Mother and Child Tracking System Assessment in Three States

Rajasthan, Uttar Pradesh and a Preliminary Assessment in Karnataka

A Report

NATIONAL HEALTH MISSION
राष्ट्रीय स्वास्थ्य मिशन

MCTS Cell & Immunization Technical Support Unit
Ministry of Health and Family Welfare

ITSU
Immunization Technical Support Unit
Ministry of Health and Family Welfare

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ACRONYM LIST

ACMO	Additional Chief Medical Officer
ANC	Ante-natal Checkup
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AVD	Alternate Vaccine Delivery
AWW	Anganwadi Worker
BB	Broadband
BCG	Bacillus of Calmette Guerin
BMO	Block Medical Officer
BPM	Block Program manager
CES	Coverage Evaluation Survey
CHC	Community Health Center
CMO	Chief Medical Officer
DA	Data Assistant
DDK	Drug Distribution Kit
DEO	Data Entry Operator
DIO	District Immunization Officer
DO	Department Order
DPM	District Program Manager
DPT	Diphtheria Pertussis Tetanus
DQA	Data Quality Assessment
ECR	Eligible Couple Register
FHW	Female Health Worker
FIC	Fully Immunized Children
FRU	First Referral Unit
GOI	Government of India
HepB	Hepatitis B
HMIS	Health Management Information System
HR	Human Resource
IDSP	Integrated Disease Surveillance Project
IMR	Infant Mortality Rate
IEC	Information, Education and Communication
IT	Information Technology
IVRS	Interactive Voice Response System
JD	Joint Director
JSY	Janani Suraksha Yojana
LHV	Lady Health Visitor
LMP	Last Menstrual Period
MCH	Maternal and Child Health
MCTS	Mother and Child Tracking System
MD	Mission Director
MIS	Management Information System

MMP	Mission Mode Project
MMR	Maternal Mortality Ratio
MoHFW	Ministry of Health and Family Welfare
MOIC	Medical Officer In-charge
NA	Not Applicable
NIC	National Informatics Center
NIHFW	National Institute of Health and Family Welfare
NR	No Record
NRHM	National Rural Health Mission
OPV	Oral Polio Vaccine
PCTS	Pregnant women and Child Tracking System
PHC	Primary Health Center
PIP	Program Implementation Plan
RCH	Reproductive Child Health
RCHO	Reproductive and Child Health Officer
RI	Routine Immunization
SC	Sub-Center
SDR	Service Delivery Register
SIO	State Immunization Officer
SMS	Short Message Service
TFR	Total Fertility Rate
TOT	Training of Trainer
UIP	Universal Immunization Program
UP	Uttar Pradesh
VHND	Village Health and Nutrition Day
VPD	Vaccine Preventable Disease

EXECUTIVE SUMMARY

The success of public health programs and policies are heavily dependent on effective service delivery at the field level. Vulnerable populations, such as pregnant women and children in low-resource settings, need health systems that are capable of delivering timely and quality care. At the forefront of service delivery are frontline health workers (FHWs) - who, in India, are primarily Auxiliary Nurse Midwives (ANMs) and Accredited Social Health Activists (ASHAs).Their essential day-to-day service delivery responsibilities are identifying beneficiaries within their catchment areas and carrying out follow-up activities to ensure that each beneficiary receives the full schedule of services due to them under various health programs.

A pregnant woman who does not undergo the three prescribed antenatal care (ANC) visits runs a higher risk of developing complications that may adversely affect her pregnancy. Similarly, a child who isn't covered by all prescribed vaccines under the Universal Immunization Program (UIP) cannot be deemed to be adequately protected against the diseases prevented by those vaccines. Therefore, tracking service delivery at the individual level is critical in achieving the objectives of health programs.

The Mother and Child Tracking System (MCTS) was launched nationwide in 2009 with these challenges in mind. The goal was to create a beneficiary-specific data repository for service delivery tracking that would facilitate the work of FHWs. In addition, the accumulated data could be presented in the form of reports and charts to facilitate the monitoring, supervision, and program planning responsibilities of higher officials. Robust long-term data collection processes could also provide a firm foundation for evaluating the effectiveness of large public health programs over the long run.

Critical to the optimal functioning of such a data system are well-coordinated and effective processes at the field level – the primary locus of data collection, transfer, and entry. On the one hand, there are the health staff most engaged with day-to-day realities at the field level (FHWs, data entry officials, and their immediate supervisory officials), and the interactions between them. On the other hand, are infrastructural and systemic concerns (such as budgeting and hiring guidelines), that could play either a catalyzing or hindering role. In combination, these factors determine the quality of data in the MCTS. Additionally, these factors need to be integrated in such a way that the drive to ensure the integrity of the data does not impinge on the time and energy of FHWs for ensuring effective service delivery. In other words, the MCTS needs to also add value to the working lives of FHWs, rather than just demanding recording and reporting work from them.

Since its introduction, the MCTS has been scaled up at a very rapid rate and now covers a majority of India's villages. This wide reach has given the MCTS an impressive presence at the field level. The emphasis placed by the Government of India (GoI) on a nationwide service delivery data system covering some of the country's most vulnerable citizens (mothers and children in resource-poor settings) is highly laudable. Quality data systems form the bedrock of any effort to monitor and evaluate large government programs. The MCTS is a step in the right direction.

Some early macro-level evidence has suggested gaps and weaknesses in the implementation of the MCTS. Most worrying are the low rates of beneficiary registration into the system when compared to estimated beneficiary population numbers; the rates are 59 percent for children and 63 percent for pregnant women. Also, there are wide discrepancies in the reported beneficiary and service delivery numbers between the MCTS and the Health Management Information System (HMIS), which is an all-encompassing data system for public health services.

For these reasons, this assessment was carried out in three states to identify data weaknesses in the MCTS and find their root causes at the field level. Data Quality Assessments (DQAs) were conducted in Rajasthan and Uttar Pradesh (UP) to measure the quality of MCTS data. Field surveys were conducted in these states to uncover some of the ground realities and practices that could be contributing to data quality weaknesses. The focus in Karnataka was on field processes, with a preliminary DQA test conducted to evaluate the need for a more thorough DQA. In all these three assessed states, field survey teams also looked into the usage of MCTS outputs (such as workplans and reports) amongst FHWs and supervisory officials, as well as the level of engagement of supervisory staff with the MCTS.

Assessment findings have demonstrated that the MCTS data quality is weak and insufficient for it to act as an effective beneficiary and service delivery tracking tool. Out of the sampled beneficiaries in Rajasthan, only 34 percent of the potential data set for pregnant women and 33 percent of the potential data set for children were found to be both complete and accurate. Uttar Pradesh's numbers for the same indicator are 18 percent for pregnant women and 25 percent for children. The MCTS, as a data system, is thus failing in fulfilling its core purpose.

To identify the root causes behind this poor data quality, field survey evidence on data collection and transfer practices were analyzed for each state. Rajasthan's survey evidence suggests long gaps in field data collection, consolidation, and transfer processes. For example, data entry is done on a monthly basis and beneficiary identification processes are not frequent enough for effective service delivery planning. This results in poor levels of MCTS workplan utilization.

The data transfer process in Rajasthan is cumbersome for ANMs, with many reporting that they have to create hand-drawn Pregnancy Child Tracking System (PCTS) registers for data transfer. MCTS training levels amongst field staff and block-level supervisory officials were found to be poor. Monitoring and supervision officials demonstrated inconsistent engagement with PCTS implementation. Supervision and feedback practices were not streamlined and systematically documented.

The situation in Uttar Pradesh is similar. UP's field data processes are weak, monitoring and supervision practices are poorly planned, and training levels amongst FHWs and block-level supervisory officials are inadequate. MCTS registers, ideally used as the primary tool for data recording in the field, are in short supply in UP, resulting in the use of an array of data recording tools by FHWs. The frequency of data entry is insufficient for the MCTS to act as a tracking tool. Improvements are also required in ANM-ASHA coordination on data sharing.

As a result of these shortcomings, Uttar Pradesh faces severe challenges in registering newly identified beneficiaries; 21 percent of sampled pregnant women and 43 percent of sampled children did not have MCTS profiles. Compounding these challenges are shortfalls in Human Resources (HR) such as overburdened data entry operators and delayed contract renewals and infrastructural weaknesses, such as irregular electricity and internet connections.

Karnataka was surveyed to obtain some understanding of best practices that could provide lessons on how to improve MCTS implementation in other states. The main findings in Karnataka suggest that, in general, field-level processes linked to data capture, data transfer, and data consolidation are very robust. It would be useful to conduct a thorough DQA of Karnataka's MCTS portal to understand how robust field-level processes impact MCTS data quality.

This report concludes with the recommendation of measures that will strengthen MCTS implementation, and thereby improve MCTS data quality. Some of them are summarized below:

Inclusion of urban areas into MCTS ambit

- Develop standard operating procedures (SOPs) for urban areas for smooth initiation and use of MCTS, in both the public and private sectors.
- Include MCTS in training modules for the National Urban Health Mission.

Recommendations for HR, budget, and infrastructure

- Plan for an assessment of daily/monthly workload for data entry staff, encompassing MCTS-related data entry along with total Management Information System (MIS)-related work.
- Explore the possible relevance of the Karnataka initiative of providing an incentive to regular Primary Health Centre (PHC) staff for data entry in other states.
- Develop a mechanism to ensure continuity of MCTS data entry work through timely contract renewal.
- Outsource data entry in cases where there is a huge data backlog due to delayed renewal of the contract or where the data entry operator's position has been lying vacant for long.
- Develop a plan for ensuring adequate supplies of printing material and other MCTS-related stock.

Training plans and modules

- Create a clear plan for staff refresher training, which complements existing monitoring and supervision SOPs.
- Plan for sensitization and training of all staff related to the functioning and use of the MCTS.
- Tailor specific training modules to meet the requirements of staff at different levels and with different responsibilities.

MCTS Application

- Use uniform estimation of infants for both the major MIS sources in the country: HMIS and MCTS.
- Make provisions for retrieving data by selecting information/indicators in the form of customized reports.
- Include a system in the MCTS application for documenting frequently encountered problems and the appropriate responses (for example FAQs).
- Provide for offline data entry in the MCTS portal, keeping in mind poor internet connectivity in rural areas.

Primary field data tools, data collection, and transfer processes, and generation and use of workplans

- Standardize the tools used for recording of data at the field level and its transfer to the PHC for data entry.
- Develop national and state-specific SOPs to standardize and stabilize data transfer processes, timeliness of data entry into the portal, generation of workplans with updated and accurate information, and their distribution to ANMs before immunization sessions. The recommendations also list the main issues to be considered for SOPs.
- Reserve one day in a month, preferably the ANM meeting day at the PCH level, to complete empty data fields and conduct data validation exercises. In UP, taking into consideration the heavy data entry work burden, more than one day should be allocated for conducting data validation exercises.
- Use workplans initially only for monitoring service delivery at the PHC level, and delink them from tracking of beneficiaries by ANMs/ASHAs at the field level. Continue the practice of preparing due lists by ANMs. (Once field data collection, consolidation, and transfer processes are stabilized and reliable workplans with complete and accurate information are generated, workplans can replace existing tracking tools used by ANMs. This should be done with clear timelines and set milestones.)

DQAs for MCTS data

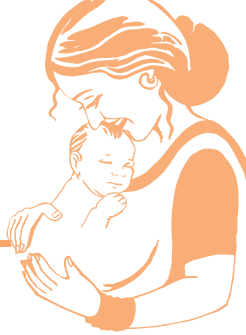
- Develop a SOP for MCTS staff and program managers for regular review of MCTS data to check accuracy and completeness.
- Plan for periodic DQAs in the field to assess MCTS data quality and to prepare data improvement plans for states based on the findings.
- Prepare MCTS dashboards at the state, district, and PHC levels to enhance the use of MCTS data and to keep track of the reliability of MCTS data. (The prototype can be provided from the national level.)
- Plan a detailed DQA for Karnataka to gain a deeper understanding of the quality of MCTS data.

Monitoring and feedback mechanisms and use of MCTS data by program managers

- Plan to include the MCTS as a regular part of the overall M & E framework for immunization as well as for Mother and Child Health (MCH) program management.
- Develop a plan for the establishment of a regular and structured MCTS implementation monitoring system at all levels. Program managers should also monitor MCTS along with MIS staff.
- Use of MCTS data by state EPI (Expanded Program on Immunization) officers, DIOs (District Immunization Officers) and MOs (Medical Officers) for improving program performance and for keeping track of program progress. As practiced in UP and Rajasthan, MCTS data should also be compared with HMIS data for tracking service delivery.

Chapter 1

Introduction



1.1 The Policy Environment

India has one of the largest public health delivery systems in the world. The Government of India is faced with the difficult task of providing basic healthcare to around 1.2 billion individuals, which is the second largest population in the world. A key challenge lies in providing essential health services to around 30 million pregnant women and 27 million newborns annually. This includes the provisioning of antenatal, perinatal and and postnatal care, immunization, and nutrition, amongst other things. The delivery of these health services is complicated by problems of awareness (owing to illiteracy and other social factors), geographical barriers, and socioeconomic factors. In order to serve this large and vulnerable section of society better, the GoI introduced the first phase of the Reproductive and Child Health (RCH) program in 1997, with the aim of reducing infant, child, and maternal mortality.

The RCH II program, launched as a major component of the National Rural Health Mission (NRHM) in 2005, has led to a steady improvement in maternal and child health services, as indicated by drops in India's maternal mortality ratio (MMR), infant mortality rate (IMR), and under-5 (U5) mortality rate from 2004 to 2009. However, there is potential for greater progress.

The GoI launched the NRHM in 2005 with the following goals in mind: (a) to provide accessible, affordable, and quality health care to the rural population, with a special emphasis on vulnerable populations; (b) to make health financing more transparent as the government increases spending towards rural health facilities; and (c) to provide increased flexibility to state governments to develop their own solutions to commonly encountered health problems.

The key features of the NRHM are:

- making the public health delivery system fully functional and accountable to the community
- human resource management
- community involvement
- decentralization
- rigorous monitoring and evaluation against standards
- convergence of health and related programs from village level upward
- flexible financing
- interventions for improving health indicators.[1]

The Ministry of Health and Family Welfare (MoHFW), GoI, has also invested in several initiatives aimed at improving maternal and child health services under the NRHM. These include:

- Janani Suraksha Yojana (JSY) and similar benefit schemes to encourage institutional deliveries;
- providing skilled birth attendant (SBA) training to health workers, and training doctors in obstetrics and anaesthesia;

[1] NRHM – Framework for Implementation- Executive Summary

- establishing and operationalizing First Referral Units (FRUs) to provide emergency obstetric and newborn health care services;
- hiring additional health staff (such as contractual ANMs, lab technicians, and contractual staff nurses) to improve maternal and child health;
- improving access to drugs and other requirements (medical equipment and blood units) at rural health facilities; and
- introducing Accredited Social Health Activists to improve community mobilization and health-promoting behavior in villages.

The Universal Immunization Programme, one of the major programs under the NRHM, aims to reduce vaccine preventable diseases (VPDs) among children. With 2012-2013 being declared the year of Routine Immunization (RI) intensification, new initiatives have been launched to improve RI services. India has not been able to fully realize the potential of vaccines in reducing the national burden of VPDs due to UIP's immunization coverage not reaching satisfactory levels. Most recently, the UNICEF Coverage Evaluation Survey (CES 2009) revealed a national fully immunized child (FIC) rate of 61 percent with state-level variations from 24.8 percent (Arunachal Pradesh) to 87.9 percent (Goa).

Low immunization coverage in poor performing districts is mainly due to a combination of lack of access (where the health system fails to provide children with any vaccine), and more importantly high dropout rates (where children receive some, but not all, of the vaccines stipulated in the national immunization schedule).

Maternal health services in India are also not up-to-mark with full antenatal checkup coverage at just 26.5 percent as per CES 2009 data. The JSY scheme has boosted institutional delivery rates to 73 percent, but 27 percent of deliveries are still conducted in non-institutional settings.

In order to ensure that these initiatives are effective, it is important to monitor the reach of services and to identify the beneficiaries who are unreached or don't complete the full schedule of services. To achieve this objective, in December 2009, the GoI introduced the Mother and Child Tracking System, an electronic web-based registry of MCH beneficiaries. Through the MCTS, GoI aims to register every pregnant woman and every child up to five years of age, and monitor the delivery of health services scheduled for them.

The MCTS has its genesis in similar programs being used in some Indian states. The GoI decided to make it a national program because it has the potential to:

- monitor in real time service delivery to beneficiaries by name;
- allow for the performance monitoring of health workers and institutions, from frontline up to the state level;
- advance the communitization objective of the NRHM by connecting the community through mobile technology, thus making the public health delivery system more accountable to the community; and
- facilitate human resource and logistics management and monitor the delivery of incentives to health workers.

Realizing the potential of the MCTS in facilitating the strengthening of maternal and child health services including routine immunization, GoI has declared it a Mission Mode Project (MMP) under the National e-Governance Plan.

1.2 The Mother and Child Tracking System

1.2.1 Development of the MCTS Portal

Though maternal, child, and immunization services have increased significantly, access and utilization of services have not kept pace. CES 2009 data indicates that only 68.7 percent of pregnant women have completed the three recommended antenatal checkup visits, while 89.6 percent have completed at least one visit. Similarly, the BCG-Measles drop-out rate for infants is 15 percent. The proportion of these gaps that can be attributed to the absence of service delivery tracking could be reduced if there was proper follow up with each beneficiary. Therefore, the need for developing an electronic system to track and monitor services at the beneficiary level was felt acutely. To address this need, many states have developed their own electronic systems such as "e-mamta" in Gujarat, "Pick-Me" in Tamil Nadu, and "PCTS" in Rajasthan. To scale up the benefits of such systems, as well as to develop a name-based national registry of all pregnant women and infants, GoI developed the MCTS and launched it across all states.

The MCTS was developed jointly by the MoHFW, GoI, and the National informatics Centre (NIC). Although the system was launched in late 2009, it only became fully operational in April 2011. Since then, all states and Union Territories (UTs) have started using the MCTS for beneficiary registration and service delivery tracking.

The MCTS is designed to capture and track all pregnant women (from conception up to 42 days post-partum) and all newborn children (till they reach the age of five). The system is designed to serve two purposes:

- Facilitate the work of service providers at the grassroots level in delivering services to women and children according to their specific needs.
- Support health and family welfare managers and policymakers to measure and monitor the effectiveness of maternal and child health services in terms of the identification and registration of beneficiaries and the completeness of all recommended services in a timely manner.

Presented below are brief descriptions of the MCTS in Karnataka and Rajasthan (both covered in this assessment), which have some distinctive features other than those described in the following sections.

Rajasthan: The Pregnancy, Child Tracking & Health Services Management System (PCTS) is an online software which has been functional since September 15, 2009 in all 33 districts of Rajasthan. The Health and Family Welfare Department, Government of Rajasthan, uses the PCTS to maintain an online database of more than 13,000 government institutions in the state. Along with name-based e-tracking of pregnant women, infants, and children for MCH services, the PCTS aims to facilitate better health surveillance, better management of health institutions, maintain an online directory of health institutions, and generate SMS alerts to beneficiaries and health workers.

Karnataka: The MCTS programme in Karnataka was started from January 1, 2011. At present, data entry for new beneficiary registration into the MCTS portal takes place at the PHC level. Frontline health workers are able to update service delivery data through short message service (SMS). The MCTS in Karnataka has won the Innovators Challenge Award, instituted by The Rockefeller Foundation and mHealth Alliance.

1.2.2 Main Features of the MCTS

1.2.2.1 Field Operations

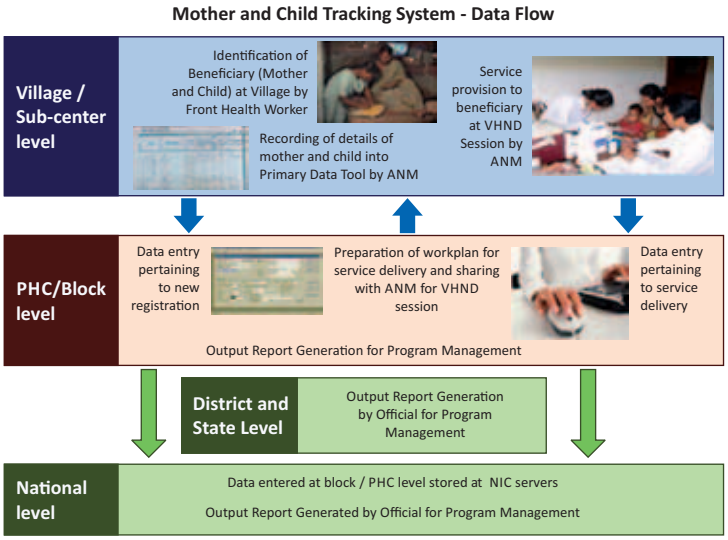
The MCTS is a web-based health facility-level application. The data collected by all frontline workers in the catchment area under a particular health facility is entered into the portal. The application permits only online entry for new beneficiary registration, whereas service delivery updates can be entered both online and offline. Auxiliary Nurse Midwives, who are frontline health workers, enter both new registrations, as well as service delivery updates, in the MCTS/MCH register for their sub-centers (SC), and transfer this data to health facilities for data entry. The MCTS application can also accommodate data transmission via SMS by frontline workers using mobile phones, and some states (e.g., Karnataka) have already started using this facility.

The current MCTS system is limited mostly to rural health facilities that is, sub-centers, primary health centers, and community health centers (CHCs). District hospitals are also part of the system in many, but not all, states. Recently some states have also started including urban area health facilities, such as medical college health facilities.

Once data from a health SC for a particular service session is entered, the MCTS has the ability to generate a workplan for the next session. This workplan lists all the beneficiaries from the area registered in the system by name as well as the scheduled service, such as antenatal check-ups and immunization, due in the next session.

The workplan can be printed and sent to ANMs, who in turn can share it with ASHAs for mobilization of beneficiaries on session days. It can also be sent through SMS to the registered mobiles of frontline workers. Workplans can be viewed based on geographical location (up to villages), health facilities (up to SCs) and health workers (ANMs and ASHAs). The system also has the ability to send SMS alerts for services due to the registered mobile phone numbers of the beneficiaries.

Beneficiary registration and output report generation is done online in the MCTS portal, while the updation of service delivery details can be done offline as well. The MCTS application is compatible with most web browsers and can be accessed through http://nrhm-mcts.nic.in. The MCTS portal captures the following data fields with respect to pregnant women and children:



The following demographic information is captured in MCTS:

Pregnant women: Location details (state, district, block, and address), identification details (name, date of birth, contact number, caste, and JSY beneficiary status), health provider details (name and contact details of ASHA, ANM, and linked facility for delivery), ANC details (LMP [Last Menstrual Period], ANC dates, TT [Tetanus Toxoid] vaccine date, IFA [Iron, and Folic Acid) supplement status, anaemia, complications), pregnancy outcome (place, delivery date, and JSY benefits) and PNC (post-natal care) details.

Infants: In addition to the location, identification, and health provider details the immunization details of a child are included in the portal. This includes the dates for BCG, OPV, DPT, HepB, and Measles vaccinations, and Vitamin A supplements.

In brief, the main features of the MCTS are:

- The MCTS employs mobile-based SMS technology to communicate with personnel involved in providing/managing healthcare service delivery at different levels. In addition, the SMS-based technology is also used to alert beneficiaries on services due or services missed.
- All health facilities from the state to the sub-center level are mapped in the portal. The portal also maps health workers (ASHA/ANM) to specific sub-centers.
- The complete details of all registered beneficiaries (pregnant women and infants) are captured in the MCTS. Once registered, each beneficiary is provided with a unique identification number for tracking.
- The application contains an Interactive Voice Response System (IVRS) facility for all health officials and coordinators to obtain information on the current status and progress of MCTS implementation (registration, services due, and services delivered) in their state/district/block/sub-center.
- The application has an in-built dashboard that allows health personnel to review the progress of MCTS implementation and service delivery performance.
- FAQs and a notice board within the application address the queries of health providers and coordinators, and also provide news, updates, and other notifications to all users.
- The MCTS includes analytical reports for reviewing the progress of implementation on a real-time basis.

1.2.3 Implementation of MCTS

Data entry started in January 2011 and the MCTS is currently functional in all 35 states and UTs with program coordination from the MMPC (Mission Mode Project Cell) and technical support from the National Informatics Centre. Orientation on the MCTS portal and its utilization to track mother and child-related services is provided to all program managers and FHWs.

The data entry person at each data entry unit accesses the portal through block-specific user IDs and passwords. All data entry units should be equipped with facilities such as computers, internet connection, and uninterrupted power supply.

1.2.3.1 Training on MCTS

The National Institute of Health and Family Welfare (NIHFW), in coordination with the MMPC and the State Institutes of Health and Family Welfare (SIHFW), conduct Training of Trainers (TOTs) for state and district-level NRHM officials (state program managers, data managers, district program managers, data managers and other data management officials, along with HMIS staff at the state level). These officials subsequently conduct training sessions in district offices for health workers at the block level (ANM, LHV [Lady Health Visitors], DEO [Data Entry Operators], DA and others). The training for health workers focuses solely on data formats, definition aspects, data entry, workplans, and reports in the MCTS portal.

The training sessions are aimed at improving data entry (data fields and timeliness), data quality (accuracy and completeness), and on training officials at different levels on how the portal helps them track and evaluate MCH services delivered to beneficiaries.

The main areas of MCTS training include:

- entering data into the portal,
- orienting personnel to key features of the MCTS and the critical issues pertaining to improving data quality and completeness, and
- training officials on how to use data from the MCTS to monitor and evaluate the RCH program and to use the MCTS dashboard and reports to improve healthcare service delivery.

