



District Hospital Quality Care Indices (DQCI) Dashboard

Decision Support Dashboard to Improve Delivery and Quality of Maternal and Newborn Care in District Hospitals of 25 Aspirational Districts

PROCESS DOCUMENT

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Acronyms

AD	Aspirational District	MD	Mission Director
ANCS	Antenatal Corticosteroid	MNCH	Maternal, Newborn and Child Health
CEmOC	Comprehensive Emergency Obstetric Care	MOHFW	Ministry of Health & Family Welfare
DEO	Data Entry Operator	NHM	National Health Mission
DH	District Hospital	NQAS	National Quality Assurance Scheme
DQCI	District Hospital Quality Care Indices	OBGYN	Obstetrician and Gynecologist
DRCHO	District Reproductive & Child Health Officer	OPD	Outpatient Department
DRIP	Data Rich Information Poor	OT	Operation Theatre
FBMDSR	Facility Based Maternal Death Review	PIP	Program Implementation Plan
FBNC	Facility Based Newborn Care	PPIUCD	Postpartum Intrauterine Contraceptive Devices
GDM	Gestational Diabetes Mellitus	QI	Quality Indicators
GoI	Government of India	RCH	Reproductive and Child Health
HDU	High Dependency Unit	RMNCH+A	Reproductive, Maternal, Newborn, Child and Adolescent Health
HMIS	Health Management Information System	SNCU	Special Newborn Care Units
IPHS	Indian Public Health Standards	SOP	Standard Operating Procedures
IPD	Inpatient Department	SQCI	SNCU Quality of Care Index
IUCD	Intrauterine Contraceptive Devices	USAID	United States Agency for International Development
KMC	Kangaroo Mother Care	USG	Ultrasonography
LBW	Low Birth Weight	VDRL	Venereal Disease Research Laboratory
LR	Labor Room	WHO	World Health Organization
M&E	Monitoring and Evaluation		

Executive Summary

Project *Vridhhi* developed District Hospital Quality Care Indices (DQCI) dashboard to improve evidenced based planning and informed decision-making as a function of health systems strengthening. DQCI dashboard is a tool that uses information from health system data portals (HMIS, SNCU online) to measure and track the performance and quality of services provided in District Hospitals. Data from public portals and periodic observation is triangulated and presented in a concise and easy-to-interpret quarterly dashboard.

The tool was introduced in District Hospitals in 25 Aspirational Districts of five states (Jharkhand, Uttarakhand, Himachal Pradesh, Punjab & Haryana) through collaborative efforts of *Vridhhi* project and state governments. Each District Hospital has its own customized DQCI dashboard. The dashboard was found acceptable and a value add because it used targeted indicators and gave an easy to interpret output. Each quarter - requisite data is extracted from the health system portals and entered in the tool to generate a dash-

board. The Dashboards are analyzed, gaps identified, and reports/presentations shared with the State and District Officials, Program Managers & facility In-charges for necessary actions.

The intervention has demonstrated the usefulness of HMIS data, improved accuracy of reporting and promoted evidence-based decision making. Decisions impacting quality of service delivery include - introduction of C-Section Audit, Improved Drug Availability, Strengthening of Lab Services etc.

Periodic sharing of SQCI (SNCU Quality of Care Index), embedded in the DQCI dashboard, has helped program managers to take actions for improving quality of care in SNCUs in areas of rationalizing antibiotic usage and improving KMC rates.

Continued engagement with the state officials, advocacy of DQCI dashboard was instrumental in state takeover of the intervention in all five states.

Introduction

The Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A) Program of the National Health Mission (NHM) embodies the Government of India's (GoI) vision for comprehensive and integrated health services for mothers, children, and adolescents. United States Agency for International Development (USAID), through its project *Vridhhi*: Scaling Up Interventions in RMNCH+A, provides techno-managerial support to the Government of India at the national level and in states for planning, implementing, and monitoring RMNCH+A interventions. The overarching purpose of the project is to scale up key high-impact interventions of the RMNCH+A program

to accelerate progress towards the goal of reducing preventable maternal and child mortality and morbidity.

Broadly *Vridhhi* support includes - Technical Interventions, Health Systems Strengthening, Policy Support and Partnerships. Activities/ interventions contributing to Health Systems Strengthening include capacity building, generating and disseminating evidence; advocating and supporting reorganization of institutional processes to improve service delivery, improving access of RMNCH+A services and promoting evidence based planning and informed decision making.

Background

Across the globe, Health Management Information System (HMIS) systems are facing issues to meet the World Health Organization (WHO) standards for a well-functioning HMIS, which is defined as one that "ensures the production, analysis, dissemination, and use of reliable and timely information on health determinants, health system performance, and health status" (WHO, 2007).

In India too effective use of data for action remains a challenge in the public healthcare delivery system. Even though technology has transformed access to data, bringing a paradigm shift in the situation when data was rare, infrequent, and poor quality, to one where it is abundant, and available in real time or near real-time. Proper use of data for action remains a challenge. There is a need to address this Data Rich but Information Poor (DRIP) environment for building the desirable data for action culture in healthcare settings.

Data for Action to drive better health outcomes is dependent upon two important considerations -

1. 'Quality of Data' input information entered by health teams including how it is recorded and reported and
2. 'Value of Data' the analyzed output Information provided to stakeholders. Value of data is determined by its capacity to generate information that can be easily understood for taking necessary actions.

Expanding health systems with decentralized decision making at district level has brought focus on use of local data to identify relevant gaps in service delivery and take corrective actions to improve health services.

District Hospitals (DH) are pivotal in delivery of public health services. In the present 3-Tier public healthcare system, the District Hospital forms the secondary referral level, mandated

to provide comprehensive emergency obstetric and newborn care to the entire district. Periodic assessments have revealed that district hospitals often struggle to provide routine essential services and emergency care required to manage maternal and newborn complications. Common challenges include inadequate infrastructure; lack of competent staff; lack of medicines; poor compliance to evidence-based clinical protocols and practices; and unsatisfactory documentation and utilization of information.

Several government programs/platforms such as National Quality Assurance Scheme (NQAS), LaQshya and Kayakalp etc. aim to improve quality of care at health facilities, including district

hospitals, and they have succeeded in bringing focus to change practices in accordance to their mandate. However, continuous quality improvement requires regular review of critical performance parameters of the hospital.

District Hospitals' lack a mechanism for a holistic review of performance including outputs (Services, coverage etc.) against health system inputs - workforce, infrastructure, equipment, and other amenities. Enabling effective use of routine data for regular review of the performance of these facilities will not only enable them to accurately identify and correct gaps at their level but will also ensure continued quality improvement.

Rationale

Vridhhi project supports the implementation of, 'LaQshya - National Quality improvement initiative' for improving quality of care in Labor Rooms (LR) & Maternity OTs across public health facilities. LaQshya includes two components Quality Assurance leading to certification and Quality Improvement (QI) to address critical gaps at individual facility level. This intervention addresses the second component.

Health facilities are complex organizations that require multiple inputs and consistent monitoring to ensure delivery of high quality of care. District Hospitals, the critical link in provision of comprehensive maternal, newborn and child health care, are faced with multiple challenges to provide consistent quality in their services.

To drive continued improvement of District Hospitals, the project prioritized promoting the use of routine data from various public health platforms, to assess and monitor their performance

vis-à-vis maternal, newborn and child health care. The rationale was based on the following:

- District Hospitals lack capacity to review their performance holistically to derive evidence-based actions
- Though collecting data is central function in public health settings, studies have revealed several barriers to use of data including lack of time, inability to access data, questionable reliability of the data, difficulties understanding statistics or data-related language and overburdened, multitasked health personnel (Program Managers, Supervisors)
- Program managers find it difficult to undertake a comprehensive review of the services and identify areas that need strengthening to guide actions because data comes in multiple formats, sources, and periodicity and are fragmented across various platforms.
- Performance and quality of services of a district hospital are generally reviewed internally and/or at the higher level in terms of the

reported coverage only. It is not a common practice to collate data from different portals for a holistic review of coverage against health system inputs - workforce, infrastructure, equipment, and other amenities.

- Absence of consolidated and user-friendly data analyses mechanisms limit decision making capacity by senior level program managers and administrators thereby impeding Quality Improvement efforts.

Solution Identified

A digital tool was developed that captured indicators covering health system inputs -workforce, equipment, drugs and infrastructure and service delivery components of maternal and child health. The tool collated data from different sources and generated quarterly concise, easy-to-interpret data analyses for facility in-charge and program managers.

