

# **MASTER OF PUBLIC HEALTH**

**Johns Hopkins Bloomberg School of Public Health & IIHMR University**

## **PRACTICUM REPORT**

**By**

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**Cohort-7**

**2019 - 21**

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**TO WHOMSOEVER MAY CONCERN**

This is to certify that **DR PARUL GOEL**, student of Master of Public Health Program offered by IIHMR University, Jaipur in cooperation with Johns Hopkins Bloomberg School of Public Health, Baltimore has undergone Practicum Training at **National Health Mission (NHM), Dehradun, Uttarakhand** from November 23rd, 2020 to April 8th, 2021.

The Candidate has successfully carried out the study designated to her/his during practicum training and her approach to the study has been sincere, scientific, and analytical.

The Practicum Training is in fulfilment of the course requirements.

I wish her/him success in all his future endeavours.

Sd-

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**CERTIFICATE BY SCHOLAR**

This is to certify that the Practicum Project titled submitted by **Dr Parul Goel** with Enrolment No. IIHMR-U/07/2019-21/0040; JH ID: CEA31A under the supervision of faculty advisor **Dr Monika Chaudhary**, Associate Professor, for award of Master of Public Health carried out during the period **November 23rd, 2020 to April 8th, 2021** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

**Dr Parul Goel**  
MPH Cohort 2019-21

**CERTIFICATE FROM THE ORGANIZATION**



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**CERTIFICATE OF COMPLETION**

This to certify that Dr Parul Goel has successfully completed her Practicum Training in National Health Mission, Dehradun, Uttarakhand from 23<sup>rd</sup> November 2020 to 8<sup>th</sup> April 2021 in partial fulfillment of the requirements for the award of degree of Master of Public Health. She has submitted her Practicum Report on the subject “Evaluation of LaQshya Certification: Analysis of Service Indicators and Client Satisfaction, Pre and Post Certification across health facilities in Uttarakhand.”

Dr Abhai Kumar  
Officer Incharge – Quality

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## **LIST OF ABBREVIATIONS**

AGSS – Anaesthesia Gas Scavenging System  
AMTSL – Active Management of Third Stage of Labour  
APH – Antepartum Haemorrhage  
ASHA - Accredited Social Health Activist  
BEmOC – Basic Emergency Obstetric Care  
CHC – Community Health Centre  
CQSC – Central Quality Supervisory Committee  
DOR – Discharge On Request  
DQAC – District Quality Assurance Committee  
EDL – Essential Drug List  
EIBF – Early Initiation Of Breast Feeding  
EmOC – Emergency Obstetric Care  
EPC - Empowered Programme Committee  
FBMDR – Facility Based Maternal Death Review  
FBNDR – Facility Based Neonatal Death Review  
FRUs – First Referral Units  
GOI – Government of India  
HDU – High Dependency Unit  
HMIS – Health Management Information System  
IIHMR - Indian Institute of Health Management Research  
IMR – Infant Mortality Rate  
IPHS - Indian Public Health Standards  
IUGR – Intrauterine Growth Retardation  
JHSPH - Johns Hopkins Bloomberg School of Public Health  
LAMA – Left Against Medical Advice  
LBW – Low Birth Weight



LR – Labour Room

LSAS – Life Saving Anaesthetic Skills

MCH – Maternal and Child Health

MCTS - Mother and Child Tracking System

MDGs - Millennium Development Goals

MMR – Maternal Mortality Rate

MoHFW – Ministry of Health and Family Welfare

MPH – Master of Public Health

MSG – Mission Steering Group

MTP – Manual Termination of Pregnancy

MVA – Manual Vacuum Aspirator

NBSU - New-born Care Unit

NFHS – National Family Household Survey

NHM – National Health Mission

NHSRC - National Health System Resource Centre

NQAS - National Quality Assurance Standards

NRHM – National Rural Health Mission

NUHM – National Urban Health Mission

OT – Operation Theatre

PDCA - Plan, Do Check, Act

PPH – Postpartum Haemorrhage

QA – Quality Assurance

QI – Quality Improvement

QOC – Quality of Care

RCH - Reproductive Child Health

RDS – Respiratory Distress Syndrome

RMC - Respectful Maternity Care

RMNCH +A - Reproductive, Maternal, New-born, Child, and Adolescent Health

RMNCH+A - Reproductive Maternal-Neonatal-Child and Adolescent Health

SDGs - Sustainable Development Goals

SH&FW – State Health and Family Welfare

SHM - State Health Mission

SHS - State Health Society

SNCU - Special Newborn Care Unit

SPMU - State Program Management Unit

SQAC – State Quality Assurance Committee

SSI – Surgical Site Infection

SUMAN – Surakshit Matritva Aashwasan

WHO -World Health Organization

## **ACKNOWLEDGEMENT**

The Master of Public Health (MPH) of Johns Hopkins Bloomberg School of Public Health (JHSPH) in collaboration with Indian Institute of Health Management Research (IIHMR) University, Jaipur has been one of the most rigorous academic venture I have accomplished. However, without the guidance of my mentors, seniors, and colleagues this achievement would not have been possible, especially during this tough situation of Pandemic.

Firstly, I would like to thank Mission Director (MD) National Health Mission (NHM), Dehradun, Uttarakhand for providing me with an opportunity for completing my practicum requirements. The organization has proven to be a great platform for valuable learning and enhancing my skills.

I would also like to express my gratitude to my mentor Dr Abhay Kumar, Officer In charge, Quality Program, for his guidance throughout the practicum period. His experience in research gave me clarity which contributed to a great extend to my practicum learning and confidence in completing the assigned task.

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## **1. INTRODUCTION**

This report is based on my practicum experience in National Health Mission (NHM), Dehradun, Uttarakhand, for the fulfilment of Master of Public Health Program (MPH) of Johns Hopkins Bloomberg School of Public Health (JHSPH) in collaboration with Indian Institute of Health Management Research (IIHMR) University, Jaipur. I worked as an intern in the organization under the mentorship of Dr Abhay Kumar, Officer In charge, Quality Program. My daily working hours were from 10am to 5pm Monday to Saturday, on the 4<sup>th</sup> floor of the Directorate Health and Family welfare, Uttarakhand, at the Office of Mission Director, National Health Mission, Uttarakhand.

Within my internship, I carried out a ‘Evaluation of LaQshya Certification: Analysis of Service Indicators and Client Satisfaction, Pre- and Post-Certification across health facilities in Uttarakhand.’

As for my Capstone Project I did “Policy Document Analysis – LaQshya Program”, I was interested in doing the same kind of study practically, especially if being carried out in my own state. Knowing my intentions regarding the same this was an great opportunity to gain practical knowledge under the guidance of experts and also a chance to polish my skills and knowledge to a refined professional version.

## **2. ABOUT THE ORGANIZATION**

In 2013, the National Health Mission came into existence when the Union Cabinet headed by Manmohan Singh approved its launch with subsuming two existing Sub-Missions, the National Urban Health Mission (NUHM) and the National Rural Health Mission (NRHM). The mission is implemented from the Centre by the Ministry of Health and Family Welfare (MoHFW), with an aim of attaining universal, accessible, affordable, reliable, and effective healthcare services , that are answerable and receptive to individual’s needs, especially to the

vulnerable and poor sections of the population. NRHM looks for dispensing quality healthcare services to the rural population, while NUHM peruses to upgrade the health status of the urban population. The main objectives and components of the program include Maternal-Neonatal-Child Health, Adolescent Health, Communicable Disease Control Programmes, Non-Communicable Diseases Control Programmes and Health System strengthening mainly through infrastructure and human resources. (1)

At the National Level, two mentors are appointed by Government of India (GOI), namely Mission Steering Group (MSG) which plays a vital role in assisting and supervising policymaking in the Mission and Empowered Program Committee (EPC) which takes care of all monetary schemes before seeking approval by MSG. (2)

At the State Level, there is a State Health Mission with the State Health Society (SHS), headed by the Mission Director of Additional Secretary rank. The State Program Management Unit (SPMU) acts as the main secretariat of the State Health Society. (2)

### **3. LITERATURE REVIEW**

#### **3.1 Policies and Maternal and Child Health - India**

India's adoption of Millennium Development Goals (MDGs) in 2000, committed to reduce Maternal Death Rate (MMR) by three quarters by 2015, (3) supported MoHFW to implement Reproductive, Maternal, New-born, Child, and Adolescent Health (RMNCH +A) strategy in 2013. This strategy was taken up to build on the health of adolescents, mothers and children. (4) During this phase several new interventions were added in the Maternal Child Health (MCH) basket, for example, Janani Suraksha Yojana (JSY), an incentivized scheme to promote institutional deliveries, engagement of Accredited Social Health Activists (ASHAs); Janani Shishu Suraksha Karyakram (JSSK), to eliminate out-of-pocket expenses through free drugs, diagnostics, treatment, free transportation for the sick infants and postnatal mothers. The government partnered with professional organizations for the capacity building of the doctors in Anaesthesia and Obstetric Care, especially caesarean section skills. (3) (5) As a result there was a significant improvement in MMR which declined from 370 (2000) to

158/100,000 live births in 2015; (6) and Infant Mortality Rate (IMR) which declined from 67 (2000) to 36/1000 live births in 2015. (7)

In line with 12th Five Year Plan (2012-17), India adopted Sustainable Development Goals (SDGs) in 2015 to achieve “Universal Health Coverage” and reduce MMR below 70/100,000 and IMR below 25/1000 live births by 2030. (8) In continuation with the strengthening of the schemes initiated during 11<sup>th</sup> National Health Policy, the government expanded its list of interventions by adding Mothers Absolute Affection Program, with focus on promotion of breast-feeding practices; establishment of New-born Care Units (NBCUs) and Special New-born Care Units (SNCUs) for neonatal care and Pradhan Mantri Surakshit Matritva Abhiyan Program for antenatal care in 2017. (9)

Although, over the years India has succeeded in improving some of the health indicators (Table 1), with significant gain in accessibility and affordability to healthcare services. But the efforts were still not sufficient to meet the targets set under the national goals and international commitments since MMR marked 145/100,000 live births (6) and IMR 33/1000 live births, in 2017, respectively. (7)

Table 1: Changes in the Health Indicators - India

| <b>Indicators</b>                                                           | <b>NFHS – 3<br/>(2005-06)</b> | <b>NFHS – 4<br/>2015-16)</b> | <b>Change within 10<br/>years</b> |
|-----------------------------------------------------------------------------|-------------------------------|------------------------------|-----------------------------------|
| Maternal Mortality Rate                                                     | 280                           | 130<br>(SRS 2014-16)         | <b>Decreased by 150</b>           |
| Infant Mortality Rate                                                       | 57                            | 41                           | <b>Decreased by 16</b>            |
| “Mothers who had at least 4 antenatal care visits for their last birth” (%) | 37                            | 51.2                         | <b>Increased by 14.2</b>          |
| Institutional Deliveries (%)                                                | 38.7                          | 78.9                         | <b>Increased by 40.2</b>          |
| “Birth assisted by doctor/nurse/LHV/ANM health personnel” (%)               | 46.6                          | 81.4                         | <b>Increased by 34.8</b>          |

|                                                                                                                                     |      |      |                          |
|-------------------------------------------------------------------------------------------------------------------------------------|------|------|--------------------------|
| “Mothers who received postnatal care from doctor/nurse/LHV/ANM health personnel within 2 days of delivery for their last birth” (%) | 34.6 | 62.4 | <b>Increased by 27.8</b> |
|-------------------------------------------------------------------------------------------------------------------------------------|------|------|--------------------------|

Source: National Health Survey, India

### 3.2 Maternal and Child Health (MCH) Indicators in Uttarakhand

The changes in MCH health indicators in Uttarakhand were similar to the overall changes in MCH indicators of the country over last 10 years. Uttarakhand was born after bifurcation from Uttar Pradesh in year 2000. The state falls under the category of 8 Empowered Action Group States (EAG) ‘High Priority’ since it lags behind in health indicators and needs special attention in improving MMR and IMR. (10)

As evident from last 10 years data in Table 2, despite significant improvement in the Maternity and Child Care indicators, especially, Institutional Deliveries (increased by 53.7%) and Birth Assisted by Skilled Birth Attendants (increased by 79.7%), MMR (Table 3) and IMR (Table 4) showed an increasing trend in 2016. This was unquestionably a matter of apprehension for the state administrators.

Table 2: Changes in MCH Indicators - Uttarakhand

| <b>Indicators</b>                                                           | <b>DLHS – 3<br/>(2007-08)</b> | <b>DLHS – 4<br/>(2015-16)</b> | <b>Change within 10<br/>years</b> |
|-----------------------------------------------------------------------------|-------------------------------|-------------------------------|-----------------------------------|
| “Mothers who had at least 4 antenatal care visits for their last birth” (%) | 15.6                          | 47.1                          | <b>Increased by 31.6</b>          |
| Institutional Deliveries (%)                                                | 30                            | 83.7                          | <b>Increased by 53.7</b>          |
| “Birth assisted by doctor/nurse/LHV/ANM health personnel” (%)               | 5.5                           | 85.2                          | <b>Increased by 79.7</b>          |
| “Mothers who received postnatal care from doctor/nurse/LHV/ANM              | 28.6                          | 31.0                          | <b>Increased by 2.4</b>           |

|                                                                      |  |  |  |
|----------------------------------------------------------------------|--|--|--|
| health personnel within 2 days of delivery for their last birth” (%) |  |  |  |
|----------------------------------------------------------------------|--|--|--|

Source : DLHS-3 (11) ; DLHS-4 (12)

Table 3: Trend of Maternal Mortality Ratio - Uttarakhand

| Indicator                                     | NITI Aayog<br>(Uttar Pradesh/Uttarakhand) |         | Sample Registration Survey<br>(SRS)<br>Uttarakhand) |         |
|-----------------------------------------------|-------------------------------------------|---------|-----------------------------------------------------|---------|
|                                               | 2007-09                                   | 2014-16 | 2015-17                                             | 2016-18 |
| Maternal Mortality Ratio /100,000 live births | 359                                       | 201     | 89                                                  | 99      |

Source :NITI Aayog (13); SRS (14)(15)

Table 4: Trend of Infant Mortality Ratio - Uttarakhand

| Indicator                                      | NITI Aayog<br>(Uttarakhand) |      |      |      |      |
|------------------------------------------------|-----------------------------|------|------|------|------|
|                                                | 2012                        | 2013 | 2014 | 2015 | 2016 |
| Infant Mortality Ratio (IMR) /1000 live births | 34                          | 32   | 33   | 34   | 38   |

Source : NITI Aayog (16)

