



Skills Lab Operational Guidelines

Strengthening competency based training of health care providers for Reproductive Maternal Newborn & Child Health (RMNCH) services

January 2013



Maternal Health Division
Ministry of Health & Family Welfare
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PREFACE

Guidelines and protocols form an integral part of healthcare delivery system. However, performance and outcomes depend upon acquisition & adherence to skills while delivering services. At present most of the pre-service teaching is knowledge based and even in-service trainings are largely focused on knowledge. Moreover regular CME/CNE or post training orientation on the skills is not being conducted.

In order to optimally utilize the knowledge & skills learnt by the health care service providers, it is important to create opportunities for re-orientation not only with regard to knowledge but also to reinforce skills. Creating skills lab for pre-service & in-service with linkages for post training mentoring is a step in this direction.

Operational Guidelines for Skills laboratories define standardize skill stations aimed to provide the requisite skills to health professionals. A skills laboratory has the advantage that allows a learner opportunities for repetition and feedback and permits individualized learning. The learning outcomes can be clearly measured by assessment of performance through Objective Structured Clinical Examination (OSCE) method.

The faculty of the skills lab is also trained and mandated to provide supportive supervision and mentoring visits post training, to assess the skills being practiced by the trained personnel at the health facility.

I am sure that the operational guidelines will help the State Policy makers and programme officers in effective planning and implementation of skills based training of health personnel providing RMNCH services.

(Anuradha Gupta)



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Foreword

Ensuring quality healthcare delivery in public health institutions is a priority under the National Rural Health Mission. One of the key determinants substantially affecting these interventions is the skill sets of the personnel providing service delivery.

Many of the teams constituted by the Government of India, making field visits in the states have repeatedly highlighted the need to augment the skills of health personnel particularly those delivering RMNCH services. Even though skill based trainings are being conducted but the health professionals are not able to utilize their skills optimally; one of the reasons being lack of re-orientation on the skills learnt.

As such, skills laboratory with a standardized set of skill stations focusing on the competencies of the health personnel is the need of the hour. With this vision, a core group was constituted under the guidance of Maternal Health division, Government of India to device standardized skill stations, quality mannequins, pedagogy, and Objective Structured Clinical Examination(OSCE) methods of evaluation.

The guideline prepared is a comprehensive document for not only establishing a skills lab but also for mentoring the trained personnel after the training, so that the skills learnt can be utilized optimally for improving quality of service delivery. The guideline will help various stakeholders and programme officers in establishing skills lab which can impart quality training.

I am sure, the skills laboratories established across the country will ensure practice of protocols and quality service delivery in public health institutions.


(Dr. Rakesh Kumar)





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ACKNOWLEDGEMENT

Ensuring quality of services in public health facilities is one of the important mandates under National Rural Health Mission. To achieve this, it is important that the service providers working at the health facilities are proficient in skills for providing better quality services at health facilities particularly with reference to pregnant women, mothers and new-borns. At present the quality of the pre service teaching and in service trainings is largely focused on knowledge and provides limited opportunities for practising the skills. So there is a need for creating simulated environment for practicing on mannequins before the trainees are allowed to manage the cases independently.

The operational guidelines on Skills lab will facilitate the States in developing standardized skills station and also the learner will have opportunity for repeated practice under the supervision of trained supervisors. Proficiency based evaluation will help both the trainers and trainees in identifying the weaker area which can be strengthened during the mentoring visits by the skill lab trainers.

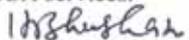
The initiative and guidance of Ms Anuradha Gupta, AS& MD, NRHM, GOI has helped us in preparing this operational guideline. I would also like to thank Dr Rakesh Kumar, JS (RCH), MOHFW for his constant technical and administrative support in developing the guidelines for the skills lab.

I would like to acknowledge the support given by Mission Director (NRHM), Govt of Maharashtra and his team for facilitating the deliberations and technical assistance. Dr J.K. Das, Director, NIHFV as the chairperson of the expert group helped us in finalizing the specifications of the mannequins and different skills stations. My sincere thanks to Dr. P. Padmanaban & Mr. K. S. Prasanth from NHRM who have been instrumental in preparation of these guidelines. I must thank Dr Bulbul Sood, Country Director, JHPIEGO and her team particularly Dr Rashmi Asif, Dr Somesh Kumar, and Ms Princy Fernando from JHPIEGO for their proactive support in framing skill stations.

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It is my earnest request to all the State Mission Directors and Program Officers to take personal initiative in creation of skills lab both for in-service and pre service trainings in order to ensure that the service providers have a platform for harnessing their skills for provision of quality RMNCH services.


(Dr H. Bhushan)

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Abbreviations

ANC	Ante Natal Care
ANM	Auxiliary Nurse Midwife
ANMTC	Auxiliary Nurse Midwife Training College
AMTSL	Active Management of Third Stage of Labour
BCA	Breathing Circulation Airway
CHC	Community Health Centre
CMHO	Chief Medical Health Officer
CMO	Chief Medical Officer
CTI	Central Training Institute
DH	District Hospital
DPM	District Programme Manager
DPMU	District Programme Management Unit
EDD	Expected Date of Delivery
EmOC	Emergency Obstetric Care
ENBC	Essential New Born Care
FHS	Foetal Heart Sound
FRU	First Referral Unit
GO	Government Order
Gol	Government of India
I/C	In Charge
IMEP	Infection Management & Environmental Plan
KMC	Kangaroo Mother Care
LAM	Lactational Amenorrhoea Method
LHV	Lady Health Visitor
LR	Labour Room
MO	Medical Officer
MoHFW	Ministry of Health and Family Welfare
NHSRC	National Health Systems Resource Center
NIHFW	National Institute of Health and Family Welfare
NRP	Neonatal Resuscitation Program
NSV	Non-Scalpel Vasectomy

Obs/Gyn	Obstetrician and Gynecologists
ORS	Oral Rehydration Salt
PHC	Primary Health Centre
PIP	Project Implementation Plan
PNC	Post Natal Care
PPH	Post Partum Haemorrhage
PPIUCD	Post Partum Intrauterine Contraceptive Device
QA	Quality Assurance
RCH	Reproductive and Child Health Programme
RCHO	Reproductive and Child Health Officer
RMNCH	Reproductive Maternal Neonatal and Child Health
SBA	Skilled Birth Attendant
SCs	Sub Centre
SDM	Standard Days Method
SIHFW	State Institute of Health and Family Welfare
SN	Staff Nurse
SPMU	State Programme Management Unit
TA/DA	Travel Allowance/Dearness Allowance

1. Introduction

The Millennium Development Goal 4 & 5 on Improving Maternal and Child Health aims at reduction of MMR to 109 / 100,000 live births and IMR to 41 / 1,000 live births in India by 2015.

Reduction of MMR, IMR, NMR and TFR are priorities of the Government of India. Various steps have been taken by GOI and the State Governments for accelerating the pace of decline of key indicators and to achieve the goals & targets set under NRHM. However, for achieving 12th plan goals and international commitments such as MDGs, there is a need to further accelerate the initiatives with special focus on quality parameters. Improvement and achievements on these goals are possible only if the health care delivery system is strengthened with technically competent health care providers at all levels to deliver critical Reproductive, Maternal, Neonatal and Child Health (RMNCH) services at institutional and outreach levels with universal coverage, equity and quality.

Hence, capacity building of health care providers to make them proficient in technical skills and knowledge requires key intervention for ensuring the desired outcomes. Various types of skill based trainings are being implemented by the States with NRHM support, but ensuring practice of standard technical protocols impacting quality of services still remains a challenge.

Despite the various types of trainings in RMNCH, it is observed that the health care providers are less confident in applying skills. Limited focus on assessing the competencies acquired by the trainees during the training, inadequate exposure / opportunity to practice them during training, lack of post training follow up and under utilization of trained manpower at functional health facilities, have resulted in compromise of skill acquisition, practices and sustenance. As a result, many trainees, who have not acquired the requisite skills

continue to provide services, impacting quality health outcomes. Moreover, the opportunities for re-training of these health care providers are also limited.

Another challenging area, especially in high focus states, is the weak infrastructure, poor technical capacity and inadequate teaching - learning capabilities of the Nursing Schools and the ANM Training Centres. There is no structured plan for Continuing Nursing Education / Continuing Medical Education or reorientation training. RMNCH Monitoring visits have also revealed many of the equipments provided to the health facilities remain unutilized for want of operational knowledge and skills. Preventive maintenance of these equipments is also limited. Hence, strengthening the pre-service and in-service trainings is also critical for ensuring quality of services in health facilities. Strengthening pre-service training will further reduce the burden on 'in service trainings' of these cadres.

Overview

Comprehensive Skills Lab with skill stations are designed with the aim of acquisition and upgradation of the skills of health care providers to enhance their capacity to provide quality RMNCH services leading to the improved health outcomes. A Skills Lab will comprise of skill stations where the trainees learn through practicing skills on mannequins, simulation exercises, demonstration videos and presentations. The basic objective is the reorientation of the personnel during in-service training and continuing medical education of health care providers for RMNCH services. The skills lab will also be utilized to train and orient the students pursuing ANM, GNM and Midwifery courses. The certification will be based on the competencies acquired during the training. The Skills Lab will have dedicated trainers who provides on-site mentoring to ensure practicing of the skills and adherence to the technical protocols acquired by the trainees.

