Regional Resource Training Centers (RRTC) Network

STRENGTHENING DOCTORS' SKILLS FOR MATERNAL AND NEONATAL COMPLICATIONS

Background

Uttar Pradesh, being the nation's most populous state is home to approximately 238 million people—about one-sixth of India's entire population. This vast region comprising of diverse communities, grapples with significant healthcare challenges. Despite the efforts to improve health services, the maternal, neonatal, infant and child mortality rates are substantially higher in UP than the India average. The maternal mortality ratio (MMR) in UP has reduced from an estimated 285 per 100,000 live births for the period 2011-13 to 167 per 100,000 live births for the period 2018-20.

The state's healthcare system, particularly in First Referral Units (FRUs), is crucial for addressing these challenges. These facilities are critical in providing Comprehensive Emergency Obstetric and Newborn Care (CEmONC) services, yet many healthcare professionals struggle with insufficient training and resources. A key strategy to reduce maternal and newborn deaths is ensuring the presence of a skilled birth attendant for every delivery, including normal labour and those requiring emergency care for complications.

Based on the existing scenario and identified gaps, the Regional Resource Training Centre (RRTC) program was conceptualized as a pioneering initiative in several respects. It represented a unique instance of academic medical institutions in India collaborating with public health program implementation. This collaboration extended beyond traditional clinical training, as it involved actively visiting the First Referral Units (FRUs) in designated districts to provide on-site, hands-on clinical mentoring to doctors, thereby enhancing the delivery of quality CEmONC services.

Objective of the RRTC program

Government of Uttar Pradesh (GoUP) with support of Uttar Pradesh Technical Support Unit (UP-TSU) conceptualised, developed and rolled-out 'Regional Resource Training Centre' or RRTC program with following key objectives:

Upskill Doctors: Enhance specialists' and MBBS doctors' competency to manage pregnancy and newborn related complications.

Build Rapport: Strengthen relationships between faculty and FRU doctors to improve competency.

Ongoing Evaluation: Conduct quarterly faculty visits to assess services and clinical skills, providing feedback for improvement.

Simulation Training: Offer simulation-based CEmONC training prior to mentoring visits.

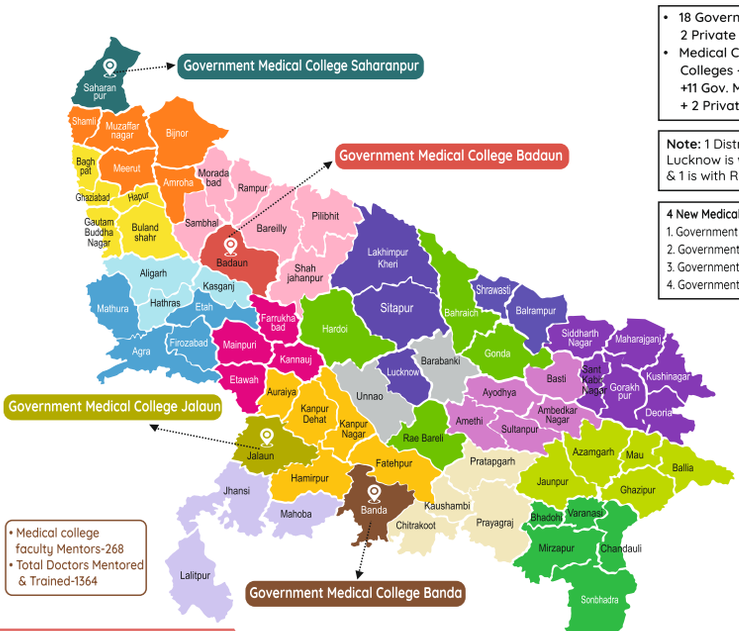
Targeted Follow-Up: Monitor and support low-scoring or absent doctors through continued medical education training sessions.