### 3.3 Quality in Public Health

For the very first time, the quality aspect was given recognition in the policy and planning at the national level, when MoHFW extended Reproductive Child Health (RCH) Programme Phase-I to RCH Phase-II under the flagship of National Rural Health Mission in 2005. The aim was to enhance accessibility, affordability, and quality health care services. All the programs were integrated with the emergence of quality improvement strategies. (17) In the intervention field of quality promotion the Indian Public Health Standards (IPHS) in 2008, were instituted for the upgradation of the health infrastructures.(18) For capacity building, technical assistance, and to intensify quality services National Health System Resource Centre (NHSRC) was functional in 2007. RCH-II Quality Assurance Guidelines were circulated to form Quality Assurance Committees at district and state level for continuous monitoring of the quality component in 2013. (19)



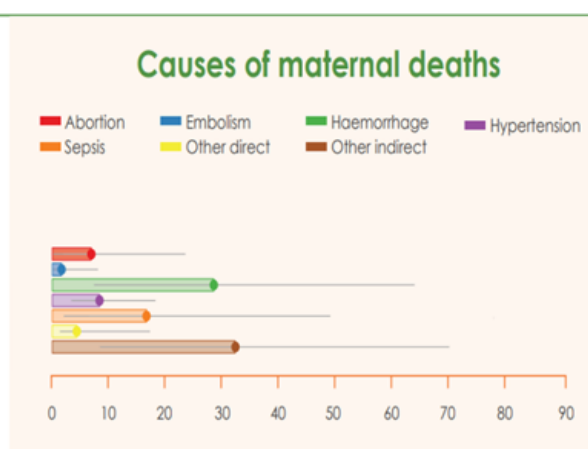
To encourage continuous progress towards quality services in health facilities in public sector, Standards, Regulations and Accreditation processes were initiated and strategies like National Quality Assurance Standards (NQAS) (2013), Dakshata (2015) a training package for competency enhancement for the providers (2015), Kayakalp (2016) to inculcate protocols of maintaining hygiene, proper waste management and infection prevention in health settings, and Mera Aspataal (2016) an initiative to capture patient feedback for the services received at the hospital were launched. (19)

Despite of introducing and implementation of several Health Policies for Mother and Childcare and Quality in Public Health, the conclusive reports from surveys, reviews and studied revealed reasons for not achieving desirable outcomes in respect to MMR and IMR. They highlighted that the preventable maternal deaths clustered mainly around labour, delivery, and immediate postpartum period in relation to direct causes and substandard quality of care at every level of health facilities. Maternal deaths resulted from complications such as postpartum haemorrhage (30%), hypertensive disorders (9%), Sepsis (17%), obstetric complications (5%), and others (33%); while in case of neonates prematurity (44%), asphyxia (19%) and infections (14%). Lack of skilled manpower, infrastructure, drugs, and equipment's resulted in low coverage of Emergency Obstetric Care, hence compromising quality of services extended by health facilities. (20) (21)

## Causes of Death – Ending Preventable Mortality

**45 000**  
women died due  
to pregnancy  
and related  
complications–  
focus on quality  
of care.

Source: UN Inter-agency Estimates:  
Trends in maternal mortality: 1990 to 2015



Source: Lancet 2015

Figure 1 - Source: India RMNACA Fact Sheet, July 2018, WHO (21)

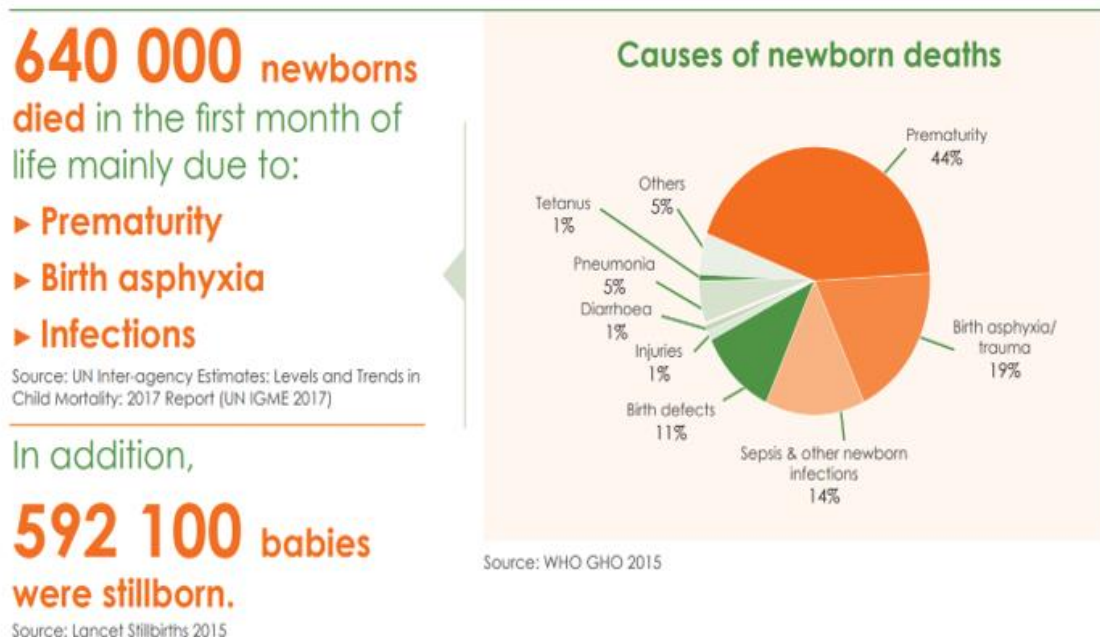


Figure 2 - Source: India RMNCAH Fact Sheet, July 2018, WHO (21)

### 3.4 LaQshya Program

To address the underlying causes of preventable maternal and infant deaths, and for fulfilling the committed Sustainable Development Goals 3.1 and 3.2 (8), there was a need of change in the processes related to service delivery in LR and Maternity OT. Above all, it was also necessary to increase accessibility, and standards of basic healthcare services to mothers and new-borns at all levels of public sector, especially in places where birth process was conducted.

For any healthcare service delivery system two interdependent factors are utmost important:

- What does the Content of Care include i.e. package of services?
- How is the Quality of the Content?

The experience of care and delivery of evidence-based practices ultimately determine the Quality of Care (QOC). Quality of care is defined as “Degree to which Healthcare services provided to individuals and patient populations improve the desired outcomes.” (22) Desired

outcome is related to successful treatment or prevention of morbid conditions and averting deaths for health professionals. But for the patients it is about prompt service delivery with low or no expense, clean and hygienic environment, and durable treatment without any complications. Hence perspective of both patients and health providers are essential to take into account for good quality services. (22) Quality healthcare is believed to be “safe, effective, patient-centred, timely, efficient, and equitable”. (23) There are two kind of approaches to ensure that the client receives high quality healthcare - Quality Assurance (QA) and Quality Improvement (QI). Although, QA and QI are contra positioned (Table 5), but both play a vital role to secure functioning of health system in a precise manner.

Table 5: Quality Assurance Vs Quality Improvement

| <b>Quality Assurance</b>                        | <b>Quality Improvement</b>                                                                                                                     |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Management/Leadership: top down                 | Management/Leadership-shared responsibility: bottom up                                                                                         |
| Driven by Regulatory and Accreditation Agencies | Driven internally, empowers all personnel (administrators and service providers)                                                               |
| Tends to identify gaps and address them         | Focuses in improving system by enhancing skills of managers and service providers for identifying gaps and solving problems at their own level |
| Depends on external periodic audits             | Relies on improving the processes                                                                                                              |
| Periodic monitoring                             | Continuous monitoring                                                                                                                          |

Source: (23)

In recent years, Policy Makers and Public Health Faculty are emphasising on QOC. This area has emerged as a tool for effective utilization of available resources, client satisfaction and enhancing health outcomes. Since quality care is constitutive to ‘Right to Health’, the course for protecting ‘Equity’ and virtue of mothers and their children, MoHFW conceptualised

strategy and introduced Labour Room Quality Improvement Initiative -‘LaQshya’ in 2017.  
(24)

Goal of the Initiative:

“Reduce preventable maternal and new-born mortality, morbidity and stillbirths associated with the care around delivery in Labour room and Maternity OT and ensure respectful maternity care.”

Objectives of the Initiative:

- “To reduce maternal and new-born mortality & morbidity due to APH, PPH, retained placenta, preterm, preeclampsia & eclampsia, obstructed labour, puerperal sepsis, new-born asphyxia, and sepsis, etc.”
- “To improve Quality of care during the delivery and immediate post-partum care, stabilization of complications and ensure timely referrals, and enable an effective two-way follow-up system.”
- “To enhance satisfaction of beneficiaries visiting the health facilities and provide Respectful Maternity Care (RMC) to all pregnant women attending the public health facility.”

Strategies of the Initiative :

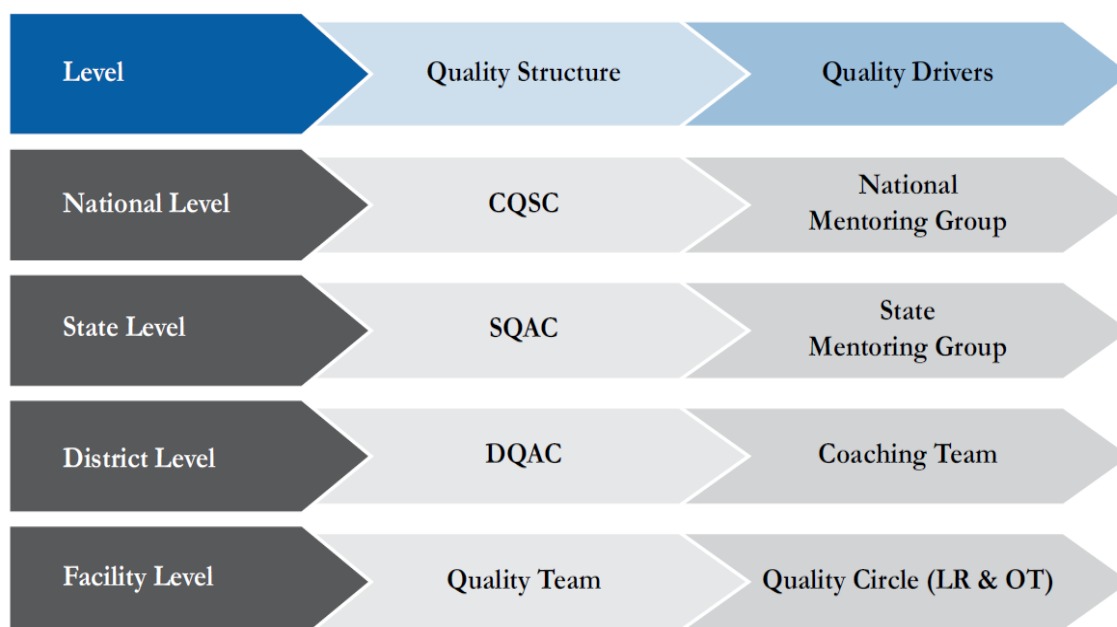
- “Reorganizing/aligning Labour room & Maternity Operation Theatre layout and workflow as per ‘Labour Room Standardization Guidelines’ and ‘Maternal & Newborn Health Toolkit’ issued by the Ministry of Health & Family Welfare, Government of India.”
- “Ensuring that at least all government medical college hospitals and high caseload district hospitals have dedicated obstetric HDUs as per GoI MOHFW Guidelines, for managing complicated pregnancies that require life-saving critical care.”
- “Ensuring strict adherence to clinical protocols for management and stabilization of the complications before referral to higher centres.”

The program intends to improve QOC through ‘Patient-Centric’ and ‘Respectful Maternity Care’ (RMC) approach during and after childbirth, so as to prevent death in Labour Rooms (LR) and Maternity Operation Theatres (OT), places where birth course takes place.

The implementation of the program would be prioritized in health facilities where more than 100 deliveries per month were conducted in case of plain areas and 60 per month in hills and difficult terrains. This criteria included hospitals of government medical college, District Hospitals, First Referral Units (FRUs) and high case load Community Health Centres (CHCs).

The initiative also targets to achieve ‘Zero-defect’ clinical care by building skills of service providers for clinical protocols through Dakshata Training Program, strengthening key inputs like infrastructure, the layout of labor room and maternal operation theatre, equipment, medicines, and issues affecting the process of care. The National Quality Assurance Standards (NQAS) would help measure and monitor the quality of care and quality improvement through various pre-defined parameters and patient satisfaction feedback form in different time periods. Once all the defined parameters were met the health facility were then ‘LaQshya’ certified first by District, followed by State and finally by National Quality Assurance Committee.

An Institutional Framework, which constitutes Committees at each level (State, District, Facility) would support implementation, monitoring, evaluation, and certification of LaQshya Program. These structures were linked with reporting and feedback mechanism.



*Figure 3: Institutional Arrangement under LaQshya (24)*

The Activities under LaQshya would be completed in four phases with maximum duration of 18 months.

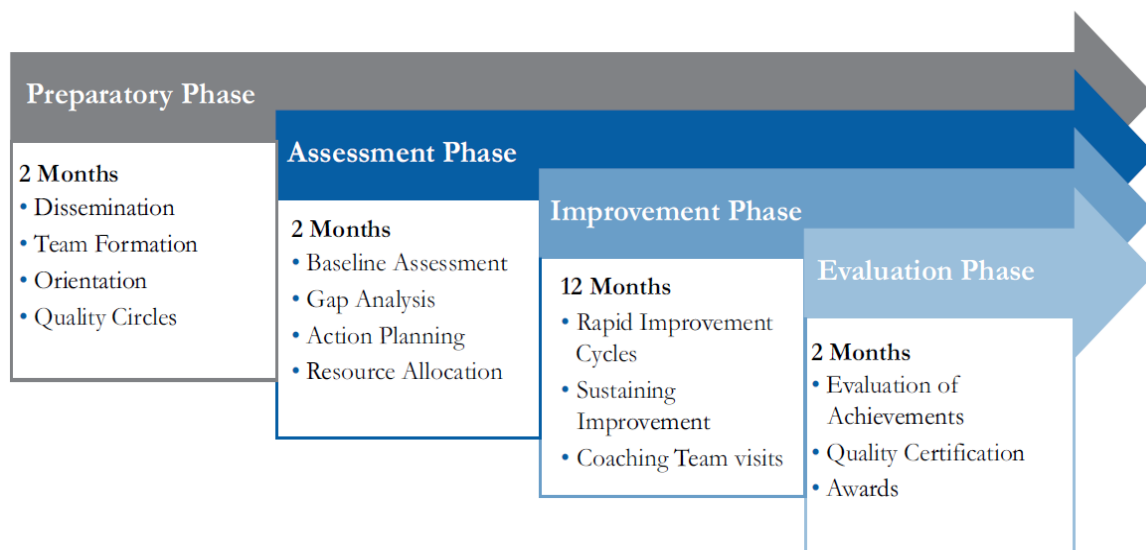


Figure 4: Summary of Activities (24)

The program has been designed on Rapid Improvement Event for Labour rooms and maternity OTs (Six cycles of two months each), first month for improving identified gaps followed by coalition and sustenance in second month.