It is planned that at least one nursing school in every state will be developed as Centre of Excellence which will have one Skills lab. Further the Skills lab will also be set up at divisional level comprising of a cluster of 4 to 5 districts and in due course it is so envisaged that every district (particularly) in high focus states will also have one Skills Lab.

Target audience

The target audience of the Operational guideline on Skills lab is;

- State and District Trainers, Programme Managers and Planners
- Obstetricians and Gynaecologists, Paediatricians, Medical Officers, Staff Nurses, Auxiliary Nurse Midwife and other service providers
- Faculty of Nursing Schools / Colleges and Training Centers
- Faculty of Medical Colleges, who can adapt it for strengthening pre service teaching

2. Competency based training in health

What is competency based training?

A competency is a grouping of elements of knowledge and skills necessary for the effective performance of a job / task. "Competent" staff has the ability – i.e, the requisite knowledge and skills – to proficiently perform their job. The competency based training intends to achieve this objective.

What are the advantages of competency based training over traditional methods?

The competency based learning approach provides a means for learners to practice and acquire clinical skills and also upgrade their knowledge. It allows facilitators to demonstrate the correct steps and

gives an opportunity for repetition and feedback to the learners. It permits individualized learning through videos and self practice on mannequins. The skill stations help in clearly defining the learning outcomes against each activity being demonstrated at different stations. Thus the assessment of the trainees becomes specific for the competencies acquired. This will also help in identifying the trainees who are weak in a particular skill, getting an opportunity to have their skills reinforced through periodic reorientation.

Skills Lab serves as a prototype demonstration and learning facility for health care providers so that they develop desired competencies. Skills Lab is equipped with various skill stations as per the skill requirements for various cadres of the health care providers. This will also aid in institutionalizing the usage of Standard Operating Procedures (SOPs) and adherence to technical protocols, so that they become a part of routine practice. Such labs have an edge over other didactic methods by providing the opportunity for repetitive skill practice, simulating clinical scenarios under the supervision of a qualified trainer.

Objective: what will the Skills Lab do?

A Skills Lab;

- facilitates acquisition / reinforcement of key standardized technical skills and knowledge by service providers for RMNCH services.
- ensures the availability of skilled personnel at health facilities.
- improves the quality of pre service training
- provides Continuing Nursing Education / Continuing Medical Education

3. Setting up of Skills Lab

The Skills Lab will have a set of structured skill stations with the specific objective of imparting

competency in skills. The teaching and training at the Skill Lab will be through interactive learning. The methodology for such learning focuses on gaining knowledge through power point presentation and discussions, use of videos and skill acquisitions through repeated hands on practices on the mannequins. These skill stations are of two levels; basic level, add-on and advanced level. Basic skills are the essential skills required for all cadres i.e. ANM, Staff Nurses, Lady Health Visitors, Medical Officers, Nursing supervisors, Teachers and Trainers involved in imparting knowledge of Essential RMNCH services and supervision of provision of Essential RMNCH services. The add-on stations have skill stations to provide specialised skills required for Medical Officers, Nursing supervisors and Trainers. The advanced skill stations focus on specialized skills expected of Medical officers and Specialists, which most often requires advanced mannequins capable of simulating various clinical scenarios. This Operational Guidelines deal with only the Basic and Add-on skills. The list of Skill stations with skills is given in annexure 1.

Steps:

- Designate a State level Nodal Officer (SNO) and a District / Divisional level Nodal (DNO) officer for Skills Lab operationalisation and their functioning. At State level, the State Training Officer or any Programme Officer in charge of training is designated as State Nodal Officer (SNO). At District / Divisional level, the officer in charge of Reproductive and Child Health (RCH) programmes by whatever designation he / she is known, and the Medical Superintendent of the hospital where training facility is located be designated as District / Divisional Nodal Officer (DNO).
- Orient the nodal officers in competency based training models and operational guidelines on Skill lab.
- Select a location and space for setting up Skills Lab. This should ideally be established in the

premises of a well functioning District Hospital / MCH centre or any other government hospital having adequate delivery load, conducting C section, adequate Human Resources, good and functional Labour Room, Operation Theatre and other related services. However, in case of space constrains, this can be located in other training institutions like Regional Health & Family Welfare Training Centre, Divisional Community Training Centres, District Training Centres, Central Training Institutions, Nursing / ANM training schools. In case the skills lab is established in these training centres, then they must be linked with district hospital / any other hospital for exposure visits and real time learning opportunities.

Prerequisites for Skills Lab

One of the critical steps will be to establish a model Labour Room in the attached hospital, where defined Standard Operating Procedures (SOPs) and technical protocols are practiced so that the trainees visiting these facilities can learn to upgrade / set up similar facilities at their own institutions.

Ideally, there should be enough space to accommodate all skill stations in one big hall which is about 1000 sq.ft. Attached to this hall there will be a space of about 300 sq.ft, which will function as a seminar room where facilities for presentations (computer / laptop, LCD projector, screen, etc.) are available. Every lab must have net connectivity. There should be another small room attached to the lab which will function as office. The standard design of the new MCH wing sanctioned by GOI has all these spaces marked. Suggestive lay out and plan is available on MoHFW, Government of India website.

The second important requirement is availability of accommodation for 16 trainees (not necessarily in the same premises but at least nearer to the training site).

Database to be maintained at Skills Lab

A software which is capable of capturing (a) progress in establishing skills lab (b) trainee database – training load, competency & proficiency status (c) trainer database – mentoring visits (d) performance of delivery points mentored by trainers in terms of standards / protocols etc. adhered to must be installed at all Skills Lab and the information could be accessed online by the SNO / DNO / Trainers / QA officers. The software can also be used for planning the training schedules as well. The training schedules for the various trainees are available in the trainers manual. This software shall be developed by Government of India and shared with the States.

Responsibilities of State Nodal Officer

The designated State Nodal Officer (SNO) will identify site for Skill Lab with the above mentioned requirements among the different districts or the divisions.

His responsibilities will be;

- Taking steps for the creation of state-of-the-art Skills Lab as envisioned in the guideline
- Identification of nodal officers at divisional / district level
- Selection of Skills Lab sites and establishing the Skills Lab within a set time frame
- Accreditation of the Skills Lab once it is declared ready by DNO by SQAC / NIHFV / NHSRC / GOI nominated body. The States can access the guidelines for accreditation from the GOI nominated bodies.
- Reflecting the budget in the PIP and timely allocation of budget
- Developing training plan based on the district plan

- Organizing training of trainers and including training of Skills Lab trainers.
- Drawing up timelines and monitoring the progress of the establishment of Skills Lab
- Organize State level orientation workshop on Skills Lab
- Issue guidelines including translation of guidelines / manuals into local language, if needed
- Maintaining database of trained personnel in the requisite formats and evaluating performance of trainers, trainees and Skills Lab. The format will be part of the software that will be shared with the states.
- Ensuring timely procurement of equipments, mannequins as per the specifications (available in annexure 2) of GOI and establishment of Skills Lab
- Maintaining quality standards of the procured equipments & other materials through AMC
- Periodic monitoring of Skills Lab for quality of training and also performance of trainers
- Identifying the non-performers (trainers) in consultation with Divisional Nodal Officer and replace them promptly
- Coordinating with the State Nursing in-charge for pre service nursing training.
- Keeping district wise database on such delivery points which have been technically upgraded against the target with the help of Skills Lab and mentoring visit by the trainers
- Identification & Selection of trainers
- Organize TOT

Responsibilities of Divisional / District Nodal Officer

The DNO for skill station will undertake the following steps:

- Inspect the site, identify infrastructural gaps,

submit a renovation & furnishing plan with budget, get appropriate approval and initiate renovation & furnishing to be completed within 3 months.

- ⦿ The space allocated for skills lab should have uninterrupted power supply, water supply, adequate lighting and ventilation. A provision for class room sessions with LCD projector is to be ensured.
- ⦿ Parallel steps to be undertaken for procurement of mannequins, equipments, consumables, teaching - learning aids, computers, laptops etc. as per list and specifications specified for each skill station.
- ⦿ Providing enabling environment for trainees and trainers in terms of continuous availability of supplies, day to day maintenance and infrastructural requirement, food and other such requirements which if not provided for can compromise quality in training.
- ⦿ Appropriate accommodation needs to be provided to the trainees along with facilities for transport, in case it is located at a distance.
- ⦿ Initiating process of recruitment of trainers i.e 1 MO (preferably LMO) and 3 postgraduate / graduate nurses
- ⦿ Prepare the training plan as per the training load estimate.
- ⦿ Submit name wise list of the trainees along with their proposed date of training to Divisional in-charge with copy to State Nodal Officer.
- ⦿ Timely nomination and release of the trainees by Divisional in -charge and directives to the District CMO are to be ensured.
- ⦿ Timely conduct of the scheduled trainings is to be ensured.
- ⦿ Nominate two MOs / Nurses as mentors / supervisors (in addition to the Skills Lab trainers) for every district to follow up the

mentoring visits by the skills lab trainers.

- ⦿ Schedule the mentoring visits of the mobile trainers.
- ⦿ Ensure maintenance of database of the trainees with competencies acquired, skills gaps for re-training and details of mentoring visits.
- ⦿ Divisional in-charge to communicate to District CMO for ensuring rectification / filling of gaps identified during supervisory visits of the Skills Lab trainer.
- ⦿ Regular reporting of progress to the State Nodal Officer (SNO) and Divisional Nodal officer (DNO).
- ⦿ Coordination with nursing institutions for the conduct of pre-service training using Skills Lab.
- ⦿ Monitor the key performance and process indicators.