1.2.3.2 Review Mechanisms for Troubleshooting

Monthly meetings are held at the national MCTS cell where general and state-specific problems that are encountered with the MCTS portal are discussed. Under the chairmanship of the Joint Secretary (Policy), there are structured periodic reviews of MCTS implementation using video conference facilities with all states. Participant states discuss the issues, problems, and gaps in implementation and also showcase best practices with MoHFW program officials and the NIC team. The MoHFW and the United Nations Development Program (UNDP) solution exchange also provides a platform for MCTS implementing units and other stakeholders to raise issues and solutions for effective implementation.

Furthermore, regular supervisory visits are made by officials, from the national level to the sub-center level, to solve field-level problems with regard to MCTS data utilization and entry. Monthly meetings are held at all levels (sub-center/block/district and state levels) where data are reviewed for completeness and timeliness and regular feedback is provided for strengthening MCTS implementation.

1.2.4 GoI Initiatives to Aid Effective Operationalization of MCTS

The following initiatives were taken by GoI, immediately upon introduction of the MCTS, to ensure its speedy operationalization:

- Central Project e-Mission Team constituted under the chairpersonship of Joint Secretary;
- Working Groups constituted on Innovative Technology Solutions, Service Identification, and Business Process Re-engineering;

- regular reviews at MoHFW at Minister, Secretary and Joint Secretary level;
- monthly DO (demi-official) letters are sent to District Collectors (in addition to senior state officials) updating them on the status of MCTS implementation in their district, and requesting them to take a personal interest in implementing the MCTS;
- the MoHFW established a call center for verification of data entered in the MCTS and another call center was established at NIHFW in New Delhi;
- monthly workplans are communicated to ANMs/ASHAs through SMS in English and Hindi, and SMS alerts are sent to beneficiaries regarding services due;
- SMSs with data related to mother and child registration status, and telephonic verification status, are sent daily to senior officials like State Health Secretary, MD NRHM, Regional Director, State Coordinators, District Collector, and District Program Manager;
- states/UTs were asked to constitute State and District e- Mission Teams to regularly monitor the progress of implementation; and
- states/UTs were asked to nominate the District and Block Program Manager (NRHM) as the Nodal Officer for MCTS at district and block levels and Working Groups on Technology Options and Business Processes Reengineering were constituted to assess field difficulties and provide solutions.

1.2.5 Current Status of MCTS Implementation

The current status of MCTS implementation is given below. The data is based on the May 2013 report of MCTS for 2012-2013.

Mothers

Table 1 Current status of pregnant women registration in MCTS portal

Registration	
No. of Mothers registered in MCTS portal	1,89,08,657 (MCTS), 2,63,78,031 (HMIS)
% of Mothers registered against estimation	63% (MCTS), 88% (HMIS)
% of Mothers registered with address	92.5%
% of Mothers registered with phone no.	97.42%
Health Provider Details	
% of Mothers registered with ANM name	95.22%
% of Mothers registered with ANM phone no.	93.86%
% of Mothers registered with ASHA name	90.62%
% of Mothers registered with ASHA phone no.	74.39%
Beneficiary Services Details (Coverage)	
ANC1	93.46% (MCTS), 88% (HMIS)
ANC2	44.77%
ANC3	28.81% (MCTS), 74% (HMIS)
ANC4	16.25%
All ANC	12.45%
TT1	65.69% (MCTS), 77% (HMIS)
TT2	40.97% (MCTS), 82% (HMIS)
IFA Tablet	41.3% (MCTS), 79% (HMIS)

Children

Table 2 Current status of children registration in MCTS portal

No. of Children registered in MCTS portal	1,60,97,358 (MCTS) 2,71,22,712 (HMIS)
% of Children registered against estimation	59%
No of Children registered without Date of Birth	421
% of Children registered with address	92.2%
% of Children registered with phone no.	97.01%
% of Children registered with parent information	82.20%
Health Provider Details	
% of Children registered with ANM name	94.67%
% of Children registered with ANM phone no.	93.8%
% of Children registered with ASHA with name	95.50%
% of Children registered with ASHA with phone no.	75.85%
Infant Immunization Details (coverage)	
BCG	72.40% (MCTS), 84% (HMIS)
DPT1	55.33% (MCTS), 78% (HMIS)
DPT3	35.08% (MCTS), 75% (HMIS)
HepB0	29.89% (MCTS), 20% (HMIS)
HepB3	24.34% (MCTS), 65% (HMIS)
Measles	12.5% (MCTS), 80% (HMIS)
Full Immunization	2.98% (MCTS), 78% (HMIS)
Immunization Drop out details	
BCG to Measles	83.10% (MCTS), 4.52% (HMIS)
OPV1 to OPV3	37.38% (MCTS), 3.22%(HMIS)
DPT1 to DPT3	37.52% (MCTS), 3% (HMIS)
Hep1 to Hep3	41.97% (MCTS), 8% (HMIS)

The numbers above indicate that the percentage of mothers and children registered in the MCTS portal is very low and the completeness of data fields (i.e. address, phone number, and healthcare provider's details) that are essential to tracking services delivered is poor.

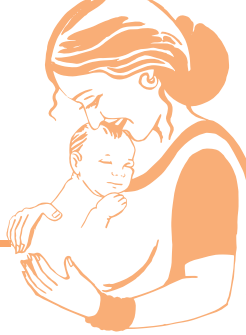
A comparison between the service delivery data of MCTS and HMIS, reveals that the HMIS figures are much higher than those of MCTS. This shows that service delivery reporting in MCTS is weak. Some summary points:

- The beneficiary (mothers and children) registration rate in the MCTS portal is low.
- Demographic and other beneficiary details, which are important for tracking, are missing or not entered.
- Approximately 50 percent of beneficiaries are tracked and provided services out of the total estimated population.
- Large dropout rates result in children not being tracked continuously until fully immunized, or until they have received all services.

There may be many reasons at the programmatic, operational, and technical levels for these gaps in the MCTS.

Chapter 2

Assessment



2.1 Need for This Assessment

As is clear from the MCTS implementation status detailed in the previous chapter, there are still many challenges and gaps. To understand the programmatic, operational, and technical challenges at all levels, the MCTS cell at MoHFW, and the Immunization Technical Support Unit (ITSU) have jointly conducted an assessment study in six districts across three states. It was decided that two would be Non-North East High Focus states and one a Non-High Focus state. The inclusion of the Non-High Focus state was deemed important primarily to gain some insight into the field processes of better performing states. The field survey portion of the assessment was carried out in partnership with UNICEF, WHO, mCHIP, the Government of Punjab, and the Government of Jharkhand.

The main objectives of this assessment are:

- to study and understand the MCTS processes at the point of service delivery – beneficiary identification, recording and reporting of beneficiary data, tracking of service delivery to beneficiaries, and workplan usage;
- to understand the bottlenecks in MCTS program implementation at all levels and begin discussions on possible solutions for better implementation;
- to understand the problems in the utilization of the MCTS to identify and track beneficiaries and improve MCH services;
- to understand how implementation and process challenges affect MCTS data quality; and
- to study the opportunities with the MCTS in strengthening primary healthcare service delivery to mothers and children.

2.2 Methodology

2.2.1 Study Design

This assessment utilized both quantitative data and qualitative responses in assessing the MCTS. The core approach of the two selected High Focus States was to conduct a DQA to identify data quality problems; the remaining field data was used to identify bottlenecks that lead to these data quality problems.

Evidence from the sole Non-High Focus State weighed heavily towards non-DQA field evidence, as the primary purpose of including this state was to understand its field processes. A light DQA test, with a small sample of beneficiaries from one district, was conducted to determine if a more in-depth study is necessary.

Quantitative Analysis

Data was collected by:

- conducting in-depth interviews (survey data) with various implementing stakeholders,
- conducting a data quality assessment , and
- filling out observation checklists during the field survey.

Open-ended Discussions and Qualitative Responses

Data was collected by:

- Open-ended discussions with policymakers.

2.2.2 Sampling

Study Area:

- National
  - MCTS cell, MoHFW; National Informatics Center; National Institute of Health and Family Welfare
- Three states (two districts in each state)
  - Karnataka (Kodagu and Mysore)
  - Rajasthan (Alwar and Bundi)
  - Uttar Pradesh (Barabanki and Hamirpur)
- Two blocks/Community Health Centres in each district
  - 12 blocks/CHC sites
- One/two sub-centers in each block/ CHC
  - 18 sites

Criteria for Selection of States and Districts

- Two states from Non-North East High Focus states, and one Non-High Focus state. The inclusion of the Non-High Focus state was deemed important primarily to gain some insight into the field processes of better performing states.
- One good performing district and one poor performing district were selected from each sampled state, except the sole Non-High Focus state. With limited resources and time, this selection pattern was chosen with the hope of generating a picture of MCTS performance that is as representative as possible for a particular state.

For the selection of states, the following sets of indicators were considered:

- registration percentage of infants, April 2012 - July 2012;
- percentage of health sub-facilities reporting in MCTS, in July 2012; and
- BCG vaccine coverage, April 2012 - July 2012.

Data for the above indicators was collected from the MCTS portal.

Based on the above indicators, the following states were suggested to MoHFW:

Table 3 Short-listed states for MCTS Assessment

Type of State	Probable State	Registration for infant, July 2012 (In percentage)	Reporting by Health Sub-facility - July 2012 (In percentage)	Services provided for infant against due - BCG - July 2012 (In percentage)	Selection Criterion Options
	India	15.60	43.62		
Non-NE High Focus	Rajasthan	41.71	76	4.84	Better registration and good reporting, but poor tracking.
	Odisha	26.93	77	20.27	Better registration, good reporting and better tracking.
	Uttar Pradesh	5.13	29	14.71	Low registration, low reporting and poor tracking.
	Jharkhand	7.47	35	7.12	Low registration, low reporting and poor tracking.
Non-High Focus	Tamil Nadu	30.41	90	63.06	Better registration, good reporting and good tracking.
	Punjab	25.35	88	18.37	Better registration, good reporting but poor tracking.
	Karnataka	6.16	53	6.79	Low registration, low reporting and low tracking. Innovation in SMS technology.
	Gujarat	16.21	59	17.04	Low registration, low reporting, low coverage. Base of MCTS Software.

The following three states were selected after consultation with MoHFW:

Non-North East High Focus: Rajasthan and Uttar Pradesh

Non-High Focus: Karnataka

For the selection of districts, the following set of indicators were considered:

- % of health facilities not reporting mother's information in portal, in July 2012;
- % of pregnant women who have received second ANC services, in April 2012; and
- % of children born in April 2012 who have received BCG vaccination, in July 2012.

Data was collected from the MCTS portal for the three indicators, and the following districts were suggested to MOHFW:

Table 4 Shortlisted districts for MCTS Assessment

State	District	% of health facility not reporting mother's information	% of pregnant women received second ANC - April 2012	% of children born in April 12 received BCG vaccine	Criteria match
Rajasthan	Bhilwara	4.44	45	43	Good Performing
	Sawai Madhopur	9.68	49	50	Good Performing
	Bikaner	20.97	4	37	Poor Performing
	Jodhpur	25.45	12	26	Poor Performing
	Alwar	8.65	7	30	Poor Performing
	Bundi	5.71	22	73	Good Performing
Uttar Pradesh	Maharaj Ganj	0.00	10.2	43.4	Good Performing
	Mahoba	44.44	8.8	65.1	Poor Performing
	Shahjahanpur	57.89	32.2	48.8	Poor Performing
	Barabanki	68.25	17.4	37.7	Poor Performing
	Hamirpur	30.77	27.3	54.6	Good Performing
Karnataka	Chikmagalur	13.76	13.8	84.1	Good Performing
	Davanagere	3.25	10.1	68.0	Good Performing
	Kodagu	9.76	15.3	86.8	Good Performing
	Koppal	6.67	13.0	82.3	Good Performing
	Mysore	11.04	9.8	58.2	Good Performing

The MoHFW, in consultation with state MCTS officials, suggested the following districts:

Rajasthan – Alwar (good performance) and Bundi (poor performance)

Uttar Pradesh – Barabanki (good performance) and Hamirpur (poor performance)

Karnataka – Mysore and Kodagu (good performance)

2.2.3 Tools and Methods

Table 5 Tools & Methods

No	Methods	Tools
1	Qualitative Responses	Open Discussion
2	Qualitative Responses and Quantitative	In-depth Interview
3	Quantitative	Observation Checklist
4	Quantitative	Data Quality Assessment

2.2.4 Key Informants and Areas of Assessment

Table 6 Key informants/Areas of Assessment

Level	Tools	Key Informants/Area
State	Discussion	• Mission Director • State Immunization Officer (SIO) • State Program Manager • MIS/M&E Officer
	Observation Checklist	HR, Capacity Building and Infrastructure

Level	Tools	Key Informants/Area
District	Discussion	• District Collector • Chief Medical Officer (CMO)
	In-depth Interview	• District Immunization Officer • MIC/M&E Officer
	Observation Checklist	• HR, Capacity Building and Infrastructure
Block	In-depth Interview	• Block Medical Officer • Block Program Manager • Data Entry Operator
	Observation Checklist	• Vaccine Distribution Practices • HR, Capacity Building and Infrastructure
	Data Quality Analysis	• Completeness, Accuracy and Timeliness
Health Facility	In-depth Interview	• ANM • ASHA
	Observation Checklist	• Immunization Session/VHND (Village Health Nutrition Day)
	Data Quality Analysis	• Completeness and Accuracy

Key Informants - Proposed and Assesed

Open Discussion

Table 7 Key Informants – Proposed and Assessed for open discussion

Key Informants	States					
	Karnataka		Uttar Pradesh		Rajasthan	
	Proposed Sample	Actual Assessment	Proposed Sample	Actual Assessment	Proposed Sample	Actual Assessment
Mission Director	1	1	1	1	1	1
SEPIO	1	1	1	1	1	1
State MIS Official	1	1	1	1	1	1
District Collector	2	2	2	2	2	2
CMO	2	2	2	2	2	1
Remark	• District collector of one Rajasthan district of was not available due to prior commitment. • Position of CMO in one Rajasthan district was vacant.					

In-Depth Interview

Table 8 Key Informants – Proposed and Assessed for In-Depth Interview

Key Informants	States					
	Karnataka		Uttar Pradesh		Rajasthan	
	Proposed Sample	Actual Assessment	Proposed Sample	Actual Assessment	Proposed Sample	Actual Assessment
DIO	2	2	2	2	2	1
District MIS Official	2	2	2	2	2	2
Medical Officer in Charge (MOIC)	4	4	4	4	4	4
Block Program Manager (BPM)	4	2	4	4	4	2

Key Informants	States					
	Karnataka		Uttar Pradesh		Rajasthan	
	Proposed Sample	Actual Assessment	Proposed Sample	Actual Assessment	Proposed Sample	Actual Assessment
DEO	4	4	4	4	4	4
ANM	8	4	8	8	8	7
ASHA	8	4	8	8	8	7
Remark	• Position of DIO in one Rajasthan district was vacant. • Positions of two BPMs from Karnataka and two BPMs from Rajasthan were vacant. • One ANM and one ASHA from Rajasthan could not be interviewed as the VHND session was scheduled in only one health facility of the assessed block on a particular day. • Only One ANM and one ASHA from Karnataka were interviewed at each assessed block as VHND session was not conducted on particular day.					

Observation Checklist

Table 9 Key Informants – Proposed and Assessed for Observation Checklist

Key Informants	States					
	Karnataka		Uttar Pradesh		Rajasthan	
	Proposed Sample	Actual Assessment	Proposed Sample	Actual Assessment	Proposed Sample	Actual Assessment
State	1	1	1	1	1	1
District	2	2	2	2	2	2
Block	4	4	4	4	4	4
Block (Vaccine Distribution)	4	0	4	3	4	4
Health Facility (VHND)	8	0	8	8	8	8
Remark	• Vaccine distribution of one of Uttar Pradesh Block could not be observed as the vaccine was distributed very early in the morning when observers were not present. • Vaccine distribution and VHND session in Karnataka were not observed as VHND was not happening on particular day.					

2.2.5 Data Quality Assessment

A Data Quality Assessment was conducted to gauge the completeness and accuracy of MCTS portal data. Beneficiary data was collected and analyzed from three sources: MCTS/MCH card, ANM/MCTS/MCH register, and the MCTS portal. The methodology and sampling is detailed in the DQA findings section.

A preliminary DQA test, with a small sample of beneficiaries from one district, was conducted in Karnataka to investigate the need for more thorough assessments in better performing states.

2.2.6 Study Variables

Table 10 Components/Areas to be covered during assessment

Component	Area
Human Resources and Infrastructure	• HR workload, and general educational and training levels • MCTS training status and needs • Data entry arrangements and needs • IT Setup
Beneficiary Estimation and Identification	• Beneficiary estimation • Beneficiary identification • Recording tools • Frequency of data transfer • Supervision
Service Delivery Tools and Utilization	• Service delivery data tools • Frequency of data transfer • ANM-DEO coordination for data entry • Awareness, usage, and perceived usefulness of MCTS workplans • Messages and calls generated from MCTS portal
Monitoring, Supervision, and Feedback	• Monitoring and supervision • Feedback on MCTS related activities • MCTS application
Budget and Expenditure	• Separate budget and budget sufficiency • Budget timeliness and scheduling

2.2.7 Outcome of Assessment

The outcome of the assessment is presented in the following format:

- Assessment Findings
  - **Overarching systemic areas:** Field data on HR and infrastructure, and Budget and Expenditure are presented for all surveyed states.
  - **Field processes:** Field data on Beneficiary Estimation and Identification; Service Delivery Tools and Utilization; and Monitoring, Supervision, and Feedback are presented for all surveyed states.

No record: The initials "NR" are used in table cells where no responses were received, or where responses were not recorded.

Absent staff: Staff found not in attendance during the date of survey are represented by Orange cells.

Vacant positions: Vacant staff positions during the date of survey are represented by grey cells.

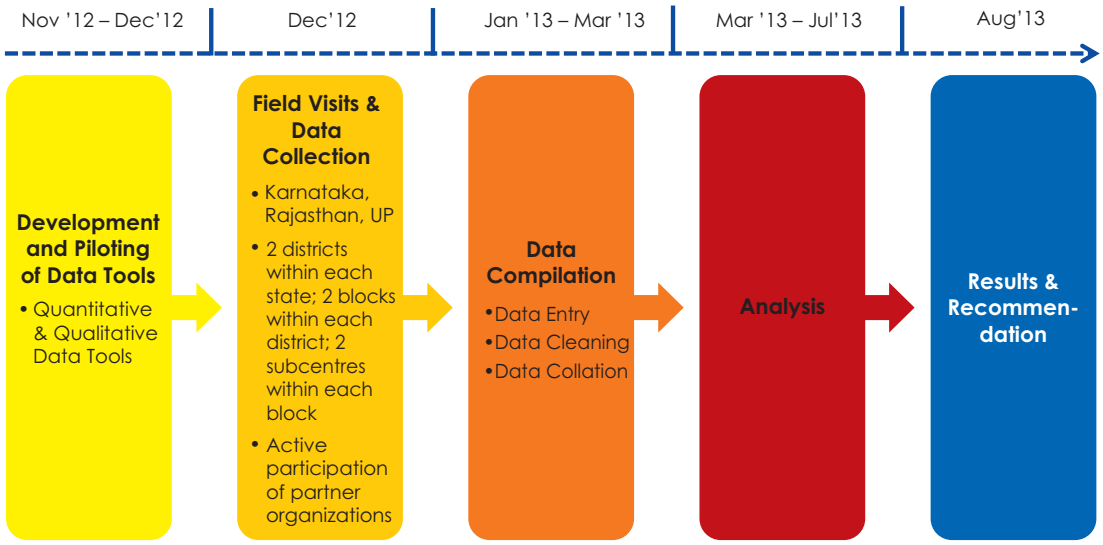
- Data Quality Assessment (DQA)
  - **Rajasthan and UP:** Results on the completeness and accuracy of data found in the MCTS portal are presented.

- Discussion
  - **Rajasthan and UP:** Data quality gaps from the DQA section are highlighted and their root causes are identified using field data.
  - **Karnataka:** The performance of Karnataka's field processes, and monitoring and supervision practices are highlighted. The results of a preliminary DQA test are discussed.
- Recommendations
  - Based on the highlighted weaknesses and best practices, in the previous sections, recommendations for improving MCTS performance are proposed.

2.2.8 Constitution of Assessment Team

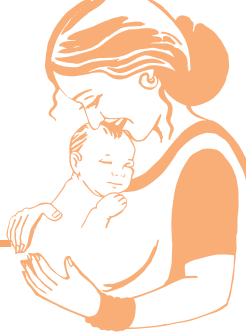
The investigators for this assessment were officials from MOHFW, ITSU, UNICEF, and partner agencies. The list of investigators is in Appendix C.

2.2.9 MCTS Assessment Timeline



Chapter 3

Field Survey Findings



3.1 Overarching Systemic Areas

3.1.1 Human Resources (HR) & Infrastructure

3.1.1.1 Introduction

In assessing the Human Resources (HR) and Infrastructure situation and needs, this study addresses four areas; a) HR workload & general educational and training levels, b) MCTS training status and needs, c) Data entry arrangements and needs, and d) IT setup.

a) HR workload, and general educational and training levels

At the district level, DIOs and MIS officers were questioned on the scope of their professional responsibilities. MOICs and DEOs at the block level were asked similar questions, with the DEOs also queried on their educational qualifications. ASHAs at the sub-block level provided information on their education status, and also on training received to carry out their village-level maternal and child health (MCH) duties. Questions 101 to 103 for DIOs and MIS officials, 101 to 104 for MoIC officials, questions 101 to 103 for DEOs, and questions 101 to 103 for ASHA workers can be referred from Appendix A.2.

b) MCTS training status and needs

The following officers were asked if they've received any training on MCTS and if so, when: DIOs and MIS officers at the district level, MOICs/BPMs at the block level, and ANMs at the block and sub-block level. DEOs, at the block level, were additionally asked if they found the training useful, while ANMs (block level) and MIS officers (district level) were also queried on their training needs for MCTS. Questions 104 and 105 for DIOs, and MIS officers, questions 106 to 109 for MOICs, questions 105 to 107 for DEOs, and questions 202 and 203 for ANMs can be referred from Appendix A.2.

c) Data entry arrangements and needs

The block level is the primary point at which raw field-level beneficiary and service delivery data is entered into the MCTS system. MOICs were interviewed to assess the data entry management process at the block level. Questions addressed to each MOIC identified the individual and party that handles data entry, the contractual specifics for data entry arrangements, the MOIC's satisfaction level with these arrangements, and the smoothness of the contract renewal process for individuals as well the external agency. Questions 110 to 118 for MoICs can be referred from appendix A.2.

d) IT Setup

In order to assess the IT infrastructure that complements the MCTS in each state, this study used an observation checklist during field visits to record if key infrastructure, utilities, and consumables were available at the state, district, and block levels. Questions 301-317 can be referred from state, and district level checklist from A.3. Questions 401-417 can be referred from block level checklist from appendix A.3.

3.1.1.2 Karnataka

a) HR workload, and general educational and training levels

Quantitative Data

District

Table 11 Workload- district level officials

	District 1	District 2
DIO	1 additional charge	2 additional charges
MIS	All NRHM components	All NRHM components

Both interviewed DIOs in Karnataka have additional, non-immunization-related professional responsibilities. One DIO has one additional charge, while the other has two.

Two MIS officers were interviewed in Karnataka – one in each district. Both of them had job profiles which encompassed all NRHM MIS components.

Block

Table 12 Workload-block level officials

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MOIC	Additional Charge	No additional charge	No additional charge	No additional charge
DEO	MCTS	MCTS + HMIS entry	MCTS + HMIS Entry	MCTS + Admin Work
Education				
DEO	Other- not specified	Other - Diploma in Medical Lab Technology	Graduate	Graduate

Out of four MOICs interviewed in Karnataka, one is a medical officer with the additional charge of being a MOIC. Three out of four DEO responses are available on the question on workload, with two indicating HMIS entry, and one indicating general administrative work as being under their purview, in addition to MCTS data entry responsibilities. Four DEO responses were received regarding educational levels; two DEOs are educated up to the graduate level, one has a diploma in medical lab technology, and one indicated "other" without specifying.

Sub-block

Of the four ASHAs interviewed at the sub-block level, all indicated having more than 10 years of education. ASHA answers regarding training on general MCH duties are as follows:

Table 13 ASHA Education (no of years)

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
ASHA	ASHA 1	ASHA 2	ASHA 3	ASHA 4
Years	>10	>10	>10	>10

Table 14 ASHA Training

District	Block	ASHA	Creating Awareness for MCH Services	Identification and tracking of beneficiaries (Household survey)	Mobilize the beneficiaries towards utilization of immunization/ VHND services	Act as depot for essential provision i.e. ORS packet, IFA tablet, Chiloquin, DDK	Other
District 1	Block 1	ASHA 1	NR	NR	NR	NR	Received one month of training at the time of joining and 10 days training in April on HBMC training
	Block 2	ASHA 2	√	√	√	√	
District 2	Block 3	ASHA 3	√	√	√	√	
	Block 4	ASHA 4	√	√	√	√	

Open-ended questions and survey investigator notes

Table 15 HR Work-load - staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	Need to appoint more ANMs in the district.		Human resource shortage in the district.	
DEO	Data entry work-load is nominal.	Data entry work-load is minimum.	NR	DEO has limited data entry work per month.