- The Rapid Improvement Events have been combined with Plan, Do Check, Act (PDCA) methodology, a quality improvement tool, to help improve the processes, restore identified gaps and also in building a quality culture within the health systems.

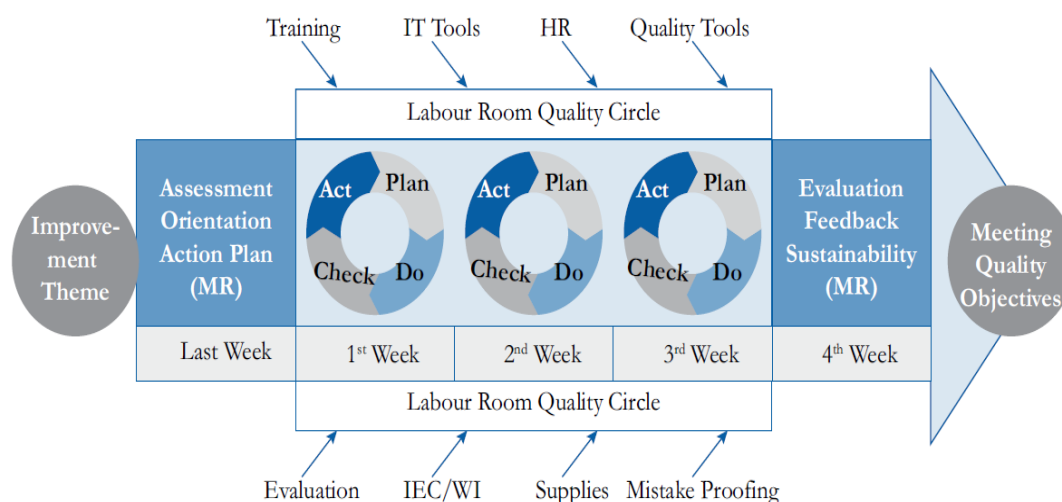


Figure 5: PDCA Cycle (24)

National Quality Certification: The certification of the health facilities would be conducted in two phases –

A) Internal Assessment and Certification - based on tools for assessment, for instance, Labour Room and Maternity OT Checklists developed on the National Quality Assurance Standards (NQAS).

B) External Assessment and certification - to be conducted by evaluators assigned by NHSRC. The Certification would be valid for only 3 years. To maintain sustainability in QOC during Post Certification Period, the scores would be verified by the State Quality Assurance Committee on annual basis.

Incentivisation: There is a provision of cash reward for the health facilities and their teams working in LR and Maternity OT on achieving the following criteria:

- “Quality Certification of Labour Room and/or OT as per protocol under the NQAS.”
- “Attainment of at least of 75% of commensurate Facility Level Targets and its verification by the State Quality Assurance Committee.”
- “80% of the beneficiaries are either satisfied or highly satisfied.”

To guide the efforts in this direction and to implement internationally accredited National Quality Assurance Standards, the LaQshya guidelines are boosted with already existing endeavours and program guidelines. (24)

#### **4. ABOUT LAQSHYA PROGRAM IN UTTARAKHAND**

The State of Uttarakhand enrolled in LaQshya initiative the very same year, after it was launched nationally by MoHFW in 2017. Classified as a ‘High Priority’ State, there was a hope of improvement in existing poor health indicators, especially MCH through this new intervention. Over the years, namely, from 2017-2020, the Institutional Arrangement for LaQshya had been established at State and District Levels. Four health facilities had been Nationally Certified, (Table 6) while in the other five health facilities, the State level Certification had been completed, and the process for National Certification was in progress. (Table 7)

Table 6: List of National Level LaQshya Certified Health Facilities

| <b>S.NO</b> | <b>NAME OF NATIONAL LEVEL CERTIFIED HEALTH FACILITIES</b> | <b>DISTRICT</b>  | <b>DATE OF CERTIFICATION</b> |
|-------------|-----------------------------------------------------------|------------------|------------------------------|
| 1.          | Chain Rai Women (CRW) District Hospital                   | Haridwar         | 8.03.2019                    |
| 2.          | Community Health Centre (CHC), Mangalore                  | Haridwar         | 10.12.2019                   |
| 3.          | Jawahar Lal Nehru District Hospital, Rudrapur             | Udhamsingh Nagar | 20.01.2020                   |
| 4.          | Female Hospital (FH), Haldwani                            | Nainital         | 26.03.2020                   |

Table 7: List of State Level LaQshya Certified Health Facilities

| <b>S.NO</b> | <b>STATE LEVEL CERTIFIED HEALTH FACILITIES</b> | <b>DISTRICT</b> |
|-------------|------------------------------------------------|-----------------|
| 1.          | Sub-District Hospital (SDH), Roorkee           | Haridwar        |
| 2.          | Sub-District Hospital (SDH), Dehradun          | Dehradun        |
| 3.          | Community Health Centre (CHC), Bahadrabad      | Haridwar        |
| 4.          | Sub-District Hospital (SDH), Rishikesh         | Haridwar        |
| 5.          | Community Health Centre (CHC), Bhagwanpur      | Haridwar        |

## **5. TOPIC OF PRACTICUM ASSIGNMENT**

Evaluation of LaQshya Certification: Analysis of Service Indicators and Client Satisfaction, Pre- and Post-Certification across health facilities in Uttarakhand.



## **5.1 AIM OF THE STUDY**

To find if there was any improvement in Quality of care, Client Satisfaction, and reduction in MMR and NMR after LaQshya Certification in the identified health facilities.

## **5.2 OBJECTIVES**

Question 1. What is the level of Service Indicators pre-and post-certification in 3 health facilities of Uttarakhand?

Question 2. What is the level of Patient Satisfaction pre-and post-certification in 2 health facilities of Uttarakhand?

## **6. METHODOLOGY**

The evaluation of Pre and Post LaQshya Certification was carried out in two steps-

- A. Change in Quality of Healthcare in terms of service delivery.
- B. Change in Patient's Satisfaction, with response to beneficiaries who received health services at the time of childbirth.

### **6.1 Selection of Health Facilities and their Time Period for Evaluation**

The criteria taken for the selection of the health facilities was that the post certification period must include minimum 10 months for evaluation, starting from the next month of certification (excluding the certified month) till December 2020. For the pre-certification period equal number of months were taken as in post-certification period, again excluding the certified month.

So, by the end of year 2020, five health facilities had been certified with National LaQshya Certification. (Table 6) Out of five, only first four facilities met the above criteria. Since Female Hospital, Haldwani was certified on 26<sup>th</sup> March 2020, the post-certification time period was less than 10 months for evaluation, hence, was excluded from the study.

Table 8: Selected Health Facilities with time Period of Evaluation

| <b>Name of Certified Health Facility</b>                                             | <b>Pre-Certification Period</b>                        | <b>Date of Certification</b> | <b>Post-Certification Period</b>                        |
|--------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------|---------------------------------------------------------|
| Chain Rai Women (CRW)<br>District Hospital, Haridwar<br>District Haridwar            | From June 2017 -<br>February 2019<br>(1 year 9 months) | 8.03.2019                    | From April 2019 –<br>December 2020<br>(1 year 9 months) |
| Community Health Centre<br>(CHC), Mangalore<br>District Haridwar                     | December 2018 –<br>November 2019<br>(1 year)           | 10.12.2019                   | January 2020 –<br>December 2020<br>(1 year)             |
| Jawahar Lal Nehru (JLN)<br>District Hospital, Rudrapur<br>District Udham Singh Nagar | February 2019 –<br>December 2019<br>(11 months)        | 20.01.2020                   | February 2020 –<br>December 2020<br>(11 months)         |

According to Maternal and Newborn Health Toolkit (MNH Toolkit), based on their service delivery and case load, the Chain Rai Women (CRW) District Hospital, Haridwar and Jawahar Lal Nehru (JLN) District Hospital, Rudrapur have been designated as Level III Maternal, and Child Health Centres. These settings are meant to perform caesarean sections along with normal deliveries and manage maternal and neonatal complications during antenatal, intranatal and postnatal periods. With Blood Bank facility, management of blood transfusion is also a part of their services. They are also equipped with Special Newborn Care Units (SNCUs). (25) The 30 bedded MCH Wing caters caseload of 200 – 500 deliveries/month including caesarean deliveries.

Community Health Centre (CHC), Mangalore, District Haridwar is categorised as Level II Maternal, and Child Health Centre, where Basic Emergency Obstetric Care (BEmOC) services are provided, for instance, conducting normal deliveries and managing complications that do not require any surgical intervention. Since there is no facility of Blood Bank or Blood Storage Unit, facility of blood transfusion is not available. The facility has Newborn Stabilization Unit (NBSU) for neonates. (25) With 6 bedded MCH ward, this facility caters caseload of 100 - 200 deliveries/month.

## 6.2 Assessment of Quality of Health Care

To assess Quality of Care , (whether desired quality care is provided or not) in terms of service delivery in the identified health facilities, the framework used was “structure-process-outcomes” described by Donabedian, a tool for Quality Measures. This was carried out by studying inputs at the settings or place where intrapartum, process of childbirth and postpartum care was provided, by measuring the actual process of service delivery, and/or by evaluating what the outcomes of care were. (26)

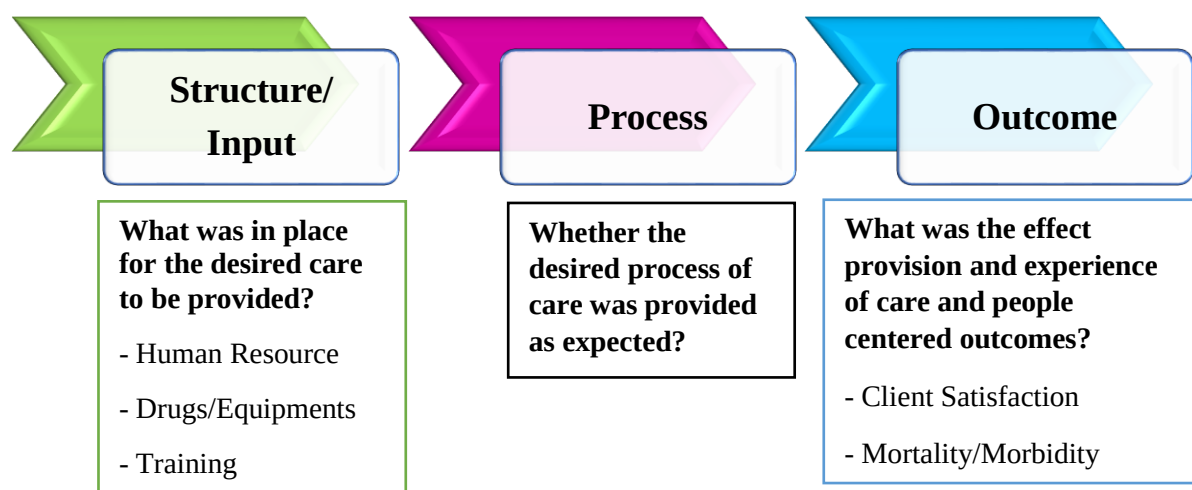


Figure 6 : Donabedian Framework (26)

## 6.3 Selection of Indicators

The Input, Process and Outcome Health Indicators for evaluating Quality of Services were taken from pre-defined ‘Facility Level Targets for Incentives’ (Annexure 1), LaQshya Guidelines (2017) and Health Management Information System (HMIS). Total 19 health indicators were selected for the evaluation (Annexure 2). Some of the Indicators have been developed and added, after an in-depth discussion with the key stakeholders involved in LaQshya, for example, Women discharged within (before) 48 hours of delivery and Referrals. These indicators were added since they had direct relation with QOC, and the identified gaps would help the state for better implementation and strengthening of the program.

Change (pre and post) of each health indicator was further calculated with the help of formula : Value of Post-Certification Period (%) - Value of Pre-Certification Period (%).

Thereafter, the changes documented for the input and process indicators (excluding outcome indicators), in 3 health facilities were further categorized under the following heading, subheadings (Annexure 3) and analysed.

The analysis was conducted on total 19 indicators (after excluding outcome indicators) for CRW District Hospital and JLN District Hospital, Rudrapur. While for CHC Manglore, analysis was conducted on total 15 indicators since the indicators related to Maternity OT were not relevant (as there is no provision of Maternity OT), hence were excluded.

This analysis was conducted to identify gaps and get a clearer picture to know which indicator or area of health services is lagging behind and needs to be emphasized for better outcomes and successful implementation of the program.

#### **6.4 Patient Satisfaction Form**

The Patient Satisfaction Questionnaire containing 10 questions was self-designed. The tool utilized was a 3-point Likert Scale. The multiple-choice options included Highly Satisfied, Satisfied and Unsatisfied. To measure respondents attitude, a score of 3 was given for Highly Satisfied, 2 for Satisfied and 1 for Unsatisfied, respectively. (Annexure 4)

According to the developed questions, the Patient Satisfaction Form was divided into 3 groups: 1. Quality of Care (Question 1,2, 3)

2. Respectful Maternal Care (Questions 4, 5, 6, 7, 8)

3. Out-of-pocket Expenditure (Questions 9, 10)

Thereafter, overall percentage of Pre and Post for each scale was calculated separately and finally the change in percentage for every scale in identified health facilities was estimated with the help of formula – Value of Post-certification Period (%) - Value of Pre-Certification Period (%).

The questions of Respectful Maternal Care were based on the mandatory activities enlisted in Respectful Maternal Care (RMC) section, (Annexure 5) of LaQshya Guidelines, which the service providers in LR/OT should facilitate to ensure patient satisfaction. While questions of

Respectful Maternal Care and Out-of pocket Expenditure were designed as per the requirement of the state after extensive discussion with state officials.