The tool was customized for District Hospitals and Special Newborn Care Units (SNCUs) because they cater to major case load and manage maternal and newborn complications. Developed in-house the tool aims to promote regular performance review of the District Hospital for evidenced decision making by facility in charge and program managers at district and state levels. It generates a quarterly dashboard that facilitates gap identification and cause analysis.

The DQCI dashboard aims to -

- Measure the performance - of critical Maternal, Newborn and Child Health (MNCH) services
- Help in identifying gaps and derive actions for improved overall performance.
- Track and visualize the performance of a DH on critical MNCH services quarter on quarter. District Hospitals of 25 such Aspirational Districts (AD) across 5 states were selected for the initial implementation of the tool.

Aspirational Districts

The Government of India has identified 117 districts, which lag national averages on socio-economic indicators, for accelerating improvement through intensive efforts in 5 thematic areas including health and nutrition. It is aspired that improvement in these districts will accelerate improvement in human development in India.

Intervention Steps

SITUATIONAL ASSESSMENT

A desk review of data information systems in the public health system included the following: Health Management Information Systems, SNCU Web Portal, and Reproductive and Child Health (RCH) Portal.

Health Management Information System

HMIS is a government web-based Monitoring

Information System, for monitoring the performance and quality of the services provided by public health facilities. It links up around 2 lakh facilities across the country. Facilities upload their service delivery data monthly, training data quarterly and infrastructure data annually.

Service Delivery data uploaded monthly includes data on RCH services, Immunization,

family planning, Vector borne disease, Tuberculosis, Morbidity and Mortality, Outpatient Department (OPD) and Inpatient department (IPD) Services, Surgeries etc.

Training data uploaded quarterly includes trainings imparted to Medical and Paramedics staff at District and State level data.

Infrastructure data entered and updated annually includes Human resources, Equipment, Cleanliness, Building, Availability of Medical Services such as Surgery etc., Super Specialties services such as Cardiology etc., Diagnostics, Para Medical and Clinical Services data.

SNCU Web-Portal

The SNCU web portal is a GoI approved portal, which records details of cases managed in SNCUs of District Hospitals. 30 data elements pertaining to clinical care are entered in portal daily by the 894 SNCUs linked with the portal.

Reproductive and Child Health Portal

The RCH portal tracks beneficiaries across the continuum of care, starting at the eligible couple period to antenatal care, postnatal care and immunization of children till 5 years of age. It includes outreach services on Village Health and Nutrition Days.

IDENTIFYING INDICATORS AND DATA COLLECTION METHOD

Identifying and defining indicators that reflect performance of a District Hospital on MNCH services was a critical step. A technical group developed proxy indicators for Quality of Care and performance. The choice of indicators was guided by Government of India's focus on LaQshya program. Selected indicators either reflected maternal and newborn care during the period around birth or were critical for the

goals of data interpretation – to inform gap identification, performance monitoring/review, action planning, and resource allocation for maternal newborn services at DH. They were also judged for their suitability in guiding supportive supervision visits/mentoring at SNCUs. A total of 73 parameters were identified under 12 categories including infrastructure, equipment, drugs, 24x7 services, health workforce, SNCU quality of care indices, antenatal screening, antenatal case management, intrapartum practices, newborn care, postpartum services, and quality parameters.

Not all indicators were available in HMIS and other public portals. For a few indicators, it was necessary to collect data by observation or enquiry. Thus, the indicators had three major data sources: HMIS, SNCU and Observation/Enquiry.

DATA COLLECTION FROM DIFFERENT SOURCES

HMIS data is extracted from the HMIS portal for a quarter (In the intervention period this task was carried out by the project team). Each tool is populated with data for one District Hospital. HMIS assigns unique serial numbers to each indicator to differentiate monthly data for each health facility. This list of unique serial numbers is available in the "Monthly HMIS Format for DH and equivalent institutions", downloaded on March 01, 2019. In case states have added additional state indicators to the list, then the list of unique serial numbers has to be taken from the state HMIS in-charge. The HMIS section of the DQCI tool provides month-wise columns for data entry. Data maybe entered every month or once in a quarter, but the values need to be entered for each month separately. Never enter data aggregates/compilations either by District or a quarter.

For a few indicators, where either data was not readily available in MIS or a need was felt to have better realtime picture, such as availability of specialist, if for example specialist is away on long leave or deputation, data was supplemented and triangulated by enquiry/ observation during field visits. These data are collected at the end of each quarter by observation/enquiry from hospital staff - Hospital Manager, LR In-charge and Operation Theatre (OT) In-charge etc.

SNCU data is collected from the SNCU Online Portal. This portal records data by case and allows users to filter out records for specified period. This data is extracted and entered in the DQCI tool every quarter and entered by monthly values. In the intervention period SNCU online data was collected by the Project's national data team and shared with the states.

Data Categories and Indicators

Table 1 summarizes the categories and indicators for the DQCI tool.

Table 1. DQCI Indicators/ indices by Category and standards referenced against

CATEGORY	INDICES ON	STANDARDS REFERENCED AGAINST
Availability of Manpower *	ObGyn, Pediatrician Anesthetist, Radiologist Medical Officers, Staff Nurses, Laboratory Technician, Blood Bank Technician	Indian Public Health Standards (IPHS) Guidelines for District Hospitals (Revised 2012) Directorate General of Health Services, Government of India (Gol) Guidelines for Strengthening the District Hospital for multi-specialty care, 2017 MoH&FW, Gol
Availability of Infrastructure, Equipment	Operation Theatre; Labor room Blood Bank; Newborn Care Unit Obstetric HDU*; Obstetric Unit with Triage; Pediatric HDU *; Pediatric Unit with Triage; Pathology Laboratory Biochemistry Laboratory; Microbiology Lab; Central Oxygen Supply Ultrasound; Pulse oximeter; Oxygen Concentrator; Pediatric Oxygen Delivery Device*	Maternal Newborn Health (MNH) Toolkit, MoH&FW, Gol Indian Public Health Standards (IPHS) Guidelines for District Hospitals (Revised 2012), MoH&FW Gol
Availability of Drugs	Injection Magnesium Sulphate; Injection Oxytocin Injection Vitamin K1; Injection Labetalol*; ORS; Tablet Zinc	Indian Public Health Standards (IPHS) Guidelines for District Hospitals (Revised 2012) MoH&FW, Gol
24x7 service available	C section service Newborn admissions Diagnostic services*	Guidelines for Strengthening the District Hospital for multi-specialty care.2017 MoH&FW, Gol
Signal Functions available	Antenatal screening, Antenatal case management, Intrapartum processes, Postnatal care, Essential newborn care, Care of small and sick newborn, Birth companion policy *	As per implementation guidelines for GDM, HIV Syphilis, Hypothyroidism screening, and Safe Birth attendance issued by MoH&FW, Gol Facility based newborn care - Operational Guidelines, 2011, MoH&FW, Gol
Indicators for Quality of care	C Section Rate, Overcrowding in labor room, Overcrowding in post-natal ward, Facility based Maternal Death Surveillance and Review (FBMDSR) C Section Audit*	National Quality Assurance Guidelines for District Hospitals, 2013, MoH&FW, Gol LaQshya- Labor Room Quality Improvement Initiative - Guidelines, 2017, National Health Mission, Gol

*Supplemented with enquiry and observation

Category 1: Infrastructure

Besides critical basic requirements of OT, LR, Blood transfusion and SNCU; the tool also captures quality infrastructure at SNCU - Family Participatory Care is implemented, Obstetric Triage & High Dependency Unit (HDU) Available, Pediatric triage and HDU available. Comprehensive laboratory services include - Histopathology, Biochemistry (Serum electrolyte essential) and Microbiology (Culture and ABST essential) and availability of central oxygen supply in OT and SNCU.

Category 2: Equipment

Data on availability of ultrasound is extracted from HMIS data (Ultrasonography done [during that quarter]); while availability of pulse oximeter and oxygen concentrator in MCH Units, labor room, and head box and nasal prongs is essential for pediatric oxygen delivery is supplemented through enquiry/observation.

Category 3: Health Workforce

Missing health personnel/s have a broader impact than just on 'a particular service'. It affects the functioning of the hospital in many ways for instance it indicates overburdening of personnel who are present and end up working under increased pressure.

The tool tracks availability of Obstetrician and Gynecologist, Pediatrician, Anesthetist, Radiologist, Medical Officers, Staff Nurses, Laboratory Technician, Blood Bank Technician and uses recommendations of the IPHS norms (2012) for District hospital (Which is based on number of hospital beds) to assess adequacy of staff for the hospital.

