facility scores which evaluate infrastructure, equipment and service readiness and referral patterns to and from the FRUs.

PROCESS FOLLOWED FOR ESTABLISHING RRTC (MENTORING MODEL) IN MADHYA PRADESH

1 Presentation to the Government of Madhya Pradesh

IHAT presented the outcomes and learnings from the RRTC model implemented in Uttar Pradesh at the Conclave on 'Driving Towards Impact on Health and Nutrition', held in MP. The presentation highlighted the model's effectiveness in strengthening FRUs to improve maternal and newborn health outcomes. Following this, the GoMP requested IHAT to replicate the model in the state.

Date: June, 2022

2 Government Approval

A concept note outlining the proposed programme was jointly developed by the NHM Deputy Directors (Maternal and Child Health) and the MPIH team. This was presented to Mission Director-National Health Mission (MD- NHM), Commissioner Medical Education (CME) - Directorate of Medical Education (DME) and Additional Chief Secretary (ACS), Government of Madhya Pradesh. The proposal was reviewed and approved for implementation.

Date: September, 2022

3 Pre-Planning Meeting with Medical Colleges

After receiving government approval, a pre-planning meeting was held with the faculty of the three selected medical colleges. Heads of Departments (Obstetrics and Gynaecology, Paediatrics, and Community Medicine) and other key faculty participated, reviewed the programme design, and expressed readiness to implement the programme in the designated geographies.

Date: November, 2022

4 Assessment of Skills Labs in Medical Colleges

IHAT conducted assessments of the existing skills lab in the Department of Obstetrics and Gynaecology at the three medical colleges. The evaluation focused on identifying the availability and requirements for training and evaluating participants. Skills lab assessment included the availability of mannequins, infrastructure, audiovisual aids, furniture, and other training resources required for simulation-based learning.

Date: December, 2022 & January, 2023

5 Release of Government Order (GO) for Programme Implementation:

A formal Government Order (GO) was issued, clearly defining the roles and responsibilities of the participating medical colleges and IHAT. The GO aimed to streamline implementation and ensure accountability across stakeholders.

Date: GO issued in February, 2023

6 Signing of Tripartite Agreement

An addendum to the existing Memorandum of Understanding (MoU) was signed between NHM-GoMP, DME-GoMP, and IHAT. This formalised the implementation of the RRTC model within medical colleges under the jurisdiction of DME-GoMP.

Date: April, 2023

7 Exposure Visit to Uttar Pradesh

A delegation comprising faculty from the Departments of Obstetrics & Gynaecology, Paediatrics, and Community Medicine at GMC Bhopal, MGM Medical College, Indore, and NSCB Medical College, Jabalpur, along with the IHAT team, undertook an exposure visit to Uttar Pradesh.

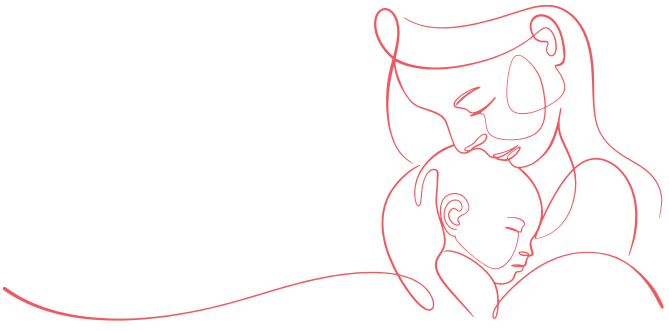
They visit included (i) participation in the RRTC review meeting chaired by the Principal Secretary of Health and Family Welfare, Uttar Pradesh; (ii) peer learning through interaction with faculty and programme stakeholders from 17 medical colleges; and (ii) a two-day hands-on training using mannequins to strengthen clinical competencies for managing maternal and newborn complications.

Date: May, 2023-August, 2023

8 FRU Readiness Assessment

The IHAT team conducted a comprehensive Readiness Assessment across all 77 designated FRUs in the Bhopal, Indore, and Jabalpur divisions. The assessment tool was adapted from the Government of India's Maternal and Newborn Health Toolkit and tailored separately for DHs and other FRUs (CHs/CHCs). The assessment aimed to: (a) map the availability of maternal and newborn services, (b) identify gaps in infrastructure, human resources, equipment, drugs, and supplies, and (c) evaluate FRUs functionality based on the nine signal functions. Findings from the assessment informed the development of the RRTC Mentoring Module, which was discussed during the "Module Updation cum Faculty Orientation Workshop.

Date: May-June, 2023



9 Selection of First Referral Units for Mentoring Visits

The FRUs in the three divisions were prioritised for mentoring visits based on (i) travel time from the medical college (under 120 minutes), (ii) high delivery load, and (iii) availability of key specialists (Obstetrics & Gynaecology, Paediatrics, and Anaesthetist). Based on these criteria, 35 FRUs were selected for on-site mentoring by faculty—12 each under GMC Bhopal, and under MGM Medical College, Indore and 11 under NSCB Medical College, Jabalpur.