Table 16 HR Work-load - survey investigator notes

State level issues	Shortage of human resources at the state MIS cell.
State level issues	• Shortage of human resources at the state MIS cell.
District level issues	• Data entry in the MCTS portal in district hospitals is low due to constraints on HR. Since most women avail of the "108 ambulance service" and prefer to deliver at the Taluka or district hospitals, a large population is being missed.
District level issues	• RCHO (Reproductive Child Health Officer) is given additional charge of DIO.
District level issues	• District 2 faces a shortage of ANMs. Of the 557 sanctioned posts 93 are vacant. In urban areas, 1 ANM caters to a population of 50,000-70,000 and hence MCTS entry remains a challenge.
Sub-block/ block level issues	• Need to appoint data entry operators at PHC. • Need to enhance remuneration for DEO from Rs. 300 per month to Rs. 1000 per month.
District level issues	• In urban areas, 1 ANM caters to a population of 50,000-70,000 and hence MCTS entry remains a challenge.
District level issues	• HR staffing in general and especially at public institutions (district hospitals, FRU's) where deliveries happen needs to improve MCTS.

b) MCTS training status and needs

Quantitative Data

Table 17 MCTS Training Status

		District 1		District 2	
		Block 1	Block 2	Block 3	Block 4
Did you receive any training on MCTS?	DIO	No		Yes	
	MIS Official	Yes		No	
	MOIC	Yes	Yes	Yes	No
	BPM	Yes			Yes
	DEO	Yes (found it useful)	Yes (did not find it useful)	No	Yes (found it useful)
	ANM	Yes	Yes	Yes	Yes
Do you need additional training on any specific area to build capacity in MCTS implementation?	ANM	No	Yes	Yes	Yes
If yes, which areas?	ANM	NA	MCTS Data Entry	NR	MCTS Data Entry, Other-updating services on phone
What are your training needs on MCTS?	MIS Official	Data Analysis training in MCTS		NR	

District

One out of two DIOs received training on MCTS, which was in 2009. Similarly, one out of the two interviewed MIS officers attended MCTS training, which was reportedly conducted in December 2012. When queried on their training needs, the single trained MIS officer gave a response indicating MCTS Data Analysis

Block

All blocks in Karnataka have a supervisory officer (MOIC or BPM) trained on MCTS. One MOIC indicated not having received any MCTS training, but the BPM for that same block shared that he had received MCTS training.

Three out of four interviewed DEOs have received MCTS training. Out of the three trained DEOs, two found the training useful.

Block & Sub-block

All interviewed ANMs in Karnataka have received MCTS training, with the last reported training conducted from between 1 month to 14 months before the assessment date. Three out of four ANMs indicated a need for greater training, and two were able to list specific areas for greater capacity building. These areas are MCTS data entry, and updating service delivery details on mobile phone.

Open-ended questions and survey investigator notes

Table 18 MCTS training - Staff responses

	District 1	District 2
DIO	NR	Need MCTS training for all the functionaries working in public health system.
MIS	NR	NR

Table 19 MCTS training - Survey Investigator notes

State level issues	The Joint Director (JD), Demographics and his department is responsible for implementing, innovating, training and following up on MCTS within the state. The JD and his department are very pro-active, and organize dedicated training workshops for health workers at every level.
District level issues	Training sessions which emphasize training of data entry personnel and ANMs are being planned.
District level issues	Even though MCTS training has been provided to ANM's and Talukha level officials, DIO's felt that they needed to be trained better on the portal.

c) Data entry arrangements and needs

Quantitative Data

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Who does MCTS data entry?	Outsourced agency/person	By PHC itself	By PHC itself	By PHC itself
If outsourced, what are the terms of the contract?	Yearly Contract	NA	NA	NA
Who finalizes the contract?	District	NA	NA	NA
Are you satisfied with the agency's work?	Yes	NA	NA	NA
If no, why not?	NA	NA	NA	NA
If data entry is done by PHC itself, then who is responsible for that?	NA	Other PHC Staff with additional charge – Lab Technician	Other PHC Staff with additional charge	Other PHC Staff with additional charge
If Dedicated DEO, then what type of position is this?	NA	NA	NA	NA
Tenure of NRHM contracts for dedicated DEO	NA	NA	NA	NA

Out of four surveyed blocks in Karnataka, one outsourced data entry to an external agency. This outsourcing contract is finalized at the district level, and the relevant MOIC express satisfaction with the agency's work. The remaining three blocks utilized regular PHC staff with the additional charge of data entry. One out of these three specified that a lab technician has been assigned data entry responsibilities. None of these three blocks used dedicated DEOs.

Open-ended questions and survey investigator notes

Table 21 Data entry arrangement and needs – Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MIS	Need to appoint computer operator at each PHC.		DEO needs to be appointed in all Taluka hospitals exclusively for MCTS purposes.	
MOIC	NR	NR	NR	Need to appoint a dedicated staff if possible for MCTS.

d) IT Setup

Quantitative Data

Table 22 IT Setup

Question	State	Districts		Blocks			
		1	2	1	2	3	4
IT Room							
Separate IT Room in PHC?	NA	NA	NA	NR	Yes	No	Yes
When computers procured	NA	NA	NA	NR	NR	2011	July 2010
Printer							
Dedicated printer?	No	Yes	No	NR	Yes	Yes	Yes
Working?	NA	NR	NA	NR	NR	NR	NR
Internet Connection							
Internet Type	BB*	BB*	BB*	NR	BB*	BB*	BB*
Hours disconnected during day	2	1	1-2	NR	0-24	3	NR
Alternate connection?	Yes	No	No	NR	Yes	No	No
Power Supply							
Regular Power Supply?	Yes	No	Yes	NR	No	No	No
Downtime?	NA	2 hrs	NA	NR	NR	3 hrs; Frequent	6-8 Hrs
Consumables							
MCTS/MCH register	NA	NA	NA	NR	Yes	NR	NR
MCTS/MCH format	NA	NA	NA	NR	NR	NR	NR
Printer cartridge	Yes	Yes	Yes	NR	No	No	Yes
Printer papers	Yes	Yes	Yes	NR	No	Yes	Yes
**BB=Broadband*							

State

Karnataka does not have dedicated MCTS printers at the state HQ. The state level reported regular power supply, and a broadband internet connection with network interruptions of around 2 hours a day. There is no reported shortage of consumables.

District

One district has a dedicated MCTS printer but there is no indication of its functionality.

Both districts have broadband internet connections with downtimes of between 1 to 2 hours. One district reported irregular power supply, with power cuts of 2 hours a day. As with the state level, there is no reported shortage of consumables.

Block

Data is available from three out of four blocks in Karnataka. Two out of three blocks have dedicated MCTS IT rooms, and all three have dedicated MCTS printers but none were able to comment on their functionality.

All three blocks have broadband internet connection, with some evidence of inconsistent connectivity. Power supply is reported to be irregular in all three blocks. Two blocks provided more details on this; one reported 6 to 8 hours of power cuts in a day, while another simply stated 3 hours and "frequent" when queried on the same subject.

Two blocks reported a shortage of printer cartridges, and one reported a shortage of printer paper. Excluding the one block without any data on this section, data is unavailable for two blocks on MCTS/MCH register availability, and three blocks for MCTS/MCH format availability.

Open ended questions and survey investigator questions

Table 23 IT Setup – Staff Responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	NR		Internet connection is reliable.	

Table 24 IT Setup – Survey investigator notes

State level issues	No data entry happens at the district/taluka level. Data entry happens at the PHC level where there are frequent power outages with no back-up power options.

3.1.1.3 Rajasthan

a) HR workload, and general educational and training levels

Quantitative Data

District

Table 25 Workload-District level officials

	District 1	District 2
DIO	1 additional charge	
MIS	All NRHM components	All NRHM components

The DIO in district 1 indicated having one additional charge added to his immunization duties.

The two MIS officers interviewed in Rajasthan indicated that all NRHM MIS components fall within their purview.

Block

Table 26 Workload-Block level officials

	District 1		District 2	
	Block 1	**Block 2**	**Block 3**	**Block 4**
MOIC	No additional charge	No additional charge	Additional Charge	No additional charge
DEO	MCTS + Other (Health Supervisor with additional DEO responsibilities)	MCTS + Admin Work	MCTS + Other MIS + Admin Work	MCTS + HMIS entry + Admin Work
Education				
DEO	Post graduate	Graduate	Post Graduate + Computer related diploma/degree	Graduate + Other (PGDCA/ PGDRD)

One MOIC out of the four interviewed in Rajasthan is a medical officer with the additional charge of being a Medical Officer in Charge. Two out of four DEOs reported having HMIS, or other MIS, responsibilities in addition to their MCTS work. These two also reported having general administrative work. One DEO reported being a health supervisor with data entry responsibilities at the PHC level. The remaining one DEO reported having admin work in addition to MCTS responsibilities.

Two DEOs have graduate degree qualifications, of which one has also acquired additional qualifications such as Postgraduate Diploma in Computer Application (PGDCA) and Postgraduate Diploma in Rural Development (PGDRD). Two DEOs have post-graduate degrees, one of which has an additional computer-related diploma/degree.

Sub-block

Seven ASHAs were interviewed in Rajasthan, of which four reported more than 10 years of education, and the remaining three reported less than 10 years.

The reported education, and training status of ASHAs is as follows:

Table 27 ASHA Education (no of years)

	District 1				District 2			
	Block 1		**Block 2**		**Block 3**		**Block 4**	
ASHA	ASHA 1	ASHA 2	ASHA 3	ASHA 4	ASHA 5	ASHA 6	ASHA 7	ASHA 8
	>10		<10	<10	>10	>10	<10	>10

Table 28 ASHA Training

District	**ASHA**	**Creating Awareness for MCH Services**	**Identification and tracking of beneficiaries (Household survey)**	**Mobilize the beneficiaries towards utilization of immunization/ VHND services**	**Act as depot for essential provision i.e. ORS packet, IFA tablet, choloquine, DDK**
District 1	ASHA 1	√	√	√	√
	ASHA 2				
	ASHA 3	√	√	√	
	ASHA 4	√	√	√	

District	ASHA	Creating Awareness for MCH Services	Identification and tracking of beneficiaries (Household survey)	Mobilize the beneficiaries towards utilization of immunization/ VHND services	Act as depot for essential provision i.e. ORS packet, IFA tablet, choloquine, DDK
District 2	ASHA 5	√			√
	ASHA 6	√	√	√	√
	ASHA 7	√	√		
	ASHA 8	√	√	√	√

Open ended questions and survey investigator notes

Table 29 HR work load –Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	Shortage of human resources			
MoIC	Need to appoint dedicated DEO at PHC.	Data entry for PCTS does not take place in urban area. Thus need to appoint more staff for starting PCTS data entry in urban area.	NR	NR

b) MCTS training status and needs

Quantitative Data

Table 30 MCTS Training status

		District 1				District 2			
		Block 1		Block 2		Block 3		Block 4	
Did you receive any training on MCTS?	DIO	No				Yes			
	MIS	No				Yes			
	MOIC	Yes		No		No		NR	
	BPM	Yes		Yes					
	DEO (useful?)	Yes (found it useful)		No		No		Yes (found it useful)	
	ANM	No		No	No	Yes	Yes	Yes	Yes
Do you need additional training on any specific area to build capacity in MCTS implementation?	ANM	Yes		Yes	Yes	Yes	Yes	NR	No
If yes, which areas?	ANM	Computer generated workplan		Overall training	Recording Tool	Recording Tool	Refresher training	NR	NA
What are your training needs on MCTS?	MIS	Data validation, update on clinical service , when the services are due				NR			

District

Out of two MIS officers, one has received MCTS training but did not indicate when. The untrained MIS officer indicated his perceived training needs as "data validation", "update on clinical service", and "when the services are due". The single interviewed DIO in district 1 has not received any training on MCTS.

Block

At the block level, three out of four MOICs provided responses to the question on MCTS training status, with two indicating "No", and one indicating "Yes". The two available BPMs in district 1 have received MCTS.

A total of four DEOs were interviewed in Rajasthan, two of whom indicated having received MCTS training and found it useful.

Block & Sub-block

Out of seven ANMs, three have not received any training on MCTS, with all of them on duty in one district. The four remaining ANMs unanimously answered that they received MCTS training two years ago.

Five ANMs indicated "Yes" for needing additional training on MCTS. One ANM expressed no need for additional training, and there was one non-response. The breakdown of training needs as expressed by the "Yes" ANMs are as follows: two for recording tools, one for refresher training, one for computer-generated workplan, and one for overall training.

Open ended questions and survey investigator notes

Table 31 PCTS Training – Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	Training for DEOs was organized at district level.			
MIS	Field staff should be trained for analyzing the MCTS data.		NR	
MOIC	Health supervisors are trained as DEOs. They are not familiar with computers. One day training doesn't teach the basics of computer & PCTS. Regular orientation is required. ANMs need PCTS orientation.	Data entry for PCTS does not take place in urban area. Thus need to appoint more staff for starting PCTS data entry in urban area.	NR	NR
DEO	Health Supervisor is looking after the work of data entry operator from last 3 months. He is not fully aware of PCTS functions. He received one day training. According to him, one day training is not sufficient to understand the concept of PCTS, thus he is facing difficulty in data entry.	NR	NR	NR

Table 32 PCTS training - Survey investigator notes

State level issues	There is no structured mechanism for PCTS training at district and block levels.

c) Data entry arrangements and needs

Quantitative Data

Table 33 Data management arrangements and needs (answers from MOICs)

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Who does MCTS data entry?	PHC itself	PHC itself	PHC itself	PHC itself
If outsourced, what are the terms of the contract?	NA	NA	NA	NA
Who finalizes the contract?	NA	NA	NA	NA
Are you satisfied with the agency's work?	NA	NA	NA	NA
If no, why not?	NA	NA	NA	NA
If data entry is done by PHC itself, then who is responsible for that?	Dedicated Data Entry Operator	Dedicated Data Entry Operator	Other PHC Staff with additional charge	Other – Accountant & Operator, LHV
If Dedicated DEO, then what type of position is this?	Contractual under NRHM	Contractual under NRHM	NA	NA
Tenure of NRHM contracts for dedicated DEO	Yearly	Yearly	NA	NA

All four MOICs indicated that data entry responsibilities at the block level are handled by PHCs themselves. Both MOICs in district 1 use dedicated DEOs, one MOIC in district 2 uses regular PHC staff with the additional charge of data management, while the remaining MOIC in district 2 indicated utilizing the accountant, operator and LHV for data entry. All dedicated DEOs are in contractual positions under NRHM which are renewed on a yearly basis. One of the blocks utilizing a dedicated DEO reported a contract renewal process that included a 6 month break in the last 2 years, during which the same DEO continued working without a contract.

Open ended questions and survey investigator responses

Table 34 Data entry arrangements and needs – Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	Data quality varies in each block. ANMs don't submit data pertaining to identification and service delivery updation for PCTS on time.			
MIS	Quality of data needs to be improved.		MOIC at the block needs to ensure that data is entered in MCTS portal on time. The block (program) officer should keep a tab of it There should be provision in the data entry module for alerting DEO through SMS or buzzer if incorrect entry is made in the portal.	
MoIC	NR	Data entry in the MCTS portal should be completed on time.	NR	NR

Table 35 Data entry arrangements and needs –Survey investigator notes

State level issues	No position approved for data entry at PHC or CHC level. Data entry is done by other staff i.e. supervisor, ASHA supervisor, accountant, ANM, etc. Heavy work load due to additional charge of data entry. The DEO does data entry for many types of software i.e. PCTS, Lok suraksha guaranty etc.
State level issues	In Rajasthan, dedicated DEOs for MCTS data entry are not appointed. Existing staff members are given additional responsibility of data entry.
State level issues	Data entry for MCTS does not take place in urban areas due to shortage of human resources. No data entry for beneficiaries receiving services from private practitioners PCTS.
State level issues	Rights of error identification or rectification are only at the state level. State sends a letter to districts regarding identified errors in MCTS data. Districts officials communicate the same at block level and then identified mistakes are rectified at PHC level.

d) IT Setup

Quantitative Data

Table 36 IT Setup

Question	State	Districts		Blocks			
		1	2	1	2	3	4
IT Room							
Separate IT Room in PHC?	NA	NA	NA	Yes	No	Yes	No
When Computers Procured?	NA	NA	NA	Dec-12	2011	NR	2009
Printer							
Dedicated Printer?	Yes	Yes	Yes	No	Yes	Yes	Yes
Working?	Yes	Yes	Yes	NA	Yes	NR	Yes
Internet Connection							
Internet Type	BB*	BB*	BB*	BB* - Data Card	BB*	BB*	NR
Hours disconnected during day	No	NR	NR	5-6	15	NR	10
Alternate connection?	Yes	Yes	Yes	No	No	No	No
Power Supply							
Regular Power Supply?	Yes	Yes	Yes	No	No	Yes	Yes
Downtime (hrs)?	NA	NA	NA	5-6 hrs	2-3 hrs; frequent	NA	NA
Consumables							
MCTS/MCH register	NA	NA	NA	Yes	Yes	Yes	Yes
MCTS/MCH format	NA	NA	NA	Yes	Yes	Yes	Yes
Printer cartridge	Yes	Yes	Yes	No	Yes	Yes	Yes
Printer papers	Yes	Yes	Yes	No	Yes	Yes	Yes
**BB=Broadband*							

State

The state level has a dedicated MCTS printer which is functional, and reliable broadband internet and power supply. No shortage in the supply of consumables for MCTS operations was reported in the state MCTS cell.

District

Rajasthan's assessed districts have functional dedicated MCTS printers, and broadband internet connections. Both districts did not indicate the approximate number of hours for which their internet connections are disconnected, and both indicated the availability of alternate connections. Both also enjoy reliable power supply, and do not suffer from shortage of consumables.

Block

Two out of four facilities have dedicated MCTS IT rooms, while the remaining two do not. The dates provided by three facilities indicate that computers were procured from between 2009 to 2012. Three facilities have dedicated MCTS printers, with two confirming functionality.

Three facilities have broadband internet connections, with one non-response. The reported hours of internet connection disruptions range from 5 to 15 hours. None of the four facilities have alternate internet connections. Two facilities reported irregular power supply, with one reporting 5-6 hours of power disruption, and another reporting frequent 2-3 hour power cuts.

One block reported shortages for printer cartridges and printer paper.

Open ended questions and survey investigator notes

Table 37 IT setup – Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MOIC	Electricity problem.	The hindrances in effective implementation of MCTS involve internet connectivity problems, electricity availability problems.	NR	Irregular internet connection is one of the constraints in MCTS implementation.
DEO	Problems of irregular electricity in the area.	NR	NR	NR

3.1.1.4 Uttar Pradesh

a) HR workload, and general educational and training levels

Quantitative Data

District

Table 38 Workload-District level officials

	District 1	District 2
DIO	Additional charge, with no details	1 additional charge
MIS	All NRHM components	All NRHM components

Out of two DIOs in UP, both reported having additional charges, with one specifying one additional charge. MIS officers in both districts reported that their scope of work covers all NRHM components.

Block

Table 39 Workload-Block level officials

	District 1		District 2	
	Block 1	**Block 2**	**Block 3**	**Block 4**
MOIC	No additional charge	No additional charge	No additional charge	Additional charge
DEO	MCTS + HMIS Entry + Admin Work	MCTS + HMIS Entry + Admin Work	MCTS + Other MIS + Admin Work	MCTS + Admin Work
Education				
DEO	Post-Graduate + Computer related diploma or degree	Graduate + Computer related diploma or degree + Other (Tally, Industrial Training Institute)	Computer related diploma or degree	Graduate

Out of four interviewed MOICs in UP, one reported being a medical officer with the additional charge of a MOIC. All four interviewed DEOs report having, in addition to MCTS, general administrative work as part of their responsibilities, and three reported carrying out MIS activity other than MCTS (such as HMIS).

Two DEOs are graduates, one of whom additionally has a computer-related diploma/degree and other qualifications such as Tally (accounting software) and training from the Industrial Training Institute. The sole DEO with post-graduate qualifications also has a computer-related diploma/degree, and the remaining DEO has a computer-related diploma/degree.

Sub-block

Out of eight ASHAs interviewed in UP, six have less than 10 years of education, and two have more than 10 years of education.

The training status of each ASHA is as follows:

Table 40 ASHA Education (no of years)

	District 1				District 2			
	Block 1		**Block 2**		**Block 3**		**Block 4**	
ASHA	ASHA 1		ASHA 2		ASHA 3		ASHA 4	
	<10	>10	<10	>10	<10	<10	<10	<10

Table 41 ASHA Training

District	**ASHA**	**Creating Awareness for MCH Services**	**Identification and tracking of beneficiaries (Household survey)**	**Mobilize the beneficiaries towards utilization of immunization/ VHND services**	**Act as depot for essential provision i.e. ORS packet, IFA tablet, choloquine, DDK**
District 1	ASHA 1	√	√	√	√
	ASHA 2	√	√	√	√
	ASHA 3	√	√	√	
	ASHA 4	√		√	√
District 2	ASHA 5	√			
	ASHA 6	√			
	ASHA 7	√	√	√	
	ASHA 8	√	√	√	

Open ended questions and survey investigator notes

Table 42 HR work-load- Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	NR		Need dedicated DEO for MCTS/HMIS data entry.	
MIS	NR		52 new ANMs are appointed in the district.	
MoIC	NR	NR	Data operator is over-loaded with work for MCTS and other softwares.	NR

b) MCTS training status and needs

Quantitative Data

Table 30 MCTS Training status

		District 1				District 2			
		Block 1		Block 2		Block 3		Block 4	
Did you receive any training on MCTS?	DIO	No				Yes			
	MIS	Yes				Yes			
	MOIC	No		No		No		No	
	BPM	No		No		No		No	
	DEO (useful?)	Yes (found it useful)		Yes (found it useful)		Yes (found it useful)		Yes (found it useful)	
	ANM	No	No	No	Yes	No	No	No	No
Do you need additional training on any specific area to build capacity in MCTS implemen-tation?	ANM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
If yes, which areas?	ANM	Recording Tool, Computer Generated Workplan	Recording Tool, Computer Generated Workplan, MCTS Data Entry	Computer Generated Workplan	Other – MCTS operations	Recording Tool	Computer generated workplan	NR	Recording Tool, MCTS Data Entry
What are your training needs on MCTS?	MIS	Not fully aware				Wrong entry editing & data cleaning			

District

One out of the two interviewed DIOs in UP has received MCTS training, which he reported occurred in May 2010. Both interviewed MIS officers have received their MCTS training, with one reporting it in Jun 2012, and another dating it 2 years before the assessment.

When queried on their training needs, one MIS officer indicated "wrong entry and data cleaning", while another was "not fully aware".

Block

None of the interviewed MOICs and BPMs (four of each) have received MCTS training. On the other hand, all four interviewed DEOs received MCTS training and found it useful.

Block & Sub-block

Out of eight interviewed ANMs in UP, one has received training in MCTS, which was reportedly 2 months before the survey date. All ANMs indicated a need for additional MCTS training.

Open ended questions, and survey investigator notes

Table 44 MCTS training status and needs –Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	NR		ASHAs/ANMs and DEOs need to be fully trained on utilization and functioning of MCTS.	
MIS (DPM)	NR		Need dedicated DEO and computer for MCTS at district.	
MoIC	NR .	Need to train ANMs to ensure that they completely fill up MCTS registers.	Capacity building of MoIC, Supervisors, and ANM is the key for effective implementation of MCTS. There should be guidelines on how to review MCTS (data).	NR
DEO	NR	NR	DEO training should be conducted every 6 months.	DEO should receive two day's training for MCTS orientation. ANMs should be trained to use MCTS workplans.
ANM	Need to be trained for MCTS implementation.	Need training for comprehensive understanding of MCTS.	Need training on RI and MCTS at least once a year.	Need training on use of workplan.

Table 45 MCTS training status and needs –Survey investigator notes

State level issues	Training plan for MCTS at divisional as well as district level was designed by the state MCTS cell. State-organized ToT programs for trainers, who were given responsibility for training CMOs, ACMOs as well as Dy. CMOs at district level. In February, 2012, DIOs, DPMs were trained as part of ToT in 72 districts for HMIS/ MCTS. At district level, DIO, DPMs were given the responsibility to train staff at block level, such as MoIC, BPM and DPM. As per training plan, MOICS are responsible for training ANMs and ASHAs at CHC, the PHC level. MCTS training plan was executed in May 2011, for 20 districts. In June, 2011, training was conducted in 52 districts.

District level issues	District officials from district 1 highlighted a need for training on MCTS functionality at each level : For CMO, DIO, MIS, MOs, BMOs, DEOs, ANMs, ASHAs.
District level issues	Other two district level officials from district 1 and 2 shared a need to appoint dedicated computer operator for MCTS/HMIS data entry.
District level issues	CMOs and MoICs should also be trained on MCTS. DEOs should receive training from external resource person.

c) Data entry arrangements and needs

Quantitative Data

Table 46 Data entry arrangements and needs (answers from MOICs)

	District 1		District 2	
	Block 1	**Block 2**	**Block 3**	**Block 4**
Who does MCTS data entry?	By PHC itself	Outsourced agency/ person	Outsourced agency/person	By PHC itself
If outsourced, what are the terms of the contract?	NA	Yearly	Daily Basis	NA
Who finalizes the contract?	NA	District	PHC	NA
Are you satisfied with the agency's work?	NA	Yes	Yes	NA
If no, why not?	NA	NA	NA	NA
If data entry is done by PHC itself, then who is responsible for that?	Dedicated DEO	NA	NA	Dedicated DEO
If Dedicated DEO, then what type of position is this?	Contractual under NRHM	NA	NA	Contractual under NRHM
Tenure of NRHM contracts for dedicated DEO	Yearly	NA	NA	Yearly

Both districts in UP presented the same situation at the block level for data entry arrangements: each has one block handling data management needs within the PHC, and one block outsourcing this work to an external agency.