## **6.5 Data Collection**

The data for analysis was gathered from various resources for analysing the health services at identified 3 health facilities, namely, Chain Rai Women (CRW) District Hospital, District Haridwar; Community Health Centre (CHC) Manglore, District Haridwar and Jawaharlal Nehru District Hospital, Rudrapur, District Udham Singh Nagar. The month-wise data was collected from State Health Management Information System (HMIS), Maternal Child Health (MCH) Portal, and directly from the health facility. While for the Patient Satisfaction analysis the data was collected for 2 health facilities, specifically, Chain Rai Women (CRW) District Hospital, District Haridwar and District Haridwar and Jawahar Lal Nehru District Hospital, Rudrapur, District Udham Singh Nagar. The contact numbers of the beneficiaries were collected from the respective health settings. This was further facilitated by contacting beneficiaries, telephonically from State 104 Helpline Centre. Identified 'Beneficiaries' were those pregnant women who had taken benefit of health services for conducting their deliveries in these identified delivery points.

In Uttarakhand, 104 Helpline was launched on pilot basis in 2016. It is an integrated tool free helpline service that aims to provide information, inquiry, advice or counselling, and grievance redressal to general public, especially grievance related to maternal and newborn health services. The incoming and outgoing calls are recorded which can be obtained when necessary. The 104 helpdesk and its call centre is set up on the second floor of the main building of Health Directorate in Dehradun and is initiated with the help of joint venture of NHM and State Medical Health and Family Welfare (SH&FW) departments of Uttarakhand.

(27)

Depending upon the availability of contact numbers of the beneficiaries, random sample was taken to collect data for Pre-and Post-Patient Satisfaction Survey.

Table 9: Sample Summary

|                                                             | CRW Hospital,<br>Haridwar |                   | JLN District Hospital,<br>Rudrapur |                   |
|-------------------------------------------------------------|---------------------------|-------------------|------------------------------------|-------------------|
|                                                             | PRE                       | POST              | PRE                                | POST              |
| Month                                                       | September<br>2018         | September<br>2020 | July 2019                          | September<br>2020 |
| <b>Total contact numbers of<br/>Beneficiaries available</b> | <b>32</b>                 | <b>36</b>         | <b>49</b>                          | <b>49</b>         |
| <b>Calling Status</b>                                       |                           |                   |                                    |                   |
| • Wrong number                                              | 6                         | 4                 | 7                                  | 7                 |
| • Incoming unavailable                                      | 5                         | 2                 | 4                                  | 0                 |
| • Out of network area                                       | 1                         | 0                 | 0                                  | 0                 |
| • Not connected                                             | 4                         | 6                 | 5                                  | 5                 |
| • No response                                               | 6                         | 13                | 11                                 | 10                |
| • Switched off                                              | 0                         | 0                 | 4                                  | 4                 |
| • CONNECTED                                                 | <b>10</b>                 | <b>11</b>         | <b>18</b>                          | <b>23</b>         |

Therefore, sample size taken for Client Satisfaction Survey Analysis for Chain Rai Women District Hospital, Haridwar was – 20 (10 for pre-certification and 10 for post certification period) and for Jawahar Lal Nehru District Hospital, Rudrapur was – 36 (18 for pre-certification and 18 for post certification period) .

## 7. RESULTS

### 7.A Health Indicators

#### 7.A.1 Human Resource (HR) and Capacity Building

Health Workforce has been identified as one of the important component of inputs within the health system. Any health system can function only with the help of health workers that could deliver healthcare services to meet the need of the target population and overall patient health

outcomes. (28) Size, composition, and distribution of HR is an essential indicator to determine the capacity of any state to provide access, delivery of healthcare services and implement interventions. (29) Assessment of Human Resource in LR, OT and NBSU/SNCU is based on defined norms of LaQshya (Annexure 6), and Facility Based Newborn Care Operational Guidelines 2011. (30)

a) Human Resources : On evaluating the 3 identified health facilities for the change in HR during Pre and Post Certification Period as per the defined norms (minimum service providers required according to delivery load), no change in the availability of HR was evident in 2 health facilities - JLN Hospital, Rudrapur and CHC, Mangalore, where the overall occupancy rate of the service providers remained 54% respectively. While in CRW District Hospital, Haridwar, showed an increase of 13% in HR occupancy, i.e. 57% - 70% between the Pre and Post Certification Period.

This mild increase of 13% in CRW District Hospital, Haridwar, was due to the posting of Medical Officers (50% - 75%) and Staff Nurses (72% - 90%). On the other hand, the overall low percentage of service providers was related to the posts of Medical Officers trained in Emergency Obstetric Care (EmOC) and Life Saving Anaesthetist Skills (LSAS) which remained vacant with 0% occupancy. In contrast, 100% availability of Obstetrician, Paediatrician, and Anaesthetist was sustainable till the end of the evaluation.

The constant low percentage of HR In JLN District Hospital, Rudrapur, accounted due to insufficient number of EmOC trained Medical Officers - 25%, LSAS - 0%, Medical Officers - 50% and Staff Nurses - 65%, with 100% residency on Obstetrician, Paediatrician, and Anaesthetist posts. The same situation was in CHC, Mangalore. Only 25% of Medical Officers remained available throughout the period. The post of Paediatrician which was filled after a gap of first 8 months during the period of pre-certification again became vacant during the post certification period with 0% occupancy. Although, there was 9% increase (58% - 67%) in the Staff Nurse category.

Uttarakhand Health System has been facing shortage of health professionals since its birth in 2000. According to HR Cell, Directorate Medical Health and Family Planning Uttarakhand, till date there is a huge gap between the posts sanctioned and in-position (Regular + Contractual) in all health professional categories, for instance, 57.64% posts are vacant in Specialist, 33.44% in Medical Officers (MBBS) and 50.37% in Staff Nurses. Despite of

processing recruitments, both at state and district level, the main causes of not being able to narrow this gap are, firstly, budgetary constraints, secondly the lengthy and time-consuming process of recruitment which restricts frequent processing and finally the selected candidates refuse to join in health facilities situated in hilly areas in the proposed salary.

Another reason for vacant posts especially EmOC and LSAS was that only 27 medical officers in EmOC and 9 in LSAS (as per NHM Training Cell) have been trained so far. The trained medical officers have been posted in health facilities where the post of specialists was vacant. This strategy was adopted to provide basic obstetric services to all the pregnant women across the state.

b) Capacity Building : In-service training and education of HR is yet another important subject. Skilled competent workforce helps to ensure that the service providers are aware and prepared to provide quality healthcare and implement interventions effectively. (29) Dakshata Training, was launched in 2015. It is a comprehensive program, which aims to strengthen competency of the health workers (Medical Officers and Staff Nurses) in performing essential maternal and new-born care practices to reduce maternal and new-born morbidity and mortality by enhancing quality of care occurring during and around childbirth. (31) It is also an integral part of LaQshya intervention.

A mixed scenario was highlighted for the status of Dakshata trained HR posted in LR, Maternal OT and NBSU/SNCU when compared among Pre and Post Certification Period. Only in CRW District Hospital, Haridwar an increase of 40% (40% - 80%) trained HR was noticeable. In reverse, a decrease by 25% (100% - 75%) in CHC Manglore, while no change with 64% in JLN District Hospital, Rudrapur was recorded.

Despite of training all service providers (100%) during Pre-Certification Period, the percentage of trained HR decreased to 75% in CHC Manglore as some of the trained staff nurses were transferred and the newly appointed staff nurses remained untrained till the end of the analysis. On the other hand, since the number of HR remained constant during Pre and Post Certification Period in JLN District Hospital, Rudrapur, and no additional batch of training was conducted during post certification period, no change in the training status of the service providers was noticed.



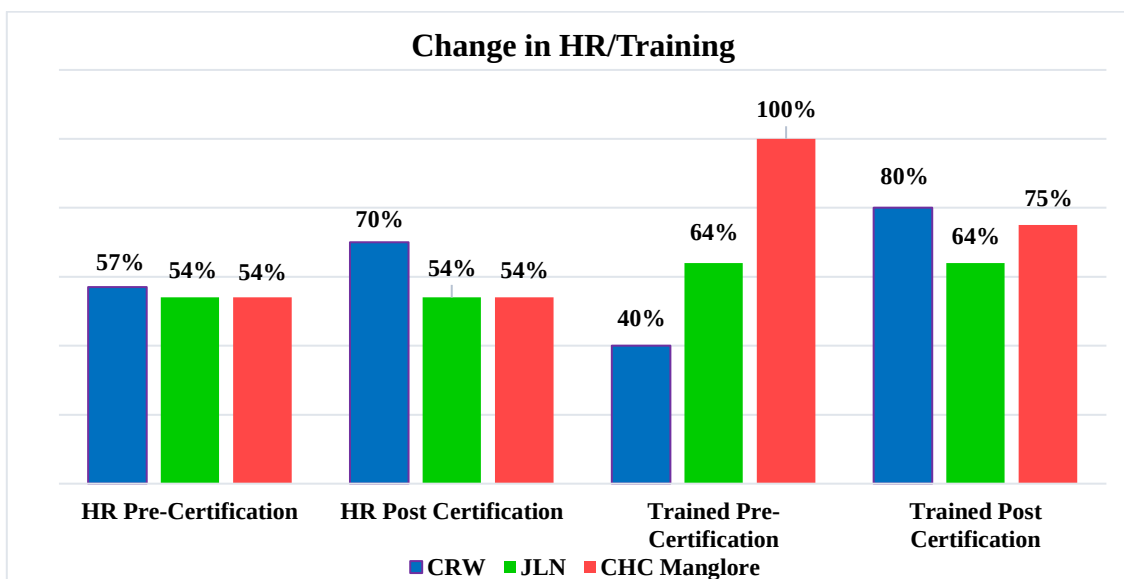


Figure 7: Graphical Representation for Changes in HR/Training

### 7.A.2 Equipment & Instruments in LR/OT

Equipment and Instruments are necessary tools for health professionals working in LR and Maternity OT, since they help in performing procedures effectively and providing quality in healthcare services. Without the availability of appropriate equipment and instruments, the service providers remain paralyzed since these tools play vital role in testing, monitoring, concluding diagnosis, treatment, and care.

a) Labour Room - As per the Norm List of 67 Essential Equipments and Instruments required in labour Room (Annexure 7), CRW Hospital and JLN Hospital leaded with no change as availability of Equipments and Instruments was 100% and 97% before and after certification. While in Community Health Centre (CHC), Mangalore significant improvement was noticed in Pre-Certification Period (69% to 87%) in comparison to Post Certification, in which availability increased only by 1%.

b) Maternity OT - As per the Norm List of 62 Essential Equipments and Instruments required in Maternal Operation Theatre (Annexure 7), JLN District Hospital, Rudrapur steered 100% availability of Equipments and Instruments, followed by CRW District Hospital, Haridwar where no change (92% - 93%) was encountered during Post and Pre-Certification Period.

The diagnostic instruments absent in LR of JLN District Hospital were Protein Urea Test Kit and HB Testing Kit. The kits were not purchased separately for LR as they were available in

abundance in hospitals Pathology Department and could be accessed and utilized anytime at the time of emergency.

In CHC Manglore, the explanation given for not having Manual Termination of Pregnancy (MTP) Kit in LR was that the posted medical officer was trained for using Manual Vacuum Aspirator (MVA) Syringe, (an alternative of MTP Kit) and she felt comfortable using this process for evacuation since this method was much safer, easier, and time saving with less complications.

The facility officials were unaware regarding the cause of non-availability of labour beds with accessories and mattresses as this matter was under the supervision of State MCH Department. On inquiring with State MCH officials, they ensured that the labour beds with mattresses would be supplied by next year, that is January 2021, as the procurement process was in its concluding stage.

In CRW District Hospital rationale for missing diagnostic instruments like Ultrasound Machine, Arterial Blood Gas Test and Xray view box fixtures in Maternity OT were firstly, financial limitations and secondly, that these items were available in Radiology and Pathology Departments of the hospital and their services were accessible to the clients 24x7 when needed. The non-utilization of Anaesthetic equipments like AGSS (Anaesthesia Gas Scavenging System) was the reason for not purchasing them as all the obstetric surgeries were being performed under spinal anaesthesia.

### **7.A.3 Drugs**

Medicines or Drugs are a source of treatment to improve health and save lives. These are essential elements of all functioning health systems. It is important to make sure that the correct drug is available at the health facility at the time of need (emergency and routine) or at the right time which is cost effective, affordable and accessible to the patients for delivering high quality services. (32) Drugs used in LR and maternity OT before and after childbirth have a great impact on the outcome of both mothers and neonates. Receiving timely treatment during intra and postpartum complications can help save lives of mother and babies, thus facilitating reduction in MMR and NMR around places where birth occurs.

a) Labour Room – As per the Norm List of 31 Essential Drugs required in labour Room (Annexure 8), in JLN District Hospital, Rudrapur and CRW District Hospital, Haridwar no

change in the availability of the drugs was noticed since 100% and 74% of drugs were in place during Pre and Post certification period. In CHC Manglore, drugs availability had increased from 65% to 74% during the Pre-Certification Period and from 74% to 87% during the Post Certification Period. Thus, an increase of 13% in drugs availability Pre and Post certification was highlighted.

b) Maternity OT – Again in CRW Hospital and JLN Hospital, no change or improvement in the availability of the drugs was apparent. Only 54% and 68% of drugs were in place against the Norm List of 56 Essential Drugs required in Maternal OT (Annexure 8) during the Pre and Post certification period.

In Uttarakhand, the purchase of drugs takes place at both state and facility level. The drugs are purchased according to the Essential Drug List (EDL) of Uttarakhand 2015. If the drug is not included in the EDL, then the supply of that drug is restricted from state level but can be purchased through the process of ‘Local Purchase’ at facility level at the time of emergency. Secondly, some drugs come under the category of ‘Schedule X Drugs’ (Sedatives and Narcotics), for which the pharmacy needs to have a licence and maintain records for its supply. This restricts the purchase of some drugs through local purchase at the facility level.

Under LaQshya, a list of drugs for both LR (31 items) and OT (51 items) has been included in its guidelines with a target of zero stock out. And to support the purchase of drugs and equipments in case of financial issues a budget of 1 lakh per health facility is granted by NHSRC every year.

The reasons of not maintaining 100% availability of essential drugs in LR were firstly, some of the unavailable drugs were not included in EDL, for instance, Antihypertensive (Inj. Hydralazine), hence these drugs were not purchased, instead their alternative drug was in place. On the other hand, few drugs which were in EDL, but were missing, for them local purchase was preferred as their consumption was less. For example, Antihypertensive (Nifedipine, Methyldopa), and Betamethasone.

Same conditions were implemented for the drugs in OT, for instance, drugs for General Anaesthesia (Halothane, Ketamine, Diazepam) are Schedule X Drugs while some of the Opioid Analgesics (Methadone, Levorphanol), Muscle Relaxants (Tubocarine, Vecuronium) were not a part of EDL. Emergency drugs like Antihypertensive (Nifedipine, Methyldopa),

Inj. Magsulf 50%, Betamethasone, and Warfarin which were included in EDL were supplied at the time of need through local purchase.