To support this process, NHM issued a directive to the Chief Medical and Health Officers to facilitate visits and ensure the presence of service providers during mentoring sessions

Date: May-June, 2023

10 Engagement with Medical Colleges

IHAT worked with faculty, Heads-of-Departments (HODs), and the Deans of three medical colleges to co-develop mutually agreed terms for collaboration under the RRTC initiative. A draft agreement was shared with the Directorate of Medical Education (DME), revised based on feedback, and finalised. DME issued an official directive, followed by the formal signing between each Medical College and IHAT, ensuring regulatory compliance and programmatic alignment.

Date: June-July, 2023

11 Orientation Workshop for Master Trainers

A two-day workshop was conducted to orient master trainers from the Departments of Obstetrics & Gynaecology, Paediatrics, and Community Medicine. The sessions covered programme overview, content familiarisation, updates to training modules for specialists and medical officers, and strategies for follow-up and effective on-site mentoring.

Date: August, 2023

12 Internal Faculty Orientation at Medical Colleges

Following the two-day master trainers workshop, in-house orientation sessions were held in each medical college for all faculty within the key departments (Departments of Obstetrics & Gynaecology, Paediatrics, and Community Medicine). These sessions aimed to familiarise faculty with the RRTC model, its objectives and its implementation approach. As a result, a pool of trained faculty was created to lead training and on-site mentoring of specialists and medical officers at DHs and FRUs, ensuring skill enhancement and programme sustainability.

Date: September-October, 2023

Process followed for establishing RRTC

June 2022

Presentation to GoMP

IHAT shared RRTC-UP outcomes at a health & nutrition conclave; GoMP requested replication.

Nov 2022

Pre-Planning with Medical Colleges

Pre-implementation meeting held with HoDs and faculty of 3 medical colleges.

Feb 2023

Government Order Issued

GO defined clear roles for IHAT and medical colleges to streamline implementation.

May-Aug 2023

Exposure Visit to UP

Faculty visited UP for RRTC review, peer learning, and mannequin-based training.

May-June 2023

FRU Selection for Mentoring

35 FRUs selected based on distance, delivery load & availability of specialists.

Sep. 2022

Government Approval

Concept note approved by MD-NHM, CME-DME & ACS for implementation.

Dec 2022-Jan 2023

Skills Lab Assessment

Existing ObGy skills labs assessed for infrastructure, equipment, and training resources.

April 2023

Tripartite Agreement Signed

Addendum to existing MoU signed between NHM, DME & IHAT.

May-June 2023

FRU Readiness Assessment

77 FRUs assessed for services, infrastructure, and signal functions using toolkit derived from government guidelines.

(Mentoring Model) in Madhya Pradesh

Aug 2023

Master Trainer Orientation

2-day workshop to build content familiarity and mentoring strategies for trainers.

Oct 2023-Jan 2024

Skills Lab Setup

Skills labs upgraded with mannequins, AV tools, and infrastructure for simulation training.

Feb 2024 onwards

Mentoring Visits Begin

Quarterly faculty visits to FRUs include hands-on training and follow-up support.

Ongoing from May 2024

Referral Mechanism Strengthened

WhatsApp groups linked FRU doctors with mentors for real-time guidance & documentation support.

June-July 2023

Medical College Engagement

Roles and terms of collaboration finalised with Deans, HoDs, and DME.

Sept-Oct 2023

Internal Faculty Orientation

In-house orientation created a trained faculty pool for ongoing mentoring.

Nov 2023-Dec 2024

Training of Specialists & MOs

3-day training at medical colleges built clinical competencies and mentor-mentee rapport.

1st Meeting – May 2024

Convergence Meetings

Stakeholders met to review progress, align strategies, and enhance mentoring quality.

2025–26 (Planned)

Model Expansion Approved

RRTC model to scale up to 3 more medical colleges in FY 2025–26; planning initiated.

13 Procurement & establishment of Skills Labs

Skills labs were either established or strengthened within the Obstetrics & Gynaecology departments of the three medical colleges. Key actions included: (i) modifying infrastructure to support simulation-based training; (ii) procurement of essential equipment, of including 12 types of mannequins and audio-visual tools using a standardised procurement list co-developed with the faculty.

Date: October, 2023 - January, 2024

14 Training of Specialists and Medical Officers at FRUs

Three-day training sessions were conducted at each medical college to build the clinical competencies of specialists and medical officers. These trainings focused on updated maternal and newborn health protocols and initiated the mentor-mentee relationship, a foundation for subsequent on-site mentoring.

Date: November, 2023 - December, 2024

15 Mentoring visits

Faculty from the Departments of Obstetrics & Gynaecology, Paediatrics, and Community Medicine of the three medical colleges conducted quarterly mentoring visits to their assigned DHs and peripheral FRUs (CH/CHCs), working in inter-disciplinary teams of three. These visits offer hands-on training, case discussions, and real-time support to healthcare providers. FRUs were allocated to specific faculty by the respective Heads of Departments.

Mentoring is structured in three phases:

1. Pre-mentoring – The IHAT team complies facility profiles using data from the past 1–3 months.
2. Mentoring visit – Faculty conduct clinical case reviews and offer guidance on maternal and newborn complications.
3. Post-mentoring – The IHAT team follows-up to support implementation of recommendations.