Of the two using PHC arrangements, both indicated utilizing dedicated DEOs, contractual under NRHM. Both also indicated breaks in the contract renewal process of between 4.5 to 6 months. During these breaks, one block continues to work the same DEO without a contract, while data entry in the other stops. These contracts are renewed on a yearly basis.

The two MOICs utilizing external agencies expressed satisfaction with this arrangement. One block's outsourced contract is finalized at the district level yearly, while the other block finalizes its own contracts on a daily basis.

Open ended questions and survey investigator notes

Table 47 Data entry arrangements and needs – Staff responses

	District 1		District 2	
	Block 1	**Block 2**	**Block 3**	**Block 4**
DIO	NR		Process for timely data entry in the MCTS portal needs to be streamlined.	

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MIS (DPM)	NR		Incomplete registers and untimely data entry are some of the reasons for poor data quality.	
MoIC	NR	ANM should be trained on completion of MCTS registers. Data operator is overloaded with other data management responsibilities.	Data entry for MCTS should be handled by a separate DEO. There should be guidelines to help MoICs understand how to review data entered in MCTS portal. Need a dedicated computer for MCTS/HMIS data entry.	ANMs should be trained on completion of MCTS registers.
DEO	NR	NR	There is no mechanism for field level verification of data. Dedicated DEO for MCTS data entry should be appointed.	DEO has not received salary for 7 months due to problems in renewal of contracts.
ANM	NR	NR	NR	ANMs should timely provide data for MCTS portal data entry. ANMs are instructed to visit every Tuesday at the PHC for data transfer. Data entry operators should feed data into system on time.

Table 48 Data entry arrangements and needs – Survey Investigator notes

State level issues	Need to appoint dedicated DEO to be posted at every block-level facility. Plan to provide dedicated computer to every district for exclusive MCTS/ HMIS data entry. Need to renew contracts of DEOs in a timely manner.
State level issues	As the state (PHCs in the state) receives dedicated data entry operators, status of beneficiary registration will improve. Currently out of 820 blocks, 786 blocks have dedicated data entry operators for HMIS and MCTS.
State level issues	Data analysts in the state MCTS cell prepare data analysis reports. They are shared with districts regularly. MIS cell representatives who operate via toll-free-number make verification calls to the beneficiaries as well as reply to queries from the field.

State level issues	Percentage of MCTS registration in the portal is low as DEO dedicated for MCTS/HMIS entry is not yet appointed at the PHC. No formal training held on MCTS for state immunization officer. Absenteeism and vacancy of data entry operator positions and late renewal of their contracts at block of level are some of the key problems. Poor percentage of service delivery updation in MCTS portal is one of the challenges in effective implementation of MCTS.
District level issues	District officials from district 1 shared that due to support from national level, circular for dedicated DEO for MCTS data entry has been circulated. DEOs will be employed exclusively for MCTS/HMIS data entry. Need one separate computer for MCTS/HMIS data entry.
District level issues	District official from district 2 highlighted a need to appoint a DEO for completing MCTS/HMIS data entry.

d) IT Setup

Quantitative Data

Table 49 IT Setup

Question	State	Districts		Blocks			
		1	2	1	2	3	4
IT Room							
Separate IT Room?	NA	NA	NA	Yes	No	No	Yes
Computers Procured	NA	NA	NA	2008	May 2010	2011	May 2009
Printer							
Dedicated Printer?	Yes	NR	Yes	Yes	No	Yes	No
Working?	Yes	NA	Yes	Yes	NA	Yes	NA
Internet Connection							
Internet Type	BB* – Lease Line NRHM	BB*	BB*	BB*	BB*	BB*	BB*
Hours disconnected during day	0	7-10	1 or 2	NR	NR	1	3
Alternate connection?	Yes	Yes	Yes	Yes	No	No	No
Power Supply							
Regular Power Supply?	Yes	No	No	No	Yes	No	No
Downtime (hrs)?	NA	2-3hrs;	8hrs;	4hrs; fixed time	NA	8hrs; fixed time	3hrs;
Consumables							
MCTS/MCH register	NA	NA	NA	Yes	No	Yes	No
MCTS/MCH format	NA	NA	NA	Yes	No	NR	No
Printer cartridge	Yes	Yes	Yes	Yes	No	No	No
Printer papers	Yes	Yes	Yes	No	No	Yes	No

**BB=Broadband*

State

There is a dedicated MCTS printer at the state level. The state MCTS cell has a broadband lease-line connection under NRHM, with a data card as back-up, and with regular power supply. There was no reported shortage of consumables at the state level.

District

One district reported a functional dedicated printer for MCTS, while there is no record on this matter from the other district.

Both districts reported having broadband internet connections with downtimes of 7 to 10 hours, and 1 to 2 hours respectively. Both also have alternate internet arrangements. Power supply is irregular in both districts, with one reporting power cuts of 2 to 3 hours, and another reporting power cuts of8 hours.

There was no reported shortage of consumables at the district level.

Block

Out of four blocks, two have dedicated MCTS IT rooms, and two don't. Computers for these blocks were procured between 2008 to 2011. Each district has one block without an IT room. Similarly, each district has one block without a dedicated MCTS printer. Available printers were reported to be functional.

All blocks have broadband internet connections, with two blocks reporting downtimes of 1 hour and 3 hours each, and no responses from the two remaining blocks. 3 blocks do not have alternate arrangements for internet connectivity, and the one claiming alternate arrangements did not provide details. Power supply is irregular in three out of four blocks, with power cuts ranging between 3 hours to 8 hours.

The reported shortage of consumables was distributed as follows: three blocks reported a shortage of printer cartridges, three reported a shortage of printer paper, and two reported shortages for both MCTS/MCH registers and formats. There is no record from one block regarding the availability of MCTS/MCH formats.

Open ended questions and survey investigator notes

Table 50 IT Setup– Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MIS	NR		Need to make adequate provision for consumables for stationary at MCTS cell.	

Table 51 IT Setup – Survey investigator notes

State level issues	Need for a separate computer for MCTS / HMIS data entry.
District level issues	Acute problem of network connectivity in district 2. Problem in software connectivity in district 2

3.1.2 Budget and expenditure

3.1.2.1 Introduction

This study assesses MCTS budgeting and expenditure under two headers: a) Separate budget for MCTS, and budget sufficiency, and b) budget timeliness and scheduling.

a) Separate budget, and budget sufficiency

At the district level, DIOs were questioned on the existence of a separate MCTS budget, and if the budgeting was sufficient. MOICs and BPMs at the block level were asked the same questions. Question no. 701, and 702 for DIO and question no. 601, and 602 for MOIC can be referred from the appendix A.2.

b) Budget timeliness and scheduling

MOICs and BPMs at the block level were questioned on the timeliness, and the schedule for receipt of MCTS funds. Questions are available in Appendix A.2 (MOIC and BPM – question no 603 and 604).

Funds for MCTS are allocated to all states under the NRHM budget. States are instructed to allocate funds for MCTS under the relevant budget heads in their PIPs. The assessed states allocate MCTS budgets under the following budget heads: Monitoring & Evaluation for Karnataka, Monitoring & Evaluation (HMIS) for Rajasthan, and Monitoring and Evaluation for UP.

3.1.2.2 Karnataka

a) Separate budget, and budget sufficiency

Quantitative Data

Table 52 Separate Budget and Budget sufficiency

	District 1		District 2	
	Block 1	**Block 2**	**Block 3**	**Block 4**
Separate Budget for MCTS				
DIO	Yes		Yes	
MOIC	Yes	Yes	No	Yes
BPM	No			Yes
Budget Sufficiency				
DIO	No		Yes	
MOIC	Yes	No	No	No
BPM	NA			No

District

Out of two DIOs, both shared that there is a separate budget for MCTS. The DIO from district one indicated that the separate budget is not sufficient, whereas the DIO from district two indicated that it is sufficient.

Block

Three out of four MOICs shared that there is a separate budget for MCTS, with the one remaining MOIC indicating no separate budget on the same question. Out of four MOIC responses, one answered ''Yes'' and three "No" on the question of budget sufficiency.

The two BPM responses were split between one "Yes" and one "No" when questioned on a separate budget for MCTS. The one received BPM response on sufficiency indicated an insufficient budget.

b) Budget timeliness and scheduling

Quantitative Data

Table 53 Budget timeliness & Scheduling

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Timeliness				
MOIC	No	Yes	Yes	Yes
BPM	NA			Yes
Scheduling				
MOIC	Half yearly	Quarterly	Monthly and Quarterly	Monthly
BPM	NA			Monthly

Three out of four interviewed MoICs shared that they receive funds on time. MOIC responses on fund receipt scheduling are different in each block; monthly, monthly and quarterly, quarterly, and half yearly.

The one available BPM response indicated a timely receipt of MCTS funds on a monthly basis.

Open ended questions and survey investigator notes

Table 54 MCTS Budget – Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	Want to increase incentives of data entry person.		NR	
MoIC	NR	Budget is insufficient. Budgetary provision should be made to provide dual – sim card portable mobiles to ANMs.	NR	NR
BPM	NR			Budget is not sufficient to hire a full time DEO for MCTS work.

4.1.2.3 Rajasthan

a) Separate budget, and budget sufficiency

Quantitative Data

Table 55 Separate budget and budget sufficiency

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Separate Budget for PCTS				
DIO	No			
MoIC	No	NR	No	NR
BPM	No	No		

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Budget Sufficiency				
DIO	NA			
MoIC	NA	NR	NA	NR
BPM	NA	NR		

District

The DIO from district 1 shared that there is no separate budget for PCTS.

Block

Out of two received MOIC responses, both shared that there is no separate budget for PCTS. Two interviewed BPMs also shared that there is no separate budget for PCTS.

b) Budget timeliness and scheduling

Quantitative Data

Table 56 Budget timeliness & scheduling

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Timeliness				
MOIC	NA	NR	NA	NR
BPM	NA	NA		
Scheduling				
MOIC	NA	NR	NA	NR
BPM	NA	NA		

Since all interviewed officials shared that there is no separate budget for PCTS, questions related to sufficiency, timeliness and scheduling are considered not applicable in the context of Rajasthan.

Open ended questions and survey investigator notes

Table 57 PCTS Budget - Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	NR			
MoIC	Budget for PCTS reached late in the districts and blocks. Budget for PCTS activities is used from NRHM flexi-fund pool.	NR	NR	NR
BPM	NR	NR		

Table 58 PCTS Budget - Survey Investigator notes

State level issues	Funds related to PCTS Implementation were not approved under MCH section in State NRHM project implementation plan (PIP), as there is no separate budget head for PCTS. Need to have a separate budget head for PCTS in PIP.

4.1.2.4 Uttar Pradesh

a) Separate budget, and budget sufficiency

Quantitative Data

Table 59 Separate budget and budget sufficiency

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Separate Budget for PCTS				
DIO	Yes		Yes	
MOIC	Yes	Yes	Yes	No
BPM	Yes	Yes	Yes	Yes
Budget Sufficiency				
DIO	No		No	
MoIC	Yes	No	No	NA
BPM	No	No	No	No

District

Out of two DIOs, both shared that there is a separate budget for MCTS, and it is not sufficient.

Block

Three out of four interviewed MoICs shared that there is a separate budget for MCTS, with the remaining one MoIC indicating no separate budget.

Out of three received responses, two MOICs answered ''No'' and remaining one answered ''Yes'' on the question of budget sufficiency.

All four BPMs shared that there is a separate budget for MCTS, and also indicated that it is not sufficient.

b) Timeliness and Scheduling

Quantitative Data

Table 60 Budget timeliness and scheduling

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Timeliness				
MOIC	No	Yes	No	NA
BPM	No	No	No	No
Scheduling				
MOIC	Annually	Half Yearly	No Schedule	NA
BPM	Annually	No Schedule	No Schedule	No Schedule

Out of three received MOIC responses, two indicated that the budget is not received on a timely basis, and one indicated timely receipt on a half yearly basis. Three received MoIC responses on fund receipt scheduling are different in each block; no schedule, half yearly, and annually.

All four BPMs shared that the budget is not received on time. Three BPMs indicated that there is no fixed schedule for disbursing the MCTS budget. The remaining BPM indicated receiving the budget on an annual basis.

A comparison of responses from good/ poor performing districts in each state, data revealed that issues related to budget and expenditure are same within selected districts in each state.

Open ended questions and Survey Investigator questions

Table 61 MCTS Budget- Staff responses

	District 1		District 2	
	Block 1	**Block 2**	**Block 3**	**Block 4**
DIO	NR		Delay in the budget disbursement. Budget allocated for MCTS is not sufficient.	
MoIC	NR	Expenditure is managed from user charges. Financial guidelines for MCTS budget & expenditure are not clear. It should be received one time.	There is no separate budget for MCTS work plan generation.	Need timely budget disbursement for MCTS.
BPM	Budget is inadequate and is not received on time.	NR	NR	When budget is not received on time, MCTS expenditure is managed from other NRHM budget heads or through other user charges.

Table 62 MCTS Budget –Survey investigator notes

State level officials	Need to review MCTS budget by taking into consideration financial allocation for internet facility.
District level officials	There is no budget provision for MCTS workplan generation.

3.2 Field Processes

3.2.1 Beneficiary Estimation and Identification

3.2.1.1 Introduction

a) Beneficiary Estimation

DIOs at the district level, and MOICs at the block level, were interviewed to ascertain the method by which the target beneficiary population is determined at each of these levels. Question no. 301 for DIOs and question no. 201 for MOICs can be referred from the appendix A.2.

b) Beneficiary Identification

The beneficiary identification process entails the discerning, and recording of new beneficiaries to be included in the MCH services planning process. For this, ANMs were queried on how they identified beneficiaries, and ASHAs were asked how

often they met with ANMs to share beneficiary details and consolidate the ANM register. Question no. 301 for ANMs and question no. 307 for ASHA workers can be referred from the appendix A.2.

c) Data Tools

An important part of identifying new beneficiaries is the recording of beneficiary details on registers or other formats, and the transferring of these formats to the PHC level for data entry.

ANMs across all states were asked to indicate the data tools used to record or compile new beneficiary details, and the data tools sent to the PHC level for MCTS data entry. Question no. 403 and no. 701 for ANMs are available in the appendix A.2.

d) Frequency of data transfer

DEOs were queried as to the frequency of new beneficiary information being sent to them for entry into the MCTS portal. Question no. 204 for DEO can be referred from the appendix A.2.

e) Supervision

MOICs and BPMs at the block-level were asked if they supervised or monitored household surveys or the identification of beneficiaries. Question no. 204 for MOIC and BPM can be referred from the appendix A.2.

3.2.1.2 Karnataka

a) Beneficiary Estimation

Quantitative Data

Table 63 Beneficiary Estimation Method

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	From field level survey (household survey)		From field level survey (household survey)	
MOIC	From field level survey (household survey)	From field level survey (household survey)	From field level survey (household survey)	From field level survey (household survey)

Both DIOs, and four MOICs in Karnataka indicated household surveys by front-line workers as the method used to estimate beneficiary numbers for a given year.

b) Beneficiary Identification

Quantitative Data

Two interviewed ANMs employ 3 methods concurrently for beneficiary identification: periodic household surveys, regular house visits by ANMs, and identification and information by ASHAs. The remaining two ANMs both utilize ASHA identification and information, and regular house visits by ANMs.

Table 64 Beneficiary Identification Methods

Districts	Blocks	ANMs	Periodic Household Surveys	ASHA identification and information	Regular ANM House visits	Identification at sessions/ VHNDs	Other
District 1	Block 1	ANM 1	√	√	√		
	Block 2	ANM 2		√	√		
District 2	Block 3	ANM 3		√	√		
		ANM 4	√	√	√		

Table 65 ASHA – ANM meeting frequency for beneficiary details sharing and ANM register consolidation

Districts	Blocks	ASHAs	Meet once a week	Meet once a fortnight	Meet once a month
District 1	Block 1	ASHA 1 (under ANM1)	√		
	Block 2	ASHA 2 (under ANM 2)	√		
District 2	Block 3	ASHA 3 (under ANM3)	√		
	Block 4	ASHA 4 (under ANM 4)	√		

All four ASHA-reported frequencies for beneficiary details sharing with ANMs, and ANM register consolidation, are once a week.

c) Data Tools

Quantitative Data

Thayi card: The Thayi card is the primary tool in which ANMs record information related to MCH services. A Thayi card is provided to each beneficiary. In the table below, the Thayi card is represented as MCH Card.

MCH Register: ANMs also maintain MCH registers for documenting information related to MCH services.

Table 66- Data Tools

Districts	Blocks	ANMs	Tool used for recording data	Tool used for sending data
District 1	Block 1	ANM 1	MCH Register	MCH Register
	Block 2	ANM 2	MCH Register	MCH Register and MCH Card (Thayi Card)
District 2	Block 3	ANM 3	ANM Diary and MCH Register	MCH Register (ANM Register) and MCH Card (Thayi Card)
	Block 4	ANM 4	ANM Diary and MCH Register	Other - MCTS Counterfoil & cards (Thayi Card)

All ANMs use MCH registers for recording beneficiary details, with the ANMs in blocks 3 and 4 additionally using their diaries.

When queried on the tools used to send data for MCTS data entry, three ANMs indicated using their MCH registers. Of these three, two additionally use MCH Cards (Thayi Cards). One ANM indicated using Thayi cards and the MCTS counterfoil.

d) Frequency of new beneficiary data transfer

Quantitative Data

Table 67 New beneficiary details data transfer frequency

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DEO	Once a week	Once a week	Once a week	Other - When the ANC identification is done or immunization is given

Three DEOs report receiving new beneficiary details once a week for entry into the MCTS portal. One DEO reported receiving the same when ANC identification is done for pregnant women, or when immunization is administered for pregnant women and children.

e) Supervision

Quantitative Data

Table 68 Supervision of household surveys and beneficiary identification

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MOIC	Yes	Yes	Yes	No
BPM	No			No

Three out of four of MOICs interviewed at the block level in Karnataka indicated that they supervised household surveys and beneficiary identification, while the two interviewed BPMs indicated non-participation in supervisory activities.

Open ended questions and survey investigator notes

Table 69 New beneficiary registration in MCTS portal – Survey investigator notes

State level issues	Beneficiary registration in MCTS is done using a 'Thayi'card number generated by the state. The 'Thayi' card is provided to all pregnant women in the state and contains information on various services and schemes provided by the government to pregnant women and infants.
State level issues	To increase beneficiary registration, the government is planning to make services like provision of a birth certificate conditional on MCTS registration
District level issues	Beneficiary (children) registration is much lower than pregnant women registration. Reasons for the same were discussed to be: a) most deliveries happen at First Refferal Units (FRU) and there is a shortage of human resources at these facilities so child details are not entered b) the software requires the delivery details of the pregnant woman to be completed before it allows for beneficiary (children) registration c) following completion of delivery details for pregnant women the portal does not automatically register the child but a new registration is required.
District level issues	In & out migration - seasonal migration is one of the key constraints. Migrant population does not get registered in MCTS portal.
District level issues	The process of registration currently does not deal with migrant populations or cross-state/district migration for deliveries.

3.2.1.3 Rajasthan

a) Beneficiary Estimation

Quantitative Data

Table 70 Beneficiary Estimation Method

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	State Estimate			
MOIC	From field level survey (household survey)	State estimate	From field level survey (household survey) + State estimate	From field level survey (household survey) + State estimate

The DIO in district 1 indicated that population targets sent by state level officials were used for beneficiary estimation, while the two MOICs under him were split in their answers between household surveys and state population estimates respectively. District 2's MOICs both indicated a mixture of household surveys and state population estimates.

b) Beneficiary Identification

Quantitative Data

When queried on beneficiary identification methods, Rajasthan's ANMs responded in the following manner: one ANM stated using both regular house visits and ASHA identification, one indicated using periodic household surveys, regular ANM house visits and identifying beneficiaries at VHNDs/immunization sessions, one indicated using only ASHA identification and information, two use only periodic household surveys, one uses only regular ANM house visits, and the remaining one uses periodic household surveys while also receiving help from pulse polio activities.

Table 71 Beneficiary identification methods, ANMs

Districts	Blocks	ANMs	Periodic Household Surveys	ASHA identification and information	Regular ANM House visits	Identification at sessions/ VHNDs	Other
District 1	Block 1	ANM 1		√	√		
		ANM 2					
	Block 2	ANM 3	√				
		ANM 4	√				
District 2	Block 3	ANM 5	√		√	√	
		ANM 6			√		
	Block 4	ANM 7		√			
		ANM 8	√				√ - Pulse Polio Help

Table 72 ASHA – ANM meeting frequency for beneficiary details sharing and ANM register consolidation

Districts	Blocks	ASHAs	Meet once a week	Meet once a fortnight	Meet once a month	Other
District 1	Block 1	ASHA 1 (under ANM 1)			√	
		ASHA 2 (under ANM 2)				
	Block 2	ASHA 3 (under ANM 3)				√ - 5 to 6 per month
		ASHA 4 (under ANM 4)	√			
District 2	Block 3	ASHA 5 (under ANM 5)		√		
		ASHA 6 (under ANM 6)			√	
	Block 4	ASHA 7 (under ANM 7)			√	
		ASHA 8 (under ANM 8)			√	

Out of seven received ASHA responses, four meet their respective ANMs once a month for beneficiary details sharing. One ASHA indicated once a week, and another once a fortnight. The remaining one ASHA indicated 5 to 6 meetings per month.

c) Data Tools

Quantitative Data

ANMs in Rajasthan record information related to MCH services in the following registers:

Eligible Couple Register (ECR): Used for recording information of newly married couples. The ID number provided with an entry in the eligible couple register is carried forward in all other registers.

Service Delivery Register (SDR): Used for compilation of all information related to MCH services. However, it does not include some components such as JSY benefits that are mandatory for the MCTS portal. The SDR is referred to as "MCH Register" in the table below.

Hand drawn plain PCTS registers: Plain registers are created by ANMs by copying MCTS-related MCH components from the SDR, as well as adding other required columns for the MCTS portal. These hand drawn registers are referred to as "MCTS Register" or "Plain Register" in the table below.

Table 73 Registers

Districts	Blocks	ASHAs	Tool used for recording data	Tool used for sending data
District 1	Block 1	ANM 1	MCH Register (SDR)	Other – Delivery Line List
		ANM 2		
	Block 2	ANM 3	MCH Register (SDR)	Plain Register (PCTS hand-drawn)
		ANM 4	ANM Diary and MCH Register (SDR)	Plain Register (PCTS hand-drawn)
District 2	Block 3	ANM 5	MCH Register (SDR)	MCTS Register (PCTS hand-drawn)
		ANM 6	MCH Register (SDR) and ASHA Diary	MCH Register (SDR)
	Block 4	ANM 7	ANM Diary and MCH Register (SDR)	MCTS format (PCTS hand-drawn register)
		ANM 8	MCH Register (SDR)	MCH Register (SDR)

All seven ANM responses indicate the use of SDRs to record the details of new beneficiaries. Two ANMs additionally use their ANM diaries, while one additionally uses an ASHA diary. Two ANMs send these registers to the PHC for data entry. Four ANMs transfer beneficiary details onto hand-drawn registers with columns that match the PCTS portal's data cells, which are then sent to the DEO at the PHC level. One ANM uses a service delivery line list for sending new beneficiary details for data entry.

Open ended questions and survey investigator data

Table 74 Data tools – Survey investigator notes

State level issues	ANMs need to document information pertaining to beneficiaries in different recording tools for sending information for PCTS data entry. This results in a pattern of duplication and more workload for ANMs.

d) Frequency of data transfer

Quantitative Data

Table 75 New beneficiary details data transfer frequency

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DEO	Once a month	Once a month	Once a month	Once a month

All four interviewed DEOs report receiving new beneficiary details on a monthly basis.

e) Supervision

Quantitative Data

Table 76 Supervision of household surveys and beneficiary identification

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MOIC	Yes	Yes	NR	Yes
BPM	Yes	Yes		

Of three received MOIC responses (one non-response), three indicated participation in the supervision of household surveys and beneficiary identification. The two interviewed BPMs in district 1 also responded 'Yes' to supervision.

3.2.1.4 Uttar Pradesh

a) Beneficiary Estimation

Quantitative Data

Table 77 Beneficiary Estimation Method

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	State Estimate		State Estimate	
MOIC	State Estimate	State Estimate	State Estimate	State Estimate

All two DIOs, and four MOICs, indicated state population estimates as the method for beneficiary estimation.

b) Beneficiary identification

Quantitative Data

Out of eight interviewed ANMs, all indicated relying on ASHAs to identify beneficiaries. In addition, four ANMs claimed to conduct regular house visits, five use VHNDs as opportunities for identification, and four conduct periodic household surveys. Three ANMs indicated an additional reliance on AWWs, and one on pulse polio activities for identifying beneficiaries.