#### **7.A.4 Use of Checklists for conducting deliveries in LR/OT**

The Safe Birth Checklist and Safe Surgery Checklist are tools developed by World Health Organization (WHO) which targets the main causes of morbidity and mortality in mothers (haemorrhage, infection, hypertension) and their new-born babies (asphyxia, infection) around the time of birth. The purpose of Safe Birth Checklist is to help service providers keep up with the conveyance of practices necessary for maternal and neonatal care in LR, (33) while Safe Surgery Checklist aims to decrease chances of making mistakes that can lead to fatal consequences and increases coordination and communication during surgery in maternity OT to prevent avoidable maternal and neonatal deaths.

On analysing the use of Safe Birth Checklist against total number of deliveries conducted in LR and use of Safe Surgery Checklist dividing with total number of caesarean performed in OT, a positive response was noted in all the 3 health facilities. (Figure 8)

a) Use of Safe Birth Checklist in LR for conducting normal delivery – maximum increase of 68% (19% - 87%) was perceptible at CRW District Hospital, followed by CHC, Mangalore with an increase of 64% (27% - 91%) and JLN District Hospital, Rudrapur with an increase of 59% (33% - 92%).

b) Use of Safe Surgery Checklist in OT for performing caesarean delivery – CRW District Hospital, Haridwar again leaded with an increase of 68% (23% - 91%), followed by JLN District Hospital, Rudrapur with 59% of increase (27% - 86%).

## Use of Checklists in LR/OT

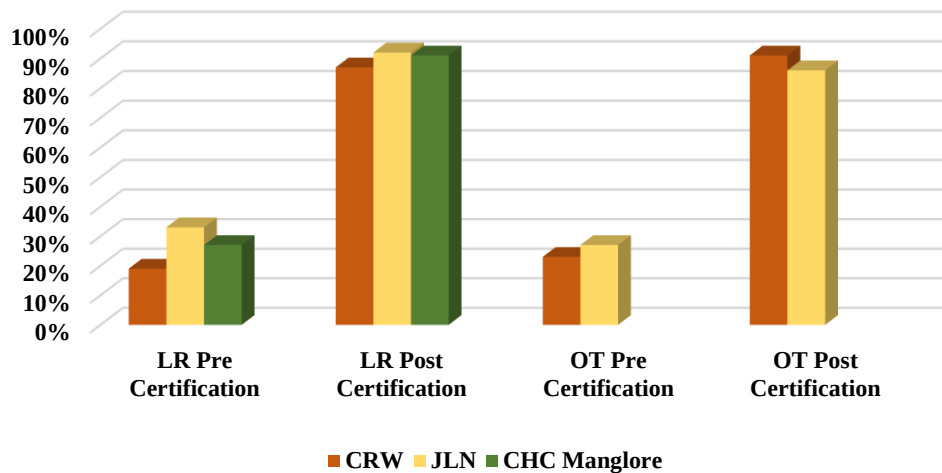


Figure 8: Graph for the Change in Use of Checklists in LR/OT

# CRW DISTT. HOSPITAL, HARIDWAR

World Health  
Organization

## Surgical Safety Checklist (First Edition)

Before induction of anaesthesia

Before skin incision

Before patient leaves operating room

### SIGN IN

☒ PATIENT HAS CONFIRMED

- IDENTITY
- SITE
- PROCEDURE
- CONSENT

☒ SITE MARKED/NOT APPLICABLE

☒ ANAESTHESIA SAFETY CHECK COMPLETED

☒ PULSE OXIMETER ON PATIENT AND FUNCTIONING

DOES PATIENT HAVE A:

KNOWN ALLERGY?

☒ NO  
☐ YES

DIFFICULT AIRWAY/ASPIRATION RISK?

☒ NO  
☐ YES, AND EQUIPMENT/ASSISTANCE AVAILABLE

RISK OF >500ML BLOODLOSS  
(7ML/KG IN CHILDREN)?

☒ NO  
☐ YES, AND ADEQUATE INTRAVENOUS ACCESS  
AND FLUIDS PLANNED

### SIGN OUT

☒ CONFIRM ALL TEAM MEMBERS HAVE  
INTRODUCED THEMSELVES BY NAME AND  
ROLE

☒ SURGEON, ANAESTHESIA PROFESSIONAL  
AND NURSE VERBALLY CONFIRM

- PATIENT
- SITE
- PROCEDURE

ANTICIPATED CRITICAL EVENTS

☒ SURGEON REVIEWS: WHAT ARE THE  
CRITICAL OR UNEXPECTED STEPS  
OPERATIVE DURATION ANTICIPATED  
BLOOD LOSS

☒ ANAESTHESIA TEAM REVIEWS: ARE THERE  
ANY PATIENT SPECIFIC CONCERNS?

☒ NURSING TEAM-REVIEWS: HAS STERILITY  
(INCLUDING INDICATOR RESULTS) BEEN  
CONFIRMED? ARE THERE EQUIPMENT  
ISSUES OR ANY CONCERNS?

HAS ANTIBIOTIC PROPHYLAXIS BEEN GIVEN  
WITHIN THE LAST 60 MINUTES?

☒ YES  
☐ NOT, APPLICABLE

### SIGN OUT

NURSE VERBALLY CONFIRMS WITH THE  
TEAM

☒ THE NAME OF THE PROCEDURE RECORDED

☒ THAT INSTRUMENT, SPONGE AND NEEDLE  
COUNTS ARE CORRECT (OR NOT  
APPLICABLE)

☒ HOW THE SPECIMEN IS LABELLED  
(INCLUDING PATIENT NAME)

☒ WHETHER THERE ARE ANY EQUIPMENT  
PROBLEMS TO BE ADDRESSED

☒ SURGEON ANAESTHESIA PROFESSIONAL  
AND NURSE REVIEW THE KEY CONCERNS  
FOR RECOVERY AND MANAGEMENT  
OF THIS PATIENT

THIS CHECKLIST IS NOT INTENDED TO BE COMPREHENSIVE. ADDITIONS AND MODIFICATIONS TO FIT LOCAL PRACTICE ARE ENCOURAGED.

Figure 9 : Sample of Safe Surgery Checklist – CRW District Hospital, Haridwar

Before Birth | SAFE CHILDBIRTH CHECKLIST

**CHECK-1 On Admission** Registration No. \_\_\_\_\_

Record temperature of mother: 37.6  
Record BP of mother: 110/70 mmHg  
Record Fetal Heart Rate (FHR): 140/min

**Does Mother need referral?**  
☐ Yes, organized  
☒ No

**Partograph started?**  
☐ Yes  
☒ No: will start when ≥ 4 cm

**NO OXYTOCIN/ other uterotonics for unnecessary induction/ augmentation of labor**

**Does Mother need**  
 Antibiotics?  
☐ Yes, given  
☒ No

Inj. Magnesium Sulfate?  
☐ Yes, given  
☒ No

Corticosteroid  
☐ Yes, given  
☒ No

HIV status of the mother:  
☐ Positive  
☒ Negative

☐ Follow Universal Precautions

Encouraged a birth companion to be present during labour, at birth and till discharge ☐ Yes ☒ No

Are soap, water, gloves available?  
☒ Yes, I will wash hands and wear gloves for each vaginal exam  
☐ No, supplies arranged

☒ Confirm if mother or companion will call for help during labour if needed

**Refer to FRU/Higher centre if any of the following danger signs are present, mention reason and given treatment on transfer note:**  
☐ Vaginal bleeding  
☐ High fever  
☐ Severe headache or blurred vision  
☐ Convulsions  
☐ Severe abdominal pain  
☐ History of heart disease or other major illnesses  
☐ Difficulty in breathing

**Start when cervix ≥ 4 cm; then cervix should dilate ≥ 1 cm/hr**  
 • Every 30 min: Plot maternal pulse, contractions, FHR and colour of amniotic fluid  
 • Every 4 hours: Plot temperature, blood pressure, and cervical dilation in cm

**Give antibiotics to Mother if:**  
☐ Mother's temperature ≥ 38°C (≥ 100.5°F)  
☐ Foul-smelling vaginal discharge  
☐ Rupture of membranes > 12 hrs without labour or > 18 hrs with labour  
☐ Labour > 24 hrs or obstructed labour  
☐ Rupture of membranes < 37 wks gestation

**Give first dose of Inj. magnesium sulfate and refer immediately to FRU/Higher center OR give full dose (loading and then maintenance) if at FRU if:**  
 Mother has systolic BP ≥ 160 or diastolic ≥ 110 with ≥ 3 proteinuria OR BP systolic ≥ 140 or diastolic ≥ 90 with proteinuria trace to +2 along with any of:  
☐ Presence of any symptom like:  
 • Severe headache • Blurring of vision • Difficulty in breathing  
 • Pain in upper abdomen • Oliguria (passing < 400 ml urine in 24 hrs)  
☐ Convulsions

**Give corticosteroids in antenatal period (between 24 to 34 weeks) to mothers if:**  
☐ True pre-term labour  
☐ Conditions that lead to imminent delivery like APH, Preterm Premature ROM, Severe PEIE  
 Dose: Inj. Dexamethasone 6 mg IM 12 hourly - total 4 doses

**If HIV+ and in labour:**  
☐ If mother is on ART, continue same  
☐ If not on ART, start ART/Nevirapine prophylaxis (FART is not available) and refer immediately after delivery to ICTG for further HIV management  
☐ If HIV status unknown:  
☐ Recommend HIV testing

**Explain to call for help if there is:**  
☐ Bleeding  
☐ Severe abdominal pain  
☐ Difficulty in breathing  
☐ Severe headache or blurring vision  
☐ Urge to push  
☐ Can't empty bladder every 2 hours

**Counsel Mother and Birth Companion on:**  
☐ Support to cope up with labour pains  
☐ No bath/oil for baby  
☐ No Pre-Lactal feed  
☐ Initiate breastfeeding in half-an-hour  
☐ Clothe and wrap the baby

Name of Provider: Nandani S Date: 1/1/2021 Signature: \_\_\_\_\_

Figure 10: Sample of Safe Birth Checklist – CHC Manglore, Haridwar

The constraints identified for not attaining the targets in all 3 health facilities were work overload, lack of training, motivation, and negligence.

#### 7.A.5 Cases of preterm labour administered Antenatal Corticosteroid

Neonates are at highest risk of mortality and morbidity when born Preterm (less than 34 weeks) and the most frequent cause of their death is Respiratory Distress Syndrome (RDS), a disorder due to deficiency of lung surfactant. The drug of choice to prevent RDS is administering Inj. Dexamethasone Sodium Phosphate, 4 injections each of 6mg doses, given at an interval of 12 hours to the pregnant women when diagnosed with Preterm Labour. (34)

The management of antenatal corticosteroids in case of preterm labour in response to total preterm born was found different in each selected health facilities. A tremendous decrease of 10% (49% - 39%) was recorded between Pre and Post Certification Period in CRW Hospital;

while JLN Hospital, Rudrapur showed mild improvement with 6% increase (13% - 19%).  
CHC Mangalore with 86% was neutral with no change.

The causes for failure to administer antenatal corticosteroids during preterm labour were, firstly, lack of knowledge of identifying cases of preterm labour (gestational age), correct schedule and doses of managing antenatal corticosteroids and secondly, the time lag between the admission of patients and delivery was not enough for completing the required schedule of administering antenatal corticosteroids.

#### **7.A.6 Deliveries attended by a birth companion**

Focusing on Respectful Maternal Care (RMC), WHO recommended presence of Birth Companion - a person of choice who remains in LR during birth process. (35) They acts as an advocate, support the pregnant women emotionally with their presence and practically by building confidence. (36) It as a quality indicator for building on care around mothers and neonates in health settings. The concept started with Dakshata Training in 2015 but was re-enforced with the implementation of LaQshya initiative.

With 100% presence of birth companion in relation to total number of deliveries conducted in LR during Pre and Post Certification Period, no change was noticeable in CRW District Hospital, Haridwar, while a progress of 19% (79% -98%) was seen in Community Health Centre (CHC), Mangalore. Due to lack of documentation, change in deliveries attended by birth companion during period of evaluation could not be determined for JLN District Hospital, Rudrapur.

The lack of awareness was the ground of not maintaining monthly record of deliveries attended by birth companion in LR in JLN District Hospital Rudrapur.

#### **7.A.7 Partograph created during deliveries in LR**

Partograph is a labour monitoring tool for early detection of maternal and neonatal complications (prolonged and obstructed labour, postpartum haemorrhage, foetal distress) during childbirth. It is a graphical record of maternal and foetal key data during active labour. Ensuring that the labour is closely monitored and that the life-threatening complications are timely identified and treated with sincere and correct use of partograph, several maternal and foetal lives can be saved, thus helping reduce maternal and neonatal mortality during childbirth. (37)

Regardless of being an important target, not much difference in the utilization of the partograph in LR was depicted in Pre and Post Certification Period. CHC Manglore and , CRW District Hospital, Haridwar, took the lead by 20% increase followed by just 5% increase in JLN District Hospital, Rudrapur.