Date: Initiated February, 2024 onwards

16 Convergence Meetings

Convergence meetings were organised to improve coordination between key stakeholders - Department of Medical Education, Department of Public Health (service providers posted at selected FRUs), and the NHM. These meetings served as platforms to discuss strategies to improve the coverage, quality, and effectiveness of training and mentoring. During the first meeting, key focus areas were identified, and the IHAT team was encouraged to conduct regular follow-up visits to support implementation of faculty recommendations.

Date: 1st Meeting held in May, 2024

17 Strengthening of referral mechanism

To enhance communication and care coordination between peripheral health facilities and medical colleges, messenger groups were created that linked FRU doctors with their respective faculty mentors. These groups support real-time feedback, guidance on referral quality, and improvement of documentation, including referral slips with vital signs and pre-referral management details.

This intervention improved the efficiency and quality of referrals, fostering a more collaborative and responsive healthcare ecosystem.

18 Expansion of RRTC (Mentoring Model)

Recognising the positive impact of the model, the GoMP approved the expansion of the RRTC (Mentoring Model) to three additional medical colleges in 2025–26.

Preparations for this next phase will follow a structured approach, including early stakeholder consultations, infrastructure and skills lab assessments, and orientation and capacity building of faculty teams.

This strategic scale-up aims to strengthen mentoring coverage and improve maternal and newborn care quality across a wider geography.

OUTPUTS AND OUTCOMES

1 Training of Specialists and Medical Officers conducted within the Medical Colleges:

As a preparatory step for on-site mentoring, in-facility training sessions were conducted for Specialists and Medical Officers from peripheral FRUs in Bhopal, Indore, and Jabalpur divisions. These were held at GMC Bhopal, MGM MC Indore, and NSCB MC Jabalpur.

Based on the FRU readiness assessment conducted across 77 facilities, a total of 577 doctors were identified for training. The training plan included 18 batches of 30 participants each. Between November'23 to December'24, 13 batches were completed, with 270 of the 390 nominated doctors attending: four each at GMC Bhopal and NSCB Medical College, Jabalpur, and five at MGM Medical College, Indore. These sessions aimed to update participants on current maternal and newborn care protocols; strengthen clinical competencies through hands-on learning; and build rapport between faculty mentors and mentees in preparation for on-site mentoring.

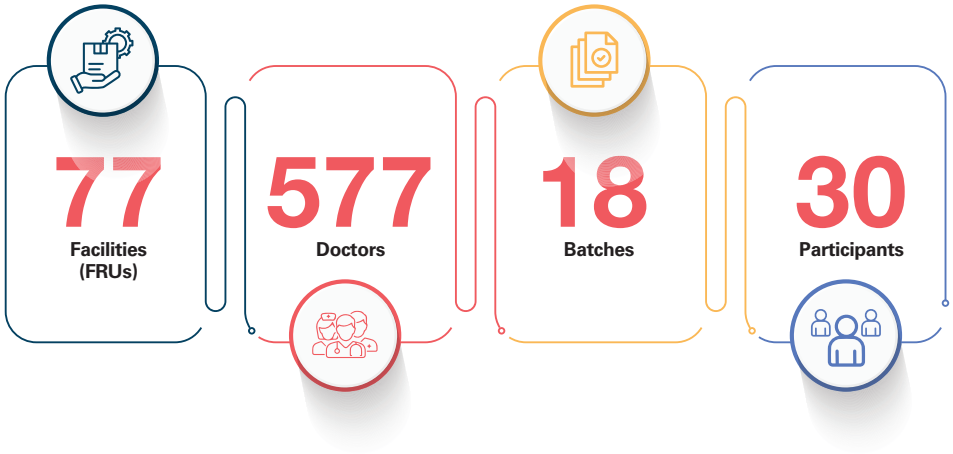


Table 2: Training status of Specialists and Medical Officers

S. No.	Designation	Total FRUs Doctors (#)	Trained (#)	Trained (%)
1	OBGY	123	56	45
2	PEDS	111	50	46
3	PGMO	91	41	45
4	MO MBBS	252	123	48
	Grand Total	**577**	**270**	**47**

Each training was followed by an OSCE[6] to evaluate participants' clinical competencies in maternal and newborn health.

[6]*The Objective Structured Clinical Examination (OSCE) is a standardised, station-based assessment that evaluates clinical skills, communication, and decision-making in a controlled, objective manner.*

Maternal Health OSCE Scores

A total of 200 trainees completed the OSCE for Maternal Health. The results indicated that:

Most participants scored below **80%** with particularly low scores **(<50%)** across all cadres in managing prolonged/ obstructed labour (Figure 1).

Moderate performance **(51–80%)** was observed in key areas such as Anaemia, labour monitoring, Antepartum Haemorrhage (APH), Hypertensive Disorders of Pregnancy (HPD) and Magnesium Sulphate ($MgSO_4$) administration.

A small proportion scored **> 80%** for post-partum hemorrhage (PPH) management.

MBBS medical officers had a lower percentage mean score (54,SD+22) compare to ObGy and PGMO- ObGy respectively (68,SD+23 &73,SD+14).

Newborn Health OSCE Outcomes

Of the 174 trainees who completed the OSCE in newborn health,

Most participants scored below **80%** across all major competencies including Essential Newborn Care (ENBC), Newborn Resuscitation (NBR), Breastfeeding (BF), Kangaroo Mother Care (KMC), and Sepsis management (Figure 1).