Table 78 Beneficiary identification methods

Districts	ANMs	Periodic Household Surveys	ASHA identification and information	Regular ANM House visits	Identification at sessions/ VHNDs	AWW	Pulse Polio Activity
District 1	ANM 1	√	√			√	
	ANM 2	√	√	√	√	√	
	ANM 3	√	√		√		
	ANM 4		√	√		√	√
District 2	ANM 5		√		√		
	ANM 6		√		√		
	ANM 7	√	√	√			
	ANM 8		√	√	√		

Table 79 ASHA – ANM meeting frequency for beneficiary details sharing and ANM register consolidation

Districts	Blocks	ASHAs	Meet once a week	Meet once a fortnight	Meet once a month	Other
District 1	Block 1	ASHA 1 (under ANM 1)		√		
		ASHA 2 (under ANM 2)		√		
	Block 2	ASHA 3 (under ANM 3)				√ (meet on session days)
		ASHA 4 (under ANM 4)		√		
District 2	Block 3	ASHA 5 (under ANM 5)			√	
		ASHA 6 (under ANM 6)	√			
	Block 4	ASHA 7 (under ANM 7)			√	
		ASHA 8 (under ANM 8)	√			

Three ASHAs in district 1 meet their respective ANMs once a fortnight, and one meets her on session days. The four ASHAs in district 2 are split evenly between meeting once a month, and meeting once a week.

c) Data Tools

Quantitative Data

Table 80 Registers

Districts	Blocks	ASHAs	Tool used for recording data	Tool used for sending data
District 1	Block 1	ANM 1	Other – Self-made ANM Register	Other – Local made format
		ANM 2	Other – Self-made ANM Register	ASHA/Village Register, and Other – Local format made by ANM
	Block 2	ANM 3	MCH and MCTS Register	MCTS Register
		ANM 4	ANM Diary and MCTS Register	MCTS Register

Districts	Blocks	ASHAs	Tool used for recording data	Tool used for sending data
District 2	Block 3	ANM 5	ANM Diary and MCTS Register	MCTS Register
		ANM 6	MCTS Register	MCTS Register
	Block 4	ANM 7	ANM Diary and MCH Register	MCH Register
		ANM 8	ANM Diary and MCTS Register	MCTS Register

Five out of eight interviewed ANMs in UP record new beneficiary details in MCTS registers, and send the very same registers to the DEO for data entry. One ANM records in either her ANM diary or the MCH Register, and sends the MCH register to the DEO. One ANM does her recording in a self-made register, and sends a locally made format to the DEO. The remaining one ANM records in a self-made register, and sends an ASHA/Village Register or locally made format to the DEO.

d) Frequency of data transfer

Quantitative Data

Table 81 New beneficiary details data transfer frequency

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DEO	Once a month	Once a month	Once a fortnight	Once a month

Three out of four interviewed DEOs receive new beneficiary details for MCTS data entry once a month. The one remaining DEO receives them once a fortnight.

e) Supervision

Quantitative Data

Table 82 Supervision of household surveys and beneficiary identification

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MOIC	NR	No	No	No
BPM	Yes	No	Yes	Yes

Of four interviewed MOICs, three provided a response to the question regarding supervision of household surveys or beneficiary identification activities, with all of them answering "No". Three out of four BPMs, on the other hand, indicated "Yes" to participating in supervisory activities. One block had both its MOIC and BPM answering "No" to supervisory activities.

Open ended questions and survey investigator notes

Table 83 New Beneficiary registration in MCTS portal- Survey investigator notes

State level issues	Low percentage of registration in the portal as dedicated DEO is not yet appointed for MCTS/ HMIS data entry.
District level issues	Low registration and updation of beneficiaries at the district level.

3.2.2. Service delivery tools and utilization

3.2.2.1 Introduction

a) Service delivery data tools

ANMs were asked to indicate the types of tools used for recording service delivery data, and for sending this data to the PHC for MCTS data entry.

During the assessment, investigators observed VHND/ immunization sessions, and the types of registers used by ANMs for recording service delivery data were recorded in the observation checklist. Data from observation checklists in Rajasthan and UP are collated and presented here. Question no. 707 for ANMs can be referred from the appendix 707. Questions 401, 402 for Immunization session/ Village Health Nutrition Day (VHND) can be referred from the appendix A.3.

b) Frequency of data transfer, and total number of days for which service delivery data updation tool is kept at PHC

ANMs were interviewed on the total number of days for which the service delivery data updation tool is kept at the PHC for completing data entry.

DEOs were queried on the frequency of service delivery information being sent to them for entry into the MCTS portal. DEOs were also questioned on who delivers this information. Question no. 207 and 208 for DEOs, and question no. 711 for ANMs can be referred from the appendix A.2.

c) ANM-DEO coordination for data entry

ANMs were asked if they sit with DEOs for MCTS data entry. They were also queried on the frequency of ANM-DEO data entry meetings. Question no. 905 can be referred from the appendix A.2.

d) Awareness, usage and perceived usefulness of MCTS work-plans

Questions were posed to ANMs and ASHAs regarding awareness, usage, and the usefulness of MCTS generated workplans. ASHAs were also questioned on their awareness regarding MCTS. Question no 504, 507 and 508 for ANMs and question no 501, 507, 508 and 509 can be referred from the appendix A.2.

e) Messages and calls generated from MCTS portal

DIOs and MIS officers at the district level were questioned on the registration status of their mobile phones in the MCTS portal, and whether they receive MCTS generated SMSs/phone calls. Sub-district level officials, such as MOICs, BPMs, DEO, ANMs, and ASHAs were asked the same questions. Question no. 303 for MIS officer, question no. 201 for MOIC, question no. 403 for BPM, question no. 401 for DEO, question no. 204, 205, and 206 for ANM, and question no. 502, 503 for ASHA workers can be referred from the appendix A.2

3.2.2.2 Karnataka

a) Service delivery data tools

Quantitative Data

Thayi card: The Thayi card is the primary tool in which ANMs record information related to MCH services. A Thayi card is provided to each beneficiary. It is referred as "MCH card" in the tables below.

MCH Register: ANMs also maintain MCH registers for documenting information related to MCH services.

Table 84 Service delivery updation data tools

Districts	Blocks	ASHAs	Register used for recording	Register used for sending data for data entry
District 1	Block 1	ANM 1	NR	SMS
	Block 2	ANM 2	NR	SMS
District 2	Block 3	ANM 3	NR	MCH register
	Block 4	ANM 4	NR	SMS, Updating the counterfoil

Survey investigators could not observe immunization sessions/VHNDs.

Out of four ANMs, three use the SMS system for updating service delivery data in the MCTS portal. One of them also updates the counterfoil. The remaining one ANM shared that she sends the MCH register for MCTS portal data entry.

b) Frequency of data transfer, and total number of days for which service delivery data updation tool is kept at PHC

Quantitative data

Table 85 Frequency of data transfer, and total number of days for which service delivery data updation tool is kept at PHC

Districts	Blocks	ASHAs	Meet once a week	Other
District 1	Block 1	Other -ANM updates services provided through mobile application	ANM , Other - ANM updates services provided through mobile application	NR
	Block 2	Other-ANM updates services provided through mobile application.	ANM , Other- SMS, Few ANMs bring THAI card	Updating through SMS
District 2	Block 3	Next day after immunization session	ANM	NR
	Block 4	Next day after immunization session.	ANM	NA

All four interviewed DEOs shared that ANMs bring service delivery data to the PHC for data entry. Two of them shared that ANMs update service delivery data through SMS. One shared that ANMs bring Thayi cards (MCH cards) for data entry at the PHC.

Two DEOs shared that ANMs update service delivery data through a mobile application. The remaining two DEO responses indicate that data are received on the day after immunization sessions.

When questioned on the number of days for which a register is kept at the PHC, one of the ANMs answered that service delivery data is updated through SMS.

Open ended questions and survey investigator notes

Table 86 Service delivery tools and updation- Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DIO	Mobile based application for updating service delivery data is used through SMS in the district	NR	NR	NR
MoIC	NR	Need to effectively use mobile application for of beneficiaries.	NR	NR

Table 87 Service delivery data updation tool –Survey investigator notes

State level issues	A new easy-to-use SMS system (piloted in district 1) will enable ANMs to update the MCTS portal immediately after service delivery.
State level issues	Most of the ANM's find it difficult to send the SMS which results in an automatic updation of the services provided. Even when sent, many times the SMS does not result in an updation of services on the portal.
State level issues	One of the districts in the state have been facing problems updating MCTS related information through mobile based application. Timely updation of beneficiaries in the MCTS portal does not occur. (services provided in the field and those stated in the portal show a huge lag)

a) ANM-DEO coordination for data entry

Quantitative data

Table 88 ANM-DEO coordination for data entry, ANMs

Districts	Blocks	ASHAs	Do ANMs personally sit with DEO for data entry?	Periodicity
District 1	Block 1	ANM 1	No	NA
	Block 2	ANM 2	No	NA
District 2	Block 3	ANM 3	Yes	Once in a week.
	Block 4	ANM 4	No	NA

Three ANMs shared that they do not accompany DEOs for data entry. One ANM indicated that she accompanies the DEO once a week for completing data entry.

d) Awareness, usage and perceived usefulness of MCTS work-plans associate

Quantitative data

Table 89 Receipt, sharing and usefulness of MCTS workplans, ANMs

Districts	Blocks	ANM	Do you receive MCTS generated workplans?	Do you share it with ASHA workers?	Do you find it useful?
District 1	Block 1	ANM 1	No	NA	NA
	Block 2	ANM 2	Yes	Yes	Yes
District 2	Block 3	ANM 3	No	NA	NA
	Block 4	ANM 4	No	NA	NA

Three out of four ANMs shared that they do not receive MCTS generated workplans. The remaining one ANM shared that she receives MCTS generated workplans. She shares it with ASHAs and finds it useful.

Table 90 Awareness regarding MCTS generated work-plan, ASHAs

District	Block	ASHA	Are you aware of MCTS?	Are you aware of MCTS workplans?	Do ANMs share MCTS workplans with you?	Is the MCTS workplan useful?
District 1	Block 1	ASHA 1	Yes	No	No	NA
	Block 2	ASHA 2	No	No	No	NA
District 2	Block 3	ASHA 3	NR	NR	NR	NR
	Block 4	ASHA 4	Yes	No	No	Yes

Out of three received ASHA responses, two shared that they are aware of MCTS.

Out of three received ASHA responses, all shared that they are not aware of MCTS workplans. They also shared that they do not receive MCTS workplans from ANMs. One of the ASHAs finds MCTS workplans useful.

Open ended questions and survey investigator questions

Table 91 MCTS workplan - Survey investigator notes

State level issues	The MCTS portal is used only as a repository of information. No work plans are generated anywhere in the state from the MCTS portal.
State level issues	The only SMS currently generated by the portal which is sent to the ANM deals with services missed and hence is not very beneficial. This too is sent on a monthly basis.

e) Messages and calls generated from MCTS portal

Quantitative data

District

Table 92 Registration of mobile numbers in MCTS & receipt of MCTS generated SMSs/phone calls, DIOs & MIS officials

	District 1	District 2
DIO		
Registration status of mobile	Yes	Yes
Status on receipt of SMSs/phone calls	Yes	Yes
MIS		
Registration status of mobile	NR	Yes
Status on receipt of SMSs/phone calls	NR	NR

Out of two interviewed DIOs, both shared that their mobiles are registered in the MCTS portal, and receive SMSs/phone calls from the MCTS portal. Out of two interviewed MIS officials, one shared that his mobile is registered in the MCTS portal.

Block

Table 93 Registration of mobile numbers & receipt of MCTS generated SMSs/ phone calls, BPMs, MOICs, and DEOs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
BPM				
Status on registration of mobile	Yes			Yes
Status on receipt of messages/ phone calls from MCTS	Yes			Yes
MOIC				
Status on registration of mobile	Yes	Yes	Yes	No
Status on receipt of SMS/Phone calls	Yes	Yes	Yes	No
DEO				
Status on registration of mobile	No	No	No	No
Status on receipt of SMS/Phone calls	No	No	NA	No

Out of two BPM responses, both shared that their mobiles are registered in the MCTS portal and they both receive MCTS SMSs/phone calls.

Out of four MOIC responses, three shared that they have registered their mobile numbers in the MCTS portal and also receive MCTS SMSs/phone calls. The remaining one MOIC shared that his mobile is not registered, and s/he does not receive MCTS SMSs/phone calls.

All four DEOs shared that they have not registered their mobiles in the MCTS portal.

Block & Sub-block

Table 94 Registration of mobile numbers & receipt of MCTS generated SMSs/ phone calls, ANMs & ASHAs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
ANM	**ANM 1**	**ANM 2**	**ANM 3**	**ANM 4**
Availability of mobile phones	Yes	Yes	Yes	Yes
Status on registration of mobile in the MCTS portal	Yes	Yes	Yes	Yes
Receipt of MCTS generated SMS/ Phone calls	**Yes**	**Yes**	**Yes**	**Yes**
SMSs/phone calls are related to	Beneficiary due list	Beneficiary due list	Beneficiary due list, general health IEC messages	Beneficiary due list
ASHA	ASHA 1	ASHA 2	ASHA 3	ASHA 4
Availability of mobile phones	**Yes**	**Yes**	**Yes**	**Yes**
Receipt of MCTS generated SMS/ Phone calls	No	No	No	Yes
Status on receipt of SMS/ Phone calls	No	No	NA	No

All four ANMs have mobile phones and they have also registered their mobile phones in the MCTS portal. They all receive SMSs/phone calls from the MCTS portal. All ANMs report receiving beneficiary due lists on their mobiles, with one ANM additionally receiving general health IEC messages.

All four ASHAs have mobile phones. Three shared that they do not receive SMSs/ phone calls from the MCTS portal, while one shared that she does receive these SMSs/phone calls.

3.2.2.3 Rajasthan

a) Service delivery data tools

Quantitative Data

ANMs in Rajasthan record information related to MCH services in the following registers:

Eligible Couple Register (ECR): Used for recording information of newly married couples. The ID number provided with an entry in the eligible couple register is carried forward in all other registers.

Service Delivery Register (SDR): Used for compilation of all information related to MCH services. However, it does not include some components such as JSY benefits that are mandatory for the MCTS portal.

Hand drawn plain PCTS registers: Plain registers are created by ANMs by copying PCTS-related MCH components from the SDR, as well as adding other required columns for the PCTS portal.

In the table ahead, SDR is referred to as MCH register, and hand drawn plain PCTS register is referred to as PCTS register.

Table 95 Service delivery updation data tools

Districts	Blocks	ANMs	Register used for recording	Register used for sending data for data entry
District 1	Block 1	ANM 1	PCTS Register	PCTS register
		ANM 2		
	Block 2	ANM 3	MCH Register (SDR)	MCH register (SDR)
		ANM 4	MCH Register (SDR)	PCTS register
District 2	Block 3	ANM 5	ANM Diary	PCTS register
		ANM 6	Talley Sheet + MCH Register (SDR)	NR
	Block 4	ANM 7	PCTS Register	Other - Not specified.
		ANM 8	MCH Register (SDR)	MCH Register (SDR), New Proforma

Investigators observed immunization sessions/VHNDs to record the registers used by ANMs for recording information during service delivery sessions.

Out of seven ANMs, two use PCTS registers, three use MCH registers, one uses her ANM diary, and the remaining one ANM uses her tally sheet and MCH register for recording service delivery data during sessions.

Out of six received ANM responses, two ANMs indicated using the MCH register and three others use the PCTS register for sending service delivery data for MCTS data entry. One ANM did not specify the register used.

b) Frequency of data transfer, and total number of days for which service delivery data updation tool is kept at PHC

Quantitative Data

Table 96 Frequency of data transfer, and total number of days for which service delivery data updation tool is kept at PHC

Districts	Blocks	Frequency of data transfer (DEO)	Who brings the register (DEO)	Register used for sending data for data entry
District 1	Block 1	Once in a month, During monthly meeting	ANM	NR
	Block 1			
	Block 2	Once in a month	ANM	Always at PHC
	Block 2			4
District 2	Block 3	Once in a month	ANM	1
	Block 3			NR
	Block 4	Once in a month	ANM & AVD carrier	8-10 days
	Block 4			NR

Three out of four DEOs shared that ANMs bring registers for data entry. The remaining one shared that the ANM and AVD carrier bring the register for data entry.

All DEOs shared that service delivery data is transferred from ANMs to DEOs once a month. One DEO specified that it is transferred during monthly meetings.

Out of four ANM responses received on the duration for which a register is kept at the PHC for data entry, one indicated a day, one indicated that it is kept for four days, one indicated eight to ten days, and the remaining one shared that the register is always kept at the PHC.

c) ANM-DEO coordination for data entry

Quantitative Data

Table 97 ANM-DEO coordination for data entry

Districts	Blocks	ANMs	Register used for recording	Register used for sending data for data entry
District 1	Block 1	ANM 1	No	NA
		ANM 2		
	Block 2	ANM 3	Yes	Twice in a month
		ANM 4	Yes	Once in a month
District 2	Block 3	ANM 5	Yes	Once in a week
		ANM 6	Yes	Once in a month
	Block 4	ANM 7	Yes	Once in a month
		ANM 8	No	NA

Out of seven interviewed ANMs, five shared that they sit with DEOs for data entry. The periodicity of this is once a month for three ANMs, once a week for one ANM and twice in a month for one ANM.

d) Awareness, usage and perceived usefulness of MCTS work-plans

Quantitative Data

Table 98 Receipt, sharing and usefulness of MCTS workplans, ANMs

Districts	Blocks	ANM	Do you receive MCTS generated work-plans?	Do you share it with ASHA workers?	Are MCTS generated work-plans useful?
District 1	Block 1	ANM 1	Yes	No	Yes
	Block 1	ANM 2			
	Block 2	ANM 3	Yes	No	No
	Block 2	ANM 4	Yes	Yes	Yes
District 2	Block 3	ANM 5	Yes	Yes	No
	Block 3	ANM 6	Yes	NR	NR
	Block 4	ANM 7	Yes	No	Yes
	Block 4	ANM 8	Yes	No	No

All ANMs shared that they receive MCTS generated work-plans. Out of these seven, two indicated that they share it with ASHA workers. Three out of seven ANMs shared that they find MCTS work-plans useful.

Table 99 Awareness regarding MCTS generated workplans, ASHAs

District	Block	ASHA	Are you aware of MCTS?	Are you aware of MCTS work-plans?	Do ANMs share MCTS work-plans with you?	Are MCTS work-plans useful?
District 1	Block 1	ASHA 1	No	No	No	NA
	Block 2	ASHA 2				
	Block 2	ASHA 3	No	No	No	NA
	Block 2	ASHA 4	No	No	No	NA
District 2	Block 3	ASHA 5	No	No	No	NA
	Block 3	ASHA 6	No	NR	NR	NR
	Block 4	ASHA 7	No	No	NR	NA
	Block 4	ASHA 8	No	No	No	NA

All ASHAs (seven interviewed) shared that they were not aware of MCTS. Out of six received ASHA responses, all shared that they were not aware of MCTS generated workplans. Five out of seven indicated that work-plans are not shared with them, with two non-responses.

Table 100 MCTS generated workplan- Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
ANM	Work-plans are not updated.	Data in the work plan does not match with that in ANM register.	Wrong information found in the work plan.	Information in ANM register does not match MCTS work plan. Session specific work plans are not generated

e) Messages and calls generated from MCTS portal

Quantitative Data

District

Table 101 Registration of mobile numbers & receipt of MCTS generated SMSs/ phone calls, DIOs & MIS officials

District	District 1	District 2
DIO		
Status on registration of mobile	No	
Status on receipt of SMS/Phone calls	NA	
MIS		
Status on registration of mobile	No	Yes
Status on receipt of SMS/Phone calls	NA	No

The one interviewed DIO shared that his mobile is not registered in the MCTS portal. Out of two interviewed MIS officials, one shared that his mobile is not registered. The one remaining MIS official shared that though his mobile is registered in the MCTS portal, he does not receive MCTS generated SMS/phone calls.

Block

Table 102 Registration of mobile numbers & receipt of MCTS generated SMSs/ phone calls, BPMs, MOICs, DEOs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
BPM				
Status on registration of mobile	No	No		
Status on receipt of SMS/Phone calls	NA	NA		
MOIC				
Status on registration of mobile	No	Yes	No	No
Status on receipt of SMS/Phone calls	Yes	Yes	Yes	No
DEO				
Status on registration of mobile	No	No	Yes	Yes
Status on receipt of SMS/Phone calls	No	No	Yes	NR

Out of two BPM responses, both shared that their mobiles are not registered in the MCTS portal. Two out of four MoICs shared that their mobiles are registered. The remaining two shared that their mobiles are not registered. Out of two received responses, one MOIC shared that he does not receive MCTS generated SMSs/ phone calls, while another shared that he does receive these SMSs/phone calls.

Out of four DEO responses, two shared that they have registered their mobile numbers in the MCTS portal. Out of these two positive responses, one shared that he receives MCTS generated SMSs/phone calls.

Block & Sub-block

Table 103 Registration of mobile numbers & receipt of MCTS generated SMSs/ phone calls, ANMs & ASHAs

	District 1				District 2			
	Block 1		Block 2		Block 3		Block 4	
ANM	**ANM 1**	**ANM 2**	**ANM 3**	**ANM 4**	**ANM 5**	**ANM 6**	**ANM 7**	**ANM 8**
Availability of mobile phones	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Status on registration of mobile in the MCTS portal	No		No	Yes	Yes	Yes	Yes	Yes
Receipt of MCTS generated SMS/ Phone calls	NA		NA	Yes	Yes	Yes	NR	Yes
SMSs/phone calls are related to	NA		NA	Specific health services	Beneficiary due list, specific health scheme, specific health services, general health IEC message	Beneficiary due list	NR	Beneficiary due list
ASHA	**ASHA 1**	**ASHA 2**	**ASHA 3**	**ASHA 4**	**ASHA 5**	**ASHA 6**	**ASHA 7**	**ASHA 8**
Status on registration of mobile in the MCTS portal	Yes		Yes	Yes	Yes	Yes	No	Yes
Receipt of MCTS generated SMS/ Phone calls	No		No	No	No	Yes	No	Yes

All seven ANMs shared that they have mobile phones. Five have registered their mobile numbers in the MCTS portal, and four out of this five (one non-response) receive MCTS generated SMSs/phone calls. Out of the four that report receiving MCTS mobile communication, one reported receiving information on specific health services, two reported receiving beneficiary due lists, and one reported receiving beneficiary due lists and a host of other messages.

Six out of seven ASHAs have registered their mobile phones in the MCTS portal, and two out of this six receive MCTS generated SMSs/phone calls.

3.2.2.4 Uttar Pradesh

a) Service delivery data tools

Quantitative Data

MCTS register: Pre-printed MCTS registers, which have data columns for MCH services for pregnant women and children, are distributed to all ANMs.

Table 104 Service delivery updation data tools

District	Block	ANM	Register used for recording	Register used for sending data for data entry
District 1	Block 1	ANM 1	ANM Diary + Tally sheet + MCTS register	Local format
		ANM 2	ANM Diary	Local format
	Block 2	ANM 3	Self-made ANM register	MCTS Register
		ANM 4	Self-made ANM Register	MCTS Register & MCH register
District 2	Block 3	ANM 5	ANM Diary + Tally Sheet	MCTS Register
		ANM 6	MCTS Register +Tally Sheet	MCTS Register
	Block 4	ANM 7	MCTS Register	MCH register & Tally sheet
		ANM 8	Tally Sheet	MCTS Register

Survey investigators observed immunization sessions in UP. ANMs were questioned on the registers used for recording service delivery data. The following answers were received in district 1: one uses ANM diary, tally sheet and MCTS register, one uses only ANM diary, and two use self-made ANM registers. The answers from ANMs in district 2 are distributed as follows: one uses ANM diary and tally sheets, one uses the MCTS register and tally sheet, one uses only MCTS (MCH register), and one uses only tally sheet.

ANM responses on registers used for sending service delivery data for data entry are distributed as follows; four use MCTS registers, two use local formats, one uses MCTS & MCH registers, and the remaining one uses MCH register and tally sheet.

b) Frequency of data transfer, and total number of days for which service delivery data updation tool is kept at PHC

Quantitative Data

Table 105 Frequency of data transfer, and total number of days for which service delivery data updation tool is kept at PHC

Districts	Blocks	Frequency of data transfer (DEO)	Who brings the register (DEO)	Number of days register is kept at PHC (ANM)
District 1	Block 1	Once a month	ANM	NR
				NR
	Block 2	Once a month	ANM	7
				1
District 2	Block 3	Once in fifteen days	ANM	0
				0
	Block 4	Once in two/three months	ANM	5
				Not fixed

Out of four DEO responses, all shared that ANMs bring the register to the PHC for data entry. When queried on the frequency of these visits, two shared that ANMs bring data once in a month, one shared 15 days, and one other DEO shared two/three months.

When ANMs were questioned on the number of days for which a register is kept at the PHC for completing data entry, the six received ANM responses are distributed as follows: two answered that it is returned on the same day, one shared that it is kept for one day, one shared that there is no fixed duration, one shared that it is kept for 7 days, and one shared that it is kept for 5 days.

c) ANM-DEO coordination for data entry

Quantitative Data

Table 106 ANM-DEO coordination for data entry

District	Block	ANM	Do you personally sit with DEO for data entry?	If yes. How often?
District 1	Block 1	ANM 1	Yes	Once in a fifteen days
		ANM 2	Yes	Once in a month
	Block 2	ANM 3	Yes	Once in a month
		ANM 4	Yes	Once in a month
District 2	Block 3	ANM 5	Yes	Once in a month
		ANM 6	Yes	Once in a month
	Block 4	ANM 7	Yes	Once in a month
		ANM 8	Yes	Once in a month

Out of eight ANM responses, all personally sit with DEOs for data entry. Seven ANMs shared that they accompanied their respective DEOs for data entry once a month and one ANM reported doing the same once in fifteen days.

Open ended questions and survey investigators tool

Table 107 ANM-DEO coordination for data entry – Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MoIC	NR	NR	ANMs do not follow proper schedule for sharing MCH registers with DEO.	NR

d) Awareness, usage and perceived usefulness of MCTS workplans

Quantitative Data

Table 108 Receipt, sharing and usefulness of MCTS workplans, ANMs

Districts	Blocks	ANM	Do you receive MCTS generated workplans?	Do you share it with ASHA workers?	Are MCTS generated workplans useful?
District 1	Block 1	ANM 1	No	NA	NA
	Block 1	ANM 2	No	NA	NA
	Block 2	ANM 3	Yes	No	Yes
	Block 2	ANM 4	Yes	No	NR
District 2	Block 3	ANM 5	No	NA	No
	Block 3	ANM 6	No	NA	Yes
	Block 4	ANM 7	No	NA	Yes
	Block 4	ANM 8	No	NA	NA

Out of eight ANM responses, six shared that they do not receive MCTS generated workplans. Two shared that they receive workplans, but they both do not share them with ASHAs. Three ANMs, out of four received responses, found MCTS generated workplans useful. The remaining one shared that she does not find MCTS workplans useful.