Selection of faculty / trainer / others

- ⦿ Every Skills Lab will have dedicated staff members consisting of 4 faculties / trainers and among them one will be designated as in-charge trainer or Skills Lab coordinator.
- ⦿ Among the 4 faculties, one will be MBBS with higher qualification, preferably LMO and three graduate / post graduate nursing staff. Besides this, there will be one data entry operator and one grade IV staff as multipurpose worker.
- ⦿ The selection shall be done by a central organization like NHSRC, NIHFWS or GOI nominated body.
- ⦿ Selection will be done strictly as per the GOI defined Terms Of Reference (TOR) and following the defined selection procedures stipulated by GOI.
- ⦿ The recruited trainers will report to the Divisional Nodal Officer / District Nodal

Officer. These trainers will be dedicated staff for Skills Lab and also for on-site mentoring and will not be assigned any other duty.

- Once the trainers are selected, they will be trained by the national trainers.
- After training, these trainers will have the responsibility of setting up of mannequins and equipments as per the standard plan.
- The trainers will then ensure upgrading the labour room of training centre a model labour room. The skills lab is now ready for receiving the trainees.

4. Training Plan

The initial batches of the trainees will be doctors / nurses / ANMs / supervisors of the attached district hospital / training centre and also from all nursing faculty of the SN / ANM training institute located in the district.

One day orientation will be organized in the Skills Lab for Divisional Nodal Officer / Divisional PM / CMO / CS / ACO / MS / DMS / DHO / DPHO / DD / District PM / BPM / HM and such categories of staff who are not trainers but has a supervisory / managerial role. This will help in understanding the concept of Skills Lab which will also be of assistance in timely release of funds, procurement of mannequins, operationalisation of Skills Lab, timely nomination of trainees, follow up etc. Orientation will also help in improving knowledge on supportive supervision when they undertake mentoring visits.

Training duration

- 6 days training for each batch
- 3 batches in a month

Supervisory & Mentoring visits

- Skills Lab personnel will organize regular mentoring visits every month.
- Duration of the mentoring visit will depend upon the area to be covered, requirement of the district / division and number of trained personnel to be supervised.
- At least 4 - 6 days field visits by each team is mandatory for quality supervision and mentoring
- Each field visit should ensure giving enough time at the facility for onsite supervision and mentoring
- Neonatal resuscitation will be demonstrated and hand-on practice on mannequin will be ensured by the trainers during every mentoring visit.
- Field visit teams will be created comprising of 1 trainer from Skills Lab and another from the division / district who are trained as trainer / supervisor.
- A roster will be prepared for all the teams ensuring that at any particular time at least 3 trainers of the Skills Lab are always available at Skills Lab for conducting training.
- In each visit, each of the team will mentor at least 2 health facilities / delivery points.
- Each trainer will work against a targeted number of health facilities every year for mentoring, so that he / she keeps visiting these facilities till the service providers adopt and adhere to the technical protocols. Thereafter only periodic monitoring visits need to be conducted.

Estimation of training load

Step1: Training load of supervisors and mentors

- The trainers, supervisors and mentors of RMNCH services from each district under the

jurisdiction of Skills Lab will be listed out by name by the Divisional Nodal Officer / District Nodal officer and the list shall be handed over to Skills Lab Coordinator for conducting initial training among the supervisors and mentors

Step2: Training load from delivery points

- ⦿ The Divisional Nodal Officer / District Nodal officer will take updated list of delivery points from the districts under the jurisdiction of Skills Lab and hand over to Skills Lab Coordinator.
- ⦿ He / she will also collect facility wise names of HR posted at delivery points and categorize them into three groups; the first being those involved directly in providing RMNCH services and the second, those who sometimes provide services particularly when performing emergency duty. A third HR list will be of those ANM and SN by name, coming in rotation for their duty in labour room.
- ⦿ The contractual doctors / nurses / ANMs also have to be included in the list of trainees.
- ⦿ The information given about the HR from the above group will include details of trainings undertaken by each of the individuals.
- ⦿ All the above categories will ultimately need to be trained in the Skills Lab. However, training at Skills Lab will be first given to those health providers who have undertaken SBA, BEmOC, NSSK, F-IMNCl trainings
- ⦿ Skills Lab Coordinator will then prepare the training load for each batch from each district with timeline for saturating the identified delivery points before undertaking the training in other facilities.

Step 3: Training load of outreach workers

- ⦿ Name wise list of ANMs working at the SCs which are not delivery points

- ⦿ Name wise list of ANMs and SNs working at the health facilities other than delivery points and SCs

Step 4: Calculating district wise training load from above groups

Step 5: Sending district wise training load along with training plan to State Nodal Officer for preparing State Training Plan

Training Calendar

- A. Prioritizing as follows;
 - ⦿ Trainers and supervisors
 - ⦿ Saturating Delivery points beginning with those providing RMNCH services
 - ⦿ Prioritizing on those undergone SBA training
 - ⦿ Remaining staff
- B. Batch Size

The batch size is 16. This batch size has been arrived at keeping in mind the schedule of Skill stations where trainings are conducted per day, time taken to cover one station and also on the effective trainer-trainee ratio.
- C. Scheduling of batches from high volume facilities like DH, one doctor and 2-3 SN; and SDH / CHC / FRU one doctor and 1-2 nurses. One staff from PHC can be nominated as trainee so that working of such facilities are not affected.

So for a batch of 16 trainees, about 7-8 facilities can be identified and trainees from these facilities should only be nominated till all the identified trainees of these facilities are trained at the Skills Lab.

Care must be taken to ensure that all the facilities are not drawn from one district and that the trainees of each batch are drawn from more than 1 district (Table 1, illustrative)

Table 1: Scheduling of batches

	D1	D2	D3
Batch 1	F1 – T1,2,3 F2 –T1,2 F3- T1	F1 – T1,2,3 F2 –T1,2 F3- T1	F1 – T1,2,3 F2 –T1,2 F3- T1
Batch 2	F1 – T4,5,6 F2 –T3,4 F3- T2	F1 – T4,5,6 F2 –T3,4 F3- T2	F1 – T4,5,6 F2 –T3,4 F3- T2
Batch 1	F1 – T7,8,9 F2 –T5,6 F3- T3	F1 – T7,8,9 F2 –T5,6 F3- T3	F1 – T7,8,9 F2 –T5,6 F3- T3

**'D' stands for district, 'F' for facility and 'T' for trainees*

This will continue till all staff of the selected facilities are saturated. F1, F2 and F3 denotes the facility selected in the district and they will not change till all the staff of that facility is trained, T denotes trainee and D the district.

- The training schedule / skills covered differs by the type of trainee (e.g. Staff Nurse and Outreach workers) and the details of the day to day programme is available in the trainers manual.

Training methodology

- Training methods should be interactive sessions, discussions, demonstration of skills, practice on mannequins, case studies, presentations, videos etc.
- Trainer should limit himself / herself to impart knowledge / skills as per the guidelines.
- Before the beginning of the training, ensure that sufficient teaching material, partographs, case sheets, stationery, etc., are available.
- Every session needs to be planned with set objectives, activities to be performed, formats to be used, and evaluation of the station.
- All formats required by the trainer-trainee is given in the workbook.
- Performance of the trainee at each station is to be certified separately.

5. Skills Lab for training

Using Skills lab for In-service Education

- For in-service education, the 6 day schedule of teaching is to be followed, (the details of which are available in the training manual), except for those candidates who needs reorientation in only a few skills. Training methodology should be adhered to the guidelines specified in the trainers manual on Skills lab.

Using Skills lab for Pre-service Education

- The practicing of the skills should be followed by imparting of the knowledge as per the pre-

service curriculum. There are two options as follows:

- ◆ while a particular topic is being discussed, Skills Lab practice related to that topic can follow, particularly for institution having Skills Lab in their premises.
- ◆ faculty concerned will assess the training requirements and book their schedule with the Skills Lab accordingly. According to the plan submitted, the Skills Lab will allocate timings to the institution.
- The pre-service Skills Lab can also be utilized by other government teaching institutions, if they do not have such Skills Lab. However, a prior appointment with the Skills Lab Coordinator for scheduling these batches needs to be taken.
- ◆ It will be desirable for the private teaching institutes to have similar Skills Lab so that the quality of passed out candidates remain on par with the Government Institutes.
- ◆ Since Skills Lab in pre-service training is a part of the regular teaching / training, no honorarium for the ANM / GNM School faculty is envisaged

Prerequisites of Trainers & Job responsibilities

Appointment is suggested for a period of 3 years, with annual performance review. Retired professionals who have experience working in training programmes, and who are willing to travel and have a passion for teaching may be preferred.