Category 4: The SNCU Quality of Care Indicators (SQCI)

SQCI is a composite of 7 indices based on key indicators for assessing the quality of servic-

es in SNCUs. The 7 indices are embedded in the DQCI and capture quality of clinical practices. The indices in SQCI are built on:

A. Optimal utilization of services

1. Rational admission Index,
2. Optimal bed utilization Index,
3. Low birth weight (LBW) admission Index

B. Mortality outcomes -

4. LBW survival index,
5. Index for mortality in normal weight babies

C. Clinical practices indices

6. Inborn birth asphyxia index,
7. Index for rational use of antibiotics

Category 5: 24X7 Service Delivery

(Assess service available during night) - Availability of 24x7 services is checked for New-born admissions; C section facility (If C Sections are done at night i.e. between 8 PM to 8 AM), X-Ray facility, Lab testing and Electricity back up (Generator).

Category 6: Service Delivery

This category includes the following:

Overcrowding in labor room - Index is calculated taking average stay of 8 hours on labor table per delivery (4 hours for pre-delivery preparations and delivery, and 4 hours for recovery and labor room cleaning). Thus 3 deliveries/day/labor table or 90 deliveries/table/month OR ≤ 90 -no crowding; $>90-\leq 120$ -crowding; ≥ 120 over-crowding. This is calculated based on total number of vaginal deliveries conducted and number of labor tables at the hospital.

Overcrowding in postnatal ward - Calculated based on total number of institutional deliveries (Including C Sections) and number of beds in postnatal ward. Index is calculated taking aver-

age stay of 3 days per pregnant women per bed (Averaging out higher stay time after C section and less after normal delivery) OR up to 10 women stay during a month. Per bed: ≤ 10 -no crowding; >10 - ≤ 20 - crowding; ≥ 20 -over crowding

Category 7 - 11: MNCH Indicators

The category covers antenatal, intrapartum and postpartum care; newborn care and provision of family planning services. It also includes whether the facility allowed birth companion.

Category 12: Service Parameters

Includes numbers of deliveries, C sections and key mortality indices- maternal deaths and deaths in children under 5, due to pneumonia and diarrhea- information on conducting C section audits and Facility based mater-

nal death review. All the indicators and indices were pilot tested prior to their inclusion in the dashboard, to assess their appropriateness for problem identification.

DATA VISUALIZATION

The dashboard enables data visualization for quick interpretation of the situation. The analyzed data and indices are benchmarked against accepted global and national standards and presented using traffic light color coding. This helps to get an idea of the performance and quality at a glance. The dashboard provides a user-friendly interface and generates graphics for easy interpretation and comparisons. A brief description of color coding for various indices and parameters is presented in Table 2 and details are available in Annexure 2.

Table 2. Summary of color code for visualization of the DQCI indicators / indices

PARAMETER / INDEX	GREEN	ORANGE	RED
Infrastructure	Available and functional		Non available / non-functional
Equipment	Available and functional		Non available / non-functional
Drugs	Adequate supply during all 3 months of quarter	adequate during 1-2 months of quarter	Inadequate in all 3 months of quarter
Health Workforce	Staff posted as per IPHS standards (for respective cadres)		Staff posted is less than IPHS standard (for respective cadres)
SNCU Quality of Care Indicators: <ul style="list-style-type: none"> • Rational admission index, • Rational use of antibiotics index, • Inborn birth asphyxia index, • Mortality in good weight babies, • Low birth weight admission index, • Low birth weight survival index, • Optimal bed utilization index 	Good (index value > 0.7)	Satisfactory (index value range > 0.4 and < 0.7)	Unsatisfactory (index value < 0.4)
24 X 7 Service Delivery	Yes, available 24X7		Not available 24X7
Antenatal Screening for: <ul style="list-style-type: none"> • Gestational Diabetes Mellitus, • Hypothyroidism, • Syphilis and HIV/AIDS. 	Service provided		Service not provided

PARAMETER / INDEX	GREEN	ORANGE	RED
Intrapartum practices: • Eclampsia cases managed during delivery, • Given corticosteroids during pre-term labor, • Birth companion allowed during labor	Service provided		Service not provided
PPIUCD services provided	Yes		No
• PPIUCD as % of total IUCD	>80%,	50-80%,	<50%
Laparoscopic sterilization Service available (numbers in last quarter)	Yes (≥ 1 case)		No (0 case)
% women discharged after 48 hours of delivery	>80%,	50-80%,	<50%
Newborn care: • % breastfed within one hour of birth, • % administered birth dose of Hepatitis B vaccine	>80%,	50-80%,	<50%
C Section Rate	C- Section Rate ≤15%,		C- Section Rate > 15%
C Section Audit	Done		Not done
Overcrowding in labor room (Deliveries/ table/month)	≤90 (no crowding)	90-120 (crowding)	≥120 (overcrowding)
Overcrowding in post-natal ward (Number of women /bed/month)	≤10 (no crowding),	>10-<20 (crowding),	≥20 (overcrowding)

TOOL DEVELOPMENT

A Microsoft Excel based tool was developed to generate DQCI dashboard and it was linked with the SNCU-Quality-of-care Index dashboard. The tool analyzes data automatically and generates a dashboard for a given reference period – a quarter. This dashboard also presents comparative the analyses of previous quarters of a financial year. One tool is meant for one district hospital only. Data from two or more district hospitals cannot be entered into one tool to get a comparative dashboard. Example, if at state level, the user is generating dashboards for 3 districts, then 3 separate tools, each specific to one district hospital should be used.

Steps to generate the Dashboard

Step 1 Enter the name of State, District, and

District Hospital, and the current year on the home screen.

Step 2 Enter data into the three templates of HMIS, Enquiry/Observation, SNCU online.

Step 3 Generation of dashboard: A On entering the complete data set in all three templates (HMIS, Enquiry/observation and SNCU) is triangulated and a PDF version of dashboard is opened and saved automatically. There are options for quarterly dashboard and quarter wise dashboard. Clicking on the link for a quarterly dashboard or a quarter-wise comparative dashboard generates a copy of the dashboard complete with the name of DH and date of generation. The output file is also saved automatically. A copy of a District Dashboard and a comparative Dashboard for different quarters is attached at Annexure 1.

Implementation of Tool

ADVOCACY AND ENGAGING WITH STAKEHOLDERS

The concept was introduced through a series of advocacy meetings with NHM officials at State and District levels. This initial step culminated in getting state buy-in and approval to launch the tool in District Hospitals in aspirational districts of the five states (Jharkhand, Uttarakhand, Himachal Pradesh, Punjab and Haryana). This was followed up with continued engagement at state and district with key officials. At the state level, the Mission Director, National Health Mission, Director NHM, the Maternal Health Program Officer, the Community Processes In-charge and the Procurement Nodal Officer were closely associated with the intervention. The stakeholders at district level included the Chief Medical Officer and the District Program Officer for Maternal Health and in the block the Block Medical Officer and the staff.

TRAINING

A detailed Standard Operating Procedures (SOP) explaining each data element of DQCI dashboard, its source, coding pattern and interpretation was developed and used for training (SOP is attached at Annexure -2). In the first step *Vridhhi* project state teams along with the project M&E staff were oriented on how to generate DQCI dashboard. Training also included guidance on collection of observation/enquiry-based data and its interpretation.

As the intervention matured it is being transitioned to states, the hospital managers and Data Entry Operators (DEOs) are being oriented using the same processes as for project staff.

LOCATIONS IMPLEMENTED

The tool was implemented across District Hospitals and Special Newborn Care Units in 25 Aspirational-Districts of the states of Jharkhand, Uttarakhand, Haryana, Punjab and Himachal Pradesh. (For list of implementing District Hospitals see Table 3)

USERS OF THE TOOL

The end users of the dashboard are the program managers at the District and State (Civil Surgeon, District Reproductive & Child Health Officer (DRCHO) etc.) and Superintendent, Medical Officer in charge at facility.