Salient features of the RRTC network initiative

The RRTC (Regional Resource and Training Centre) network emerged as a unique innovation by the government of UP due to following reasons:

- They established Centres of Excellence, serving as key knowledge hubs for medical education and clinical management.
- These centres formulated Standard Operating Procedures, setting benchmarks for quality healthcare delivery.
- Functioning as Schools of Medicine, they provided ongoing training for doctors in peripheral facilities, ensuring a continuous flow of updated knowledge and skills.
- By engaging stalwarts in medical education—who had taught many of the doctors now serving in remote areas—the RRTC network brought credibility and weight to the initiative.
- The strong rapport built with senior Medical College Faculty offered a critical safety net for peripheral facility doctors, giving them confidence in managing complications with the support of their mentors.
- Furthermore, since they operate outside of the Directorate and National Health Mission (NHM), it was viewed as technical guidance rather than punitive, reinforcing trust and fostering a supportive environment for healthcare providers.

RRTC Landscape-75 Districts



- 18 Government Medical College 2 Private Medical College
- Medical Colleges (3 Medical Colleges -Centre of excellence +11 Gov. Mentor Medical colleges + 2 Private Medical Colleges)

Note: 1 District Hospital of Lucknow is with KGMU Lucknow & 1 is with RML Lucknow

4 New Medical Colleges
1. Government Medical College Badaun
2. Government Medical College Saharanpur
3. Government Medical College Jalaun
4. Government Medical College Banda

- Medical college faculty Mentors-268
- Total Doctors Mentored & Trained-1364

Coverage

The initiative began with the identification of four medical colleges, later expanded to eight, as "Regional Resource Training Centres (RRTCs)" to support First Referral Units (FRUs) across 25 High Priority Districts (HPDs) in Uttar Pradesh. The initial rollout was met with strong government support and a positive response, leading to the program's rapid scaling. Today, the initiative has expanded to cover all 75 districts, with 20 medical colleges now serving as RRTCs, ensuring comprehensive training and resource support across the state.

Major activities

To address the gap and strengthen the existing practices, the GoUP had been conducting following major activities:

1. **Coordination meeting:** Faculty from 16 medical colleges meet to align on training and mentoring public health doctors.
2. **Induction Training:** Master Trainers receive CEmONC training to lead regional training sessions.
3. **Skill labs:** 16 medical colleges established skill labs for hands-on training.
4. **Regional TOT:** Public health doctors (Specialist/MBBS) receive CEmONC training across 3 sessions at each medical college.
5. **On-site Mentoring:** Every faculty visits identified (75 Districts) FRUs once in a quarter.
   a. **Pre Mentoring (by RRTC-IHAT team member):** Filling of FRU Assessment Tool, Data verification, Facility Maternal Death Reporting, Validation of complications from facility documents, Data punching.
   b. **Mentoring (by faculty):** Facility round and Scoring, Mentoring, hand holding and one to one evaluation of specialist/Medical Officer based on OSCE check list, Partograph, Case sheet review, Drill, Onsite mentoring feedback to Chief Medical Superintendent (CMS), Medical officer In-charge (MOIC).
   c. **Post Mentoring (by RRTC-IHAT team member):** Support to CMS/MOIC in problem solving and system strengthening by analysis of logistic, HR and system gaps as per the feedback provided by the faculty.
6. **Refresher Training:** Continued Medical Education at each Medical College was done for FRU doctors who scored <70% in mentoring visits, absentees and new joinees.
7. **Faculty feedback meeting:** Biannual review meetings with government officials to discuss faculty feedback.