Eligibility: Nursing

- Degree in nursing with 2-3 years experience, preferably in the labour room; or
- Diploma in nursing with minimum 5 years experience, preferably in the labour room

- Meeting the registration requirements of the nursing council
- Willingness to travel to the mentoring sites
- Aptitude for teaching

Eligibility: Medical

- MBBS with 2-3 years experience working in Obstetrics & Gynaecology department
- Aptitude for teaching
- Willingness for travel to the mentoring sites
- Meeting the registration requirements of the Medical Council

Selection Process

By GOI nominated institutes / agency

Applications through:

- Open advertisement
- Popular websites
- Campus selection
 - ◆ Short listing as per TOR
 - ◆ For short-listing: Online written test comprising different types of question / scenarios for testing aptitude and knowledge. Sample test questions will be prepared in consultation with Maternal Health and Nursing division of GOI.
 - ◆ Further short-listing before interview
 - ◆ TA / DA for interview by 2nd AC to be given to the shortlisted candidates

Job responsibility of Trainers

- Trainer should establish themselves not only for conducting training but also as a mentor for those who have been trained;
- Will mentor 2 supervisors in every district for continuous mentoring of the health providers

involved in RMNCH care;

- ◉ Mentoring / supervisory visits to the delivery points (at least 6 days / month);
- ◉ Preparing annual targets of mentoring institutes in consultation with district and divisional offices;
- ◉ Submitting the tour plan in advance to district and divisional in-charge and also visit report. (Format 1 in Annexure 3)
- ◉ The trainers will always carry neonatal mannequin during mentoring visits.

Job Responsibilities of Skills Lab Coordinator

- ◉ Coordinator will be the nodal contact person for all Skills Lab activities
- ◉ Custodian of teaching –learning aids including mannequins and ensure its proper maintenance and functionality;
- ◉ Ensures conduct of training as per training plan
- ◉ Ensuring proper upkeep and maintenance of all equipments and mannequins
- ◉ Ensuring quality of training and adherence to training guidelines as per GOI manual
- ◉ Ensuring maintenance of database (procurement, training schedules, trainee database, mentoring visits, etc.) at Skills Lab
- ◉ Providing enabling environment for trainees and trainers in terms of accommodation, transport, continuous availability of supplies, food and such other day to day requirements which if not provided for, can compromise quality in training.
- ◉ Ensure setting up of Model Labour room in the institution where Skills Lab is located
- ◉ The Skills Lab Coordinator will ensure sending copies of reports relating to Skills Lab

performance (including mentoring visits) to District and State QA Committee, besides the nodal officers.

Training of Faculty / Trainer

- ◉ All TOTs will be of 6 days duration at institutions identified by GOI.
- ◉ States will send their requirement of TOT of faculty / trainer by name so that a well performing / accredited institution can be chosen to get these trainers trained.
- ◉ Faculty of these training institutes must be trained first, on the full and complete protocols of the Skills Lab and who will be certified by the training institute only when the trainers achieve more than 70% competency.
- ◉ These trainers will then conduct at least one to two batches of supervised training in the presence of two national trainers at their place of posting.
- ◉ The certificate to the trainers will be issued only after they have conducted the supervised training (2 batches) even if 70% competency has been achieved in the TOT.
- ◉ The national master trainers will remain available for 6 days of TOT for the supervised training being conducted by these trainers for the trainees defined in the training guideline.
- ◉ NHSRC (PHA division) with support & guidance from Maternal Health division, MoHFW, will act as the national nodal agency for organizing TOTs, supervising of selection process of trainers and guiding the states in setting up of Skills Lab and developing of training plans.
- ◉ NHSRC will also help in developing national centres of excellence for Skills Lab training at the identified institutes in the country with support & guidance from MH division, MoHFW.

6. Monitoring and Evaluation

The Monitoring and Evaluation of the performance Skills Lab (Trainer / supervisor, Trainee, delivery points mentored) should be closely linked with the Quality Assurance and Supportive Supervision initiatives of the State. A set of key performance indicators are listed below which can capture these essential elements. It is the joint responsibility of the QA Committee at district level and the officers of the Skills Lab to ensure that all protocols are adhered to in all the institutions identified as delivery points. The QA Committee should also keep a copy of record of the training as well as status on performance and protocol adherence of the trainees and the delivery points mentored by the trainers. The Skills Lab Coordinator will ensure sending a copy of various reports to district and state QA Committee, besides the nodal officers.

In all the meetings of the division / district QA Committee, the trainers of the Skills Lab should be invited. The DNO has to ensure that atleast one trainer participates in this meeting to discuss the progress and resolve problems.

Key performance indicators

Every trainer of the skills lab will be allotted a fixed number L3 / L2 / L1 delivery points for mentoring. These allotments / responsibility shall be given after a thorough discussion within the Skills Lab faculty under the leadership of DNO.

The initial batches of the trainees will come from these delivery points only. Once 50% of personnel receive training, mentoring visit will start by the trainers.

Key performance indicators: State level

- ⦿ Percentage coverage of delivery points (out of total) for mentoring by Skills Lab
- ⦿ Percentage of labour rooms reached / achieved quality standards out of the total delivery points in the state. (All the standards referred

here are as per Maternal and Neonatal Health Tool Kit, MoHFW, Gol).

Key performance indicators: Divisional / District

- ⦿ Monthly performance reporting in terms of number of batches (as well as absolute numbers) out of total planned for the Skills Lab
- ⦿ Number of mentoring visits conducted against the total delivery points
- ⦿ Percentage of labour rooms reached / achieved quality standards out of the total delivery points in the division / district

Key performance indicators: Skills lab

- ⦿ Percentage of trainees achieved competencies (minimum 70%)
- ⦿ Percentage of Skills lab performing as per standards out of the total planned in the district

Key performance indicators: Trainer

- ⦿ Percentage of institutions following Infection prevention protocols in Labour room, OT and Laboratory among the delivery points allotted
- ⦿ Percentage of mentoring visits (institutions covered) out of the total allotted delivery points

Key performance indicators: Trainee

Measurable only after 60% personnel of a particular delivery point got trained at Skills Lab

- ⦿ Number of delivery points with model labour rooms set up in the district
- ⦿ Number of trainees not adhering to the Clinical Protocols (e.g. AMTSL, BMW, IMEP, ENBC) – To be measured after 3 months of individual training, by the Skills Lab trainers during mentoring visit

7. Certification of the trainee

- ◉ A knowledge based pre test;
- ◉ During training, trainer will assess every trainee on each skill station;
- ◉ At the end of the training a post knowledge based test and a skill test based on Objective Structured Clinical Examination (OSCE) for the critical skills shall be done;
- ◉ Trainees securing more than 70% will be deemed to have acquired the skills and those securing less than this shall be reoriented, as per skill gaps identified. A database to this effect will be maintained at the Skills Lab.
- ◉ The critical skills to be assessed and the checklist are given in the trainers manual;
- ◉ Post training skills will be judged by OSCE method at every skill station. The trainer will observe the competency acquired by each trainee so that a reorientation plan can be made for the weak trainee. The trainee will be issued a certification for participation. Format of the Certificate of participation is given in the trainers manual. The credit points / grades based on competencies acquired against critical skills shall be part of the trainee database;
- ◉ The trainers will carry the credit points / grades with competencies acquired by individual trainee during field visit and observe the proficiency of the trainee on site i.e. the place of posting;
- ◉ The trainer, based on the proficiency in practicing the skills will first conduct on-site mentoring and then only decide whether a particular trainee needs further re-orientation at Skill Lab. The details of the same will be part of the database of the Skills Lab (Format 2 in Annexure 3). However, since the proficiency can be tested only onsite, the task is entrusted with mobile mentors.

8. Budget

Table 2: Budget for establishing Skills Lab

Category	Non - recurring Cost	Recurring (yearly)
Civil works / Furniture / wood work / renovation / Electrical work with power back up by 5 KVA generator / Water Supply and other ancillary requirements for skills lab including seminar room and office set up (New MCH wing have built- in skills lab and seminar room etc. So no separate budgeting is required for skills lab in these MCH wings for civil works)	20,00,000	
Mannequins & Equipment (as per specification)	15,00,000	
Consumables & Supplies		50,000
Teaching –learning material (2 Computers, 2 Laptops, 1 LCD projector, 1 screen, 1 printer cum Fax cum Photocopier, etc.)	3,00,000	
POL for Generator – diesel @ 10 liters per day (Rs 60 x10 = Rs 600) includes oil X 24 days x 12 months)		172,800
Maintenance of Equipments, Mannequins, Generators, etc		40,000
Sub Total	38,00,000	2,62,800
Salary for 1 Doctor @ Rs 66,000 (includes salary Rs 60,000 + Rs 5000 for accommodation + Rs 1,000 Mobile reimbursement per month) x 12 months		7,92,000
Salary for 3 Nurse Trainers @ Rs 46,000 (includes salary Rs 40,000 + Rs 5000 for accommodation + Rs 1,000 Mobile reimbursement per month) x 12 months		16,56,000
Sub Total		24,48,000
Grand total	38,00,000	27,10,800

Note: The newly constructed MCH wings having skills lab shall be entitled to get Rs 18 lakhs (mannequins & other teaching aids) one time grant and Rs 27, 10,800 as annual recurring cost.

Table 3: Budget for training one batch of 16 participants

Item	Cost
No. of participants per batch (16)	
TA (to & fro travel but disbursement as actual and as per entitlement)Rs. 3000X16	48,000
DA + Accommodation disbursement ANM / Nurses @ 400X10X6days as per the type of participant i.e.	24,000
Doctor / ANM / Nurse Doctors @ 700X6X6 days	25,200
Honorarium to training team of trainers (4)	Salary component
Contingency (Teaching Material, Course Material & Mis. Expenses)Rs. 250 X 16	4,000
Lunch and Tea for the Trainee (Rs.200 x 16 participants X 6 days)	19,200
Sub total	120,400
IOH (10%)	12,040
Total	132,440

Once a skills lab is established, its maintenance cost, HR cost along with their mobility support and the training cost for all batch needs to be reflected in the budget plan and PIP.