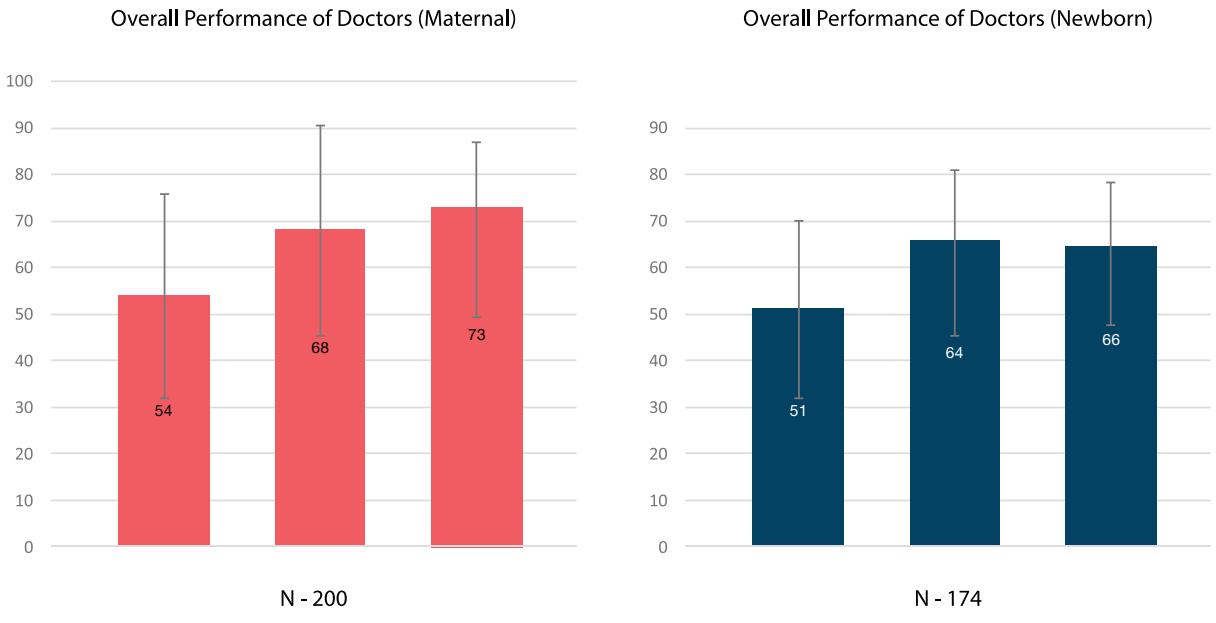
MBBS Medical Officers has the lowest % mean scores **(51, SD+20)**

Paediatricians **(64,SD+17) (PGMO-PEDS)**

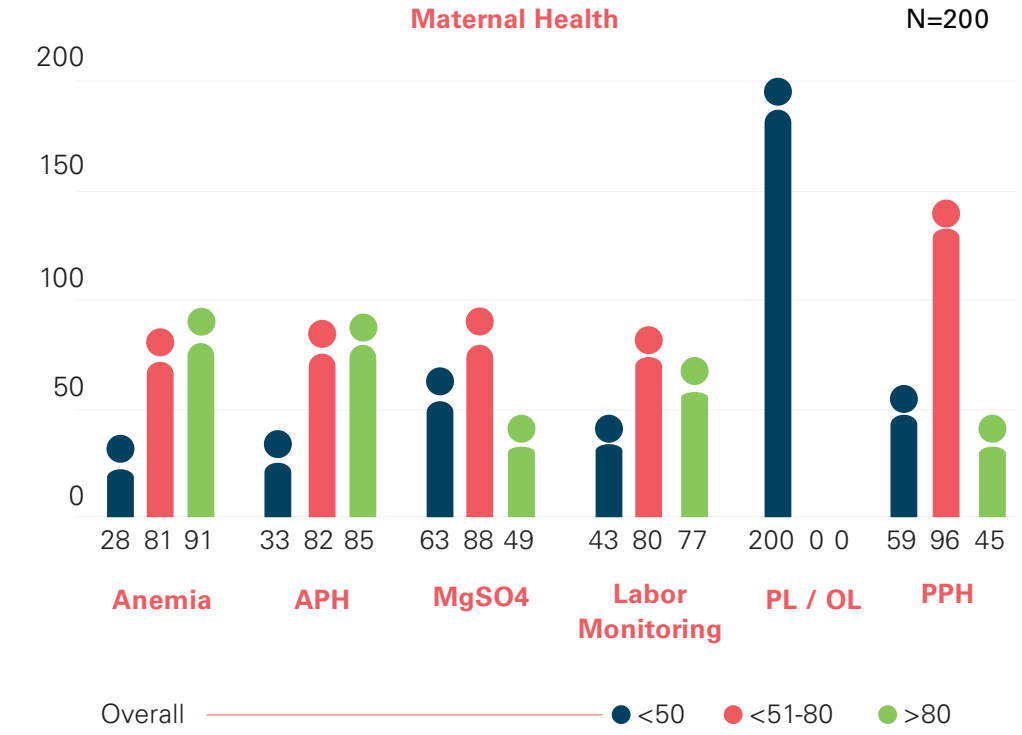
(66,SD+10) performed better, reflecting stronger baseline clinical competency.