RRTC Program Update

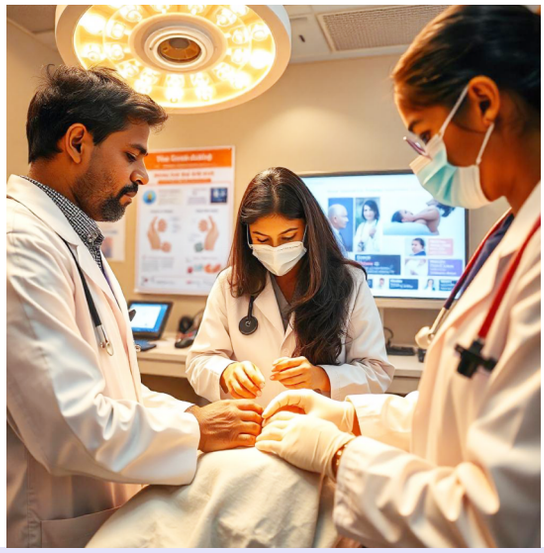
Training Round	Update
Phase 3 Round 1	73 mentoring visits by medical college faculty to district hospitals mentored 466 doctors.
	Following the first mentoring round, 16 CMEs were held, training 155 doctors.
Phase 3 Round 2	72 mentoring visits mentored 456 doctors in district hospitals.
	After the second round, 16 CMEs were completed, training 143 doctors.
Phase 3 Round 3	74 mentoring visits mentored 442 doctors in district hospitals.
	Post the third round, 16 CMEs were conducted, training 170 doctors.
Phase 3 Round 4	RRTC program completed 39 mentoring visits, with the remaining visits planned.
Two RRTC faculty feedback meetings were held on May 12th and August 2nd, 2024, chaired by the Principal Secretary Health and MD-NHM, in attendance of DG-Training, DG-FW and DG-MH.	

- The RRTC Program has expanded to 20 medical colleges, including four new ones: Badaun, Banda, Jalaun, and Saharanpur.
- A total of 268 faculty members from 16 medical colleges have been trained as master trainers.
- 481 district hospital doctors from 75 districts have been trained by medical college faculty through regional trainings at 16 medical colleges.
- CPAP mentoring was introduced in RRTC mentoring, with orientation held at KGMU Lucknow on 8th and 9th August 2024, attended by 32 faculty members from 16 medical colleges.

- SNCU mentoring, including CPAP, was initiated during ongoing mentoring visits to 32 district hospitals.
- A virtual SNCU clinical mentoring mock session was conducted by the HoD Paediatrics, KGMU Lucknow, at Awantibai District Hospital.

Way Forward

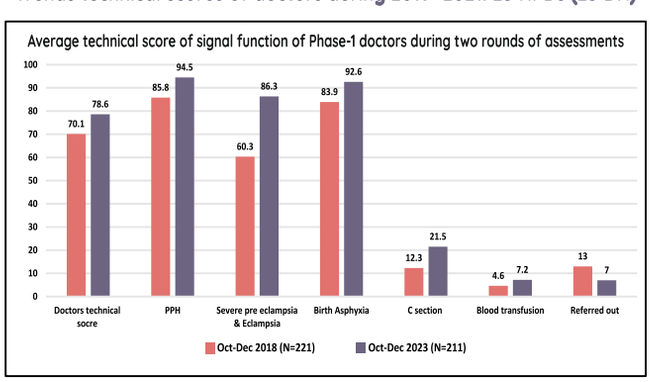
- Expand RRTC program to Sub District level, focusing on CHC FRUs and CHCs by 20 Medical Colleges in phase manner.
- Initiate mentoring of staff nurses of medical college and public health facilities through RRTC nursing colleges to improve referrals between district hospitals and medical colleges
- Provide training and mentoring on Ferrous Carboxy Maltose usage for Maternal Anaemia management
- Strengthen district hospitals upgraded to medical colleges through mentoring of public health doctors, faculty, and residents (JRs & SRs)