Table 4: Budget per mentoring visit of 2 trainers

Item	Cost
Hiring of vehicle (2000 / dayX15 days) for 15 days field visit including to & fro journey	Rs 30,000 per month
DA + Accommodation Doctors / skills lab trainers (both Doctor / Nurse) / other supervisor) @1500	Rs 1500 X 2 skills lab trainers X15days = Rs 45,000 per month
Total per mentoring visit of 15 days	Rs 75,000 per month
Total mentoring visit per year (Rs 75,000x12)	Rs 9,00,000 per year

Annexures

Annexure 1: List of Skill stations

S. No.	Theme	Basic Skills	Add-on Skills
1	Antenatal Care	<ul style="list-style-type: none"> ⦿ Calculation of EDD ⦿ Recording BP and weight ⦿ Abdominal examination and auscultation of Foetal Heart Sounds (FHS) ⦿ Laboratory Investigations- Haemoglobin estimation- Hb Sahli's ⦿ Hb Color strips ⦿ Urine test for protein and sugar by uristix ⦿ Urine pregnancy detection by using kit ⦿ Rapid Diagnostic Test for malaria ⦿ Testing blood sugar using Glucometer 	
2	Intra-natal Care	<ul style="list-style-type: none"> ⦿ Preparation of labour room (organise a LR, trays, delivery (instrument) kit, privacy and dignity, NBCC) ⦿ Pelvic examination includes cervical dilatation and pelvic assessment ⦿ Plotting & Interpreting partograph ⦿ Normal Delivery ⦿ AMTSL & Checking placenta ⦿ Providing initial dose of MgSO₄ for severe pre-eclampsia / eclampsia management ⦿ Initial Management of atonic PPH 	<ul style="list-style-type: none"> ⦿ IV Magsulf administration ⦿ Management of APH ⦿ Management of Incomplete abortion ⦿ Episiotomy repair ⦿ Complicated delivery (Twin, breech, shoulder dystosia) ⦿ Assisted delivery (forceps, ventouse)
3	Complication Management (MNH)	<ul style="list-style-type: none"> ⦿ BCA approach ⦿ Identification & management of shock (IV line & Blood transfusion, catheterization) 	

4	New Born Care	<ul style="list-style-type: none"> ⦿ Essential Newborn Care for a normal, crying baby ⦿ New Born resuscitation ⦿ KMC ⦿ Temperature Recording ⦿ Maintaining temperature using Radiant warmer ⦿ Use of Suction machine ⦿ Counting respiratory rate ⦿ Oxygen administration ⦿ Using Glucometer ⦿ Preparation and use of ORS ⦿ Administration of Zinc tablet 	<ul style="list-style-type: none"> ⦿ Chest compression and medication- New Born Resuscitation ⦿ Use of Phototherapy machine for new-borns with Jaundice ⦿ Setting up an IV line on child arm ⦿ Inserting feeding tube in a baby ⦿ Using Pulse oximeter ⦿ Using Nebulizer and Multi dose inhaler with spacer
5	Family Planning	<ul style="list-style-type: none"> ⦿ Family Planning Methods (LAM, OCP, Male / female condom, SDM, Injectables, Implant, Emergency contraceptive pills), NSV ⦿ Interval IUCD 	<ul style="list-style-type: none"> ⦿ PPIUCD
6	Infection Prevention	<ul style="list-style-type: none"> ⦿ Hand washing ⦿ Personal Protective attires ⦿ Preparation of 0.5% chlorine solution using bleaching powder ⦿ Processing of equipment's – cleaning, steam sterilization or HLD (High Level Disinfection) b) disinfection and disposal of sharps and needles ⦿ Autoclaving ⦿ Segregation of bio medical waste ⦿ Labour room / Operation Theatre sterilization ⦿ Chemical sterilization of instruments 	
7	Counselling	<ul style="list-style-type: none"> ⦿ Plenary* 	
8	Documentation	<ul style="list-style-type: none"> ⦿ Plenary* 	

*session covered in Seminar room

Annexure 2: Specifications of Mannequins and Equipments for Skill Lab

General specifications desired for all Mannequins:

- The color of the mannequin should be Caucasian simulating Indian babies / adult in medium skin tones.
- The material of the mannequin should be of polyvinyl and silicone rubber, free from any carcinogenic agents.
- The texture of the mannequin should be soft and smooth and close to the feel of baby / adult skin as relevant. The texture must be friction free to demonstrate the desired procedure.
- The Internal parts of mannequin must be realistically sculpted, anatomically accurate and feel must be smooth / resilient / bony as relevant and suitable for simulation.
- The mannequins must be portable and any fittings used in mannequins must be of aluminum or polycarbonate or equivalent.
- The mannequin's durability must be of minimum 2 years.
- The material of the mannequin should withstand extremes of temperature (upto 45 degree Celsius)
- The supplier must ensure manufacturer's warranty / guarantee for the specifications and also against manufacturing defects.
- The manufacturing units must have an internal system of quality control and supplier should produce the process and certificate from the manufacturers.
- The supplier will be responsible for service, maintenance, replacement, etc. against any complaints up to the satisfaction of the users, irrespective of the location of manufacturing unit.
- The Lead time must not be more than 6 weeks after confirmation of written supply order.
- The supplier must ensure the availability of on- call service agent from state headquarters within 48 hours, from local within 24 hours, from outside state within 7 days and incase the problem is not rectified on site at the time of service then its need to be rectified with in next 7 days for minor defects and within 28 days for major defects.
- The warranty for mannequins must be two years from the date of receiving at consignees address.
- All mannequins should include a soft / Hard Carrying Case and study questions, Dos and Dont's, instructions manual, maintenance guide, , background information, videotape for demonstrating the use of mannequin, user manual with trouble shooting guidance, technical manual with maintenance and first line technical intervention instructions and any other relevant teaching / training materials in English
- The mannequins should have additional accessories as listed and also talcum powder or silicone gel to avoid friction, list of accessories and spare parts with cost and contact details of its supplier preferably within State / Delhi.
- The supplier / manufacture should list the name and address of technical service providers in India.
- The payment of the mannequin is linked with installation at consignee address, demonstration to service providers at consignee address and certification of installation and functionality by the head of the concerned department.
- The suppliers should agree for 10% of payment to be released after 2 years (Warranty Period)

General specifications desired for all equipment's:

- The material used for equipment's should be of rust proof, high quality PVC / stainless steel / polyvinyl and silicone rubber as applicable and free from any carcinogenic agents.
- The stainless steel composition must be of 8 to 10% nickel, 18 to 20% chromium.
- The fittings of all equipment's must be of stainless steel / aluminum.
- The equipment's should be durable of minimum 3 years for repeated use by trainers / trainees.
- The supplier must ensure manufacturer's warranty / guarantee for the specifications and also against manufacturing defects.
- Every manufacturing unit must have an internal system of quality control and supplier should produce the process and certificate from the manufacturers.
- The supplier will be responsible for service, maintenance, replacement, etc. against any complaints up to the satisfactions of the users irrespective of the location of manufacturing unit.
- The lead time of all equipment's should not be more than 6 weeks after confirmation of written supply order.
- The supplier must ensure the availability of on- call service agent from state headquarters within 48 hours, from local within 24 hours, from outside state within 7 days and in case the problem is not rectified on site at the time of service, then it need to be rectified within next 7 days for minor defects and within 28 days for major defects.
- The equipment's should have three years comprehensive warranty and two years of extended comprehensive warranty.
- Equipment's should include a Hard Carrying Case and study questions, Dos and Dont's, maintenance guide, use of equipment's, background information, transparencies and videotape, user manual with trouble shooting guidance, technical manual with maintenance and first line technical intervention instructions and any other relevant teaching / training materials, in English.
- The equipment's should have detailed information of the device features, functions, detection capabilities, method of operation, materials, alarm capabilities, software, specifications and operating ranges, power source, parameter detection ranges, etc wherever applicable. This description should contain engineering drawings, pictures, and all devices labeling, such as instructions for use and promotional materials.
- The equipment's should have additional accessories as listed and also material / gel / oil to avoid friction and enhance smooth function, list of accessories & spare parts with cost & contact details of its supplier preferably within State / Delhi.
- The payment of the equipment's is linked with installation at consignee address, demonstration to service providers at consignee address and certification of installation and functionality by the head of the concerned department.
- The supplier / manufacturer should list the name and address of technical service providers in India.
- The equipment's should have power cord wherever required, temperature electrode and fittings with at least 10 meters of standard wire and accessories
- The suppliers should agree for receiving 10% of payment of equipment's after 3 years (Warranty Period).
- All equipment's should have device safety certification.