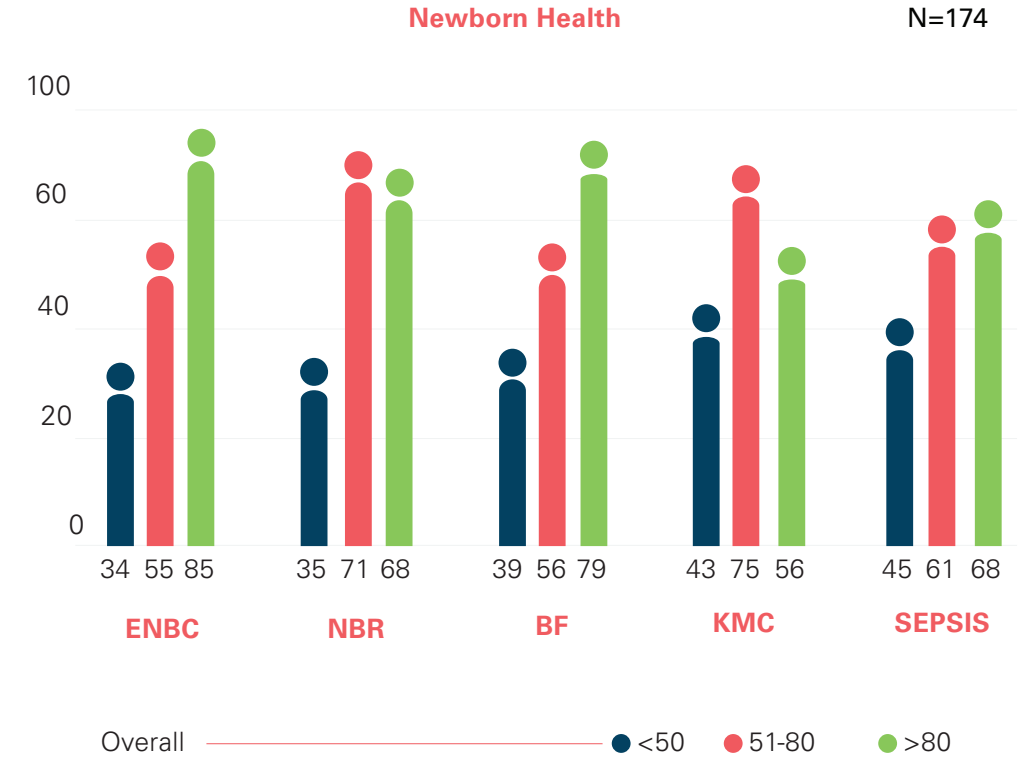
These findings underscore the need for enhanced, targeted and continuous training, particularly in managing maternal and newborn complications at the FRU level, with a focus on low-performing areas such as prolonged labour management and newborn resuscitation.

Figure 1: Post-training OSCE Scores - Maternal & Newborn Health Topics



Overall status of performance of doctors in Maternal and Newborn health topics in the first round of assessment.





2 Mentoring Visits:

The coverage of FRUs through on-site mentoring visits during February to March 2025 is presented in Table 3. Of the 35 targeted FRUs, the proportion that received mentoring visits during the period was 80%, 97%, and 60% and 75% in round 1, 2,3 and 4 respectively.

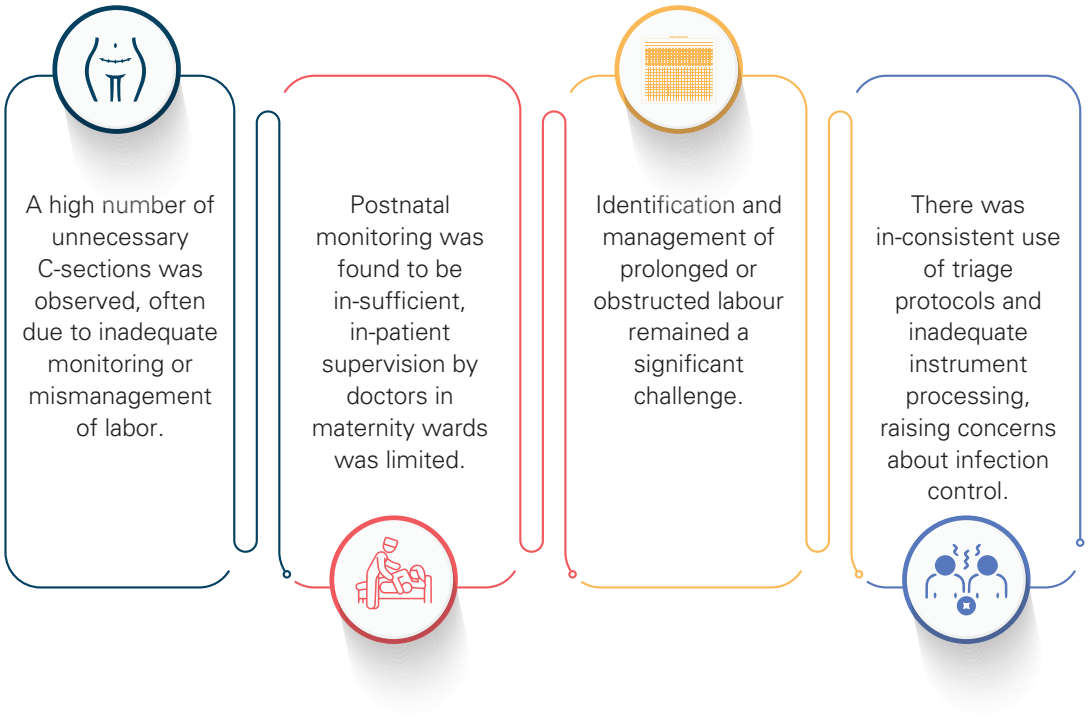
Total Selected FRUs (35)		
	#	%
1st Round	28	80
2nd Round	34	97
3rd Round	21	60
4th Round	26	75