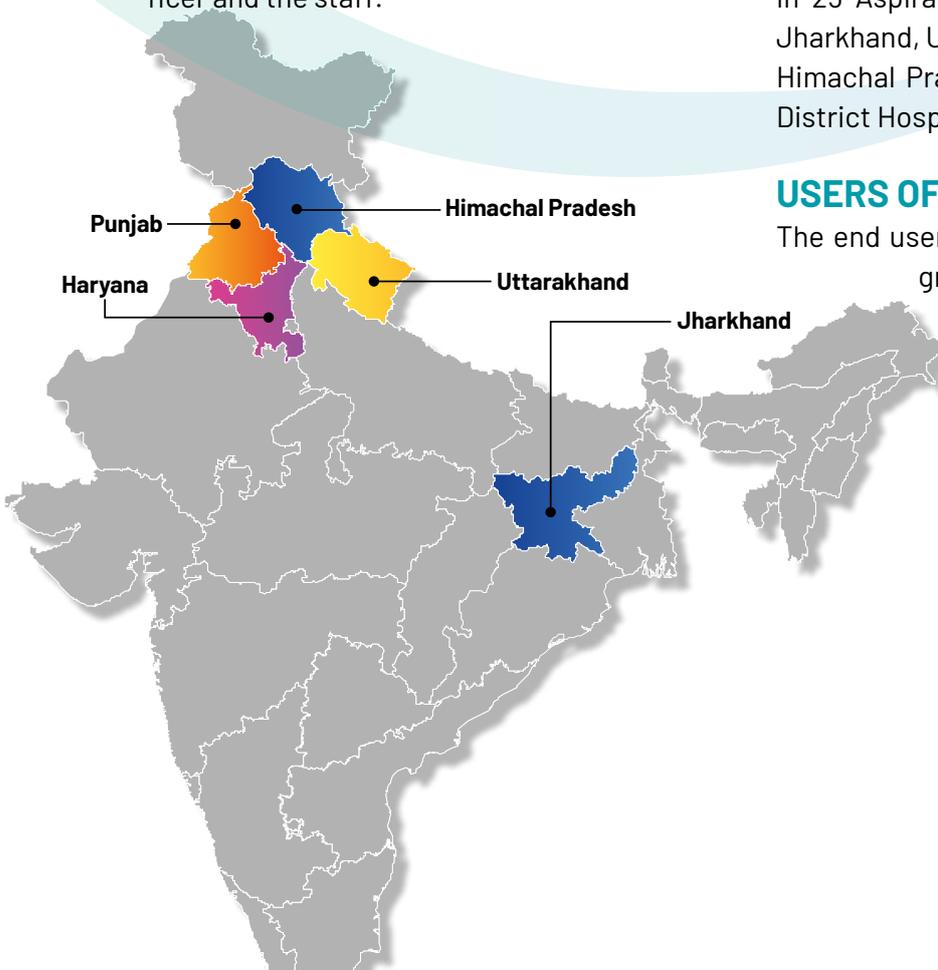


Table 3. List of Districts and Implementing District Hospitals

STATE	ASPIRATIONAL DISTRICT	DISTRICT HOSPITAL
Punjab	Moga	DH Moga
	Ferozepur	DH Ferozepur
Haryana	Mewat	DH Mandikhera
Himachal Pradesh	Chamba	DH Chamba
Uttarakhand	Haridwar	CRW Haridwar
	Udham Singh Nagar	DH Rudrapur
Jharkhand	Bokaro	DH Bokaro
	Chattra	DH Chattra
	Dumka	DH Dumka
	East Singbhum	DH East Singbhum
	Garhwa	DH Garhwa
	Giridih	DH Giridih
	Godda	DH Godda
	Gumla	DH Gumla
	Hazaribagh	DH Hazaribagh
	Khunti	DH Khunti
	Latehar	DH Latehar
	Lohardagga	DH Lohardagga
	Pakur	DH Pakur
	Palamu	DH Palamu
	Ramgarh	DH Ramgarh
	Ranchi	DH Ranchi
	Sahibganj	DH Sahibganj
Simdega	DH Simdega	
W Singbhum	DH W Singbhum	

INTERVENTION TIMELINES

Table 4. Timeline for the Implementation of the tool

SL NO.	ACTIVITY	TIMELINE
1	Development of tool	Jan- Mar 2019
2	Pilot testing in district Paschimi Singhbhum, Jharkhand	March 2019
SL NO.	ACTIVITY	TIMELINE
3	Quarterly Dashboards developed	April - June 2019; July - Sep 2019; Oct - Dec 2019; Jan- Mar 2020.
4	A summary of analysis with suggested actions shared along with Dashboard was shared with stakeholders	every quarter
5	Follow up and actions derived from the dashboard were documented	every quarter
6	Concurrent advocacy with state for taking up the intervention	Mar- April 2020
7	Handhold state to take over the activity and develop DQCI dashboard two quarters Apr -Jun and Jul - Sep 2020	July 2020 Oct 2020

DEVELOPMENT OF QUARTERLY DASHBOARDS WITH SUMMARY OF ANALYSIS

State project teams generated the quarterly dashboards, analyzed and compared them with the previous quarter/s'. They then identified areas for improvement under the categories of Infrastructure, Equipment, Drugs, Health Workforce, 24x7 Service Delivery, MNCH Indicators and Service Parameters. A summary report was prepared for each facility and shared.

SHARING WITH STAKEHOLDERS

The Quarterly Dashboard report with key findings and suggested actions is shared with the State Maternal Health Cell for review and to pass on to the district. At district level the Civil Surgeon/Chief Medical Officer/Deputy Superintendent DH review the Dashboard with the DH staff - Medical Officers/Specialists, Hospital Manager, LR/OT/SNCU in-charges. The proceedings of these meetings record actions taken and actions planned. The follow up on planned actions from district and hos-



Vriddhi team facilitating discussion on DQCI dashboard at District Hospital, Rudrapur in Uttarakhand

pital reviews of the quarterly dashboards is taken up in the LaQshya Quality improvement meetings.

ACTION FOR SUSTAINABILITY

Sustaining the initiative and institutionalizing the intervention was inbuilt in the entire process. State, district and DH counterparts were sensitized at every step, to familiarize them with the process. Completing four quarters of the intervention for one full financial year, has demonstrated the power of data for effecting change, a model that facilitates use of routine

STATE EXPERIENCE - JHARKHAND

The DQCI tool was field tested in Paschimi Singhbhum district of Jharkhand state. HMIS data for the District Hospital was extracted and enquiry-based data collected. The tool was modified and finalized based on the findings of this field test.

Thereafter, tool was applied to 19 DHs, covering all Aspirational Districts of the state. State project team extracted HMIS data, district/regional team collected enquiry/observation data from the facilities using structured checklists, and finally the data reviewed and entered in the tool at the state.

The first Dashboard was generated for the first quarter of Financial Year 2019-20 (April - June 2019) and shared with the state MD NHM. The State Maternal Health Cell was made the nodal for this activity. Dashboards for all the 19 DH were forwarded by MD NHM to the respective DHs.

At the district level the project team facilitated review meetings to identify actions and next steps. The process was repeated in consecutive quarters. Each time comparative dashboards were also provided to track progress and plan further actions. Actions and progress resulting from use of DQCI dashboard are summarized in Annexure 3.

health data to improve performance of district hospitals and prepared state for taking over the intervention.

All the 5 states have initiated steps towards transition from project to state, these include: Nomination of Nodal State department (Maternal Health Cell NHM) and officials at DH, district and state to lead the process; ensuring involvement of collaborating agencies – state data cell.

The project has been handholding state and district counterparts to generate the DQCI dashboards for two quarters and henceforth the State Maternal Health Division will prepare the DQCI Dashboard for DHs and share these with the DH for planning and action. Activities undertaken in the 5 states to ensure a smooth handover, include

- Sensitization of facility, district and state nodal officers
- Handholding of State Program Officer and State Data Manager of Maternal and Child Health Cell, NHM for generating Dashboard.
- Online Training (Webinar mode) of Data Entry Operators for orientation on generation of dashboard.
- A review of the Districts will be held every

Results

Over four quarters, of project supported implementation, the initiative increased data-driven quality of care improvements (QI) under GoI LaQshya and Facility Based Newborn Care (FBNC) programs. The DQCI dashboard was found to be acceptable and a value add because it used targeted indicators and gave an easy to interpret output. Availability of comprehensive and collated data has enabled quick and effective decision making resulting in improvements



Online orientation of Hospital Managers of District Hospitals on DQCI in Jharkhand



District Hospital Managers attend online webinar on DQCI in Uttarakhand

quarter to assess the progress and improvements and provide necessary support.

- Online training of Hospital Managers and DEOs on [i] Extraction of data from HMIS [ii] gathering enquiry data [iii] Entering data in the tool and [iv] Generating DQCI for single quarter and comparative.

across the six core components or “building blocks” of Health System. It has led to decisions and actions in areas of HR availability as per norms, round the clock delivery of essential services, essential medicines and equipment, provision of complete spectrum of support services and the delivery of priority maternal and new-born health services. Actions contributing to improvement in different health system blocks are listed out in Table 5 and Table 6.