Theme 1: Antenatal Care

Skill station: Antenatal abdominal palpation and auscultation of fetal heart sound

1. HUMAN FETUS REPLICAS

Features:

- ⦿ Human fetus replicas should be very close to real
- ⦿ Human fetus replicas should have actual size showing external development and growth of the fetus for corresponding gestational age
- ⦿ Human fetus replica should be available to represent different gestation period- 5th and 7th month
- ⦿ Human fetus replicas should have features, color and skin texture simulating Indian babies
- ⦿ Human fetus replicas should be feasible for teaching external development and growth of the fetus
- ⦿ Human fetus replicas should be flexible enough to fit inside the abdominal palpation mannequin while demonstrating the Leopold maneuver during pregnancy

2. ABDOMINAL PALPATION MANNEQUIN FOR LEOPOLD MANEUVERS DURING PREGNANCY

Features:

- ⦿ The abdominal palpation mannequin should have full size adult female lower torso (abdomen and pelvis)
- ⦿ The abdominal palpation mannequin should have a one-piece full term fetus with palpable fontanelles, spine, shoulders, elbows, and knees.
- ⦿ The abdominal palpation mannequin should have upper and lower inflatable cushions with independent inflating devices in the abdominal part of the mannequin

- ⦿ Lower cushion when inflated should raise the fetus to desired position
- ⦿ Upper cushion when inflated should create a firm abdomen as in the ninth month of pregnancy

- ⦿ The abdominal mannequin should be able to accommodate the fetus in vertex, breech, or transverse positions.
- ⦿ The abdominal mannequin should have the facility to accommodate the fetus of different gestational age, demonstrate vertex / Breech / transverse position delivery, and attach the perineum to demonstrate the episiotomy repair.

3. Dictaphone

- ⦿ Dictaphone should be able to give a simulation of fetal heart sound
- ⦿ Dictaphone should have 4GB Digital Voice Recorder
- ⦿ Dictaphone voice recorder should work for recording digitally all the voices and reproduce it with good quality sound.
- ⦿ Dictaphone should have different recording settings.
- ⦿ Dictaphone should have digital pitch control / facility for different Scene Selection
- ⦿ Dictaphone should have Intelligent Noise Cut / Low Cut Filter / Digital VOR
- ⦿ Dictaphone should have Linear PCM / MP3 / WMA / AAC Playback
- ⦿ Dictaphone should have Track Mark

Theme 2: Infection Prevention

Skill station: Sterilization

AUTOCLAVE

- ⦿ The autoclave should be of 20 L capacity and must be Stand-Alone Bench Top autoclave.

- The autoclave should have automatic single door, self-sealing with high-quality silicone gasket.
- The autoclave should have chamber diameter 25 cm, depth 45 cm.
- The autoclave should have pre-set automatic cycles for unwrapped instruments, wrapped instruments / packs;
- The autoclave should have slow exhaust and drying cycles
- The autoclave should have two automatic programs, which are 2.2 bar at 134°C and 1.1 bar at 121°C
- The autoclave should be fitted with 5 L water reservoir - could be manually filled, automatic for at least 10 cycles
- The autoclave should have auto power shut-off upon completion of each cycle
- The autoclave should have 3 removable shelves, instrument trays and double safety door locking device
- The autoclave should have safety feature to protect against over-pressure and over-temperature
- The autoclave should have audible and visual alert upon cycle interruption or completion
- The autoclave should have unwrapped cycle time: cold 30 min, hot 20 min
- The autoclave should have control panel with alpha-numerical display and cycle indicators
- The autoclave should have air vents situated laterally and need to be manually closed after sterilization
- TST (temperature steam time) control spot must be self-adhesive and the color changes must be irreversible when sterilized, attachable to steam sterilizing containers
- Power requirement for the autoclave must be 220 V / 50 Hz single phase
- Power consumption of autoclave not more than 3000 W
- The autoclave should have device safety certification according CE 93 / 42, FDA 510k or equivalent
- Additional accessories:
 - ◇ Set of 3 matching instrument baskets
 - ◇ Set of 3 matching sterilizing drums
 - ◇ 3 roll of sterilization indicator TST control spots
 - ◇ 3 boxes paper sheet and crepe for sterilization pack
 - ◇ 3 rolls of adhesive tape for sterilization pack
 - ◇ 10 spare set of fuses
 - ◇ 1 box TST (temperature steam time) control spot, (box of 500 TST), plus 1 record sheet
 - ◇ 2 Stainless steel cylindrical sterilizing drum of 165mm diameter
 - Thickness steel: 0.8 mm
 - Diameter, approx: 165 mm
 - Height, approx: 100 mm

Theme 3: Family Planning

Skill Station:

1. Interval IUCD
 2. Postpartum IUCD
1. **HAND HELD UTERUS MANNEQUIN**
 - Hand held uterus model should show coronal section of uterus, ovaries and fimbriae
 - Hand held uterus model should have a clear plastic window permitting easy view of IUD
 - Hand held uterus model should permit easy demo of inserting and removing of IUD
 - Hand held uterus model should be Made of PVC

2. FEMALE LOWER TORSO MANNEQUIN WITH NORMAL AND POSTPARTUM UTERUS AND ACCESSORIES

- ⦿ Should have full size adult female lower torso (abdomen and pelvis) with relevant internal landmarks
- ⦿ Should have palpable normal and pregnant uteri with realistically sculpted and anatomically accurate ovaries and fimbriae
- ⦿ Should have accessories to enhance visual recognition of normal and abnormal cervixes
- ⦿ Should have removable introits
- ⦿ Should have "screw" design between Uterus and Cervix for fast and easy change-out
- ⦿ Should be suitable for teaching / practicing bi-manual pelvic examination
- ⦿ Should be suitable for vaginal examination, including insertion of speculum, uterine sounding and IUD insertion & removal
- ⦿ Should have distal end of vagina to facilitate introduction of a female condom
- ⦿ Should have features to demonstrate Minilaparotomy (both interval and postpartum tubal occlusion), Manual vacuum aspiration (MVA), visual recognition of normal and abnormal cervixes, 48 hours postpartum fundal massage
- ⦿ Additional Accessories:
 - ◆ One anteverted uterus
 - ◆ One retroverted parous uterus
 - ◆ Five normal cervixes
 - ◆ Four abnormal cervixes
 - ◆ Ten fallopian tubes
 - ◆ 2 x 48 hour postpartum uterus with 'duckbill' cervix and fallopian tubes
 - ◆ 2 Extra locking pins and thin cervical locking ring

Theme 4: Intranatal care

Skill Station:

1. Pelvic examination includes cervical dilatation and pelvic assessment
2. Normal Delivery
3. AMTSL & Checking placenta
4. Initial dose of MgSO₄ for severe pre-eclampsia / eclampsia management.
5. Episiotomy repair
6. Initial Management of atonic PPH
7. Complicated delivery (Twin, breech, shoulder dystosia, ventose and Forceps)

1. CHILD BIRTH SIMULATOR ALONG WITH ATTACHMENT FOR CERVICAL DILATATION (CLOSED OS, 4 CM, 6CM, 8CM, FULLY DILATED CERVIX)

Features:

- ⦿ Should have hemi pelvis of adult female with anatomical landmarks like pelvic cavity, spine etc. Should have manual mechanical birthing system to enable the user to control the rotation and speed of fetus delivery etc.
- ⦿ Should have articulating fetal baby with adaptors to fit with manual birthing system
- ⦿ Should be versatile to change the position of the fetus during the process of birth including descend, flexion, extension, internal and external rotation, restitution.
- ⦿ Should have features for training normal and breech deliveries
- ⦿ Should have Inflatable cushions to lift fetus for Leopold maneuver during pregnancy
- ⦿ Shall have adaptive birth canal to demonstrate dystocia and deal with its relief
- ⦿ Should have features to demonstrate cord prolapse

- Shall allow demonstration and practice of placenta previa
- Should have cervical dilatation attachment for closed Os, 4cm, 6cm, 8cm and fully dilated cervix
- Should have features simulating / represent conditions of the cervix and vagina prior to labor, during labor and at birth in a primigravid woman
- Additional Accessories :
 - ◇ One detachable padded stomach cover
 - ◇ Detachable Manual mechanical birthing system with mounting flange
 - ◇ One fully articulating fetal baby with adaptors to fit with manual birthing system
 - ◇ One elevating cushion for Leopold maneuvers
 - ◇ 6 detachable dilating cervixes
 - ◇ 6 detachable Vulva
 - ◇ 9 vulvar inserts
 - ◇ 6 placentas
 - ◇ 9 umbilical cords
 - ◇ One 48 hour postpartum uterine activity assembly
 - ◇ One postpartum perineal insert
 - ◇ Reusable episiotomy repair module (set of 3 including medial tears, mediolateral tears and standard mediolateral episiotomy)
 - ◇ 2 sets cervical dilatation attachment for closed Os, 4cm, 6cm, 8cm and fully dilated cervix .
- 2. **POSTPARTUM SUTURING TRAINER**
 - Should enable use of standard needle holder with "00" or "000" chromic sutures
 - Should have three separate modules for episiotomy
 - Should have one model featuring medial episiotomy with tears in labia-minora
 - Should have one model featuring mediolateral episiotomy with peri-urethral tears
 - Should have one model featuring standard episiotomy
 - Should have features to attach with child birth simulator
 - Additional accessories:
 - ◇ 3 nos. of medial episiotomy model with tears in labia-minora
 - ◇ 3 nos. of mediolateral episiotomy model with peri-urethral tears
 - ◇ 3 nos. of mediolateral episiotomy model
- 3. **MANNEQUIN FOR SIMULATION AND MANAGEMENT OF PPH:**
 - The mannequin should be highly realistic for simulating postpartum hemorrhage
 - The mannequin should have features to manually control the amount of bleeding and the conditions of uterus.
 - The mannequin should have features to control dilation of the cervix.
 - The mannequin should have the following
 - ◇ Full term fetus with placenta and umbilical cord
 - ◇ Blood concentrate
 - ◇ Fluid collection tray
 - ◇ Fluid drain
 - ◇ Urine catheter
 - ◇ - 20 ml syringe
 - ◇ - Carrying bag