Key Observations and Recommendations from Faculty Mentoring Visits

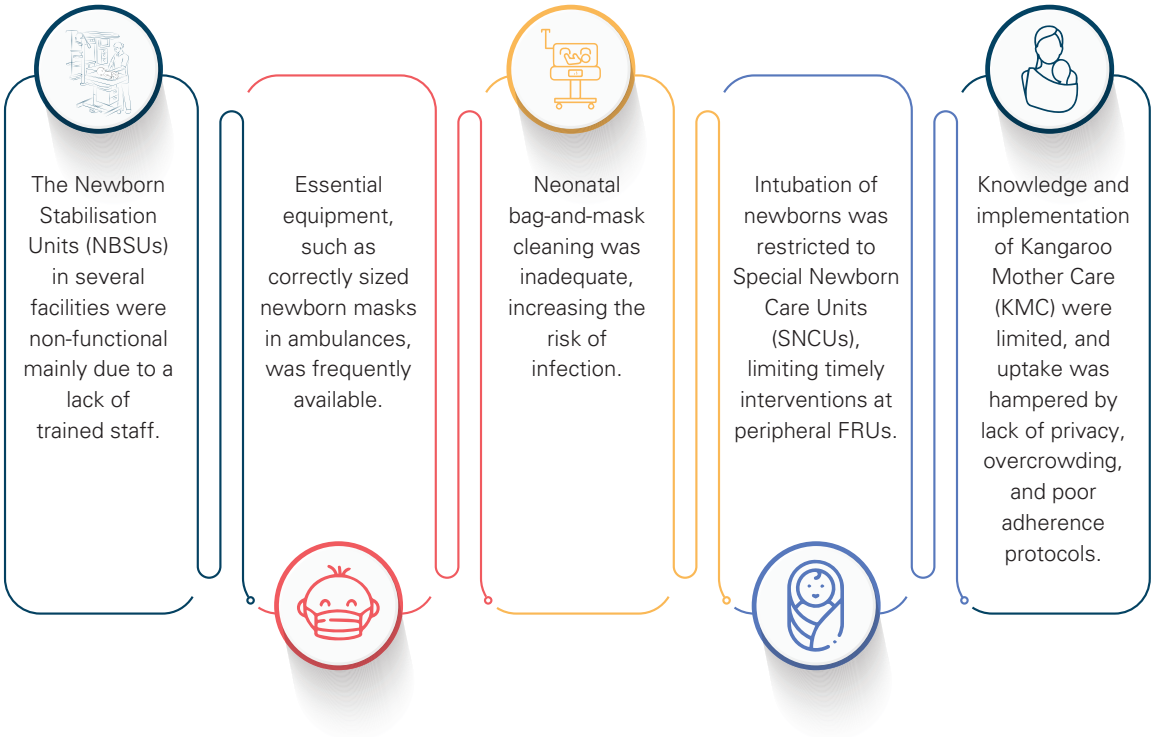
During the mentoring visits, the faculty identified several recurring issues in both maternal and newborn care, along with system-level challenges that warrant immediate attention:

Availability of Specialists across most facilities, specialists were not consistently available after 2 PM or 4 PM, resulting in a heavy reliance on on-call services. This compromised timely decision-making and emergency care, especially during off-hours.

Maternal Care Gaps



Newborn Care Challenges



Infection prevention and instrument processing practices are critical aspects of healthcare delivery, yet significant gaps were evident in their implementation. Proper sterilisation techniques and adherence to infection control guidelines were often not followed, leading to compromised patient safety. In particular, the inadequate processing of neonatal equipment, such as bags and masks, increases the likelihood of cross-contamination, putting vulnerable newborns at putting vulnerable newborns at greater risk of infections. Non-compliance with standardised protocols, insufficient training and monitoring of healthcare staff exacerbate these challenges. To address these issues, it would be essential to implement robust infection control policies, provide adequate training for staff on sterilisation practices, and ensure the availability of appropriate sterilisation equipment and supplies.

Faculty Interventions and Recommendations

Faculty have attempted to address the knowledge and skill gaps during on-site mentoring visits through hands-on practice and drills, and identified a significant need for focused training on specific skills such as proper identification and management of the most important causes of mortality.