Table 5. Actions triggered Based on DQCI Dashboards

HEALTH SYSTEM BLOCKS	ACTIONS TRIGGERED
Service delivery	<ul style="list-style-type: none"> • Antenatal screening for GDM started in 8 DHs (Moga, Ferozepur, Chamba, Rudrapur, Giridih, Bokaro, Ramgarh & Hazaribagh) • Laboratory services strengthened Made Available 24x7 in 5 DHs Microbiology started in 1 DH (Mandikhera) Outsourced Histopathology services started in 1 DH (Rudrapur) • 24X7 services started for X Ray- in 1 DH (Chamba) ObGyn -in 1 DH (Mandikhera) Power backup in 1 DH Chamba USG services started in 2 DHs (Lohardagga, Ranchi) Obstetric Triage services - in 2 DHs (Bokaro, Garhwa) Blood Bank operationalized - DH Ramgarh
Human Resource	<ul style="list-style-type: none"> • ObGyn positioned in DH Moga • Anaesthetist positioned in DH Dumka • Radiologists posted in 3 DHs (Bokaro, Giridih, Hazaribagh) • Additional Lab technician posted in 2 DHs (Ferozepur, West Singhbhum) • Additional Staff Nurses posted in 4 DHs (Giridih, Hazaribagh, Ramgarh, Lohardagga) • SNCU Staff Nurses posted in 2 DHs (Garhwa, Latehar)
Data	<ul style="list-style-type: none"> • HMIS data improved • VDRL screening - in 5 DHs (Moga, Ranchi, W Singhbhum, E Singhbhum, Khunti) • ANCS use - in 6 DHs (Moga, Ranchi, W Singhbhum, E Singhbhum, Khunti, Chamba) • Eclampsia cases managed - in 5 DHs (Ranchi, W Singhbhum, E Singhbhum, Khunti, Chamba) • Hypertension cases managed - in 1 DH (Chamba) • Data on Drug stock - in 8 DHs (Ferozepur, Rudrapur, Gumla, Lohardagga, Ranchi, Simdega, E Singhbhum, Dumka) • PPIUCD services - in 1 DH Chamba • SNCU online reporting in 2 DHs (Rudrapur, Chamba) • Blood Transfusion services - in 3 DHs (Gumla, Ranchi, W Singhbhum) • FBMSR -in DH West Singhbhum • 48 hours post-delivery stay- in 6 DHs (Gumla, Simdega, Lohardagga, E Singhbhum, W Singhbhum, Khunti) • USG services - in 2 DHs (Lohardagga, Ranchi)
Medicine/ Equipment	<ul style="list-style-type: none"> • Drug supply streamlined in 3 DHs (Giridih, Hazaribagh, Ferozepur) • Local Purchase of drugs (including Injection Labetalol and Iron sucrose) streamlined in 5 DHs (Khunti, Chattra, Palamu, Garhwa, Latehar) • Oxygen concentrator purchased in 2 DHs (Moga, Pakur) • Pulse oximeters procured in 2 DHs (Garhwa & Chattra) • Auto analyzer procured in DH Moga • Ultrasound procured in DH Lohardagga
Quality	<ul style="list-style-type: none"> • C section audits started in 5 DHs (Moga, Ferozepur, Godda, Garhwa, Rudrapur) • Beds added in Postnatal Ward - In DH Chamba • LR Tables added in DH Bokaro • Govt. order issued by state for regular review using Dashboard in all states

Table 6. Summary of Actions triggered Based on DQCI Dashboards

HSS BLOCKS	ACTIONS DERIVED	NUMBER OF FACILITIES
Service Delivery	Antenatal screening for GDM started in	8 DH
	Regular KMC	18 SNCU
	Lab services strengthened in	7 DH, 3 SNCUs
	24X7 availability of services (Diagnostic and Power back up)	5 DH
Health Workforce	Specialists positioned in	5 DH
	Additional technicians & Staff Nurses positioned	8 DH 5 SNCUs
	Training on Asphyxia & Sepsis management	14 SNCUs
Health Information Systems	Quality of HMIS data submission improved	13
Access to Essential Medicines/ Equipment	Drug supply streamlined	8 DH & 9 SNCU
	Critical equipment procured	6 DH & 2 SNCU
Leadership/Governance	C section audits started	5 DH
	Beds & Labor Table added	2
	State Reviews	18

IMPROVEMENTS IN SNCUs

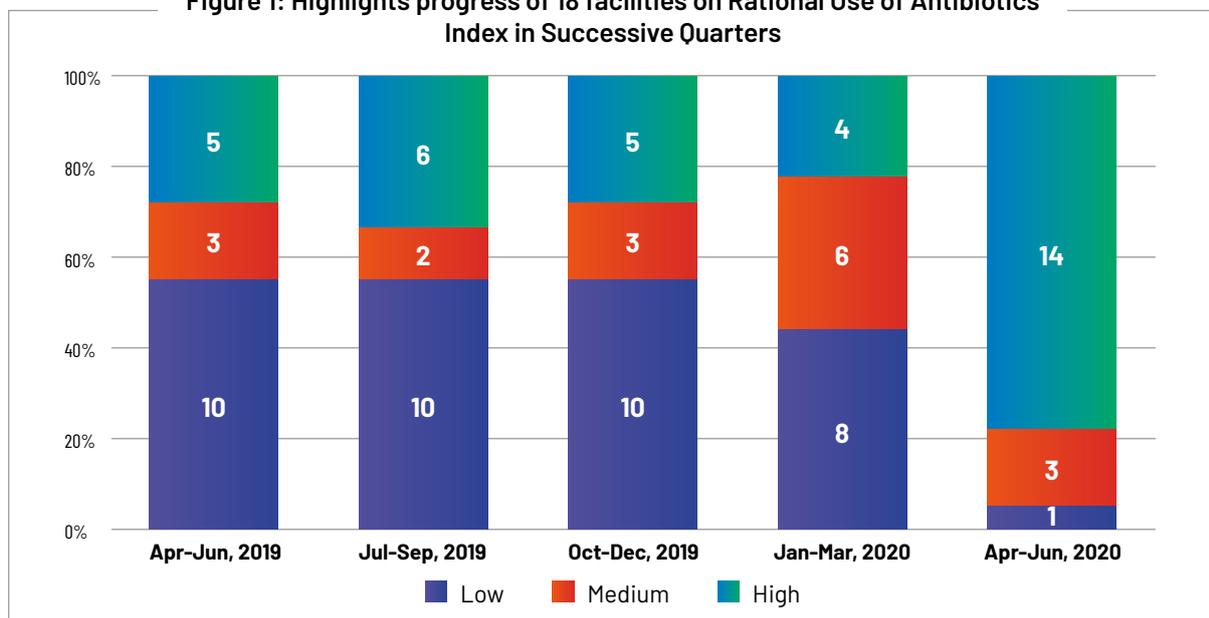
Periodic sharing of SQCI with program managers of SNCUs helped to improve the overall score of facilities. There was significant improvement in areas of rationalizing antibiotic usage, LBW admission and improving KMC rates.

Progress in the States

District Hospitals in all states are showing signs of progress. In Jharkhand: streamlined indenting procedures improved drug availabil-

ity; increased spectrum of laboratory services; posting of Pediatrician in DH Lohardagga and starting of C-section audits at DH Bokaro and Godda. In Punjab: Screening of Gestational Diabetes Mellitus (GDM) and C-section audits started and ObGyn specialist posted in District Hospital Moga. In Haryana: an ObGyn was posted and antenatal screening of GDM started in DH Mewat. In Himachal Pradesh: Screening of GDM and provision of 24x7 power backup was assured in DH Chamba.

Figure 1: Highlights progress of 18 facilities on Rational Use of Antibiotics Index in Successive Quarters



Trends in District Hospital Indices

Comparing Quarter 1 to Quarter 4 shows that there has been significant improvement in the composite index for infrastructure and Antenatal screening, indices for equipment, drugs, human resource and 24x7 services also show positive trends (Table 7).

Under individual parameters, significant improvement was seen for C section audits and the practice of using a Birth Companion, with Use of antenatal corticosteroids and Laparoscopic sterilization also showing positive trends (Table 7).

Qualitative Changes

The dashboard uses existing data sources and visualizes data in a summarized format that can be understood by both managers and service providers. Some tangible changes resulting from the use of the DQCI dashboard:

- Program managers and facilities recognize the utility of HMIS and SNCU online data bases.