- The mannequin should have features for training the following
 - ◇ Urine catheterization
 - ◇ Normal delivery
 - ◇ Complete and Incomplete placenta delivery
 - ◇ Oxytocin injection
 - ◇ Controlled cord traction
 - ◇ Bimanual compression of uterus

4. INTRAMUSCULAR INJECTION TRAINING MANNEQUIN

- Intramuscular injection training mannequin should have a lifelike human lower torso with intramuscular injection site in upper outer quadrant of palpable gluteal region on both side (left and right).
- Intramuscular injection training mannequin should have facility for detaching the upper portion and illustrating the anatomical details of posterior side of the simulator, deep anatomic structure of the head of femur, the shaft of femur, the sciatic nerve, deep layers of muscles, major blood vessels and aspect of bony pelvis underlying the gluteus muscles – at any one side – by hand painted or molded as relevant.
- Intramuscular injection training mannequin should have Intramuscular injection in ventrogluteal site below iliac crest on both side(left and right)
- Intramuscular injection training mannequin should have facility for giving Intramuscular injection in lateral thigh at any one side

Theme 5: Complication Management (MNH)

Skill Station:

1. BCA approach
2. Management of Shock (IV catheterization and Urinary catheterization)

1. ADULT CPR MANNEQUIN

- Adult CPR mannequin should have features to demonstrate opening of airway, head tilt / chin lift and jaw thrust techniques.
- Adult CPR mannequin should have disposable airways
- Adult CPR mannequin should have removable, reusable faces
- Adult CPR mannequin should have a "clicker" which confirms correct compression depth
- Adult CPR mannequin should have compression spring for consistent resistance
- Adult CPR mannequin should have weight: 3.9 kg and H x W x D: 25 in x 8.5 in x 13.5 in
- Additional Accessories:
 - ◇ 6 reusable mannequin faces
 - ◇ 6 airways
 - ◇ 50 mannequin wipes

2. ADULT IV TRAINING ARM KIT

- Adult IV training arm should have full adult arm with clenched fist and tournique position
- Adult IV training arm should be suitable for practicing IV injections
- Adult IV training arm should have prominent venous network
- Adult IV training arm should have anatomically located venous grooves, fitted with soft latex tubes, closely simulating consistency of human veins
- Adult IV training arm must have a pliable translucent latex skin stretched over venous network
- Adult IV training arm should have cephalic, basic, antecubital, radial, and ulnar veins
- Adult IV training arm should have veins in dorsum of hand

- ⦿ Adult IV training arm should feature 'realistic pop' as needle enters vein
- ⦿ Adult IV training arm must have a Smoked Lucite base with metal stand
- ⦿ Adult IV training arm veins and skin must be replaceable
- ⦿ Additional Accessories:
 - ◆ 4 set of kit with simulated blood concentrate, pressure bulb, blood dispensing bag
 - ◆ 4 sets of spare arm skin for future replacement

3. FEMALE CATHETERIZATION MANNEQUIN

- ⦿ Female catheterization mannequin should have adult female lower torso with realistic vulval area and urethral opening
- ⦿ Female catheterization mannequin must have internal bladder reservoir for standard catheterization exercises
- ⦿ Female catheterization mannequin should have external reservoir bladder mounted on Smoked Lucite with metal stand
- ⦿ Female catheterization mannequin should have modular urethral valve to prevent fluid leakage
- ⦿ Female catheterization mannequin should have inflatable internal bag to lift the bladder anteriorly
- ⦿ Female catheterization mannequin should have detachable upper skin to show bladder, inflatable bag and foam
- ⦿ Female catheterization mannequin should show connection to bladder and vagina with locking ring and rectum
- ⦿ Female catheterization mannequin should have removable urinary assembly
- ⦿ Additional Accessories :
 - ◆ 6 spare bladder tanks
 - ◆ 6 urethra inserts

Theme 6: Essential Newborn care

Skill Stations:

1. Essential New Born Care
2. New Born Resuscitation
3. KMC
4. Measurement of Body Temperature –Newborn
5. Radiant Warmer
6. Use of Suction machine
7. Setting up an IV line on child arm
8. Inserting NG Tube
9. Phototherapy
10. Glucometer
11. Oxygen administration
12. Nebulization and Multi dose inhaler

1. ESSENTIAL NEW BORN CARE & RESUSCITATION MANNEQUIN

- ⦿ The Newborn mannequin should be realistic in size and appearance and also natural weight, feel and touch.
- ⦿ Newborn mannequin should have features for training essential newborn care (ENBC) and newborn resuscitation.
- ⦿ Newborn mannequin should facilitate effective bag and mask ventilation, chest must rise only with correct technique.
- ⦿ The newborn mannequin should include the following:
 - ◆ Squeeze bulbs for simulation of cord pulsation, spontaneous breathing, auscultation of heart sound and cry
- ⦿ Additional Accessories:
 - ◆ 4 External umbilical cords and 6 umbilical ties
 - ◆ 4 baby sheets or towels
 - ◆ 2 Head cap

- ◆ 2 Neonatal mucus sucker (easy to open, clean, autoclavable and reusable)
- ◆ 2 Training Stethoscope

2. NORMAL NEW BORN BABY MANNEQUINE (KMC)

- Newborn mannequin should weigh close to normal newborn (2.5 – 3.5 kgs)
- Newborn mannequin should have actual size showing external development & growth
- Newborn mannequin should be close to normal skin colour, texture and bony feel
- Newborn mannequin should have moving head, flexible upper and lower limbs
- Newborn mannequin should have baby cap, nappy, mittens, socks, Kangaroo Mother Care (KMC) dress / shawl / bed sheet (for wrapping the mother and baby)

3. DIGITAL THERMOMETER (MEASUREMENT OF BODY TEMPERATURE)

Digital thermometer should have

- Celsius scale switchable to Fahrenheit
- Measurement range between: 32°C to 43°C
- Accurate measurement: + / - 0.10°C between 32°C to 43°C
- Liquid crystal display, easy to read
- Features to support manual switch on, with beep sound after the temperature is measured and Auto switch off after 10 seconds
- Water proof and easy to clean
- Battery powered
- Lowbattery indicator
- Certification of safety according CE 93 / 42, FDA 510k or equivalent
- Must be safe to use, no glass, no mercury
- Additional Accessories:
 - ◆ 5 x Nickel Cadmium battery

4. RADIANT WARMER

- Should have O2 cylinder provision
- Should have mobile newborn resuscitation table with fixed-height radiant warmer
- Should have side trays for accessories
- Should have four antistatic castors (Wheels) and 2 wheels with breaks
- Should have table surface with mattress with infant head / shoulder support
- Mattress-padding should have foam density approx. 21 - 25 kg / m³
- Mattress cover should be removable with zipper, waterproof, washable, resistant to cleaning with chlorine based solution and flame retardant
- Side boards should be transparent acryl, drop down and lockable
- Hood suspended above the table should integrate heating element and overhead light
- Overhead light should have 2 x 50W halogen spot, with dimming function
- Heating element should have emitter with parabolic reflector and protected by metal grid and should be with high quality heating element like ceramic
- Control unit should allow air and skin temperature preset (LCD indicator / Digital Indicator) and radiant heater output (servo and manual)
- Display should report system errors, sensor failure, shock proof with auto regulation for temperature maintenance.
- Power requirement: 220 V / 50 Hz
- Power consumption: 800 W
- Should have electronically controlled sensors (Skin & Air) with digital display for temperature
- Should also have separate sensor for continuous digital display of room temperature

- Should have heavy duty and rust proof metal body
- Should have servo and manual control facility
- Should have SET temperature display on FND / LCD by mode selection
- Must have all modes and timer display on LCD
- Should have all safety alarms – visual display on LCD
- Should have Skin sensor fail alarm
- Additional Accessories :
 - ◇ 3 - mattress
 - ◇ 6 - spare skin temperature probe (including connection cable)
 - ◇ 3 - spare heating element
 - ◇ 10 - spare set of fuses
 - ◇ Power cord and fittings with at least 10 meters of wire

5. ELECTRICAL SUCTION MACHINE

- Should have housing and Base: MS Powder coated cabinet with Stainless Steel top
- Should be mounted on bearing castor wheels with brakes, completed with pressure regulator 1/2 H.P motor
- Should have capacity: 0-700 mm Hg \pm 10 regulatable, flutter free vacuum control knob (pressure regulator), 25 Ltrs / min
- Should have single rotary vane pump or other equivalent pump
- Should have wide mouthed 2 x 2 Liter jar (Polycarbonate) with self-sealing bungs and mechanical over flow safety device. Should have 8 mm ID x 2 meter tubing (non-collapsible tube with adaptors - PVC)
- Should have bourden type 6.5cm Diameter, 0-760 mm Hg calibration Vacuum Gauge
- Power should be 230 V, 50 Hz, 2 \pm 0.5 Amps, 200 watts. (110 V on request)

- Should have Noise Level: 50 dB A \pm 3
- Should have 43 x 30 x 68 cms dimension and weight of 27Kgs
- Should have safety certification according CE 93 / 42, FDA 510k or equivalent