3 Convergence Meeting:

The first convergence meeting with faculty from GMC Bhopal, MGM Medical College, Indore, and NSCB Medical College, Jabalpur was held in 2024, chaired by the Director (MCH Coordination), NHM. The faculty shared feedback from mentoring visits, and NHM reviewed the programme progress.

Key Recommendations Included:

- Involving district officials (District Health Officers and Specialists) in routine Maternal Death Surveillance and Response (MDSR) and Child Death Reviews (CDR) at medical colleges.
- Encouraging Specialists and Medical Officers at FRUs to conduct rounds in postnatal and post-operative wards.
- Ensuring optimal use of available instruments and equipment.

The meeting reinforced the importance of convergence as a platform for coordination among medical colleges, FRUs, NHM, and IHAT, while identifying opportunities to strengthen collaboration and improve service delivery.

LEARNINGS

Initiating the RRTC Mentoring Model requires extensive coordination across departments of Health, Medical Education, and multiple disciplines within medical colleges. While this is time-consuming, the collaborative process is essential to establish a shared vision and lay the groundwork for sustained implementation.

Participants may be unable to attend training sessions despite official orders and dedicated follow-ups, due to their extensive responsibilities or a preference for learning methods beyond traditional classroom sessions. To address this, inviting or deputing more participants than initially planned for each training programme could help ensure optimal attendance. This approach not only enhances participation but also ensures cost-effective and impactful training outputs. Those who missed out on training or who have scored low in the assessments can be included during the CME, that is planned subsequently.

Implementation data indicates that the medical colleges conducted more facility-level mentoring visits than planned participant training sessions. This could be due to multiple reasons. Medical Colleges found the mentoring visits particularly valuable, as they enable faculty to engage with real-world challenges and provide direct support to healthcare teams. The mentoring visits also help them to understand and address the ground realities and challenges in providing quality healthcare within the FRU. Mentoring also provides the opportunity to mentor healthcare teams of doctors and nurses.

The nursing staff, who provide continuous patient care, play a critical role in early detection of complications. Integrating nurse training and including a nurse mentor in the mentoring team could be considered to strengthen care delivery at FRUs.

The Objective Structured Clinical Examination (OSCE) results revealed knowledge gaps, indicating the need for targeted reinforcement on specific topics. The RRTC (Mentoring Model) can benefit from promoting cross-learning between medical colleges to share effective training practices. Enhancing the training approach through case-based, participatory methods rooted in adult learning principles will further improve engagement and retention of knowledge and skills.

The convergence meetings are a valuable platform to reinforce the shared vision and mission 'to save the lives of mother and newborn'. They help administrators, trainers and practitioners to recognise how each one's role is important and dependent on the other. The meetings should be convened more frequently, virtually at least once a quarter and in-person bi-annually.

Training and mentoring efforts significantly improved pre-referral management and communication between referring and receiving facilities as indicated in case studies and feedback from medical college faculty. The messenger groups enabled real-time discussion of clinical challenges, fostering shared learning. Issues identified at one site often informed improvements at others, promoting a collaborative and adaptive approach across facilities.

CHALLENGES

Medical colleges play a vital role in teaching and research activities centred around their undergraduate and post-graduate courses. Their commitment to maintaining University accreditations and adhering to examination schedules reflects their dedication to academic responsibilities and excellence. These responsibilities limit the time available for training, mentoring, and CME programmes for public sector institutions. However, despite this, the medical colleges recognised the value in undertaking the RRTC-Mentoring Model programme.

Developing a well-structured academic calendar based on the regular schedule of the medical college, including undergraduate (UG) and postgraduate (PG) examinations, conferences, and vacations, will facilitate the strategic planning of mentoring visits and the efficient scheduling of training programs, ensuring better alignment with institutional goals.

Delays in identifying complications, referring patients to the right facility for further management, proper pre-referral management, reaching appropriate healthcare facilities, and delivering timely management highlight significant gaps in the referral system. A systematic study on referral patterns, contributing factors, and pre-referral management can provide critical insights to guide programme improvements and address these challenges effectively.

WAY FORWARD

1 Conducting CME on topics that require reinforcement

The OSCE scores post-training have indicated that knowledge on specific topics remains inadequate. Doctors who have scored less than 80% can be invited to CMEs that are designed to specifically address the gaps in knowledge and skills on particular topics. Each medical college may therefore need to plan and conduct Continuing Medical Education (CME) for smaller batches, providing opportunities for personalised attention and intensive practice of skills.

2 Inclusion of more topics

Initially, the trainings (for specialists & medical officers) on maternal & newborn health included sessions on basic, essential knowledge and skills needed for service delivery. Eventually, more complex and specialised topics will need to be introduced to enhance skills for handling high-risk cases and emergencies with respect to both maternal and newborn health care. Examples of these topics include post-partum sepsis, C-Section, preterm labour, Premature Rupture of Membranes (PROM), management of premature/ preterm and LBW babies, etc.,

3 Expansion to other divisions

Expanding in mentoring model to three additional medical colleges requires a systematic approach to ensure scalability while adapting to the specific needs of the respective geographical areas. The process begins with the submission of a proposal for the expansion, receiving approval from State authorities, and updating the existing government order on the mentoring model programme with specific roles and responsibilities of the stakeholders involved. Simultaneously, assessing the readiness of the new colleges, including their infrastructure with respect to skills lab, training hall, faculty capabilities, including the number of faculty available in all three departments, is necessary to customise the mentoring framework effectively. Based on the fact that start-up was a time-consuming process, it would be best to initiate the pre-implementation activities at least three months before the planned expansion of the programme. The programme has now been expanded to six medical colleges as **'Centre of Excellence'** under the government funding from 2025 onwards.