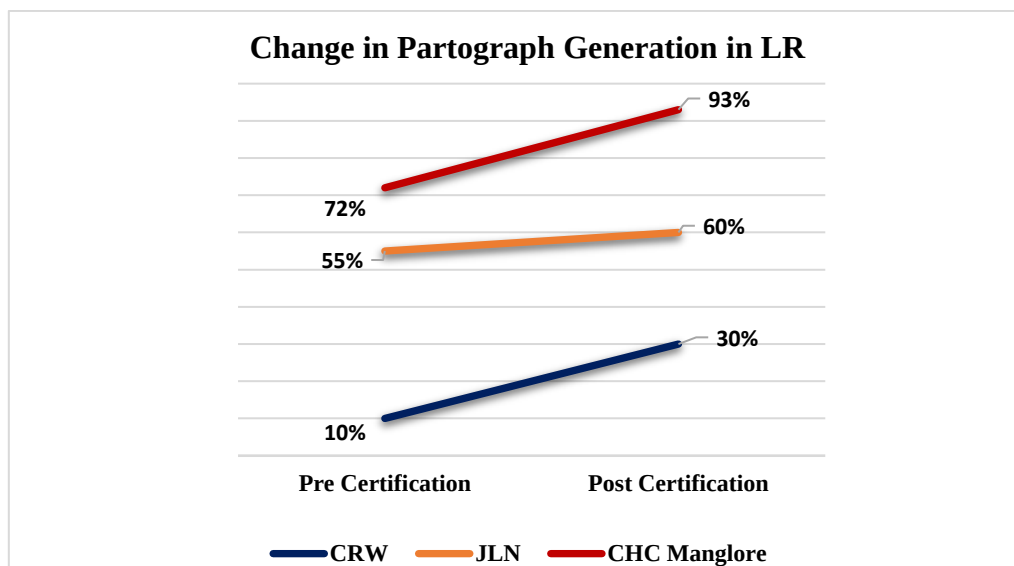


Figure 11: Graph of change in Use of Partograph in LR

**THE SIMPLIFIED PARTOGRAPH**

**Identification Data**  
 Name: Pooja, Age: 24y, Parity: G.P.L., Reg. No.: 1386/167  
 Date & Time of Admission: 11/12/21, Date & Time of ROM: at home

**A) Foetal Condition**  
 Foetal heart rate: 140 (at 6h)  
 Amniotic fluid: 2

**B) Labour**  
 Cervix (cm) (Plot X): 10 (at 6h)  
 Contraction per 10 min: 4 (at 6h)  
 Note: Baby is male, baby delivered at 11/12/21 on 11/12/21, Baby wt 2.5kg

**C) Interventions**  
 Drugs and LI fluid given: [blank]

**D) Maternal Condition**  
 Pulse and BP: 91/42 (at 6h)  
 Temp (°C): 37.4 (at 6h)

Initiate plotting on alert line | Refer to FRU when ALERT LINE is crossed

Ministry of Health & Family Welfare

Figure 12: Sample of Partograph – CHC Manglore



The under-utilization of the Partograph in all 3 health facilities was due to work overload, lack of skill and competency, lack of patience and carelessness in completing partograph.

#### **7.A.8 Women administered Oxytocin, immediately after birth**

Postpartum Haemorrhage (PPH) or excessive bleeding after childbirth can lead to complications and even deaths of mothers. In India, PPH accounts for approximately 30% of total maternal deaths. (21) To prevent postpartum haemorrhage, Oxytocin, a uterotonic, is the drug of choice. It is used during Active Management of Third Stage of Labour (AMTSL). Both in vaginal and caesarean delivery, oxytocin is injected immediately after birth of the baby, to prevent postpartum haemorrhage by helping uterus to contract. Thus, to reduce the state of being diseased, like Anaemia and maternal deaths during postpartum period, regular practice of administering oxytocin after birth is very crucial. (38)

A good response in the practice of administering oxytocin immediately after birth was recording during evaluation. Out of three, two health facilities, namely CRW District Hospital, Haridwar and JLN District Hospital, Rudrapur documented 100%, since Inj. oxytocin was administered to every women after birth (vaginal and caesarean), therefore no change was seen in Pre and Post Certification Period. In addition, CHC Manglore, showed progress by 27% (73% - 100%) in the Post Certification duration.

#### **7.A.9 Newborn breastfeed within 1 hour**

Over past two decades, MoHFW has been trying to promote 'Early Initiation of Breast Feeding' (EIBF) through multipronged strategies. (39) Unfortunately, the prevalence of neonates breastfed within one hour of birth remains low with 42% according to National Family Household Survey (NFHS-4) 2015-16. (40) It is well documented that EIBF reduces the risk of neonatal mortality and morbidity based on immunological characteristics of colostrum which protects from infections like diarrhoea and pneumonia. Moreover, breast milk contains all the necessary nutrients that infants needs in first six months of life for their proper growth and development. (39)

Despite of multiple efforts it was disappointing to find that in JLN District Hospital, Rudrapur the prevalence of EIBF decreased by 6% (93% - 87%). In contrast, CHC Manglore showed an increase by 11% (81% - 91%), while CRW District Hospital, Haridwar reported no change with 84% during Pre and Post Certification Period.

The barriers associated with low percentage of EIBF were insufficient counselling of pregnant women during antenatal visits and prenatal period, discomfort associated with post caesarean delivery, lack of support and guidance from health professionals due to time constrain, excessive workflow, lack of skills, competency, and motivation.

#### **7.A.10 Surgical Site Infection (SSI) in Maternity OT**

Surgical Site Infection is the commonest post-operative complication and a cause of maternal death, that ranges from 23% to 38% in India. It often leads to economic burden on the government and family due to extended length of hospital stay. Apart from patient factors (obesity), the factors that influence the incidence of SSI are pre-and post-operative care and operation theatre environment. Hence, to prevent SSI a bundle of strategies have been in-cooperated in various interventions for the service providers through trainings like Infection Prevention, Clinical Protocols and Practices and Biomedical Waste Management. (41)

The two health facilities, CRW Hospital, Haridwar and JLN Hospital, Rudrapur, where on an average 70/month and 30/month caesarean sections were performed, 0% of SSI were recorded during Pre and Post Certification Period.

#### **7.A.11 Women discharged within (before) 48 hours of birth**

WHO recommended the concept of discharging women after 48 hours of institutional delivery with an aim of promoting postnatal care attended by skilled personnel at facility level. (42) Postpartum care helps to reduce postpartum complications which occur with 24 hours, for instance, maternal (postpartum haemorrhage, anaemia, sepsis, depression), neonatal (asphyxia, infection) which further help reducing MMR and NMR. Although, over the years, India has made progress in improving postnatal care within 2 days after delivery, i.e. from 34.6% - 62.4% according to NHFS-3 (2005-06) and NFHS-4 (2015-16) (40), which means that still 38% women are being discharged within 48 hours of delivery.

A mixed situation was evident for this indicator in the identified 3 health facilities. In JLN District Hospital, Rudrapur, no women were discharged before 48 hours of delivery (0%) during Pre and Post Certification Period. Hence no change was seen. On the other hand, the other 2 facilities showed positive but slow improvement. In CRW District Hospital, Haridwar mothers who were being discharged before 48 hours decreased by 3.2% (7.2% - 4%) and in CHC Manglore, by 5% (83% - 78%).

The causes identified in holding back women for 48 hours after delivery in CRW District Hospital, were their personnel emergencies and under such situation the women were 'Discharged on Request' (DOR). While some women left the hospital premises without informing the staff and were categorized under 'Left Against Medical Advice' (LAMA), thus preventing the fulfilment of LaQshya target. While in CHC Manglore, since most of the beneficiaries were from neighbouring places, they left the hospital before 48 hours after delivery because firstly, due to insufficient knowledge of the consequences of postpartum maternal and neonatal complications, and secondly, they preferred getting re-admitted in case of any complication rather than staying for two days in the hospital, neglecting their household responsibilities.

#### **7.A.12 Cases of Neonatal Asphyxia in LR and Cases of Sepsis in inborn babies**

In India, 19% and 14% of the total neonatal deaths are due to asphyxia and infection (sepsis). (21) Several efforts have been made to reduce these preventable deaths through interventions like setting up Special Newborn Care Units (SNCUs) and Newborn stabilisation Units (NBSUs) in health facilities and by building skills of the service providers through trainings like Dakshata and Infection Prevention.

a) Change in cases of neonatal asphyxia in LR during Pre and Post Certification Period was negligible. CRW District Hospital, Haridwar and CHC Manglore revealed reduction by 1% i.e. (2% - 1%) and (7% - 6%) respectively. Instead in JLN District Hospital, Rudrapur an increase of 1% (3% - 4%) was recorded.

b) Cases of neonatal sepsis in inborn babies of all the three health facilities manifested no change in Pre and Post Certification Period. CRW District Hospital, Haridwar remained at 2% while JLN District Hospital, Rudrapur and CHC Manglore with 0% (zero) throughout evaluation.

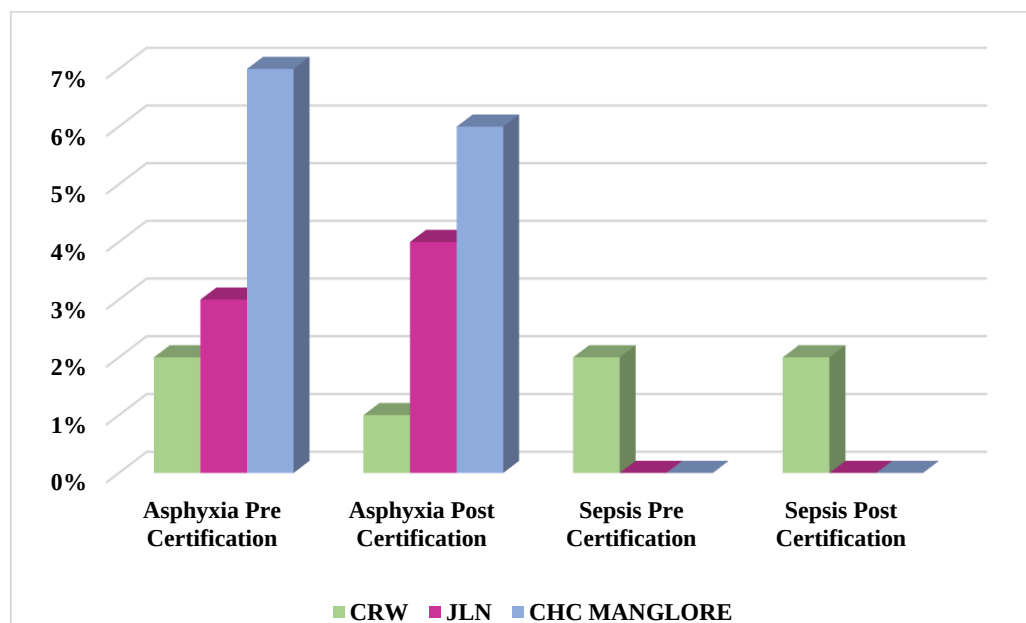


Figure13: Graph of change in cases of Neonatal Asphyxia and Sepsis in inborn babies

Being Level III Health Facilities, CRW and JLN District Hospital have to deal with complicated pregnancies and labour. Almost in all the cases when the babies suffered neonatal asphyxia in LR, the women with complication had reached the facility when the delivery was about to take place (second stage of labour) and performing caesarean section was not feasible. The complications encountered in such cases were Anaemia, Hypertension Disorders, Preterm Labour, Intrauterine Growth Retardation (IUGR), Meconium stained and Premature Rupture of Membranes. Babies born with low birth weight (LBW) also added to the causes of increased cases of neonatal asphyxia in LRs.

Although cases of neonatal asphyxia during post-certification period decreased in comparison to pre-certification period in CHC Mangalore, but the main reasons for not attaining LaQshya target were firstly, vacant post of Paediatrician in NBSU and secondly, newly appointed staff nurses (25%) who had not undergone Dakshata training contributed to lack of knowledge, skills, and confidence in reviving neonates after normal delivery in LR.

To prevent neonatal sepsis, protocols like Injecting Antibiotics to women in cases of infection or at risk of acquiring infection, and Infection Prevention were in routine practise in CRW District Hospital. Since neonatal sepsis can occur anytime within 24 - 48 hours after birth, despite of preventive measures, the conditions that contributed to cases of neonatal sepsis

were mainly related to premature rupture of membranes, preterm labour, and maternal infections like infection of maternal placenta and amniotic fluid.

#### **7.A.13 Death Reviews conducted by the facility**

Facility Based Maternal Death Review (FBMDR) and Facility Based Neonatal Death Review (FBNDR) are interventions to enhance maternal and neonatal quality of care and reduce MMR and NMR. These reviews are important as they provide detailed reasons of deaths, factors and short comings at the facility level that had contributed to these deaths and which can be addressed to reduce maternal and neonatal deaths. The guidelines for Maternal Death Review and Child Death Review were released in 2014, but strict implementation has been envisioned through LaQshya intervention. (43) (44)

a) 100% FBMDR for all the maternal deaths that had taken place in CRW District Hospital, Haridwar were completed during the Pre-Certification Period. 0% FBMDR were recorded in JLN District Hospital, Rudrapur and CHC Manglore, as no maternal deaths occurred during this time period. Hence, no change in either health facility was documented for conducting FBMDR during Pre and Post Certification Period.

b) FBNDR increased by 21% (62% - 83%) in CRW District Hospital, Haridwar. On the other hand, with 0%, no change was evident in JLN District Hospital, Rudrapur and CHC Manglore, during Pre and Post Certification Period. The reason being that the facility did not conduct any FBNDR, despite of several neonatal deaths in NBCU in JLN District Hospital, while at CHC Manglore, no neonatal death had occurred during post certification period.

Lack of leadership, poor planning, and support from hospital management were some of the main causes for not conducting FBNDR in JLN District Hospital Rudrapur. Furthermore, because of fear of blame and punishment the initiation of conducting reviews was restricted. To many providers the concept of FBNDR was new and therefore their lack of knowledge and skills added on to hold them from conducting death reviews. Finally, due to shortage of staff, the providers involved in managing of the cases of death reviews had other competing commitments which made it difficult to bring all the members together during the reviews.

#### **7.A.14 Pregnant women and neonates referred OUT of those detected with complications**

According to WHO, “A referral is a process in which a health worker at a one level of the health system, having insufficient resources (drugs, equipment, skills) to manage a clinical condition, seeks the help of a better or differently resourced facility at the same or higher level to assist in.” Referral system is pyramidal, where Primary Healthcare Centre forms the base and Tertiary Care Centres represents the top. (45) A patient can be referred either in case of emergency or routine for seeking expert opinion, additional services, better treatment or for using therapeutic and diagnostic tools which are not available at current facility. (45)

a) An increase of 4% and 5% referral of pregnant women detected with complications was apparent in CRW Hospital, Haridwar and JLN Hospital, Rudrapur, while no change was noticeable in CHC Manglore, as 3% of total institutional deliveries detected with complications were referred to tertiary health facilities during Pre and Post Certification Period.

b) NBSU, CHC Manglore led with 18% increase (20% - 38%) in the referral of neonates detected with complication, followed by 3% increase (12% - 15%) from SNCU, CRW District Hospital, Haridwar. In contrast, from NBSU JLN District Hospital, Rudrapur, a reduction of 21% (50% - 29%) was documented during Pre and Post Certification Period.

The conditions under which the pregnant women detected with complications were referred to Medical Collages from CRW District Hospital and JLN District Hospital were firstly, need for surgical intervention and either of the service providers (Obstetrician or Anaesthetist) were on leave. Secondly, when there was a want of especial diagnostic tool like (Echo Cardiography), seeking expert opinion from Super Specialists and additional treatment in cases with medical, cardiac, and endocrinal complications.

In case of neonates born with complications, for instance, Cardiac, Respiratory, Blood, Endocrinal Disorders, Disorders of the Brain and Nervous System and Congenital Anomalies, especially where surgical intervention is obligatory (Imperforate anus, Cleft Lip, Pyloric stenosis) were transferred to higher level settings for better nursing and use of therapeutic tools which were unavailable in these district hospitals. The main reason for increased referrals from CHC Manglore was because of the vacant post of paediatrician in the health facility.