6. FOOT-OPERATED SUCTION MACHINE

- Should have high performance suction pump for pharyngeal and tracheal suction
- Should have double acting piston pump providing a combination of large airflow and high vacuum
- Should have see-saw movement of pedal that generates suction every time, one side of the pedal is depressed
- Should have pump chassis complete with valve diaphragms, manifold pipe, bottom cover, cylinder with draw link and valve diaphragm, piston O-ring, pedal with retaining springs, aspirating tube with angle connector and combination suction tip
- Should have pump which can be totally disassembled, is easy to clean and disinfect
- All parts should be autoclaved at 121°C
- Should have Vacuum maximum of 600 mmHg
- Should create free airflow at two pumping strokes per second, approximately 30 to 40 L / min.
- All the parts should be made of high-strength, long-life materials, not requiring specific maintenance or storage
- Should have transparent polycarbonate collection container capacity, approximately 1 liter
- Should have thermoplastic rubber bottom cover
- Manifold pipe: polypropylene gasket, O-rings and valve diaphragm: silicone rubber
- Should have teflon piston rings

- Should have aluminum foot pedal
- Additional Accessories:
 - ◇ 3 set of silicone rubber suction tubing, approx: diam. 10 mm, length 1.5 m
 - ◇ 3 angle connector and combination acetal suction tip
 - ◇ 2 spare valve diaphragms
 - ◇ 2 spare piston O-ring
 - ◇ 2 spare retaining springs

7. PEDIATRIC IV ARM KIT

- Should have pediatric arm
- Should have replacement skin and multi-vein system
- Should have simulated blood pack
- Should have blood bag with tubing and connector
- Should have clamp and hook
- Should have 5 syringes
- Should have mannequin lubricant
- Additional Accessories:
 - ◇ 5 – replacement skin
 - ◇ 5 – multi – vein system
 - ◇ 3- simulated blood pack
 - ◇ 3 – blood bag with tubing and connector
 - ◇ 3- lubricant

8. NG TUBE INSERTION MANNEQUIN:

- Should look like 0-8 weeks old and Caucasian colour
- Should have soft and flexible and replaceable face skin and upper body skin
- Should offer NG exercises to demonstrate tube feeding and gastric suction
- Placing NP / OP tubes must be possible
- Should have markings for ear canal
- Should have removable internal parts

9. PHOTOTHERAPY UNIT:

- Phototherapy unit should have heavy sturdy mobile stand
- Should have four antistatic castors, 2 with breaks
- Should have single head with surface size approximately: 0.50 x 0.75 m
- Should have head height adjustable approximately 1.40 to 1.75 m
- Should have blue light with 4 Compact Fluorescence Tubes (CFL) approximately: 20 W
- Should have white light with 2 Compact Fluorescence Tubes (CFL) approximately: 20 W
- Should have grills to protect the tubes
- Should have infant table surface with foam padded mattress with density approximately 21-25 Kg / m³ with infant head / shoulder support and
 - ◇ Mattress cover should be movable, with zipper, waterproof, washable, resistant to cleaning with chlorine based solution and flame retardant
 - ◇ Infant table should have side boards transparent acrylic, drop down and lockable
- Should be Irradiant at skin level, up to: 40 UV / cm² / nm
- Should have wavelength: 420 to 500 nm, with highest intensity at 470 nm integrated cumulative hour timer;
- The power requirement not more than 220 V / 50 Hz; and power consumption not more than: 250 W
- Phototherapy unit should have device safety certification according CE 93 / 42, FDA 510k or equivalent
- Additional Accessories:
 - ◇ 6 spare blue CFL tubes
 - ◇ 3 spare white CFL tube
 - ◇ 10 spare set of fuses

10. GLUCOMETER

- Should have direct reading and photometry determination of total amount of glucose in whole blood
- Should have 'switch on' and auto 'switch off'
- Should indicate automatic zero while switching on the glucometer.
- Should have automatic indication showing readiness for receiving of blood through strips
- Should have dual wavelength measurement, 660 and 840 nm
- Sample size: one drop of whole blood on disposable cuvette
- Measuring time, approximately: 10 seconds
- Measuring range, approximately: 0 to 20 mmol / L or 0 to 400 mg / dl
- Should have accuracy equivalent to laboratory spectrophotometer
- Should have large LED display readable in low light working situations, display cover durable plastic display in mmol / L and mg / dl, easy switch between both measurements
- Memory for at least 100 previous tests
- Device is safety certified according CE 93 / 42, FDA 510k or equivalent
- Additional Accessories:
 - ◇ 10 x box of 100 cuvettes
 - ◇ 10 x box of 100 sterile lancets
 - ◇ 3 x cleaning set
 - ◇ 3 x calibration set
 - ◇ 3 x dust cover
 - ◇ 3 x storing case
 - ◇ 10 x spare set of fuses

11. OXYGEN ADMINISTRATION (OXYGEN CONCENTRATOR)

- Oxygen concentrator to provide oxygen from atmospheric air

- Oxygen concentration measured at the flow meter by oxygen sensing device (OSD)
- Sound level <15 dB
- Superior grade of molecular sieve with an indicator / sensor on the device indicating whether the sieve is functional or non-functional
- Maintenance free rotary poppet valve.
- Oxygen purity approximately 90%,
- Oxygen output approximately: 0 - 5 LPM,
- Pressure approximately: 8 psi
- Double outlet or flow splitter for oxygen delivery
- Oxygen tube of 2 m length with facility for nebulization with tube & mask; with two humidifier bottles and two cabinet filters
- Power requirements: 220 V / 50 Hz
- Power consumption: 450 W
- Device is safety certified according CE 93 / 42, FDA 510k or equivalent
- Additional Accessories:
 - ◇ 3 spare set of tubing
 - ◇ 3 spare set of internal and external filters (bacterial);
 - ◇ 10 spare set of fuses

12. OXYGEN ADMINISTRATION (OXYGEN HOOD)

- Should have round shape 3 - Medium size, approximately height 22 cm, diameter 25 cm, 3 small size , approximately: height 18 cm, diameter 20 cm
- Should be autoclavable polycarbonate
- Should be free from trauma of silicon neck, with adjustment flap
- Should have bilateral oxygen nozzle
- Should have oxygen tube of 2 m length with one spare set of tubing

- ⦿ Should have port for oxygen sensor
- ⦿ Device is safety certified according CE 93 / 42, FDA 510k or equivalent

13. NEBULIZER

- ⦿ Should be easy to use and clean
- ⦿ Should deliver inhaled steroids, antibiotics and all commonly prescribed broncho-dilators
- ⦿ Should have features to respond to breathing pattern i.e. to increase release of drug on inspiration and to decrease the wastage of drug on expiration
- ⦿ Should have mask with different size (for adult & pediatric)
- ⦿ Flow rate: 6 lpm rising up to 22 lpm on inspiration
- ⦿ Additional Accessories:
 - ⦿ 5 filters,
 - ⦿ 10 masks (Each Size),
 - ⦿ 10 mask & mouth piece

- ⦿ 5 replacement mesh
- ⦿ 5 set tubing,
- ⦿ 2 AC / DC adapters,
- ⦿ 10 set of batteries

14. MULTI DOSE INHALER WITH SPACER

- ⦿ The spacer must be of 145ml volume
- ⦿ The spacer should be 5 -6" long and 2" diameter
- ⦿ The spacer should fit with the inhaler
- ⦿ It should have silicone one way valve to prevent exhaling air from entering the chamber
- ⦿ The spacer should be washable, could be sterilized and reusable
- ⦿ The spacer should be latex free

Annexure 3: Supportive Supervision

Format 1

Mentoring visits by Skills Lab Team: Advance Tour Plan

For the Month:

Year:

1. Skills Lab: (location)
2. Names of team member:
3. Schedule:

Date	From	To (name of the facility)	Mode of transport	Expected Expenditure	Remarks (including requirements for LCD etc. if teaching sessions are planned at the institution)

Total expected expenditure:

Advance (if required):

Signature of the trainer:

Date:

Signature of the DNO:

Date:

Format 2

Tour Report of Mobile Mentors

1. Skills Lab (location):
2. Name of mentor:
3. Period of visit:
4. Institution visited:
5. Key observations:

Section A: Institutional assessment			
	Remarks (specify any hindrances towards achievement of RMNCH Care)	Action points*	Timeline*
Enabling environment <input type="radio"/> Drugs & supplies <input type="radio"/> Availability and performance of FRU teams etc. <input type="radio"/> Any other significant finding			
Condition of LR <input type="radio"/> Arrangement of LR <input type="radio"/> Cleanliness etc. <input type="radio"/> Any other significant finding			
Condition of OT <input type="radio"/> Arrangement of OT <input type="radio"/> Aseptic practices etc <input type="radio"/> Any other significant finding			
Section B: Individual assessment			
Skills#	Trained Staff**	Remarks (Skill Gaps)	
Partograph maintained			
AMTSL followed			
ENBC practiced			
Neonatal Resuscitation			
IUCD insertion			
Adherence to Infection prevention practices			
Section C: Action taken on the mentor's previous Comments			
Institution	Trained staff		

*To be submitted to CMO & DNO

*Database of the same to be updated at the Skills Lab for further action and follow up

Listing of Skills is only indicative, more can be added as mentoring progresses

** Mention by name against each skill

Signature of Mentor

Notes

Maternal Health Division
Ministry of Health & Family Welfare
Government of India