4 Inclusion of a nurse mentor in the team from the associated medical college

Nurses bring hands-on patient care experience, which complements the roles of medical officers and specialists. Incorporating nurse mentors into a mentoring model can significantly enhance the performance of nurses in the FRUs. Their inclusion may ensure a more comprehensive mentoring experience and could enhance interdisciplinary collaboration and teamwork, ultimately leading to improved patient care. To integrate nurse mentors effectively, the nurse (selected from the associated medical college) could be provided with training on mentoring that enhances their mentoring skills, including leadership, counselling, and teaching techniques. Clear roles and responsibilities must be defined to ensure alignment with the broader goals of the mentoring programme. Nurse mentors can also participate in joint sessions with medical mentors. Their inclusion not only elevates the quality of mentorship but also empowers the nursing workforce, fostering professional growth and improved patient care outcomes.

5 EmONC and LSAS Training

EmONC and LSAS trained doctors who are not performing or lack confidence to perform life-saving procedures may be provided with refresher training on the required skills in medical colleges for a month, subject to approval from the authorities. This can enhance the functionality of FRUs and improve the availability of specialist services for both maternal and newborn complications.

SUCCESS STORIES

1 Mentoring Transforms Care at an FRU in Jabalpur Division

During a mentoring visit to a FRU of Jabalpur Division, an eight-month pregnant woman with complaints of vaginal bleeding came in the OPD. After an initial assessment by the on-duty doctor, the woman's condition was diagnosed as antepartum hemorrhage (APH—bleeding before labour).

The team of ObGy from the NSCB Medical College, Jabalpur, was on a mentoring visit on the same day and was informed about the emergency case. The pregnant woman was shifted to the labour room from the OPD for further investigation and examinations. The case was thoroughly assessed and examined by the faculty, who provided on-site mentoring to the doctor on identification and pre-referral management for per vagina bleeding (PV).

Since an ultrasound facility was not available in the health facility, the placenta's location was not known. Consequently, it is found that FRU did not have a ready operation theatre and decision was made to refer the woman to the medical college, by providing pre-referral management and prior information to the medical college.

After the woman was admitted in the medical college, a thorough examination was done, and she was diagnosed with centrally located placenta previa. She was taken up for an emergency C-section and both the mother and newborn survived.

As the delivery was preterm, the newborn weighed 1.8 kg and was shifted to the NICU for further management. The timely intervention ensured that both the mother and newborn were safe and discharged healthy.

2 A lifesaving intervention at an FRU in Indore Division

A woman was admitted to an FRU in Indore Division with complaints of leakage. Upon examination, she was diagnosed with premature rupture of membranes (PROM) with a breech presentation and twin pregnancy. As her haemoglobin level was 9.1 gm, one unit of blood was transfused to her. Prior to this, she had been given two units of blood transfusion earlier during the ANC period, as she was severely anaemic.

Labour monitoring revealed that the foetal heart rate was irregular, and the contractions were mild; a C-section was performed. The team from MGM MC Indore was on a mentoring visit on the same day and was informed about the case which got complicated during the C-Section. The ObGy faculty of MGM MC Indore immediately provided hands-on support during the surgery and stabilised the mother in the operation theatre.

Simultaneously, hands-on support was provided by the pediatrics faculty to manage both the newborns. Since the newborns were preterm and were low birth weights, they were shifted to the SNCU for further observation.

Due to timely and effective care, both the mother and the newborns were soon out of danger and discharged in good health.

TESTIMONIALS

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IHAT's mentoring programme for our Medical College team has been praiseworthy, providing valuable insights into the functioning of FRU, CHC and DH facilities. The team has learned crucial aspects of patient referrals – specifically, when, why, and how to refer - which have been vital in preventing delays in treatment and improving outcomes. Our Paediatrics, PSM (Preventive and Social Medicine) departments and the wider health system are working with IHAT to reduce MMR and NMR.

Our institute, NSCB Medical College Jabalpur and the Department of Paediatrics, is working with IHAT under the RRTC Model to reduce dispensable referrals from FRUs and improve newborn care. We are training doctors, providing support, and making regular site visits. We are seeing a positive impact on neonatal outcomes and are committed to addressing challenges like staffing shortages to reduce NMR further.

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Dr. Sachin Patidar
Child Specialist, SNCU,
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The training conducted by IHAT under the RRTC model for specialists and Medical Officers at MGM Medical College, Indore, was beneficial for the better management of neonates admitted to the SNCU. The faculty covered all important topics during the training.

The programme being run by IHAT is very good. The best part of the training held at MGM College is that the doctors from both the Maternity Wing and the SNCU Wing were trained together, which helped clarify concepts for both groups simultaneously. The resuscitation station in the OSCE was particularly well done. After this training, working in the SNCU has been very beneficial for us, and we have also seen improvements in our data

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