### 7.A.15 Maternal and Neonatal Mortality Rate

The aim of all the indicators (input and process) mentioned above was to reduce MMR less than 70/1 lakh live births and NMR less than 12/1000 live births to achieve Sustainable Development Goals (SDGs) by 2030. (9) Since maximum deaths of mothers and neonates occur within first 24 hrs of birth, the strategies included in LaQshya intervention in form of standard practices and protocols in LR and maternity OT can help to a great extend in reducing MMR and IMR.

a) Maternal Mortality Ratio (MMR) - In CRW District Hospital, Haridwar MMR reduced by 23/1 lakh live births, while no change was highlighted in JLN District Hospital, Rudrapur, and CHC Manglore as MMR remained at 0 (zero)/1 lakh live births during Pre and Post Certification Period.

b) Neonatal Mortality Rate (NMR) - In CRW District Hospital, Haridwar NMR reduced from 5 to 2/1000 live births, whereas no change was evident in CHC Manglore, as MMR remained at 0 (zero)/1000 live births. In JLN District Hospital, Rudrapur a decrease in NMR from 4 to 3/1000 live birth was highlighted during the change in Pre and Post Certification Period.

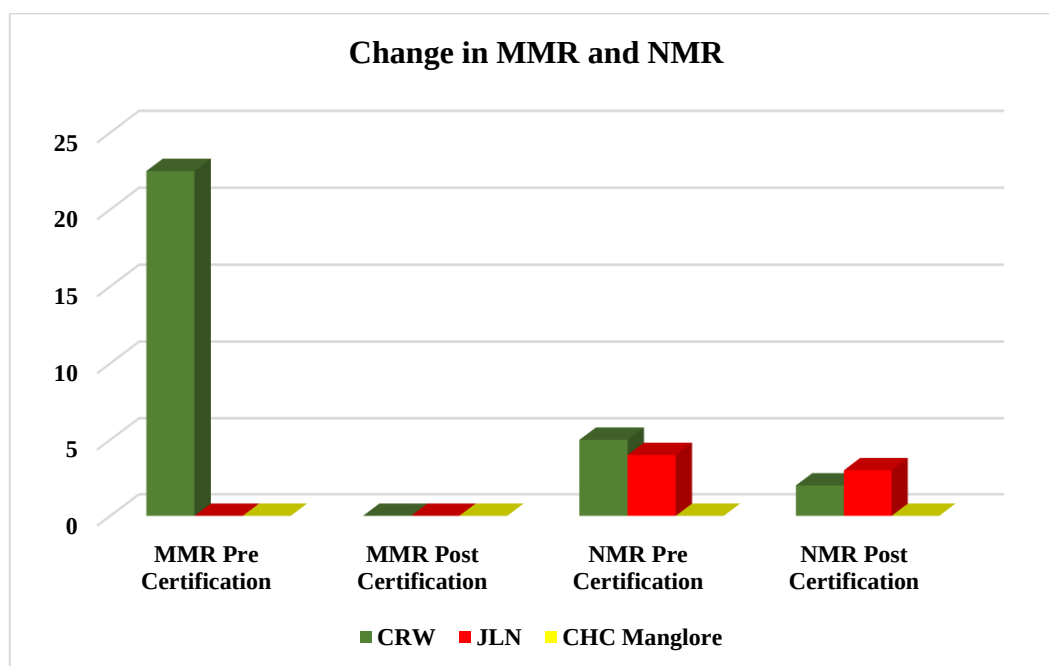


Figure 14: Graph of changes in MMR and NMR

Table 10: Summary of changes in Service Indicators

|                                               | <b>No Change</b><br>(change < than 1%) |                     | <b>Mild Change</b><br>(between 1 - 10%) |                     | <b>Significant Change</b><br>(change > than 10%) |                     |
|-----------------------------------------------|----------------------------------------|---------------------|-----------------------------------------|---------------------|--------------------------------------------------|---------------------|
|                                               | Target Achieved                        | Target Not Achieved | Target Achieved                         | Target Not Achieved | Target Achieved                                  | Target Not Achieved |
| Chain Rai Women District Hospital             | 32%<br>(6/19)                          | 26%<br>(5/19)       | 5%<br>(1/19)                            | 0%                  | 0%                                               | 37%<br>(7/19)       |
| Jawahar Lal Nehru District Hospital, Rudrapur | 53%<br>(10/19)                         | 26%<br>(5/19)       | 0%                                      | 11%<br>(2/19)       | 5%<br>(1/19)                                     | 5%<br>(1/19)        |
| CHC Manglore, Haridwar                        | 27%<br>(4/15)                          | 13.3%<br>(2/15)     | 0%                                      | 13.3%<br>(2/15)     | 33%<br>(5/15)                                    | 13.3%<br>(2/15)     |

Out of total 19 indicators, in CRW District Hospital, Haridwar there was a significant change in 7 indicators (37%), mild change in 1 (5%) and no change in 11 indicators (58%) during estimation of change in pre and post certification period. Moreover, 12 out of 19 indicators (63%) had not achieved their target till the end of the assessment, while the rest 7 indicators (37%) had attained their target and remained sustainable thereafter.

The indicators that had not achieved their target as per LaQshya Guidelines were namely, Human Resource employed in LR and Maternity OT, HR trained in Dakshata, Drugs available in LR, Drugs available in Maternity OT, Equipment and Instrument available in Maternity OT, Use of Safe Birth Checklist in LR, Use of Safe Surgery Checklist In Maternity OT, Preterm Labour cases administered Antenatal Corticosteroids, Partograph created during deliveries in LR, Cases of neonatal asphyxia in LR, Cases of neonatal sepsis in in-born babies and FBNDR conducted by the facility.



In JLN District Hospital, Rudrapur during the evaluation of difference between pre and post certification period, out of 19 indicators, 2 indicators (10%) went through significant change, 2 mild change (11%) and 15 (79%) no change. Out of total 19 indicators, 11 (58%) achieved their target with keeping sustainability while 8 indicators (42%) were unable to achieve their targets till the end of evaluation.

The indicators that had not achieved their standards as per LaQshya Guidelines were Human Resource employed in LR and Maternity OT, Availability of drugs in Maternity OT, Use of Safe Surgery Checklist In Maternity OT, Preterm Labour cases administered Antenatal Corticosteroids, Deliveries attended by Birth Companion, Partograph created during deliveries in LR, Cases of neonatal asphyxia in LR and FBNDR conducted by the facility.

In CHC Manglore, out of total 15 indicators, 7 (46.3%) went through significant change, 2 (13.3%) mild change and 6 (40%) with no change during assessment of change in pre and post certification period. In addition, 9 indicators (60%) had reached their target, while 6 (40%) were yet to accomplish the required percentage.

The indicators that had not achieved their target as per LaQshya Guidelines were Human Resource employed in LR and Maternity OT, HR positioned in LR and Maternity OT trained in Dakshata, Equipment and Instrument available in LR, Drugs available in LR, Women discharged before 48 hours after delivery and Cases of neonatal asphyxia in LR.

## **7.B Patient Satisfaction**

The results of the Patient Satisfaction Survey were as follows:

### **7.B.1 Chain Rai Women District Hospital, Haridwar**

With total sample size of 20 beneficiaries (10 for pre-certification and 10 for post certification period), an overall increase of 13% (73% - 86%) in clients Satisfaction, decrease of 13% (27% -14%) in clients Unsatisfaction and 0% (zero) change in Highly Satisfaction options was highlighted.

The main questions that lead to the increase is patients satisfaction level were namely transportation facility outside the health facility (40% -70%), transportation facility within the health facility (60% -100%), birth process (70% -100%), and responsiveness of service

providers (50% -100%). In contrast counselling for breastfeeding during intrapartum period and demand of service providers for reward and cash helped increase the Unsatisfaction level of the beneficiaries from 60% - 100% and 40% - 80% respectively. (Table 11)

Table 11: Result of Client Satisfaction Survey in Chain Rai Women District Hospital, Haridwar

|                 |                                                                                                                                                              | Pre-Certification Period |                      |                     | Post-Certification Period |                       |                     |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------|---------------------|---------------------------|-----------------------|---------------------|
|                 |                                                                                                                                                              | Unsatisfied              | Satisfied            | Highly Satisfied    | Unsatisfied               | Satisfied             | Highly Satisfied    |
| Score           |                                                                                                                                                              | 1                        | 2                    | 3                   | 1                         | 2                     | 3                   |
| Quality of Care |                                                                                                                                                              |                          |                      |                     |                           |                       |                     |
| Q1              | At the time of delivery, when you reached the hospital were you comfortable the way you were escorted till the Labour Room? (stretcher, wheelchair, walking) | <b>60%</b><br>(6/10)     | <b>40%</b><br>(8/20) | <b>0%</b><br>(0/30) | <b>30%</b><br>(3/10)      | <b>70%</b><br>(14/20) | <b>0%</b><br>(0/30) |
| Q2              | Were you given emotional support by the hospital staff (Doctor/SN/Supporting staff) during the delivery process in the labour room?                          | <b>0%</b><br>(0/10)      | <b>100%</b><br>20/20 | <b>0%</b><br>(0/30) | <b>0%</b><br>(0/10)       | <b>100%</b><br>20/20  | <b>0%</b><br>(0/30) |
| Q3              | How were you escorted from the labour room to the postnatal ward after delivery?                                                                             | <b>4%</b><br>4/10        | <b>60%</b><br>12/20  | <b>0%</b><br>(0/30) | <b>0%</b><br>(0/10)       | <b>100%</b><br>20/20  | <b>0%</b><br>(0/30) |

|                                   |                                                                                                     |                      |                        |                     |                      |                        |                     |
|-----------------------------------|-----------------------------------------------------------------------------------------------------|----------------------|------------------------|---------------------|----------------------|------------------------|---------------------|
|                                   | (stretcher,<br>wheelchair,<br>walking)                                                              |                      |                        |                     |                      |                        |                     |
| <b>Respectful Maternal Care</b>   |                                                                                                     |                      |                        |                     |                      |                        |                     |
| Q4                                | Were you allowed to choose position of comfort for birthing?                                        | <b>0%</b><br>(0/10)  | <b>100%</b><br>(20/20) | <b>0%</b><br>(0/30) | <b>0%</b><br>(0/10)  | <b>100%</b><br>(20/20) | <b>0%</b><br>(0/30) |
| Q5                                | Was your birth process assisted with fundal pressure?                                               | <b>30%</b><br>(3/10) | <b>70%</b><br>(14/20)  | <b>0%</b><br>(0/30) | <b>0%</b><br>(0/10)  | <b>100%</b><br>(20/20) | <b>0%</b><br>(0/30) |
| Q6                                | Were you counselled about breast feeding after admission for delivery?                              | <b>50%</b><br>(5/10) | <b>100%</b><br>(20/20) | <b>0%</b><br>(0/30) | <b>40%</b><br>(4/10) | <b>60%</b><br>(12/20)  | <b>0%</b><br>(0/30) |
| Q7                                | Were you attended by the Doctor/SN when requested by you?                                           | <b>50%</b><br>(5/10) | <b>50%</b><br>(10/20)  | <b>0%</b><br>(0/30) | <b>0%</b><br>(0/10)  | <b>100%</b><br>(20/20) | <b>0%</b><br>(0/30) |
| Q8                                | Were you provided with care environment? (privacy, light, noise, overcrowding, hygiene, sanitation) | <b>0%</b><br>(0/10)  | <b>100%</b><br>(20/20) | <b>0%</b><br>(0/30) | <b>0%</b><br>(0/10)  | <b>100%</b><br>(20/20) | <b>0%</b><br>(0/30) |
| <b>Out-of -pocket Expenditure</b> |                                                                                                     |                      |                        |                     |                      |                        |                     |

|                            |                                                                                                                     |                        |                         |                      |                        |                         |                      |
|----------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------|----------------------|------------------------|-------------------------|----------------------|
| Q9                         | Were you asked to buy anything from the market during your stay in the hospital? (drugs, consumables, sanitary pad) | <b>20%</b><br>(2/10)   | <b>80%</b><br>(16/20)   | <b>0%</b><br>(0/30)  | <b>10%</b><br>(1/10)   | <b>90%</b><br>(18/20)   | <b>0%</b><br>(0/30)  |
| Q10                        | Was any kind of reward (cash/gift) demanded by service providers for providing health services?                     | <b>20%</b><br>(2/10)   | <b>80%</b><br>(16/20)   | <b>0%</b><br>(0/30)  | <b>60%</b><br>(6/10)   | <b>40%</b><br>(8/20)    | <b>0%</b><br>(0/30)  |
| <b>Total %<br/>(score)</b> |                                                                                                                     | <b>27%</b><br>(27/100) | <b>73%</b><br>(146/200) | <b>0%</b><br>(0/300) | <b>14%</b><br>(14/100) | <b>86%</b><br>(172/200) | <b>0%</b><br>(0/300) |

### 7.B.2 Jawahar Lal Nehru District Hospital, Rudrapur

Total of 36 beneficiaries participated in the Survey (18 during pre-certification and 18 during post certification period). The result depicted no significant change in Patient Satisfaction during Pre and Post Certification Period. An overall increase of 1% (82% - 83%) in clients Unsatisfaction, with simultaneous reduction of 1% (18% - 17%) in clients Satisfaction and 0% (zero) change in Highly Satisfaction options was noted.