Table 109 Awareness regarding MCTS generated workplan, ASHAs

District	Block	ASHA	Are you aware of MCTS?	Are you aware of MCTS work-plan?	Do ANMs share MCTS workplans with you?	Are MCTS workplans useful?
District 1	Block 1	ASHA 1	Yes	Yes	No	NR
	Block 2	ASHA 2	Yes	No	No	NA
	Block 2	ASHA 3	Yes	No	No	NA
	Block 2	ASHA 4	Yes	No	No	NA
District 2	Block 3	ASHA 5	No	No	No	NA
	Block 3	ASHA 6	No	NR	NR	NR
	Block 4	ASHA 7	No	NR	NR	NR
	Block 4	ASHA 8	No	NR	NR	NR

Out of eight ASHAs interviewed, four shared that they are aware of MCTS. The remaining four shared that they are not aware of MCTS.

Out of five received ASHA responses, four shared that they are not aware of MCTS workplans. ANMs do not share MCTS workplans with them. The one ASHA who is aware of these workplans indicated that they are not shared with her.

Open ended questions and survey investigator notes

Table 110 MCTS workplan –Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MoIC	NR	NR	Workplan should be in local language. There is no separate budget for generating and distributing work plan.	Budget for consumables is very low, resulting in difficulties in generating work plans.
BPM	NR	BPM is not trained to use the work plan.	Work plan is not prepared due to inadequate budget for consumables. ANMs do not understand work plan as it is in English (not in a local language).	Training for generating, and using work plans is not conducted at PHC level.
DEO	NR	NR	Work plan should be in local language.	Sub-centre specific work plans are generated. They are not session-centric work plans.
ANM	Not aware of MCTS work plan.	ANMs did not receive work plans.	Work plans should be in the local language. (Hindi)	ANMs do not receive MCTS work plans. ANMs should know what workplans are and how to use them.

e) Messages and calls generated from MCTS portal

Quantitative Data

District

Table 111 Registration of mobile numbers & receipt of MCTS generated SMSs/ phone calls, DIOs & MIS officials

	District 1	District 2
DIO		
Status of registration of mobile in MCTS portal	No	Yes
Status of receipt of MCTS generated SMSs/phone calls	NA	Yes
MIS		
Status of registration of mobile in MCTS portal	Yes	Yes
Status of receipt of MCTS generated SMSs/phone calls	Yes	Yes

Out of two DIO responses, one has registered his mobile in the MCTS portal, and the other has not. The one who has registered his mobile number receives MCTS generated SMSs/phone calls.

Both MIS officials have registered their mobiles in the MCTS portal, and also receive MCTS generated SMSs/phone calls.

Block

Table 112 Registration of mobile numbers & receipt of MCTS generated SMSs/ phone calls, BPMs, MOICs, DEOs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
BPM				
Status on registration of mobile	No	Yes	No	No
Status on receipt of SMS/Phone calls	No	Yes	No	No
MOIC				
Status on registration of mobile	No	Yes	Yes	No
Status on receipt of SMS/Phone calls	NA	Yes	No	NA
DEO				
Status on registration of mobile	Yes	No	No	No
Status on receipt of SMS/Phone calls	Yes	No	No	No

Out of four BPM responses, one shared that his mobile is registered in the MCTS portal, and he also receives MCTS generated SMSs/phone calls. The remaining three have not registered their mobiles in the MCTS portal.

Out of four MOIC responses, two shared that their mobiles are registered in the MCTS portal. One out of these two shared that he receives MCTS generated SMSs/ phone calls. Two MoICs have not registered their mobile in the MCTS portal.

Out of four DEO responses, one shared that his mobile was registered and that s/ he receives MCTS generated SMSs/phone calls.

Block and Sub-block

Table 113 Registration of mobile numbers & receipt of MCTS generated SMSs/ phone calls, ANMs & ASHAs

	District 1				District 2			
	Block 1		Block 2		Block 3		Block 4	
ANM	**ANM 1**	**ANM 2**	**ANM 3**	**ANM 4**	**ANM 5**	**ANM 6**	**ANM 7**	**ANM 8**
Availability of mobile phones	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Status of registration of mobile in the MCTS portal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Receipt of MCTS generated SMSs/ phone calls	Yes	Yes	Yes	Yes	Yes	Yes	No	No
SMSs/phone calls are related to	Beneficiary due list, general health IEC messages	Beneficiary due list	Beneficiary due list	Beneficiary due list	Beneficiary due list	Beneficiary due list	NA	NA
ASHA	**ASHA 1**	**ASHA 2**	**ASHA 3**	**ASHA 4**	**ASHA 5**	**ASHA 6**	**ASHA 7**	**ASHA 8**
Status on registration of mobile in the MCTS portal	Yes	Yes	Yes	Yes	Yes	Yes	No	NR
Receipt of MCTS generated SMS/ Phone calls	No	No	Yes SMSs received. Phone calls not received.	Yes	No	NR	NR	NR

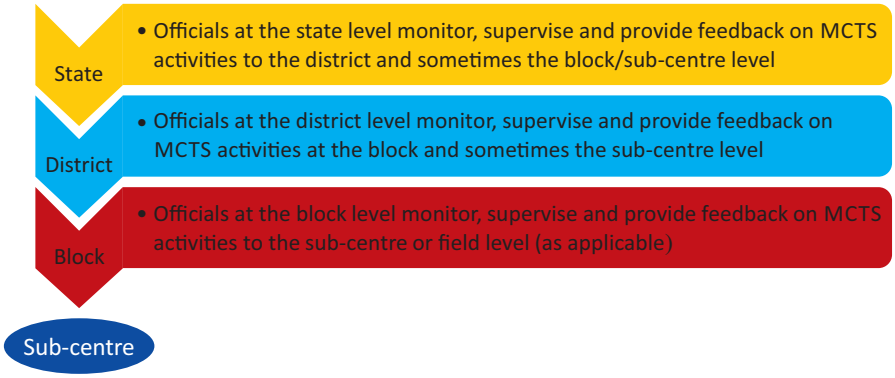
All eight ANMs have mobile phones, and all have registered their mobile numbers in the MCTS portal. Six ANMs shared that they receive MCTS generated SMSs/ phone calls. All six of these ANMs receive beneficiary due lists, with one additionally receiving general health IEC messages.

Out of seven received ASHA responses, six have registered their mobile phones in the MCTS portal. Two ASHAs, out of five received ASHA responses, indicated that they receive MCTS generated SMSs

3.2.3. Monitoring, Supervision and Feedback for MCTS activities

3.2.3.1 Introduction

In this section, questions were posed to officials at the district and block level to gauge the monitoring, supervision and feedback activities with regards to the



MCTS application and its implementation. The questions encompassed these activities at three levels, namely the state, district and the block levels. In general, a monitoring, supervision and feedback structure under this section comprises:

Data-entry for MCTS might occur at either the block level or the sub-centre level and hence the feedback for data entry is received at the level where the DEO is stationed.

For each state, the results are discussed in terms of a) Monitoring and Supervision efforts made at each level, and b) Feedback received at each level (district and block) c) MCTS Application.

a) Monitoring and supervision of MCTS activities

At the district level, questions were aimed at DIOs to ascertain the supervisory efforts made by the state (if any) with regards to MCTS implementation. Additionally, questions were aimed at both DIOs and MIS officers to identify the monitoring and supervision activities for MCTS performance in the districts. The questions also addressed their own awareness of the MCTS application, its utility and to what extent it is utilized at the district level. Questions are available in Appendix A.2 Question no. 304, 305, 402, 403, 412, 413 & 414 for DIO and question no. 203, 301, 402, 403, 410 & 411 can be referred from the appendix A.2.

Questions for MOICs and BPMs address the MCTS monitoring and supervision activities at the block level. The questions also gauged their own awareness of the MCTS application, its utility and to what extent it is utilized at the block level. ANMs were questioned on the number of supervisory visits they received by higher officials during VHNDs/immunization sessions during the last month. Question no. 301, 302, 303, 308, 401, 402, 404, 405, 418 & 420 for MOIC and BPM and question no. 601 can be referred from the appendix A.2.

b) Feedback on MCTS related activities

The questions related to feedback assess the feedback on MCTS related activities provided by the higher levels (state/district) to the levels below.

Questions for DIOs and MIS officers at the district level address the nature of the feedback received at the district from state level officials, how it is received and from whom, and how this feedback is discussed with the block level. Question no. 501 & 502 for DIO, and question no. 504, 505 for MIS officer can be referred from the appendix A.2.

Similar questions for MOICs, BPMs, and DEOs at the block level were aimed at assessing the nature of the feedback received by officials at the block level from district officials, how it is received and from whom, and how this feedback is discussed with field workers (if discussed at all). Questions are available in Appendix A.2 (MOIC and BPM – question no. 501, 502 & 503 and DEO – 501 to 503 & 505).

c) MCTS Application

Questions were asked to MIS officials and DEOs to understand how MCTS application updates are communicated to them from state level officials. DEOs and MIS officials were interviewed on if they provide feedback on software-related issues to state/district level officials. Additionally, they were asked if they receive responses for this feedback. Questions are available in Appendix A.2 (MIS officer – question no. 304, 305 & 306 and DEO – 508, 509 & 510).

3.2.3.2 Karnataka

a) Monitoring and supervision of MCTS related activities

Quantitative Data

State

- State-level officials visit both districts regularly to review MCTS implementation.

District

Table 114 Monitoring and Supervision, DIOs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Use of MCTS Application				
Use of MCTS Application	No		Yes	
Use of MCTS reports for MCH program management	Yes		Yes	
MCTS Beneficiary Registration Monitoring				
Regularly monitor pregnant women registration vs estimated number	Yes		Yes	
Able to give precise figure for registration completion	Yes		Yes	
Regularly monitor infant registration vs estimated number	Yes		Yes	
Able to give precise figure for registration completion	Yes		Yes	
MCTS block-wise performance monitoring				
Able to name two better performing blocks in own district related to MCTS	Yes		Yes	
Able to name two poor performing blocks in own district related to MCTS	NR		Yes	
Review MCTS performance with blocks	Yes		Yes	
If yes to above, how often (in a quarter)	Monthly		Twice a month	

Of the two DIOs interviewed in Karnataka, one uses the MCTS application directly. Both DIOs regularly monitor the registration status of pregnant women and infants against the estimated population and are able to provide rough estimates of the figures. Both DIOs could also name the better performing blocks in the district, and one out of the two could name the poor performing blocks in the district. Both DIOs review MCTS performance of the blocks under their supervision, with one reviewing it on a monthly basis, and the other reviewing it twice a month.

Table 115 Monitoring and Supervision, MIS officials

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Use of MCTS Application				
Use MCTS data to prepare progress report	No		Yes	
If yes, which data?	NA		Registration Data	
MCTS Beneficiary Registration Monitoring				
Regularly monitor the registration of pregnant women vs the estimated number	Yes		Yes	

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Able to give precise figure for registration completion	Yes		Yes	
Regularly monitor the infant registration vs the estimated number	Yes		Yes	
Able to give precise figure for registration completion	Yes		Yes	
MCTS block-wise performance monitoring				
Visit blocks/sub-center for verification and validation of primary data recording tools and MCTS data entry	No		Yes	
Assess block-wise performance	Yes		Yes	
Key performance indicators to assess the performance of blocks	Registration & service given		Registration Status ,Accuracy & Timeliness	
If yes to above, how often (in a quarter)	Monthly		Twice a month	

Two MIS officials were interviewed in Karnataka, one in each district. One MIS official uses MCTS data pertaining to the registration status of beneficiaries to prepare progress reports. The same MIS official visits blocks/sub-centres for verification and validation of primary data recording tools and MCTS entry. Both MIS officials monitor the registration status of pregnant women and infants against the estimated population and are able to provide rough estimates of the figures. Both assess block-wise performance; one on the basis of registration status and services delivered, and the other on registration status, accuracy and timeliness.

Block

Table 116 Monitoring and Supervision, MOICs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Review Meetings				
Periodicity of review meetings with ANMs to discuss field issues	Monthly	Weekly	Once in a Fifteen days	Monthly
ASHA attendance at review meetings	No	No	No	NR
Periodicity of ASHA review meetings to discuss their field issues	Monthly	Monthly	Monthly	Monthly
MCTS issues discussed in these review meetings with ANMs and ASHAs	Yes	Yes	Yes	Yes
Meeting minutes documented and compiled	NR	Yes	No	No
Supervisory Field Visits				
Specified field visit and VHND/ Immunization Session supervision plans prepared	No	Yes	Yes	No
VHND/Immunization Session supervision plan documented	NA	Yes	Yes	NA

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Use of MCTS Application				
Use of MCTS application	Yes	Yes	No	No
Most used MCTS components	Data Entry, Reports, Workplan	Data Entry, Reports, Workplan, daily statistics	In this case even though the MOIC does not use the MCTS application directly, Reports, Scheduled Reports, mother registration and child registration statuses are reviewed by the MOIC	NA
MCTS Beneficiary Registration Monitoring				
Regularly monitor the registration of pregnant female against the estimated population	Yes	Yes	Yes	No
Able to give precise figure for registration completion	Yes	Yes	Yes	NA
Regularly monitor the infant registration against the estimated population.	Yes	Yes	Yes	No
Able to give precise figure for registration completion	Yes	Yes	Yes	NA
Use of MCTS for MCH program management				
Any other report generated by MCTS for MCH program	No	Yes - Tracking severe anaemia in pregnant women, JSY benefits / Madilu Kit could be tracked	NR	No
MCTS data used to prepare progress report.	No	NR	Yes	Yes
Which data used to prepare progress reports	NA	NA	Individual PHC & SC wise & Tally it from hard copy	NR

Four MOICs were interviewed in Karnataka, with one from each block. Of the four, two conduct monthly review meetings with ANMs, one conducts a meeting once in fifteen days, and one on a weekly basis. In three of the four blocks, the ASHA workers are not a part of these meetings. However, a separate monthly review meeting is held with ASHAs by all MOICs. In the review meetings (with both ANMs and ASHAs), MCTS issues are discussed. Two out of three MOICs (one did not respond) reported an absence of any documented records of the review meetings. Two of the four interviewed MOICs had prepared and documented field visit and VHND/Immunization session supervision plans.

Two MOICs use the MCTS application directly. The most used components of the MCTS application are related to data entry reports and work plans for both MOICs in district 1. One MOIC in district 2 uses reports, scheduled reports, and mother and child registration reports. Three MOICs monitor the registration of pregnant women and infants against the estimated populations and are able to provide rough estimates of the figures. One MOIC uses other reports generated from the MCTS application for MCH program management. MCTS data is used to prepare progress reports by MOICs in both blocks in district 2, and is not used in district 1.

Table 117 Monitoring and Supervision, BPMs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Review Meetings				
Periodicity of review meetings with ANMs to discuss field issues	Monthly			Monthly
ASHA attendance at review meetings	No			No
Periodicity of ASHA review meetings to discuss their field issues	No Response			Monthly
MCTS issues discussed in these review meetings with ANM and ASHAs	Yes			Yes
Meetings minutes documented and compiled	No			No
Supervisory Field Visits				
Specified field visit and VHND/ Immunization Session supervision plans prepared	No			No
VHND/Immunization Session supervision plan documented	NA			NA
Use of MCTS Application				
Use of MCTS application by BPM	Yes			No
Most used MCTS components	Reports, Workplan			Reports, Scheduled Reports
MCTS Beneficiary Registration Monitoring				
Use of MCTS application	Yes			No
Regularly monitor the registration of pregnant female against the estimated population.	Yes			No
Able to give precise figure for registration completion	Yes			NA
Regularly monitor the infant registration against the estimated population.	Yes			No
Able to give precise figure for registration completion	Yes			NA
Use of MCTS for MCH program management				
Any other report generated by MCTS for MCH program	NR			No
MCTS data used to prepare progress report.	No			No
Which data used to prepare progress reports	NA			NA

Two BPMs were interviewed in Karnataka; one block in each district. Both hold monthly review meetings with ANMs, where ASHAs are not present, to discuss MCTS-related issues. Review meetings with ASHAs are held monthly by one BPM, and MCTS-related issues are discussed in these meetings. Both BPMs had no documentation of the review meetings. Both BPMs have no field visit and VHND/ Immunization session supervision plans prepared or documented.

One BPM uses the MCTS application directly. Both use components of the MCTS application; reports and workplans, and reports and scheduled reports. One BPM monitors the registration status of pregnant women and infants against the estimated populations and is able to give rough estimates these figures. Neither of the BPMs use reports generated by the MCTS application for MCH program management, nor do they use MCTS data to prepare progress reports.

Table 118 Monitoring and Supervision, ANMs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Number of Supervisory visits received during last month to supervise VHND/Immunization sessions in your field area	2	1	Sometimes	8

All four interviewed ANMs could recall having receiving supervisory visits from higher level officials during the previous month on VHND/Immunization session days in their field areas. One ANM reported 1 visit, one reported 2 visits, and one reported 8 visits. The remaining one could not share the number of supervisory visits received during the last month.

Table 119 Monitoring and Supervision of MCTS activities - Survey investigator notes

State level issues	MIS officials at the state level follow up on data entry with health workers as well as beneficiaries. Each official from the MIS cell is required to make 5 calls per day for MCTS data verification

b) Feedback on MCTS related activities

Quantitative Data

District

Table 120 Feedback on MCTS, DIOs, MIS officials

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Feedback on MCTS, DIOs				
Feedback on MCTS. If yes, then from where?	Yes, from state		Yes, from state	
When is the feedback received?	During state review meetings		During state review meetings	
Feedback on MCTS, MIS officials				
Feedback on MCTS. If yes, then from where?	Yes, from state		Yes, from state	
When is the feedback received?	During state review meetings		During state review meetings and supervisory visits	

Both DIOs and both MIS officials receive feedback on MCTS from the state level during state review meetings. One MIS official also reported receiving supervisory visits from the state level

Block

Table 121 Feedback on MCTS, MOICs, BPMs, and DEOs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Question: From which level is the feedback received (if received), and how is it received?				
MOIC	National level during district review	No feedback received	State and district during supervisory visits	No feedback received
BPM	No feedback Received			State, through MCTS built-in feedback mechanism
DEO	No feedback received	No feedback received	From the district during review meetings	From the district during review meetings and through the MCTS built in feedback mechanism
Question: Is there a record of the feedback?				
MOIC	No	NA	No	NA
BPM	NA			No
DEO	NA	NA	No	No
Question: What are the issues raised in the feedback and what is the corrective action taken?				
DEO	NA	NA	Registration status. Discussed in PHC review meeting	Other - Though feedback is discussed in taluka & district meetings , I do not attend the meetings

At the block level, one of the two MOICs in district 1 receives feedback on MCTS from the national level during district review meetings. No feedback is received by both DEOs, and the one BPM in district 1. There is also no documentation of any feedback received.

In district 2, one out of two MOICs receives feedback on MCTS implementation from the state and district levels during supervisory visits. One DEO from district 2 receives feedback from the district during review meetings. Another DEO in district 2 receives feedback from the district during review meetings and through the MCTS in-built feedback mechanism, and the one BPM receives feedback from the state through the MCTS in-built feedback mechanism. None of the officials have any record of the feedback received. Of the two DEOs receiving feedback, one reported that issues raised in feedback centered on registration status, which was subsequently discussed at PHC review meetings. Another DEO shared that feedback is discussed in taluka and district meetings, but he does not attend the meetings.

c) MCTS Application

Quantitative Data

Table 122 Updates on MCTS to data personnel at the district and block level

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Question: Do you receive application updates from NIC/ MCTS cell?				
MIS	Yes		Yes	
DEO	Yes	Yes	No	Yes
Question: Are application updates are communicated with proper instructions?				
MIS	Yes		Yes	
DEO	Yes	Yes	No	No

Table 123 Communication between MIS/DEO and higher level officials for MCTS software related issues

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Question: Do you provide MCTS software related feedback to district or state level officials?				
MIS	Yes		Yes	
DEO	Yes	Yes	NR	Yes
Question: If yes? Do you receive any response?				
MIS	Yes		Yes	
DEO	NR	Yes	NR	Yes

Out of two interviewed MIS officials, both shared that they receive application updates with proper instructions.

Out of four DEOs interviewed, three shared that they receive application updates from state/district level officials. Out of three who received application updates, two shared that application updates are communicated with proper instructions.

Out of two interviewed MIS officials, both shared that they have shared software related feedback with state level officials, and have received responses from them.

Out of three DEO responses received, all shared that they provide software related feedback to state/ district level officials. Out of those three, two shared that they receive responses on the feedback.

Open ended questions and survey investigator notes

Table 124 MCTS Application- Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MoIC	NR	MCTS generated SMS should provide month-wise as well as cumulative output in terms of data entry.	NR	Need to appoint a dedicated staff if possible for MCTS.

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
DEO	The system gets auto locked within a few minutes or few seconds If left dormant. There is no provision for editing data at the level of DEO. The data field "Place of delivery "gets recorded twice in ANC as well as child details	Timeliness and completeness is satisfactory in terms of new registration. Service delivery updation through SMS is poor. If date of mother delivery date is not entered , You can't enter child details	NR	NR

Table 125 MCTS Application – Survey investigator notes

State level issues	If possible, the state is interested in looking at a tablet-based MCTS portal, which can be provided to ANMs for data entry.
State level issues	ANMs in the state have been provided with a CUG (common user group) sim card through which they can directly update services provided to the beneficiaries via an SMS into the MCTS portal. This system has just been set-up and is being worked on. The state is looking into options where the process of sending the SMS is made simple and is working with cell phone manufacturers to incorporate this.
State level issues	The state is taking stringent steps to ensure that the Aadhaar ID can be linked to MCTS and various other benefits such as JSY. This will also ensure that no re-entry for women is needed for recurrent pregnancies. Starting 1st Jan 2013, all JSY benefits in district 2 will be linked to Aadhaar ID. This will benefit the MCTS.
State level issues	The MCTS portal requires the details of the child to be entered at the point of delivery. This is a fresh entry and can be done only after the details of the mother (including child delivery) are completed. This causes a decrease in the number of children registered.
State level issues	Duplication of Thayi card number poses a problem in data entry.
State level issues	The state government needs to solve glitches in the software that interfere with updation of data and make child entry a hassle at the lower levels

3.2.3.3 Rajasthan

a) Monitoring and supervision of PCTS related activities

Quantitative Data

State

- There are consistent efforts being made in the state towards constant monitoring and supervision of PCTS-related activities.

District

Table 126 Monitoring and Supervision, DIOs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Use of MCTS Application				
Use of PCTS Application	Yes			
Use of PCTS reports for MCH program management	Yes, immunization, ANC and delivery reports			

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MCTS Beneficiary Registration Monitoring				
Regularly monitor pregnant women registration vs estimated number	Yes			
Able to give precise figure for registration completion	Yes			
Regularly monitor infant registration vs estimated number	Yes			
Able to give precise figure for registration completion	Yes			
MCTS block-wise performance monitoring				
Able to name two better performing blocks in your district	Yes			
Able to name two poor performing blocks in your district related to PCTS	Yes			
Review PCTS performance with blocks	Yes			
If yes, how often (in a quarter)	Monthly			

One DIO was interviewed in Rajasthan. This DIO uses the PCTS application and PCTS reports for MCH program management. In addition, he regularly monitors the registration status of pregnant women and infants against the estimated numbers and is able to provide rough estimates of the figures. The DIO could also name the poor and better performing blocks in the district. The DIO also reviews PCTS performance of the blocks under his/her supervision on a monthly basis.

Table 127 Monitoring and Supervision, MIS officials

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Regularly monitor the registration of pregnant female against the estimated population?	Yes		Yes	
Use of PCTS reports for MCH program management	Yes, immunization, ANC and delivery reports			
MCTS Beneficiary Registration Monitoring				
Regularly monitor the registration of pregnant female against the estimated population?	Yes		Yes	
Able to give precise figure for registration completion	Yes		Yes	
Regularly monitor the infant registration against the estimated population?	Yes		Yes	
Able to give precise figure for registration completion	Yes		Yes	
MCTS block-wise performance monitoring				
Visit blocks/sub-center for verification and validation of primary data recording tools and PCTS data entry	Yes		No	

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Assess block wise performance	Yes		Yes	
Key performance indicators to assess the performance of blocks?	ANC Registration, Delivery, ANC check-up, Immunization , Sterilization		Registration, Child Immunization, Deliveries	

Two MIS officials were interviewed in Rajasthan, with one in each district. Both MIS officials use PCTS data to prepare progress reports. One MIS official uses PCTS data to generate a HMIS report, while the other could not elaborate on this matter. One MIS official visits the blocks/sub-centres for verification and validation of primary data recording tools and PCTS entry. Both MIS officials monitor the registration status of pregnant women and infants against the estimated numbers and are able to provide rough estimates of the figures. Both assess block-wise performance on the basis of registration status and services provided to beneficiaries.