District Hospital, Chaibasa Aspirational District, Jharkhand

- Program managers at all levels used data to guide actions
- Local managers who previously just reported data, now leveraged dashboard and played active role in the working of their own facility
- Accurate data submitted for HMIS and SNCU online
- Collaborative performance review started
- Realistic gap assessment and evidence-based decision making to plug gaps is evident

Table 7. Trends on District Hospital indices quarter 1 and quarter 4 2019-2020

CATEGORY	MEAN INDICES SCORE	
	Quarter 1	Quarter 4
Infrastructure	5.5	6.8*
Equipment	2.8	3.08
Drugs	3.72	4.16
Human Resource	3.92	4.08
24x7 services	3.88	4.12
ANC screening	2.04	2.72*
	NUMBER OF FACILITIES IMPLEMENTING	
	Quarter 1	Quarter 4
C section audit	10	20*
Use of Antenatal corticosteroid	12	16
Birth companion present during delivery	21	25*
Laparoscopic sterilization	17	21

* difference is statistically significant

Challenges and Learnings

DQCI dashboard implementation was smooth in all states. The State cell willingly gave access to the Data and acted on the findings.

CHALLENGES

Few challenges include -

- There were issues on reliability of the data from the HMIS. Data entry improved when regular review of data and feedback were initiated. Improvements were seen in data related to - availability of key MNCH drugs at facility and processes such as post-delivery stay for 48 hours or more.
- Realtime data for manpower away on leave or deputation, newer initiatives such as policy of Birth companion, availability of local purchase medicine such as Injection Labetalol and critical 24X7 availability of laboratory services required to be supplemented through enquiry or observation.
- Different versions of MS office software were being used in the districts. Initially the tool was prepared in latest updated versions of the software and did not operate optimally in lower versions. To overcome this the tool was customized for software versions being used by facilities in the state.
- GoI recently updated the HMIS and there were changes in unique codes of indicators. The tool had to be revised to align it with changes in the HMIS data base and ensure correct data extraction.
- Deep rooted perception that the situation cannot improve was an impediment to change. DQCI dashboard proved to be a powerful agent of change, seeing the results of implementing DQCI based actions has helped to overcome the real or perceived notion of inability to change practice. Dashboard is empowering facility managers to use their own data to

take evidence-based decisions and mobilize resources to bring about lasting improvement.

- Regular platforms for review of performance of public health facilities are not prevalent.
- The capacity of Data Entry Operators is varied. Dashboard generation will require motivating the facility staff as well as handholding them post training.

For future intervention, we recommend,

- Data quality assessments, to ensure confidence of managers in available data.
- Improve staff data analysis skills.
- Introduce systematized review meetings to track action-plans.
- Limit Observation data inputs in the tool
- Synchronize entry of data with HMIS to avoid duplicating work.
- Since the project focused on MNCH services, indicators related to other healthcare services; adolescent health, communicable and non-communicable diseases etc. were not incorporated. In future, widening the scope of dashboard to include important indicators across various national and state health programs can be envisaged.
- The DQCI dashboard consists of a group of indicators and a composite index to provide an overall score has not been developed. Going forward, the tool may be further refined to provide composite indices for broad heads.

LEARNINGS

The tool has been well received by state government in all intervention states. The acceptance has been high and important lessons learned are:

- DQCI Dashboard provides a holistic review of facility performance on MNCH services - since it includes information on all health system strengthening blocks.

- District Hospitals are pivotal for delivery of CEmOC and Critical newborn services. Reviewing their performance is essential for understanding the health care delivery in the area.
- Tool can be customized to include state priorities, and the information used to allocate resources to districts and facilities and to prepare Program Implementation Plan (PIP).
- Collaborative review and identification of gaps by all stakeholders (facility, district and state level) helps in prioritization of actions and evidence-based decisions.
- Tool uses routine data only - with no extra

load on system and helps to strengthen existing information system & primary data inputs from facility level.

- Important lessons learned were that a digital system needs to fit within a governance structure so there is clarity around who is responsible for monitoring and action. The tool aligns to existing quality improvement efforts and clinical processes and flows. The intervention was developed and designed based on the needs of the service providers in public health facilities for improving quality of care and implemented through them in the existing framework of service delivery.

Way Forward

- *Vridhhi* would continue to provide technical support for the initiative till the very completion of the project. While the state and majority of Aspirational Districts are able to generate, interpret DQCI dashboards and plan actions based on this; the project state and district teams would be providing the necessary support to ensure use of DQCI dashboard is institutionalized in the review mechanism of Aspirational Districts.
- *Vridhhi* would also provide technical support to the state for institutionalization of DQCI dashboard in non-aspirational districts.
- Due to COVID-19 travel restrictions, capacity building and follow up processes would be done virtually through state or by concerned district project representative. Despite the pandemic related limitations, *Vridhhi* would endeavor to ensure maintenance of the quality during hand holding and knowledge transfer.
- The project is also working to accommodate indices in the tool for making it easier to track trends.
- Learnings from the initiative are being docu-



DQCI Discussion at DH Rudrapur, Uttarakhand facilitated by *Vridhhi* district consultant

mented and would be disseminated with the partner states and MoHFW by last quarter of year 2020-21.

The project is extremely thankful to national and state governments for their support and encouragement, without which the initiative would not have achieved the desired results.

Annexures

Annexure 1: DQCI Dashboard



Annexure 1A: Comparative Dashboard



Annexure 2: SOP for generating and interpreting DQCI Dashboard

Top section of the dashboard displays the names of the state, district, and district hospital; and the planning year. These are based on the information entered on the Home

screen. The indicators suffixed with an Asterix (*) are based on the information entered in enquiry sheet. Section wise details of the indicators, interpretation of color coding and details regarding calculation of indices are as described below.

INDICATOR	BASIS/SOURCE	CODING	REMARKS
INFRASTRUCTURE			
Operation Theatre	HMIS	GREEN: functional	# C sections performed [during that quarter] - Yes/No
Labor room	HMIS	RED: not functional	# vaginal deliveries performed [during that quarter] - Yes/No
Blood Bank	HMIS		# blood units issued [during that quarter] - Yes/No
Special Newborn Care Unit (SNCU)	Enquiry and SNCU Online		Data being uploaded on SNCU online portal - Yes/No
SNCU with FPC	Enquiry and observation of respective units	GREEN: available	Aspirational infrastructure units
Obstetric HDU		RED: not available	
Obstetric Unit with Triage & Treatment			
Pediatric HDU			
Pediatric Unit with Triage & Treatment			
Pathology Laboratory	Enquiry and observation of the lab records for previous month	GREEN: functional	Facility for histopathology is essential
Biochemistry Laboratory		RED: not functional	Electrolyte testing is essential
Microbiology Lab with culture facility			Culture facility is essential
Central Oxygen Supply	Enquiry and observation	GREEN: available RED: not available	Availability in OT and SNCU are essential
EQUIPMENT			
Ultrasound	HMIS	GREEN: functional RED: not functional	# Ultrasonography done [during that quarter] - Yes/No
Pulse oximeter	Enquiry	GREEN: available	Availability in MCH Units is essential - Yes/No
Oxygen Concentrator		RED: not available	Availability in MCH Units is essential - Yes/No
Pediatric Oxygen Delivery Device			Availability of head box and nasal prongs is essential - Yes/No
ADEQUATE DRUGS			
Injection Magsulf	HMIS [Adequate (1) or Inadequate (0)]	GREEN: adequate during all 3 months of that quarter	
Injection Oxytocin		ORANGE: adequate during 1-2 months of that quarter RED: inadequate in all 3 months of that quarter	
Labetalol	Enquiry	GREEN: available RED: not available	Availability in labor room is essential