Questions related to QOC and out-of-pocket expenditure contributed the most in increasing the Unsatisfaction level of the clients. For example, focusing on transportation facility outside and within the health facility donated (39% - 44%) and (28% - 56%), while out-of-pocket expenditure, came up with an increase of 10% (11% - 22%). Whereas counselling for breastfeeding (39% - 28%) and responsiveness of service providers (17% - 0%) managed to counter Unsatisfaction level with increase in clients Satisfaction level. (Table 12)

Table 12: Results of Client Satisfaction Survey in Jawahar Lal Nehru District Hospital,

Rudrapur

|                                 |                                                                                                                                                              | Pre-Certification Period |                        |                     | Post-Certification Period |                        |                     |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------|---------------------|---------------------------|------------------------|---------------------|
|                                 |                                                                                                                                                              | Unsatisfied              | Satisfied              | Highly Satisfied    | Unsatisfied               | Satisfied              | Highly Satisfied    |
| Score                           |                                                                                                                                                              | 1                        | 2                      | 3                   | 1                         | 2                      | 3                   |
| <b>Quality of Care</b>          |                                                                                                                                                              |                          |                        |                     |                           |                        |                     |
| Q1                              | At the time of delivery, when you reached the hospital were you comfortable the way you were escorted till the Labour Room? (stretcher, wheelchair, walking) | <b>39%</b><br>(7/18)     | <b>61%</b><br>(22/36)  | <b>0%</b><br>(0/54) | <b>44%</b><br>(8/18)      | <b>56%</b><br>(20/36)  | <b>0%</b><br>(0/54) |
| Q2                              | Were you given emotional support by the hospital staff (Doctor/SN/Supporting staff) during the delivery process in the labour room?                          | <b>0%</b><br>(0/18)      | <b>100%</b><br>(36/36) | <b>0%</b><br>(0/54) | <b>0%</b><br>(0/18)       | <b>100%</b><br>(36/36) | <b>0%</b><br>(0/54) |
| Q3                              | How were you escorted from the labour room to the postnatal ward after delivery? (stretcher, wheelchair, walking)                                            | <b>28%</b><br>(5/18)     | <b>72%</b><br>(26/36)  | <b>0%</b><br>(0/54) | <b>56%</b><br>(10/18)     | <b>44%</b><br>(16/36)  | <b>0%</b><br>(0/54) |
| <b>Respectful Maternal Care</b> |                                                                                                                                                              |                          |                        |                     |                           |                        |                     |

|                                   |                                                                                                                     |                      |                        |                     |                      |                        |                     |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------|------------------------|---------------------|----------------------|------------------------|---------------------|
| Q4                                | Were you allowed to choose position of comfort for birthing?                                                        | <b>0%</b><br>(0/18)  | <b>100%</b><br>(36/36) | <b>0%</b><br>(0/54) | <b>0%</b><br>(0/18)  | <b>100%</b><br>(36/36) | <b>0%</b><br>(0/54) |
| Q5                                | Was your birth process assisted with fundal pressure?                                                               | <b>33%</b><br>(6/18) | <b>67%</b><br>(24/36)  | <b>0%</b><br>(0/54) | <b>33%</b><br>(6/18) | <b>67%</b><br>(24/36)  | <b>0%</b><br>(0/54) |
| Q6                                | Were you counselled about breast feeding after admission for delivery?                                              | <b>39%</b><br>(7/18) | <b>61%</b><br>(22/36)  | <b>0%</b><br>(0/54) | <b>28%</b><br>(5/18) | <b>72%</b><br>(26/36)  | <b>0%</b><br>(0/54) |
| Q7                                | Were you attended by the Doctor/SN when requested by you?                                                           | <b>17%</b><br>(3/18) | <b>83%</b><br>(30/36)  | <b>0%</b><br>(0/54) | <b>0%</b><br>(0/18)  | <b>100%</b><br>(36/36) | <b>0%</b><br>(0/54) |
| Q8                                | Were you provided with care environment? (privacy, light, noise, overcrowding, hygiene, sanitation)                 | <b>0%</b><br>(0/18)  | <b>100%</b><br>(36/36) | <b>0%</b><br>(0/54) | <b>0%</b><br>(0/18)  | <b>100%</b><br>(36/36) | <b>0%</b><br>(0/54) |
| <b>Out-of -pocket Expenditure</b> |                                                                                                                     |                      |                        |                     |                      |                        |                     |
| Q9                                | Were you asked to buy anything from the market during your stay in the hospital? (drugs, consumables, sanitary pad) | <b>0%</b><br>(0/18)  | <b>100%</b><br>(36/36) | <b>0%</b><br>(0/54) | <b>0%</b><br>(0/18)  | <b>100%</b><br>(36/36) | <b>0%</b><br>(0/54) |

|                           |                                                                                                 |                        |                         |                      |                        |                         |                      |
|---------------------------|-------------------------------------------------------------------------------------------------|------------------------|-------------------------|----------------------|------------------------|-------------------------|----------------------|
|                           |                                                                                                 |                        |                         |                      |                        |                         |                      |
| Q10                       | Was any kind of reward (cash/gift) demanded by service providers for providing health services? | <b>11%</b><br>(2/18)   | <b>89%</b><br>(32/36)   | <b>0%</b><br>(0/54)  | <b>22%</b><br>(4/18)   | <b>78%</b><br>(28/36)   | <b>0%</b><br>(0/54)  |
| <b>Total %</b><br>(score) |                                                                                                 | <b>17%</b><br>(30/180) | <b>83%</b><br>(300/360) | <b>0%</b><br>(0/540) | <b>18%</b><br>(33/180) | <b>82%</b><br>(294/360) | <b>0%</b><br>(0/540) |

## 8. DISCUSSION

To fulfil health-related targets of SDGs it is necessary to enhance quality of healthcare. This is truly applicable for improving survival of mothers and neonates. Evidence indicate that it is possible to reduce preventable maternal and neonatal deaths by offering quality and comprehensive emergency obstetric and neonatal care with zero out-of-pocket expenses to the women accessing health care services at public health facilities. LaQshya is one such initiative which was introduced in health system with an aim of reducing MMR and NMR around birth places during antepartum and postpartum period and providing dignified, respectful, and quality healthcare services to the mothers and infants in LR and Maternity OT to ensure a positive birth experience.

Through this pre-post study, the components of inputs, process and outcomes were measured against the standards before and after LaQshya National Certification in 3 health facilities and Client Satisfaction in 2 health facilities of Uttarakhand. The aim of the study was to get an insight about whether LaQshya implementation had brought any improvement in Quality of care, Client Satisfaction, and reduction in MMR and NMR in the identified health facilities.

The results of Donabedian assessment of service indicators and Client Satisfaction Survey clearly indicated that the performance of each health facility was at a different level in terms

of quality of care and outcomes like patient satisfaction, referrals and reduction in MMR and NMR. This difference was mainly due to firstly, the difference in the required inputs, for example, resources (workforce, drugs, and supplies) and capacity building in the health settings. Secondly, difference in attitude of health professionals working in LR, Maternity OT bringing off difference in performance. Thirdly, difference in respectful maternal care and out-of-pocket expenditure.

a) In the health settings where there was development in the availability of human resources, supply of drugs and equipments and trained service providers, the improvement in quality of care and outcomes was higher in comparison to the facilities where shortage of workforce, scarcity of drugs and equipments and untrained service providers remained unchanged. Since this advancement in inputs helped reducing workload, enhancing knowledge and practical skills, boosting confidence and sense of responsibility within the workforce further supported increase in their level of performance in providing service delivery to the clients which resulted in better outcomes. For instance, in CRW District Hospital, Haridwar, after an increase in availability of inputs during post certification period, significant refinement in the process indicators was evident, which resulted in remarkable improvement in patient satisfaction level and significant reduction in MMR. On the other hand, in JLN District Hospital, Rudrapur, where there was no change or insufficient advancement in the inputs, especially HR and their training status, mild improvement in process indicators was seen, that further resulted in not much reduction in NMR and no change in Clients Satisfaction level.

b) During the assessment, many standards of the process component were found to be unachieved along with improper documentation. This was due to lack of motivation, confidence (lack of knowledge and competency) and behaviour (negligence, and carelessness) of the workforce which affected the outcomes. For example, both JLN District Hospital Rudrapur, and CHC Manglore working with limited resources, as the inputs were insufficient according to the workload and required norms. Yet, the change in process indicators like use of safe birth checklists and partograph in LR, administration of antenatal corticosteroids in case of preterm labour, initiation of early breastfeeding, were much improved in CHC Manglore than JLN District Hospital Rudrapur. Moreover, in JLN District Hospital records of indicator-birth companion attended during delivery in LR were not being maintained. Thus, to some extent these factors contributed to increased number of referrals in JLN District Hospital in comparison to CHC Manglore.



c) Patients feedback is one way of measuring satisfaction level with quality of care and service providers. Patient Satisfaction Survey was conducted in 2 health facilities, CRW District Hospital, Haridwar and JLN District Hospital, Rudrapur in respect to Respectful Maternal Care and Out-of-pocket expenditure. The results indicated that, the change in patients satisfaction level had improved significantly in CRW District Hospital in contrast to JLN District Hospital, Rudrapur, where the satisfaction level remained almost same during period before and after certification. The areas for clients bad experience in both the health facilities was out-of-pocket expenditure in terms of reward and cash demanded by service providers. Low services like breastfeeding counselling and transportation facilities (outside and within) before and after delivery added on to client dissatisfaction specially in JLN District Hospital.

There is no doubt that with LaQshya Certification of health facilities in Uttarakhand, work culture and efforts for attaining standards has been instituted. Moreover, the study results show that there is an improvement in quality of care in respect to service delivery and respectful maternal care that succeeded in increasing client satisfaction level and reducing MMR and NMR. Nevertheless at the same time constraints and gaps were also identified which need to be addressed at the state and facility level to achieve the desired goal. For instance, for the fulfilment of availability of HR, drugs and equipments, the state needs to take action to overcome financial constraints and make amendments in policies, especially recruitment and purchase of drugs and supplies to meet the standards as per LaQshya Guidelines.

Although, capacity building is enhancing the clinical skills of the service providers and some of them are flattering confidence and knowledge, but still there a gap due to variation in the application of attained knowledge. Not all health professionals are making use of tools like checklists, partograph and standard operating procedures, clinical based practises which can help in further reducing MMR and NMR in LR and Maternity OT by identifying high risk pregnancies and providing timely, correct treatment. Hence, there is an immense requirement of continuous trainings for the newly appointed staffs and refresher trainings to bring in habit the use of these lifesaving tools. This would further help in narrowing the gap of untrained staff and bringing uniformity in confidence level and work environment for maintaining sustainability in process indicators.

Quality Improvement requires teamwork with shared responsibilities. Not one department or a single person can bring change in quality of care since every place and person in a health facility is interlinked with each other in one way or the other. Therefore, to strive quality improvement at facility level there is an urgent need of disseminating information about the LaQshya intervention to every person in the setting, top to bottom, and designate responsibilities with accountability. This would help in increasing stimulation and participation level of the service providers, expanding the knowledge about the intervention, its requirements, so that the program components are not missed, targets are completed in set period of time and sustainability is ensured.

After LaQshya certification, both at district and state level, there are provisions for monthly and annual monitoring by both District and State Quality Assurance teams through various checklists. Although, the monitoring system is in place and is being carried out as per norms, no planning or action has been initiated for the gaps identified. For example, in case of not conducting Facility Based Neonatal Death Reviews and lack of documentation in JLN District Hospital, Rudrapur, or where the indicators have showed no progress to attain their standards over a period of time. Therefore, it is necessary that the Quality Assurance Teams conduct monitoring without giving relaxation and prepare plans to take timebound actions for filling the identified gaps. This strategy would help in pushing the lagging behind components of the intervention to achieve their standards, maintain sustainability, provide quality of care, and reduce MMR and NMR.

Apart from LaQshya many other interventions are donating serious efforts for reducing or even eliminating expenses of the clients who are approaching for public institutional deliveries, e.g. Janani Shishu Suraksha Yojana (JSSY) and Surakshit Matritva Aashwasan (SUMAN). Therefore, out-of-pocket expenditure in form of reward and cash demanded by service providers is an important issue that needs to be addressed. As these actions at the facility level are not only violating the government policies, but also playing a vital role in reducing patients satisfaction and trust towards public health sector. Thus, at the State Level the policymakers should develop some policy to discourage service providers for making demands in any form. For example, punishments in form of financial loss. Secondly, increase awareness about 104 Helpline so that the beneficiaries could utilize this platform for making complains against unjustified expenses for prompt actions.

As one of the criteria's of certification was to attain 75% of facility level targets, it is possible that in the study, the indicators that haven't reached their standards were the one included in the remaining 25% and were not given preference during internal and external assessments due to various recognised constrains. Therefore, there is always a scope of refinement given that quality improvement is a continuous process and with time and experience there are increasing possibilities of successfully continuing efforts towards positive birth experience.

## **9. CONCLUSION**

Over past five years, Uttarakhand is observing an increase in Maternal and Neonatal Mortality Rate. To overcome this challenge, the state along with other interventions included LaQshya in its health system. By the end of December 2020, four health facilities were Nationally LaQshya Certified out of which three health facilities were included in this study to evaluate whether LaQshya implementation had brought any change in Quality of Care, Client Satisfaction, and reduction in MMR and NMR.

The results clearly revealed that firstly, improvement in service indicators further resulted in reduction in MMR and NMR in all the three identified health facilities. Secondly, there was development and well as sustainability in Clients Satisfaction Level in the two recognized health settings. Therefore, the state should commence to get more and more health facilities certified with LaQshya, especially those which are contributing the most in maternal and neonatal deaths. And at the same time strengthen the certified facilities as LaQshya Program can prove be a helpful strategy and medium for upgrading the deteriorating State Maternal and Child Health Indicators.

## **10. ANNEXURES**

Annexure 1:

<https://drive.google.com/file/d/1hDdMf8quQqMuvO9cs89jEfFEHCAQBrKi/view?usp=sharing>

Annexure 2:

[https://drive.google.com/file/d/1Dp4Y1gCykz46BkyTO1wOPBLQM\\_RIK49S/view?usp=sharing](https://drive.google.com/file/d/1Dp4Y1gCykz46BkyTO1wOPBLQM_RIK49S/view?usp=sharing)

Annexure 3: [https://drive.google.com/file/d/1ODHPG7wNUAszkuHh6Mox\\_1aIX4wGGh-x/view?usp=sharing](https://drive.google.com/file/d/1ODHPG7wNUAszkuHh6Mox_1aIX4wGGh-x/view?usp=sharing)

Annexure 4:

[https://drive.google.com/file/d/14xPZ3koQVa6iuI3lt2s3Da\\_soLGNWCXc/view?usp=sharing](https://drive.google.com/file/d/14xPZ3koQVa6iuI3lt2s3Da_soLGNWCXc/view?usp=sharing)

Annexure 5:

<https://drive.google.com/file/d/1kv9aiouQPX60bcK6urpuJY1Q4arQXb28/view?usp=sharing>

Annexure 6: <https://drive.google.com/file/d/1ww2PBsIIBCSfwvGCBQEokOO-nUcZKzo9/view?usp=sharing>

Annexure 7

[https://drive.google.com/file/d/1UI8cfxNRTUdiPanQbGySC6\\_mlZoncQUc/view?usp=sharing](https://drive.google.com/file/d/1UI8cfxNRTUdiPanQbGySC6_mlZoncQUc/view?usp=sharing)

Annexure 8

[https://drive.google.com/file/d/1OIkIX\\_zyoPMH\\_Ywpkih0YvZl03S2w\\_aJ/view?usp=sharing](https://drive.google.com/file/d/1OIkIX_zyoPMH_Ywpkih0YvZl03S2w_aJ/view?usp=sharing)

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