Block

Table 128 Monitoring and Supervision, MOICs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Review Meetings				
Periodicity of review meetings with ANMs to discuss field issues	Monthly	Monthly	Monthly	Monthly
ASHA attendance at review meetings	No	No	Yes	Yes
Periodicity of ASHA review meetings to discuss their field issues	Once in 6 months	Monthly	Monthly	Monthly
MCTS issues discussed in these review meetings with ANM and ASHAs	Yes	Yes	Yes	Yes
Meetings minutes documented and compiled	No	Yes	Yes	Yes
Supervisory Field Visits				
Specified field visit and VHND/ Immunization Session supervision plans prepared	Yes	No	Yes	NR
VHND/Immunization Session supervision plan documented	No	NA	NR	NA
Use of MCTS Application				
Use of MCTS application	No	No	Yes	No
Most used MCTS components	MCTS reports & workplans	NA	NR	MCTS reports
MCTS Beneficiary Registration Monitoring				
Regularly monitor the registration of pregnant female against the estimated population	Yes	Yes	No	NR
Able to give precise figure for registration completion	Yes	NR	NA	NA
Regularly monitor the infant registration against the estimated population.	Yes	NR	No	NR
Able to give precise figure for registration completion	Yes	NA	NA	NA

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Use of MCTS for MCH program management				
Any other report generated by PCTS for MCH program	Yes,			
SC wise PCTS reports, Immunization reports Delivery reports Family welfare,	Yes ,			
missing delivery , Immunization Linelist , Use multiple reports	NR	NR		
MCTS data used to prepare progress report.	Yes	Yes	Yes	Yes
Which data used to prepare progress reports	Progress report	ANC, Immunization and delivery	ANC, delivery reports	NR

All four MOICs in Rajasthan conduct monthly review meetings monthly with ANMs. Two MOICs stated that ASHA workers are not a part of this meeting. However, separate monthly review meetings with ASHAs are held by three MOICs and one MOIC conducts review meeting with ASHAs once every 6 months. PCTS issues are discussed in these review meetings. Three MOICs reported that there are documented records of these review meetings. Two of the four MOICs interviewed (one did not respond) had prepared field visit and VHND/Immunization session supervision plans. However, none of the MOICs had documented the supervision plans.

One of the four MOICs uses the PCTS application directly. The most used components of the PCTS application are related to data entry reports and work plans for one MOIC in district 1, and PCTS reports for one MOIC in district 2.

Two MOICs monitor the registration of pregnant women, and one of the two MOICs is able to provide rough estimates of the registration figures. One monitors the registration of infants, is able to provide estimates for the same. Two MOICs use reports generated from the PCTS application for MCH program management. PCTS data are used to prepare progress reports by all four MOICs in both districts. The data used relates to service delivery in the state.

Table 129 Monitoring and Supervision, BPMs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Review Meetings				
Periodicity of review meetings with ANMs to discuss field issues	Monthly	Monthly		
ASHA attendance at review meetings	No	No		
Periodicity of ASHA review meetings to discuss their field issues	Monthly	Monthly		
MCTS issues discussed in these review meetings with ANM and ASHAs	Yes	Yes		
Meetings minutes documented and compiled	Yes	Yes		

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Supervisory Field Visits				
Specified field visit and VHND/ Immunization Session supervision plans prepared	No	Yes		
VHND/Immunization Session supervision plan documented	NA	Yes		
Use of MCTS Application				
Use of MCTS application by BPM	Yes	Yes		
Most used MCTS components	Data entry and reports	Reports and analysis of sector wise data		
MCTS Beneficiary Registration Monitoring				
Regularly monitor the registration of pregnant female against the estimated population	Yes	Yes		
Able to give precise figure for registration completion	Yes	Yes		
Regularly monitor the infant registration against the estimated population.	Yes	Yes		
Able to give precise figure for registration completion	Yes	Yes		
Use of MCTS for MCH program management				
Any other report generated by MCTS for MCH program	Yes, SC wise report & PHC wise report	Yes, Immunization ANC registration & services delivery sterilization Dropout/ missing immunization, Ranking of ANM		
MCTS data used to prepare progress report.	Yes	Yes		
Which data used to prepare progress reports	SC wise report & PHC wise report	ANC, Immunization and delivery		

Two BPMs were interviewed in Rajasthan with both belonging to the blocks in district 1. Both hold monthly review meetings with ANMs, where ASHAs are absent, to discuss PCTS-related issues. Separate review meetings with ASHAs are held monthly by both BPMs, and PCTS-related issues are also discussed in these meetings. Both BPMs had documentation of the review meetings. One BPM had field visit and VHND/Immunization sessions supervision plans prepared and documented.

Both BPMs use the MCTS application directly. Both use components of the PCTS application; data entry and reports for one, and just reports for the other. Both BPMs monitor the registration status of pregnant women and infants against the estimated populations and are able to give rough estimates these figures. Additionally, both BPMs use reports generated by the MCTS application for MCH program management and use PCTS data to prepare progress reports.

Table 130 Monitoring and Supervision, ANMs

	District 1				District 2			
	Block 1		Block 2		Block 3		Block 4	
ANM	**ANM 1**		**ANM 3**	**ANM 4**	**ANM 5**	**ANM 6**	**ANM 7**	**ANM 8**
Number of Supervisory visits made during last month to supervise VHND/ Immunization sessions in your field area	0		2	2	1	2	1	1

Of the seven interviewed ANMs, six could recall having received supervisory visits from higher level officials during the previous month on VHND/Immunization session days. Three ANMs reported two visits, while three reported one visit, over the past month.

Open ended questions and survey investigator notes

Table 131 Monitoring and Supervision – Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MIS	Mobility support required for MIS to conduct field visits, who currently depends on field visits by the CMO/MOIC.		NR	

Table132 Monitoring and supervision – Survey investigator notes

State level issues	The need for structured review and feedback mechanisms for MCH activities and the PCTS application was raised at district and state level discussions
State level issues	Virtual call Centre at state and district levels to solve PCTS-related problems at lower levels. Regular feedback through e-mail for PCTS.
District level issues	The district is unaware of any e-mission mode for MCTS.

b) Feedback on MCTS related activities

Quantitative Data

District

Table 133 Feedback on MCTS, DIOs, MIS officials

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Feedback on MCTS, DIOs				
Feedback on MCTS. If yes, then from where	Yes from state			
When is the feedback received	During state review meetings and via mail and phone			
Feedback on MCTS, MIS officials				
Feedback on MCTS. If yes, then from where	Yes from state		Yes from state	
When is the feedback received	During review meetings and via mail/letter		During state review meetings	

The DIO, (where present) and both MIS officials receive feedback on MCTS from the state level during either exclusively during state review meetings or a combination of state review meetings, email and letters.

Block

Table 134 Feedback on MCTS, MOICs, BPMs, and DEOs

	District 1		District 2	
	Block 1	**Block 2**	**Block 3**	**Block 4**
Question: From which level if the feedback received, (if received) and how is it received?				
MOIC	From state via mail	From district during district review meetings	From district during district review meetings	From the state but no response on how
BPM	From state and district via mail	From state, during district review meetings and via email and telephone		
DEO	Not received	From the district during review meetings	From the district during review meetings and supervisory visits	From the state and district during review meetings and supervisory visits
Question: Is there a record of the feedback?				
MOIC	No	Yes	No	NR
BPM	Yes	Yes		
DEO	NR	Yes	No	No
Question: What are the issues raised in the feedback and what is the corrective action taken?				
DEO	NA	Status of coverage of services and this is discussed in the PHC review meetings	Registration status, timeliness and completeness of data. No response on the corrective action taken.	Completeness of data and this is discussed in the PHC review meetings.

Four DEOs, four MOICs, and two BPMs were interviewed at the block level in Rajasthan to assess the feedback received on PCTS implementation.

Both BPMs receive feedback from either the state and district level via mail, email or telephonic exchanges. The feedback is documented. All four MOICs receive feedback. The MOICs in district 1 receive feedback either from the state via mail, or from the district during district review meetings. In district 2, one of the MOICs receives feedback from the district level mainly during district review meetings. The remaining MOIC in district 2 receives feedback from the state, but could not comment on how this feedback is received. One of the four interviewed MOICs has records of the feedback received.

One of the two DEOs in district 1 receives feedback from the district during district review meetings. The two DEOs in district 2 receive feedback from either the district, or the district and the state, during district review meetings and supervisory visits. One of the four interviewed DEOs has some record of the feedback received.

The feedback provided to the DEO in district 1 relates to the coverage of services,. This feedback is discussed during PHC review meetings. The feedback received in district 2 relates to the registration status of beneficiaries and completeness and

timeliness of data in one block, and completeness of data in another. One block in district discusses these issues during PHC review meetings.

c) MCTS Application

Quantitative Data

Table 135 Updates on MCTS to data personnel at the district and block level

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Question: Do you receive application updates from NIC/ MCTS cell?				
MIS	No		Yes	
DEO	No	No	NR	No
Question: Are MCTS updates communicated with proper instructions?				
MIS	NR		Yes	
DEO	NA	NA	NR	NA

Table 136 Communication between MIS/DEO and higher level officials for MCTS software related issues

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Question: Do you provide MCTS software related feedback to district or state level officials?				
MIS	Yes		Yes	
DEO	No	NR	NR	Yes
Question: If yes? Do you receive any response?				
MIS	Yes		Yes	
DEO	NA	NR	NR	Yes

Out of two MIS officials interviewed, one shared that he does not receive application updates. The remaining one shared that application updates are received with proper instructions.

Out of 3 DEO received responses, all shared that they do not receive application updates.

Out of two MIS officials interviewed, both shared that they provide feedback to state level officials regarding the MCTS software and also receive responses for the same.

Out of two DEO responses received, one shared that he provides feedback regarding software to state/district level officials and also receives responses for the feedback given. The remaining one shared that he does not provide feedback on the MCTS software to state/district level officials.

Open ended questions and survey investigator notes

Table 137 MCTS Application –Staff responses

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
MIS	NR		In-built mechanism of identifying errors should be developed in the MCTS portal.	

Table 138 MCTS Application : Survey investigator notes

State level issues	Rights of error identification or rectification are only at the state level. The state sends a letter to the districts regarding identified errors in MCTS data. Districts officials communicate the same at block level and then identified mistakes are rectified at PHC level .

3.2.3.4 Uttar Pradesh

a) Monitoring and supervision of MCTS related activities

Quantitative Data

State

- There is no involvement of the state in monitoring and supervision of MCTS-related activities.

District

Table 139 Monitoring and Supervision, DIOs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Use of MCTS Application				
Use of MCTS Application	No		No	
Use of MCTS reports for MCH program management	Yes, data pertaining to registration status		Yes, Due List of beneficiary, Verification of Beneficiary & their vaccination status	
MCTS Beneficiary Registration Monitoring				
Regularly monitor pregnant women registration vs estimated number	No		Yes	
Able to give precise figure for registration completion	NA		Yes	
Regularly monitor infant registration vs estimated number	No		Yes	
Able to give precise figure for registration completion	NA		Yes	
MCTS block-wise performance monitoring				
Able to name two better performing blocks in your district	Yes		Yes	
Able to name two poor performing blocks in your district related to MCTS	Yes		Yes	
Review MCTS performance with blocks	Yes		Yes	
If yes, how often (in a quarter)	Monthly		Weekly and monthly	

Two DIOs were interviewed in Uttar Pradesh. Both interviewed DIOs do not directly use the MCTS application, but use MCTS reports for MCH program management. One DIO regularly monitors the registration status of pregnant women and infants against the estimated numbers and are able to provide rough estimates of the figures. Both DIOs could name the poorer and better performing blocks in their districts. The DIOs also review MCTS performance of the blocks under their supervision on a monthly/weekly and monthly basis.

Table 140 Monitoring and Supervision, MIS officials

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Use of MCTS Application				
Use MCTS data to prepare the progress report	Yes		No	
If yes, which data?	Scheduled reports		NA	
MCTS Beneficiary Registration Monitoring				
Regularly monitor the registration of pregnant female against the estimated population?	Yes		Yes	
Able to give precise figure for registration completion	Yes		Yes	
Regularly monitor the infant registration against the estimated population?	Yes		Yes	
Able to give precise figure for registration completion	Yes		Yes	
MCTS block-wise performance monitoring				
Visit blocks/sub-center for verification and validation of primary data recording tools and MCTS data entry	Yes		Yes	
Assess block wise performance	Yes		Yes	
Key performance indicators to assess the performance of blocks?	Registration, updation of services and coverage		Service delivery updation MCTS Registration	

Two MIS officials were interviewed in Uttar Pradesh with one in each district. One MIS official uses MCTS data from scheduled reports to prepare progress reports. Both MIS officials visit blocks/sub-centres for verification and validation of primary data recording tools and MCTS entry. Both MIS officials monitor the registration status of pregnant women and infants against the estimated numbers and are able to provide rough estimates of the figures. Both assess block-wise performance; in district 1 on the basis of registration status, updation of service delivery data, and coverage of services, and in district 2 on the basis of MCTS registration and service delivery data updation.

Block

Table 141 Monitoring and Supervision, MOICs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Review Meetings				
Periodicity of review meetings with ANMs to discuss field issues	Weekly	Weekly	Weekly	Weekly
ASHA attendance at review meetings	Yes	No	No	No
Periodicity of ASHA review meetings to discuss their field issues	Monthly	Monthly	Monthly	Weekly
MCTS issues discussed in these review meetings with ANM and ASHAs	Yes	Yes	No	Yes
Meetings minutes documented and compiled	Yes	Yes	Yes	No

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Supervisory Field Visits				
Specified field visit and VHND/ Immunization Session supervision plans prepared	No	No	No	No
VHND/Immunization Session supervision plan documented	NA	NA	NA	NA
Use of MCTS Application				
Use of MCTS application	No	No	No	No
Most used MCTS components	NR	Data entry	NR	Data entry
MCTS Beneficiary Registration Monitoring				
Regularly monitor the registration of pregnant female against the estimated population	No	Yes	No	Yes
Able to give precise figure for registration completion	NA	Yes	NA	Yes
Regularly monitor the infant registration against the estimated population.	No	Yes	No	Yes
Able to give precise figure for registration completion	NA	Yes	NA	Yes
Use of MCTS for MCH program management				
Any other report generated by MCTS for MCH program	No	No	No	No
MCTS data used to prepare progress report.	No	No	No	No
Which data used to prepare progress reports	NA	NA	NA	NA

Four MOICs were interviewed in Uttar Pradesh, with one MOIC in each block. All four conduct weekly review meetings with ANMs. Three MOICs stated that ASHA workers do not participate in these meetings. However, separate monthly (in three blocks), or weekly (in one block), review meetings are held with ASHAs by MOICs. MCTS issues are discussed in these review meetings by three MOICs. Three MOICs reported that there are documented records of review meetings. None of the MOICs had prepared or documented field visit and VHND/Immunization session supervision plans.

None of the MOICs use the MCTS application directly. The most used components of the MCTS application are related to data entry for two MOICs. Two MOICs monitor the registration of pregnant women and infants against the estimated populations and are able to provide rough estimates of the figures. None of the MOICs use reports generated from the MCTS for MCH program management. MCTS data is not used to prepare progress reports by any of the MOICs

Table 142 Monitoring and Supervision, BPMs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Review Meetings				
Periodicity of review meetings with ANMs to discuss field issues	Weekly	Weekly	Weekly	Weekly and Monthly
ASHA attendance at review meetings	Yes	Yes	No	Yes

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Periodicity of ASHA review meetings to discuss their field issues	Monthly	Monthly	Monthly	Weekly
MCTS issues discussed in these review meetings with ANM and ASHAs	Yes	No	Yes	Yes
Meetings minutes documented and compiled	Yes	NR	Yes	No
Supervisory Field Visits				
Specified field visit and VHND/ Immunization Session supervision plans prepared	Yes	No	No	No
VHND/Immunization Session supervision plan documented	No	NA	NA	NA
Use of MCTS Application				
Use of MCTS application by BPM	No	No	No	No
Most used MCTS components	Scheduled reports			Data entry
MCTS Beneficiary Registration Monitoring				
Regularly monitor the registration of pregnant female against the estimated population	No	Yes	No	Yes
Able to give precise figure for registration completion	NA	Yes	NA	Yes
Regularly monitor the infant registration against the estimated population.	No	Yes	No	Yes
Able to give precise figure for registration completion	NA	Yes	NA	Yes
Use of MCTS for MCH program management				
Any other report generated by MCTS for MCH program	No	No	No	Yes, Estimation of Beneficiary, JSY Report generation, Maternal Death record
MCTS data used to prepare progress report.	Yes	No	No	No
Which data used to prepare progress reports	Identification and coverage	NA	NA	NA

Four BPMs were interviewed in Uttar Pradesh. Three BPMs hold weekly review meetings with ANMs. The remaining one BPM shared that he holds weekly and monthly meetings with ANMs. Three BPMs stated that ASHAs are a part of these meetings. However, separate monthly (in three of the 4 blocks) or a weekly (in one block) review meeting is held with ASHAs by MOICs. MCTS issues are discussed in these review meetings by three BPMs. Two BPMs reported that there are documented records of the review meetings. One BPM had prepared field visit and VHND/Immunization session supervision plans. However, there was no documentation of the supervision plan.

None of the BPMs use the MCTS application directly. Two BPMs use components of the MCTS application related to scheduled reports and data entry. Two

BPMs monitor the registration status of pregnant women and infants against the estimated populations and are able to give rough estimates these figures. One BPM uses reports generated by MCTS for MCH program management, and MCTS data is used to prepare the progress report by one BPM.

Table 143 Monitoring and Supervision, ANMs

	District 1				District 2			
	Block 1		Block 2		Block 3		Block 4	
Number of Supervisory visits made during last month to supervise VHND/Immunization sessions in your field area	0	0	3	NR	2	1	0	0

Of the eight ANMs interviewed, three reported receiving supervisory visits from higher level officials during the previous month on VHND/Immunization session days in their field areas. One reported 1 visit, one reported 2 visits, and one reported 3 visits.

b) Feedback on MCTS related activities

Quantitative Data

District

Table 144 Feedback on MCTS, DIOs and MIS officials

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Feedback on MCTS, DIOs				
Feedback on MCTS. If yes, then from where?	Yes from state		Yes, from state	
When is the feedback received?	During state review meetings, MCTS in-built feedback mechanism,		During state review meetings, and via SMS and email. No structured feedback only need based.	
Feedback on MCTS, MIS officials				
Feedback on MCTS. If yes, then from where?	Yes from state		Yes from state	
When is the feedback feedback received	During state review meetings and via the MCTS in built feedback loop		No structured format. Received via phone and mail	

Both DIOs and both MIS officials receive feedback on MCTS from the state level. One of the DIOs receives feedback in state review meetings and from the MCTS in-built feedback mechanism. Another DIO receives feedback during state review meetings, and via SMS and email, and reports that only need based, unstructured feedback is provided.

One MIS official receives feedback from state-level officials in state review meetings and through the in-built MCTS feedback loop. The remaining MIS official receives feedback via phone and email with no defined structure.

Block

Table 145 Feedback on MCTS, MOICs, BPMs, and DEOs

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Question: From which level if the feedback received, and how is it received?				
MOIC	Not received	From District, During district review meetings, during supervisory visit	From district, during district review meetings, during supervisory meetings. No structured feedback, only need based.	During district review meeting, via email, no structured feedback only need based.
BPM	From district during district review meetings	State and district during district review meetings and supervisory visits	Not received	District through the MCTS in built feedback loop, via email, during district review meetings
DEO	From district during district review meetings and supervisory visits	Not received	No formal system of feedback given by district DIO, only when MCTS registration is low.	During review meetings and via mail, during every Tuesday meeting
Question: Is there a record of the feedback?				
MOIC	No	NA	No	Yes
BPM	Yes	Yes	NA	Yes
DEO	No	NA	Yes	Yes
Question: What are the issues raised in the feedback and what is the corrective action taken?				
DEO	Registration status, coverage of services and this is discussed in the PHC review meeting	NR	Registration status and this is discussed at the PHC review meeting taken	Registration status and this is discussed at the PHC review meeting taken

Four DEOs, four MOICs, and four BPMs were interviewed in Uttar Pradesh to ascertain the feedback received at the block level.

Three out of four MOICs receive feedback on MCTS implementation. One MOIC in district 1 receives feedback during district review meetings, and during supervisory visits. One MOIC in district 2 receives feedback from the district via email, and during district review meetings. Another MoIC from district 2 receives feedback from district review meetings, and during supervisory meetings. Both MoICs in district 2 shared that no structured feedback is received, and only need based feedback is provided. One out of the three MOICs who receive feedback has records of the feedback.

Three out of four BPMs receive feedback on MCTS implementation. Two indicated receiving feedback from the district level, and one from a combination of the state and district levels. The feedback is received during district review meetings and supervisory visits in district 1, and through the MCTS built-in feedback loop, via email, and during district review meetings in district 2. All BPMs who receive feedback have some record of them.

Three out of four DEOs receive feedback on MCTS implementation. The DEO in district 1 receives feedback from the district level during district review meetings and supervisory visits. One DEO in district 2 receives feedback from the district via mail and review meetings. The other DEO in district 2 shared that the DIO provides feedback whenever MCTS registration is low, and that there is no formal system of feedback. Two of the three DEOs who receive feedback have some record of the feedback.

The feedback provided to the DEOs relates to registration status of beneficiaries and status of coverage of services in district 1. In district 2, the feedback received pertains to the registration status of beneficiaries. In all cases where feedback is received, it is subsequently discussed by DEOs in PHC review meetings. One DEO in district 1 did not provide a response on this question.

c) MCTS Application

Quantitative Data

Table 146 Updates on MCTS to data personnel at the district and block level

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Question: Do you receive application updates from NIC/MCTS cell?				
MIS	Yes		No	
DEO	No	No	No	Yes
Question: Are application updates communicated with proper instruction?				
MIS	Yes		NR	
DEO	NA	NA	NA	Yes

Table 147 Communication between MIS/DEO and higher level officials for MCTS software related issues

	District 1		District 2	
	Block 1	Block 2	Block 3	Block 4
Question: Do you provide MCTS software related feedback to district or state level officials?				
MIS	Yes		Yes	
DEO	Yes	No	Yes	Yes
Question: If yes? Do you receive any response				
MIS	No		Yes	
DEO	Yes	NR	Yes	No

Out of two interviewed MIS officials, one shared that he receives application updates with proper instructions. The remaining one MIS official shared that he does not receives such updates. Out of four interviewed DEOs, one shared that he receives application updates with proper instructions. The remaining three shared that they do not receive such updates.

Out of two MIS officials interviewed, both shared that they communicate feedback regarding software to state level officials. Out of the two, one shared that he does not receive responses on the same. The remaining one shared that he receives responses for his feedback.

Out of four interviewed DEOs, three shared that they have provided feedback regarding the MCTS software to state/district level officials. Out of these three, two receive responses for the same.

Open ended questions and survey investigator notes

Table 148 - MCTS Application – Survey investigator notes

State level issues	Need more technical support from national level for improving MCTS implementation.

3.2.4 MCTS Application desk review

The MCTS application comprises three main modules, namely; Common Master Administration, data entry and output report.

Table 149 MCTS Modules

	Common Master Administration	Data Entry	Output Report
Description	The master administration module comprises of the following information - state list, district list, block list, state level estimation of beneficiaries, and frontline health workers' details. This information gets updated at national-level MCTS portal.	Data entry module comprises functions of data entry for new beneficiary registration and service delivery updation. It can be accessed at the lowest data entry point - PHC, CHC, Block PHC.	The report module covers outputs on human resources, registration status, workplan, service delivery (due and given), contact verification, list of user ID and login time details , dashboard on all indicators and Interactive Voice Recording access status.
Access to module	Access with the administrator (MMPC/ NIC).	At facility level such as PHC/CHC and is password protected	State specific access, and is password protected
Online or offline	Online	Online for new registration, and both online and offline for service delivery	Online

MCTS application findings are based on desk reviews and IDI qualitative section findings. The desk review of MCTS application was done in December 2012 and again in April 2013. The desk review for the MCTS application reviewed output reports from the MCTS portal and available documents from MoHFW, NIHFW. In addition, minutes of video conference meetings to review MCTS implementation, and responses to the MCH query "Strengthening and scale up of nation-wide MCTS" in the UNDP Solution-Exchange, were also considered

Table 150 Output report (National Level MCTS Application)

Observations	Recommendations
All the output reports can be accessed by selecting pre-designed indicators i.e. geographic unit, time/duration, type of health facility, beneficiary type, frontline health worker. There is no provision/ flexibility for developing customized reports by selecting a set of information/indicators as per requirements. Lack of provision/ flexibility to prepare customized reports limits possibility of using data for action.	A provision should be made for retrieving data by selecting information /indicators in the form of customized reports.

Observations	Recommendations
In performance dashboards on the portal, performance is measured against the number of registered beneficiaries and not against the estimated beneficiary population. Performance measurements against estimated population numbers will help in understanding gaps in service delivery, and reaching hard-to-access beneficiaries.	Performance dashboards need to measure MCTS performance against estimated number of beneficiaries. For district specific reports, the district level estimated population of beneficiaries should also be used as a denominator, instead of beneficiaries registered in the portal.
Two major MIS sources in the country; HMIS and MCTS - using different values for estimated infant population. Estimates year 2013-14 For MCTS= 27,151,000 & For HMIS - 25,953,000	It is suggested to use uniform estimates in all sources.
No consolidated reports at national level for multiple variables covering all states, and similarly for all districts at state level, and all health facilities at district level Currently, program managers have to extract reports from all 35 state sheets to get national level comparison she ets.	The application should be able to generate more program friendly reports for all major service related indicators These reports should ideally be presented in the following format: • for all states in one sheet at the national level • for all districts in one sheet at the state level • for all health facilities in one sheet at the district level. The time period for such reports can be set for the last running 12 months, or at a fixed interval annually, with both month wise and cumulative figures presented. Users should be able to select multiple indicators (registration rates, BCG, DPT3, Measles, FIC, drop-out rates, etc.) from a drop down menu and generate a report.
Comparison of data across states/ districts/ blocks is not possible. Comparison of data for two specific time periods is not possible.	A provision should be made for data comparison across different states/ districts/ blocks as well as across time periods.
When the reports are exported into excel formats, the resulting excel sheet is pre-formatted and requires reformatting to enable data analysis	Exported excel sheets should be formatted for easy analysis.
Login using Andhra Pradesh is mandatory at the national level to view national level output reports. This login provides access to national reports as well Andhra Pradesh reports. To view other states' output reports, the user needs to switch back to the home page and select the desired state.	A national level login interface should be created which provides access to national and state specific reports.
There is no online help manual for the portal with instructions on the content available, how to navigate the portal, and how to deal with problems encountered (in the form of help or FAQ's)	Utility modules (i.e. FAQs, Sitemap, indicator definition, entry formats) should be included in the application

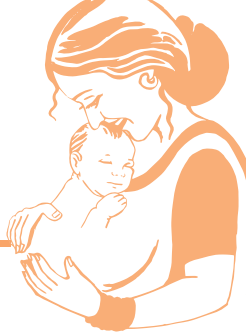
Observations	Recommendations
Access to the portal is sometimes slow, probably due to an excessive load on the server or slow internet speed at user-end, as a result of which the users get logged off frequently.	Server speed and multi-user access needs to be increased in order to enable faster access to the portal for easy data entry and quick access to the reports it generates. Provision for off-line data entry, especially for areas with low internet speed and frequent internet downtime.
The primary data (raw) on the portal cannot be exported into any other database format such as excel.	It is suggested to have some mechanism to export static data (line list) and dynamic data (registration and service delivery) into excel or any other format for further analysis.