INDICATOR	BASIS/SOURCE	CODING	REMARKS
Injection Vitamin K1	HMIS	GREEN: adequate RED: inadequate	# Vitamin K1 (birth dose) administered during that quarter
ORS	HMIS	GREEN: adequate during all 3 months of that quarter	
Zinc tablets	[Adequate (1) or Inadequate (0)]	ORANGE: adequate during 1-2 months of that quarter RED: inadequate in all 3 months of that quarter	
HEALTH WORKFORCE			
Obstetrician & Gynecologist	Enquiry - Number of beds in the DH (type of DH)	RED: staff posted is less than standard norm (for respective cadres)	Graph depicts % vacant positions in the respective cadre (Total number including regular, contractual, and visiting is to be entered)
Pediatrician			
Anesthetist			
Radiologist	IPHS (2012) norms have been utilized to measure recommended staff against available based on the number of beds		
Medical Officers			
Staff Nurses			
Laboratory Technician			
Blood Bank Technician			
SNCU QUALITY OF CARE INDICATORS (SQCI)			
Rational admission index	SNCU Online Portal data (method described below) Required Enquiry based indicator (number of beds in SNCU) and from HMIS (total live births) will be auto-populated	GREEN: Good (index > 0.7)	= 1 - (number of newborn discharged in 24 hours / total number of new born discharged)
Index for rational use of antibiotics		ORANGE: Satisfactory (index between 0.4 and 0.7)	= 1- (total number of newborns who received antibiotics - number of newborns diagnosed as sepsis) / total admission)
Inborn birth asphyxia index			= 1- (number of in born babies admitted with birth asphyxia / total number of babies delivered in the institution)
Index for mortality in good weight babies		RED: Unsatisfactory (index less than 0.4)	= 1 - (number of deaths in inborn infants weighing ≥ 2.5 KG / total admissions of inborn infants weighing ≥ 2.5 KG)
Low birth weight admission index			= number of inborn with birth weight < 1.8 KG admitted / total number of inborn admissions
Low birth weight survival index			= number of newborns with birth weight between 1.0-1.8 KG discharged alive / total newborns with birth weight between 1.0-1.8 KG admitted
Optimal bed utilization index			= 1 - (1 - total admissions / total number of beds X 6 X number of months) {6 admissions/bed /month is desirable}

Follow the following steps to get data on the specified indicators:

Step 1: Login into www.sncuindiaonline.org → SNCU Report → Need Customized Report → By Name → Enter Period for the required quarter by entering date in “Start Date” and “End Date” (Example: period for 2nd quarter of 2018-2019 will be between 01/07/2018 to 30/09/2018) → Click on ‘Get’ → Click on “Excel” in the top row to get list of all newborns admitted in SNCU during that period. Open the downloaded list in Excel, click on ‘Enable Editing’, and apply ‘Filter’ in the row containing headings. Now the specific columns, as outlined below, can be filtered to get the relevant data (numbers)

INDICATOR AS PER SNCU ONLINE TEMPLATE		STEPS IN FILTERING OUT THE REQUIRED DATA FROM DOWNLOADED EXCEL FILE
1.1	Total number of newborns discharged	Filter “Outcome” for ‘DISCHARGED’ → Count visible records → populate the relevant cell in SNCU data entry template
1.2	Number of newborns discharged within 24 hours	Continue from previous (1.1) → Filter out “Duration of Stay” for ‘0’ and ‘1’ (indicate number of days new born has stayed in the SNCU, i.e. 24 hours or less) → Count visible records
2.1	Total admissions in the SNCU	Remove all previous filters → Count all entries in the downloaded sheet (indicate all admissions during that period)
3.1	Number of inborn newborns admitted with birth asphyxia	Remove all previous filters → Filter “Type of Admission” for ‘Inborn’ → Filter “Indication of Admission” for ‘Perinatal Asphyxia’ → Count visible records
4.1	Total admissions of inborn infants weighing ≥ 2500 grams	Remove all previous filters → Filter “Type of Admission” for ‘Inborn’ → Filter out “Weight” for all entries having weight equal to or more than 2.5 → Count visible records
4.2	Number of deaths in inborn infants admitted weighing ≥ 2500 grams	Continue from previous (4.1) → Filter out “Outcome” for ‘EXPIRED’ → Count visible records
5.1	Total number of in born newborns admitted in SNCU	Remove all previous filters → Filter out “Type of Admission” for ‘Inborn’ → Count visible records
5.2	Number of inborn with birth weight < 1800 grams admitted in SNCU	Continue from previous (5.1) → Filter out “Weight” for all entries having weight equal to or less than 1.8 → Count visible records
6.1	Total newborns with birth weight between 1000-1800 grams admitted	Remove all previous filters → Filter out “Weight” for all entries having weight between 0.99 and 1.79 → Count visible records
6.2	Number of newborn with birth weight between 1000-1800 grams discharged	Continue from previous (6.1) → Filter out “Outcome” for ‘DISCHARGED’ → Count visible records

Step 2: For two indicators, re-login into www.sncuindianonline.org and follow the defined steps:

INDICATOR AS PER SNCU ONLINE TEMPLATE		STEPS IN FILTERING OUT THE REQUIRED DATA FROM SNCU ONLINE PORTAL
2.2	Number of newborns diagnosed having Sepsis	SNCU Report → Dash Board Indicators → Select ‘Start Date’ → Select ‘End Date’ → Filter “Type of Admission” for ‘All’ → Filter “Criteria” for ‘Admission Analysis’ → Filter “Indicator” for ‘Final Diagnosis (Single Diagnosis)’ → Filter “Report By” for ‘Number’ → Click on “Generate Table” → Take figure for “Neonatal Sepsis” and feed in relevant cell
2.3	Number of newborns who received antibiotics	SNCU Report → Dash Board Indicators → Select ‘Start Date’ → Select ‘End Date’ → Filter “Type of Admission” for ‘All’ → Filter “Criteria” for ‘Treatment Analysis’ → Filter “Indicator” for ‘Antibiotics Usage’ → Filter out “Overall” → Filter “Report By” for ‘Number’ → Click on “Generate Table” → Take figure for “Antibiotics Given” and feed in relevant cell

INDICATOR	BASIS/SOURCE	CODING	REMARKS
24 X 7 SERVICE DELIVERY (I.E. THE FACILITIES AVAILABLE DURING NIGHT)			
Newborn admissions	Enquiry	GREEN: Yes RED: No	Check SNCU Admission Register to find whether newborns are admitted during night
C section facility	HMIS		If C Sections are done at night i.e. between 8 PM to 8 AM (HMIS indicator)
X ray facility	Enquiry		If required, check records if these facilities are available during night
Lab testing			
Electricity back up (Generator)			24 X 7 supply available and functional
MNCH INDICATORS – ANTENATAL SCREENING			
Gestational Diabetes Mellitus	HMIS	GREEN: Yes RED: No	Green code will show that investigations are done, and cases have been diagnosed and reported in HMIS
Hypothyroidism	Enquiry		Whether practiced or not. Check records if required
Syphilis	HMIS		Green code will show that investigations are done, and cases have been diagnosed and reported in HMIS
HIV/AIDS			
MNCH INDICATORS – ANTENATAL CASE MANAGEMENT			
Severe anemia treated out of detected	HMIS	GREEN: >80% cases managed ORANGE: 50-80% cases managed RED: <50% cases managed	Proportion of pregnant women with Hb<7 treated
GDM managed with insulin out of detected			
New hypertension cases managed			
Iron sucrose used to treat severe anemia	Enquiry	GREEN: Yes RED: No	Check records, if available
INDICATOR	BASIS/SOURCE	CODING	REMARKS
MNCH INDICATORS – INTRAPARTUM PRACTICES			
Eclampsia cases managed during delivery	HMIS	GREEN: Yes RED: No	Red if no eclampsia case is managed during delivery
Given corticosteroids during pre-term labor			Red if corticosteroids are not given in pre term labor
Birth companion allowed during labor	Enquiry		Check LR register (LaQshya indicator)

MNCH INDICATORS - POSTPARTUM SERVICES			
PPIUCD provided	HMIS	GREEN: Yes RED: No	Red if PPIUCD service is not provided. Proxy indicator for training gap, lack of equipment, etc.
% of total IUCD		GREEN: >80% ORANGE: 50-80% RED: <50%	Proportion of PPIUCD out of total IUCD insertions done (percent)
Laparoscopic sterilization done		GREEN: Yes RED: No	Red if laparoscopic sterilizations are not done
Numbers done		GREEN: ≥ 1 case RED: 0 case	Indicate total number of laparoscopic sterilizations done as per HMIS during that quarter
% women discharged after 48 hours of delivery		GREEN: >80% ORANGE: 50-80% RED: <50%	HMIS data element captures number of women discharged within 48 hours of delivery. To make this indicator in line with other indicators of this section, the proportion is reduced from 100%.
MNCH INDICATORS - NEWBORN CARE			
% breastfed within one hour of birth	HMIS	GREEN: >80% ORANGE: 50-80% RED: <50%	As per HMIS data
% administered birth dose of Hepatitis B vaccine			As per HMIS data
SERVICE PARAMETERS			
Total deliveries	HMIS	None	Includes vaginal deliveries and C sections
C Sections		None	Number of C sections
C Section Rate		GREEN: Rate up to 15% RED: > 15%	Proportion of C sections out of total deliveries
C Section Audit	Enquiry	GREEN: done RED: not done	Check records of last quarter
Overcrowding in labor room	HMIS and Enquiry	GREEN: ≤90 (no crowding) ORANGE: 90-120 (crowding) RED: ≥120 (overcrowding)	Calculated based on total number of vaginal deliveries conducted and number of labor tables. Index is calculated taking average stay of 8 hours per table (4 hours for pre-delivery preparations and delivery, and 4 hours for recovery and labor room cleaning). Thus 3 deliveries/day/labor table or 90 deliveries/table/month OR ≤90-no crowding; >90-≤120- crowding; ≥120 over-crowding
Overcrowding in post-natal ward		GREEN: ≤10 (no crowding) ORANGE: >10- <20 (crowding) RED: ≥20 (overcrowding)	Calculated based on total number of institutional deliveries (including C Sections) and number of beds in postnatal ward. Index is calculated taking average stay of 3 days per pregnant women per bed (averaging out higher stay time after C section and less after normal delivery) OR up to 10 women stay during a month. Thus, ≤10-no crowding; >10-≤20- crowding; ≥20-over crowding
Maternal deaths due to direct obstetric causes	HMIS	RED: ≥1	Gives exact number of maternal deaths as per HMIS
Case Fatality Rate	HMIS	RED: >1%	Calculated from number of pregnant women attending with obstetric complications and total maternal deaths due to obstetric causes. Rate more than 1% is critical
Facility based Maternal Death Surveillance and Review (FBMDSR) done in	HMIS	GREEN: >50% RED: ≤ 50%	Proportion of deaths for which review was done
Deaths in 0-5 years children due to pneumonia	HMIS	RED: ≥1	Number as per HMIS