Major milestones achieved

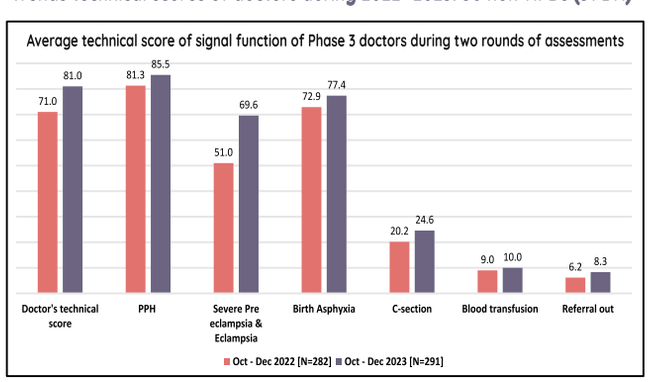
1. Competency scores of FRU doctors in 76 district hospitals across 75 districts of Uttar Pradesh improved remarkably with proportion of FRU doctors scoring >70% increasing from 66% in 2022 to 87% in 2024.
2. Referral rates in 25 High Priority District Hospitals decreased from 13% in 2018 to 7% in 2024.

Trends technical scores of doctors during 2018- 2021: 25 HPDs (25 DH)



Note: 10 doctors assessed in baseline (Oct-Dec'2018) were not available for assessment in endline (Oct-Dec'2023) Data refers to 25 DH included in the Phase-1 mentoring (i.e. 2018)

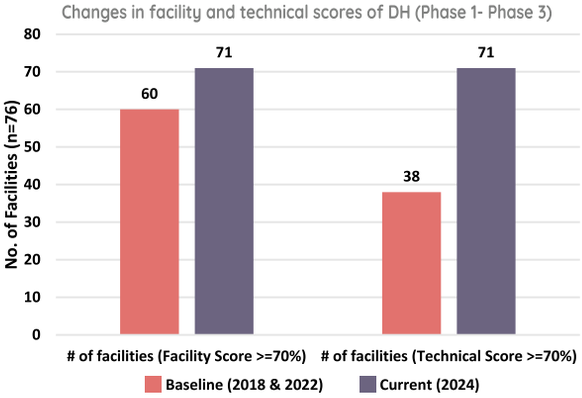
Trends technical scores of doctors during 2022- 2023: 50 non-HPDs (51 DH)



Note: 9 doctors assessed in baseline (Oct-Dec'2022) were not available for assessment in endline (Oct-Dec'2023) Data refers to 51 DH included in the Phase-3 mentoring (i.e. 2022)

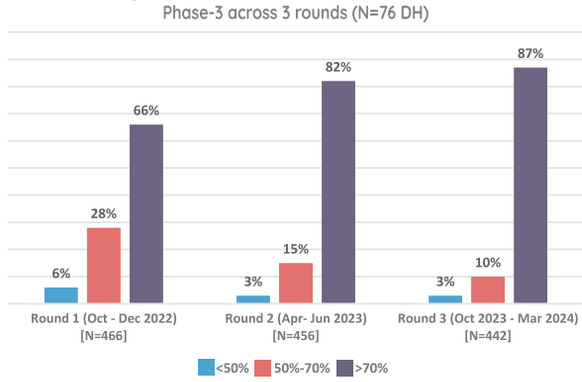
Impact of RRTC Program
Comparison of Technical & Facility Score of 76 Districts Hospitals (2018- 2024)

Changes in facility and technical scores of DH (Phase 1- Phase 3)



Note: 1. Facility score is computed considering service readiness at OPD/ANC, Signal function, LR, PNC ward, OT, Documentation and others
2. Technical score is combined for all cadre of providers (Obg/Gyne, Paed, MBBS, Anesth)
3. Baseline score is a combined score referring to 2018 for 25 DH (HPDs) and 2022 for 51 DH (non-HPDs)
4. Phase-1 (Jan'17-Sep'18) || Phase-2 (Oct'18-Jun 21) || Phase-3 (Jul'21- ongoing)

Changes in technical scores of doctors covered under Phase-3 across 3 rounds (N=76 DH)



Note: Due to inclusion of other topics (advanced skills of maternal and sick newborn); the coverage improvement in technical score is shown only for the doctors mentored in Phase-3 facilities across different rounds