Annexure 3: State Wise Actions Based on DQCI Dashboards

STATE - HARYANA					
DURATION - QUARTER APRIL - JUNE 2019					
Service Delivery	Health Workforce	Health Information / Data	Essential Medicine / Equipment	Financing	Leadership / Governance
					Civil surgeon Mandikhera issues letter for ascertaining if available ObGyn have certification for doing USG
					Civil Surgeon Nuh issues letter to SMO Mandikhera to take necessary actions for operationalizing Microbiology Lab
QUARTER JULY - SEPTEMBER 2019					
QUARTER OCTOBER - DECEMBER 2019					
C section audit - not being done; Discussed Formats shared by DTO with Facility In-charge by DTO, Letter being issued by DD MH to CS Nuh					Microbiology: not functional: Civil Surgeon Director MH called up Civil Surgeon for making Microbiology lab functional
STATE - HIMACHAL PRADESH					
QUARTER APRIL - JUNE 2019					
Service Delivery	Health Workforce	Health Information / Data	Essential Medicine / Equipment	Financing	Leadership / Governance
Screening for GDM started at DH Chamba		ANCS data being updated in HMIS in DH Chamba			Letter issued by MS to HODs directing that the dashboard findings are discussed in Quality circle meetings for identifying necessary action
24*7 service of Digital x ray started		Numbers of Eclampsia cases being correctly updated in HMIS (DH Chamba)			Additional beds provided to ease overcrowding in PN ward at DH Chamba
24*7 power back					
QUARTER JULY - SEPTEMBER 2019					
QUARTER OCTOBER - DECEMBER 2019					
		Data on management of new cases of hypertension being streamlined			Extra beds provided in PN ward to address overcrowding
		Error seen in earlier reporting of PPIUCD cases and data now being streamlined			
		SNCU online data entry to be as per timeline			

STATE - JHARKHAND					
QUARTER APRIL - JUNE 2019					
Service Delivery	Health Workforce	Health Information / Data	Essential Medicine / Equipment	Financing	Leadership / Governance
Antenatal Screening of GDM across various DHs			Streamlining drug supply across various DHs		Letter issued by MD NHM directing that the dashboard and the summary report be discussed in District Review meetings and actions taken up to rectify the gaps
QUARTER JULY - SEPTEMBER 2019					
On call availability of LT started to ensure 24x7 Lab services in DH Garhwa, DH Chattra, DH Latehar	Hiring of anesthetist at DH Dumka		LR Table number increased in DH Bokaro to address the load		
Triage unit set up at DH Latehar	Radiologist posted in DH Bokaro, Giridih, Hazaribagh		Inj labetolol locally purchased at DH Khunti, DH Chattra, DH Palamu		
Histopathology started at DH Palamu			Pulse oximeter purchased in DH Garhwa, DH Chattra		
			Inj Iron sucrose local purchased in DH Garhwa, DH Chattra, DH Latehar		
QUARTER OCTOBER - DECEMBER 2019					
Obs Triage set up in DH Bokaro, Garhwa	S N shortage (25) - demand raised by DH Bokaro. Demands for additional SN raised to HR agency by DH Giridih, Hazaribagh & Ramgarh, Lohardagga,	Nodal identified for timely data entry on MDR and CDR, DH Giridih. Correct entry of FBMSDR data from DH W singbhum	Drug availability streamlined in DH Hazaribagh, Giridih		Proposal for Obs HDU sent by DH Bokaro. Approval for Obs HDU obtained for DH Garhwa. Space identified and requirement for beds and equipment for Obs HDU placed by DH Latehar
All approvals obtained and Blood bank will become operational in DH Ramgarh	Additional staff requirement on account of new status of MCH raised to HR agency by DH Hazaribagh	Data on BT not being correctly reflected in HMIS. DEO apprised for correct data entry- DH Gumla, DH Ranchi, W singbhum	POC test kits (HIV Syphilis Albumin, Glucose, Hb) provided in LR in DH Lohardagga		Letter issued for repair of oxygen concentrator - DH Simdega

QUARTER OCTOBER - DECEMBER 2019					
	Sensitization on GDM screening organized for staff in Giridih, Bokaro, Ramgarh, Hazaribagh	Drug availability not being correctly reflected in HMIS; corrective actions taken at DH Gumla, Lohardagga, Ranchi, Simdega, East Singhbhum, Dumka	USG being procured by DH Dumka. Work order signed		C section audit in DH Godda
	Additional SN selected and trained for SNCU - DH Garhwa, Latehar	Discharged > 48 hours later not being captured correctly. Formats made - DH Gumla, Simdega Lohardagga, East Singhbhum, West Singhbhum, Khunti	Oxygen concentrator procured by DH Pakur		
	LTs recruitment - West Singhbhum	USG services though being provided not being reflected in HMIS. Corrective action taken at DH Lohardagga, Ranchi			
		Data on HIV Syphilis screening, Eclampsia management & ANCS not being correctly reflected in HMIS. Action taken for correct data entry - DH Ranchi, West and East Singhbhum, Khunti			

STATE - PUNJAB

DURATION - QUARTER APRIL - JUNE 2019

Service Delivery	Health Workforce	Health Information / Data	Essential Medicine / Equipment	Financing	Leadership / Governance
Screening for GDM started at DH Moga	2 additional Obstetrics and gynecology posted in (as per norms) in DH Moga	VDRl screening data updated DH Moga	Pediatric O2 delivery device made available in DH Ferozepur		With 39% & 43% C section rates resp-audits started at DH Moga & Ferozepur
		ANCS data being updated in HMIS - DH Moga			Date of H&FW Punjab issued memo for all DHs to take action based on dashboard
		Stock of Inj MagSulph and Tab Zinc updated in HMIS (DH Ferozepur)			

DURATION - QUARTER JULY TO SEPTEMBER 2019

Extra space identified for PNC ward in DH Ferozepur			Pediatric oxygen delivery device purchased in DH Ferozepur		Letter issued from DD MCH to CMO Ferozepur listing gaps identified from dashboard which need to be addressed
			Oxygen concentrator purchased in DH Moga		
			Inj Labetolol availability ensured in DH Ferozepur		

DURATION - QUARTER OCTOBER - DECEMBER 2019

OGTT started in DH Ferozepur	Additional Lab technician recruited in DH Ferozepur and case taken up for 24x7 lab services		Procurement of auto analyzer for improving service in DH Moga		
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STATE - UTTARAKHAND**QUARTER APRIL - JUNE 2019**

Service Delivery	Health Workforce	Health Information / Data	Essential Medicine / Equipment	Financing	Leadership / Governance
		Regular updating of status of drugs in HMIS (DH Rudrapur)			

QUARTER JULY - SEPTEMBER 2019

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QUARTER OCTOBER - DECEMBER 2019

					MCH wing proposed at DH Haridwar which will include Obs HDU, Triage and wards
		Data on BF improved at DH Rudrapur	Procurement of supplies for OGTT testing		Discussions held for outsourcing histopath at DH Rudrapur
GDM screening started at DH Rudrapur		Online reporting of SNCU data at DH Rudrapur;			C section audit started in DH Rudrapur



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