Table 151 State specific observations

Observations	Recommendations
PCTS Application (Rajasthan)	
PCTS is used as single source of information for Rajasthan's MCTS and HMIS indicators at the national level, with synchronization and matching between these two MIS systems.	MCTS achievement should be monitored through HIMS data and vice versa. This will help in improving data quality.
The state government has developed a bridge module to export the PCTS data into MCTS data. But beneficiary level data (based on ID) cannot be accessed from national MCTS.	The bridge module also needs to incorporate the synchronisation of IDs at both levels (PCTS and MCTS).
The rights of correction of master records are at State level. In case of corrections needed at data entry level (block/PHC), data entry requests are routed through district nodal officers in predesigned hardcopy formats . This process takes time to reflect in databases.	Updation and authorisation can be included in PCTS as in-built module. So that corrections can be done at block or data entry level after approval from higher authority.
Once the information on Last Menstrual Period (LMP) of a pregnant women is entered in the PCTS, the system generates the schedule and due date of delivery, and other services due for the mother and child. In case of incorrect entry of LMP date, all these dates are wrongly generated automatically though services may be given at different dates and it cannot be changed at data entry level.	Rights of correction of critical fields (i.e. LMP) should be extended to data enty level.
(Karnataka)	
Rights of updation of data is not available at PHC/Block level.	Rights for updation need to give at data entry level or embedded approval from (higher level) module can be included.
The system gets auto locked within a few minutes, or a few seconds, if left dormant.	Locking time can be increased for uninterrupted data entry

Chapter 4

Data Quality Assessment (DQA)



4.1 Introduction

Data Quality Assessments (DQAs) were conducted in two surveyed states; Rajasthan and Uttar Pradesh. Beneficiary data were collected and analysed from three sources; MCTS/MCH Card, ANM/MCTS/MCH Register, and the MCTS portal. MCTS data completeness and accuracy were the primary evaluation factors.

4.2 Methodology: Rajasthan and Uttar Pradesh

Sampling

The sampling of beneficiaries needed to be done from a source of data independent of MCTS processes, and for this purpose the Integrated Child Development Services (ICDS) register was used. In areas where the ICDS register was unavailable, ASHA diaries were used instead.

For each sub centre, three pregnant women and three children (who were registered between July 2011 and December 2011 in the ICDS register), were planned to be sampled.

Besides this, 3 additional children, born to the sampled 3 pregnant women, were also planned to be included in the study. Therefore, for each surveyed block (comprising two surveyed sub-centers), a total of 12 children and 6 pregnant women were planned to be sampled.

Table 152 Number of sampled beneficiaries

State	Pregnant Women		Children	
	Planned Sample	Actual Sample	Planned Sample	Actual Sample
Rajasthan	24	21	48	40
Uttar Pradesh	24	24	48	44

Primary Field Data Collection Tool

Data for each sampled beneficiary were collected, where available, from ANM registers, the MCH card and the MCTS portal. The assessment found that each state utilized a particular data tool as the primary format for field-level data collection. Being the primary source of raw field data, these formats are used to assess the completeness and accuracy of data transferred into the MCTS portal.

The primary field data collection tools for both states are listed below.

Table 153 Primary data tools used to transfer data into the MCTS portal

State	Primary field data collection tool
Rajasthan	Service Delivery (ANM) Register- SDR
Uttar Pradesh	MCTS register

Discrepancy of Data Fields between Primary Field Data Collection Tool & Portal, & Valid Fields for analysis

The table below provides the full list of data fields considered in the DQA for pregnant women, and their availability in the primary field data collection tool, and the MCTS portal, state-wise:

Table 154- Actual and Valid Fields, Pregnant women

Name of Field on DQA Done	Fields in Study tools	Actual Fields at state level				Valid Field for Comparison	
		Uttar Pradesh		Rajasthan		Uttar Pradesh	Rajasthan
		Primary data source	State MCTS Portal	Primary Data source	State MCTS Portal	Primary Source and State MCTS Portal	
Name	Y	Y	Y	Y	Y	Y	Y
Address	Y	Y	Y	Y	Y	Y	Y
Husband Name	Y	Y	Y	Y	Y	Y	Y
Mob No.	Y	Y	Y	Y	Y	Y	Y
Date of Birth/Age	Y	Y	Y	Y	Y	Y	Y
JSY Beneficiary	Y	Y	Y	**N**	Y	Y	**N**
Month of Pregnancy/LMP	Y	Y	Y	Y	Y	Y	Y
Ist ANC Date	Y	Y	Y	Y	Y	Y	Y
2nd ANC Date	Y	Y	Y	Y	Y	Y	Y
3rd ANC Date	Y	Y	Y	Y	Y	Y	Y
4th ANC Date	Y	**N**	Y	Y	Y	**N**	Y
TT 1 Date	Y	Y	Y	Y	Y	Y	Y
TT 2 Date	Y	Y	Y	Y	Y	Y	Y
Date of Delivery	Y	Y	Y	**N**	Y	Y	**N**
Place of Delivery	Y	Y	Y	**N**	Y	Y	**N**
Date of JSY benefit payment	Y	Y	Y	Y	Y	Y	Y
Outcome of current pregnancy	Y	Y	Y	**N**	Y	Y	**N**
Weight of child	Y	Y	Y	**N**	Y	Y	**N**
Child sex	Y	Y	Y	**N**	Y	Y	**N**
PNC Home Visit	Y	Y	Y	**N**	Y	Y	**N**
Total No./Denominator	**20**	**19**	**20**	**13**	**20**	**19**	**13**

The table below provides the full list of data fields considered in the DQA for children, and their availability in the primary field data collection tool and the MCTS portal, state-wise:

Table 155- Actual and Valid fields, Children

Name of Field on DQA Done	Fields in Study tools	Actual Fields at state level				Valid Field for Comparison	
		Uttar Pradesh		Rajasthan		Uttar Pradesh	Rajasthan
		Primary data source	State MCTS Portal	Primary Data source	State MCTS Portal	Primary Source and State MCTS Portal	
Name	Y	Y	Y	Y	Y	Y	Y
Mother/Father Name	Y	Y	Y	Y	Y	Y	Y
Phone No.	Y	Y	Y	**N**	Y	Y	**N**
Date of Birth	Y	Y	Y	Y	Y	Y	Y
Place of Delivery	Y	Y	Y	**N**	**N**	Y	**N**

Name of Field on DQA Done	Fields in Study tools	Actual Fields at state level				Valid Field for Comparison	
		Uttar Pradesh		Rajasthan		Uttar Pradesh	Rajasthan
		Primary data source	State MCTS Portal	Primary Data source	State MCTS Portal	Primary Source and State MCTS Portal	
Caste	Y	Y	Y	Y	**N**	Y	**N**
Gender	Y	**N**	Y	Y	Y	**N**	Y
BCG	Y	Y	Y	Y	Y	Y	Y
OPV0	Y	Y	Y	**N**	Y	Y	**N**
HepB0	Y	**N**	Y	**N**	Y	**N**	**N**
DPT1	Y	Y	Y	Y	Y	Y	Y
OPV1	Y	Y	Y	Y	Y	Y	Y
HepB1	Y	Y	Y	Y	Y	Y	Y
DPT2	Y	Y	Y	Y	Y	Y	Y
OPV2	Y	Y	Y	Y	Y	Y	Y
HepB2	Y	Y	Y	Y	Y	Y	Y
DPT3	Y	Y	Y	Y	Y	Y	Y
OPV3	Y	Y	Y	Y	Y	Y	Y
HepB3	Y	Y	Y	Y	Y	Y	Y
Total No./Denominator	**19**	**17**	**19**	**15**	**17**	**17**	**14**

Data fields that are found in only the primary data tool, or in only the portal, or in neither, are dropped in the completeness and accuracy analysis on a state-specific basis. Thus, valid data fields are those that are in both the MCTS portal and the primary data.

Measles for children was not included in DQA as some of the sampled children (those who were born to pregnant women who were registered in July-December 2011) were not eligible to receive measles vaccination. TT Booster for pregnant women was not included/analysed for DQA.

Valid Data Field = (Present in Primary Data Tool) and (Present in MCTS Portal)

The table below lists the total number of fields present for both pregnant women and children state-wise.

Table 156 Number of fields in tool & portal, and valid fields

State	Pregnant Women				Children			
	Fields considered in study	Fields in primary data tool	Fields in state MCTS Portal	Valid data fields for comparison	Fields considered in study	Fields in primary data source	Fields in state MCTS Portal	Valid data fields for comparison
Rajasthan	20	13	20	13	19	15	17	14
Uttar Pradesh	20	19	20	19	19	17	19	17

5.3 DQA Findings: Rajasthan and Uttar Pradesh

Six indicators were used to assess MCTS data in each state. The indicators are divided into 3 sections; Completeness, Accuracy and Overall System Performance.

a) Completeness

- **Indicator 1:** Percentage of missing beneficiary profiles in Primary Data Tool and MCTS portal

% missing profiles ij = (No of beneficiary profiles missing ij / Total sampled beneficiaries j) x 100*i*

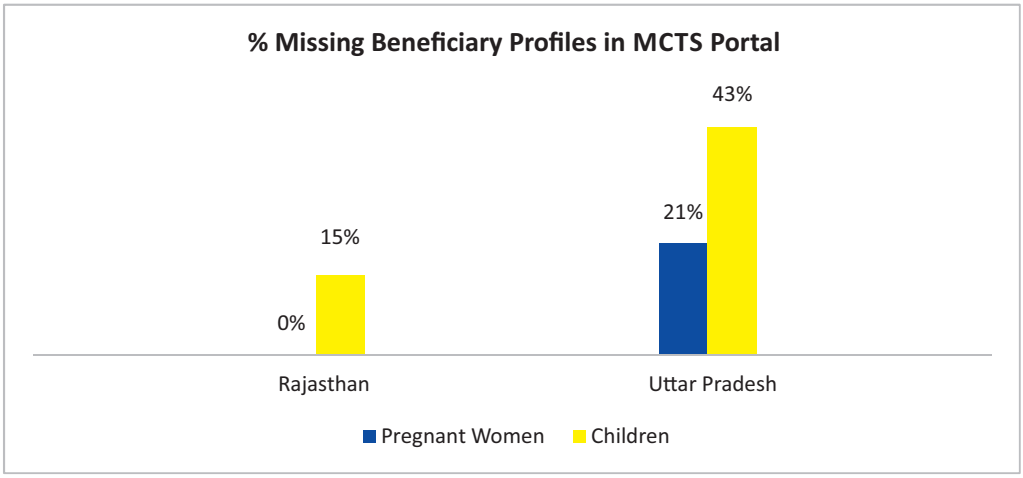
= Primary Data Tool, MCTS Portal *j = Pregnant Women, Children*

As sampling was done on the basis of profiles available in the ANM/AWW register, this indicator presents the percentage of profiles found missing in Primary Data Tool, or in the MCTS portal

Table 157 Missing Beneficiary Profiles

State	Pregnant Women						Children					
	Total actual sampled beneficiaries	Total beneficiary profiles found in primary data tool	Total beneficiary profiles found in state MCTS portal	Percentage of missing beneficiary profiles in primary data tool	Percentage of missing beneficiary profiles in state MCTS Portal	Total beneficiary profiles found in both primary data tool and MCTS portal	Total actual sampled beneficiaries	Total beneficiary profiles found in primary data tool	Total beneficiary profiles found in state MCTS portal	Percentage of missing beneficiary profiles in primary data tool	Percentage of missing beneficiary profiles in state MCTS Portal	Total beneficiary profiles found in both primary data tool and MCTS Portal
Rajasthan	21	21	21	0%	0%	21	40	40	34	0%	15%	34
Uttar Pradesh	24	24	19	0%	21%	19	44	44	25	0%	43%	25

Graph 1 - % Missing beneficiary profiles in MCTS portal



Rajasthan has a lower number of missing MCTS profiles amongst the sampled beneficiaries than Uttar Pradesh. In Rajasthan, all of sampled women and 85 % of sampled children were found having MCTS profiles, while in Uttar Pradesh 79% of sampled women and 57% of sampled children were found having MCTS profile

- **Indicator 2:** Percentage of data fields with entries in each data source

% data completeness, all fields ij = (Total no of data fields with entry ij / Total no of data fields ij) x 100i = ANM Register (Rajasthan, Uttar Pradesh), MCTS Portal

j = Pregnant Women, Children

This indicator presents the percentage, for each data source, of the total filled data fields out of all available data field

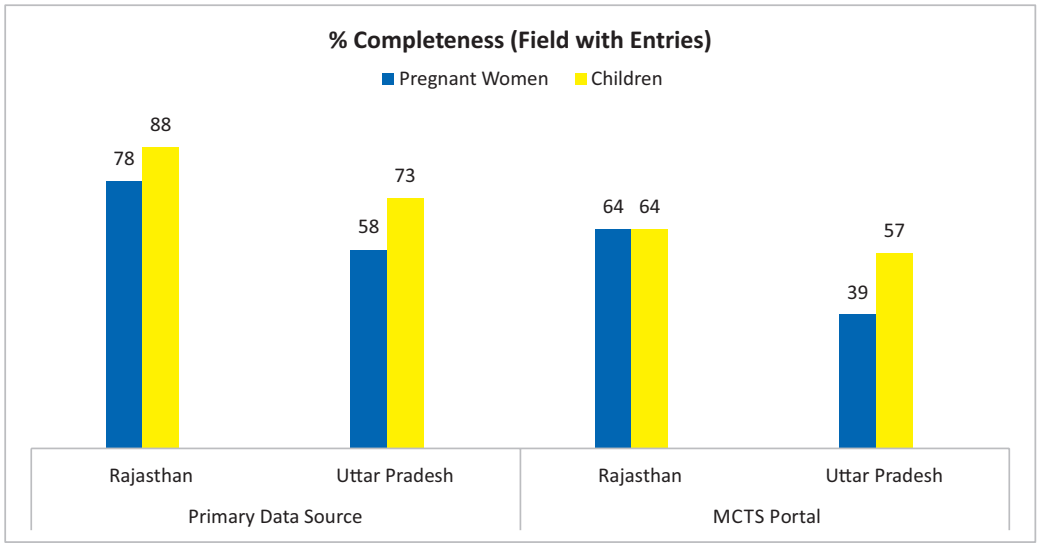
Table 158 Total data fields for beneficiaries found in primary data tool/ MCTS portal

State	Pregnant Women						Children					
	Total no. of profiles found in the primary data tool	Total no. of data fields in primary data tool	Total data fields for beneficiaries with profiles in primary data tool	Total no. of profiles found in MCTS portal	Total no. of data fields in MCTS portal	Total data fields for beneficiaries with profiles in MCTS portal	Total no. of profiles found in the primary data tool	Total no. field in primary data tool	Total data fields for beneficiaries with profiles in primary data tool	Total no. of profiles found in MCTS portal	Total data fields for beneficiaries with profiles in MCTS portal	Total data fields for beneficiaries with profiles in state MCTS portal
Rajasthan	21	13	273	21	20	420	40	15	600	34	17	578
Uttar Pradesh	24	19	456	19	20	380	44	17	748	25	19	475

Table 159 Completeness

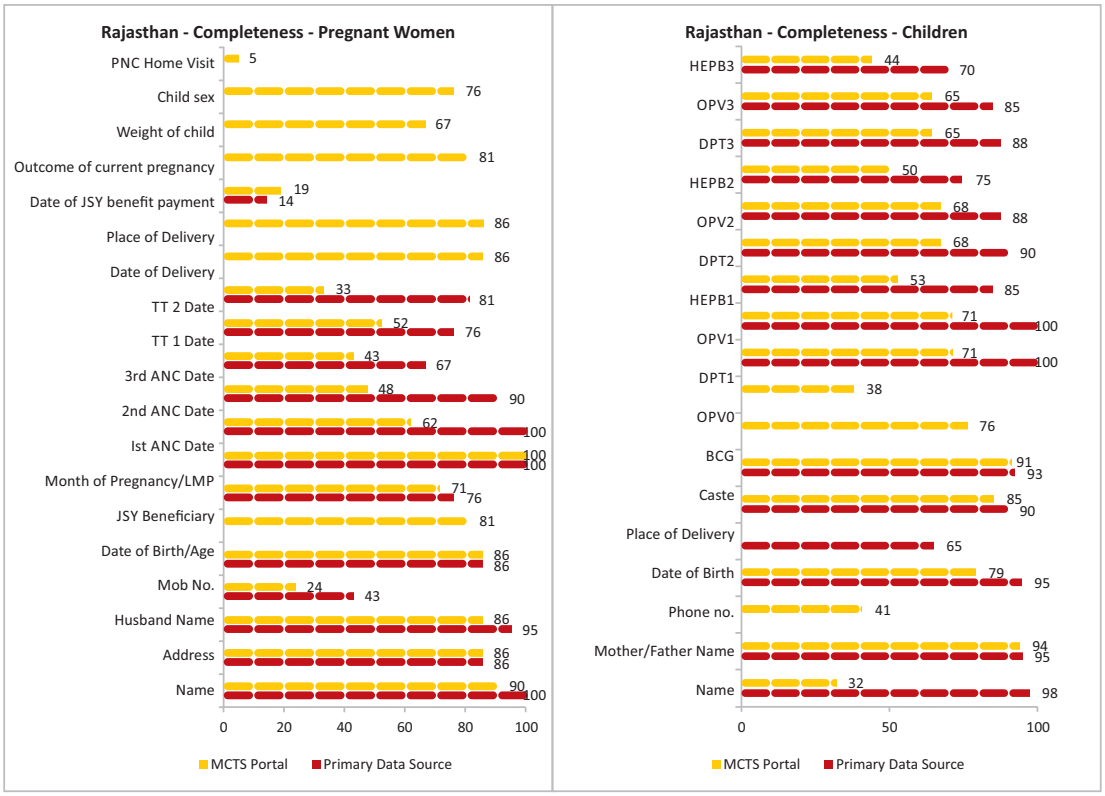
State	Pregnant Women						Children					
	Total data fields for beneficiaries with profiles in primary data tool	Total data fields for beneficiaries with profiles in MCTS portal	Total data fields with entries in primary data tool	Total data fields with entries in MCTS Portal	% Completeness for primary data tool	% Completeness for MCTS portal	Total data fields for beneficiaries with profiles in primary data tool	Total data fields for beneficiaries with profiles in MCTS portal	Total data fields found filled in primary data tool	Total data fields found filled in MCTS portal	% Completeness for primary data tool	% Completeness for MCTS portal
Rajasthan	273	420	213	269	78	64	600	578	526	371	88	64
Uttar Pradesh	456	380	264	150	58	39	748	475	549	271	73	57

Graph 2- % Completeness (Field with entries)



Field-wise results for completeness, Rajasthan

Graph 3- % completeness in primary data source and portal, Rajasthan



Field-wise results for completeness (Uttar Pradesh)

Graph 4- % completeness between primary data source and MCTS portal, Uttar Pradesh

- **Indicator 3:** Percentage of valid data fields for beneficiaries with no entries in both Primary Data Tool and MCTS Portal

% valid data fields for beneficiaries found empty in both primary tool and MCTS portal j (Total no of valid data fields with no entry in both primary tool & MCTS portal j / Total no of valid data fields j) x 100

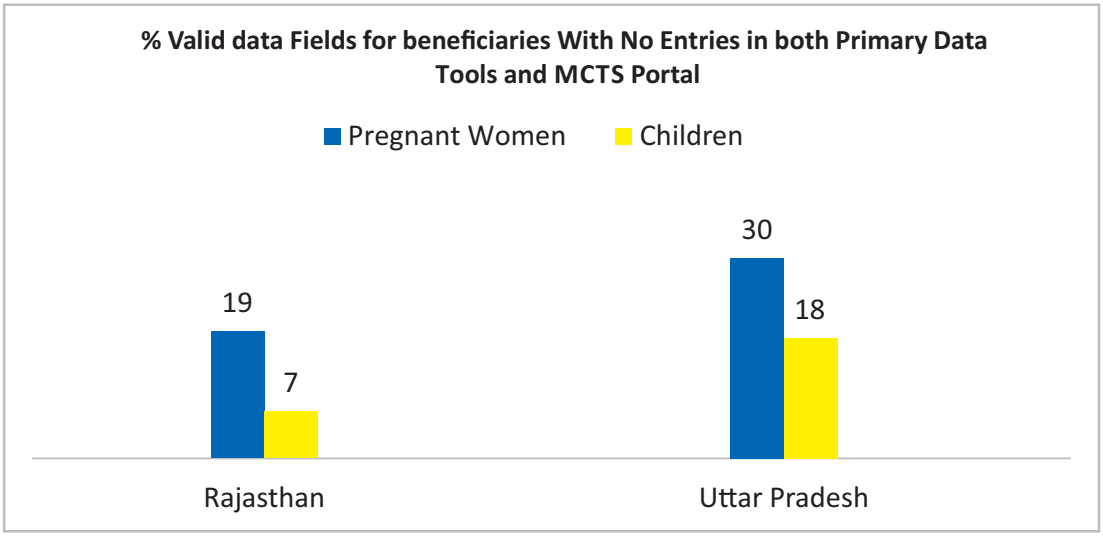
j = Pregnant Women, Children

This indicator presents the percentage of valid sample fields found to be empty in both the primary field data tool and MCTS portal

Table 160 Completeness Valid data fields for beneficiaries with no entries in both primary data tool & MCTS portal

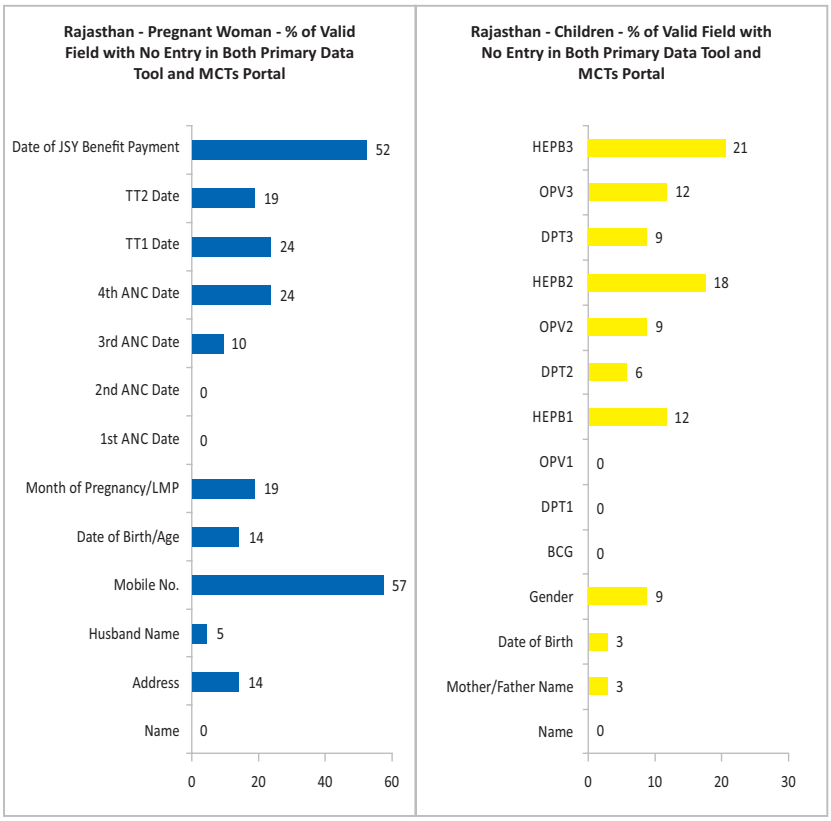
State	Pregnant Women					Children				
	Total beneficiary profiles found both in primary data tool and MCTS portal (a)	Valid data fields (b)	Total valid data fields (a*b)	Total valid data fields without entries both in primary data tool & MCTS portal	% Valid data fields without entries in both primary data tool & MCTS portal	Total beneficiary profiles found both in primary data tool and MCTS portal (a)	Valid data fields (b)	Total valid data fields(a*b)	Total valid data fields without entries both in primary data tool & MCTS portal	% Valid data fields without entries in both primary data tool & MCTS portal
Rajasthan	21	13	273	52	19	34	14	476	34	7
Uttar Pradesh	19	19	361	110	30	25	17	425	78	18

Graph 5- % valid field for beneficiaries with no entries both in primary data tool and MCTS portal.



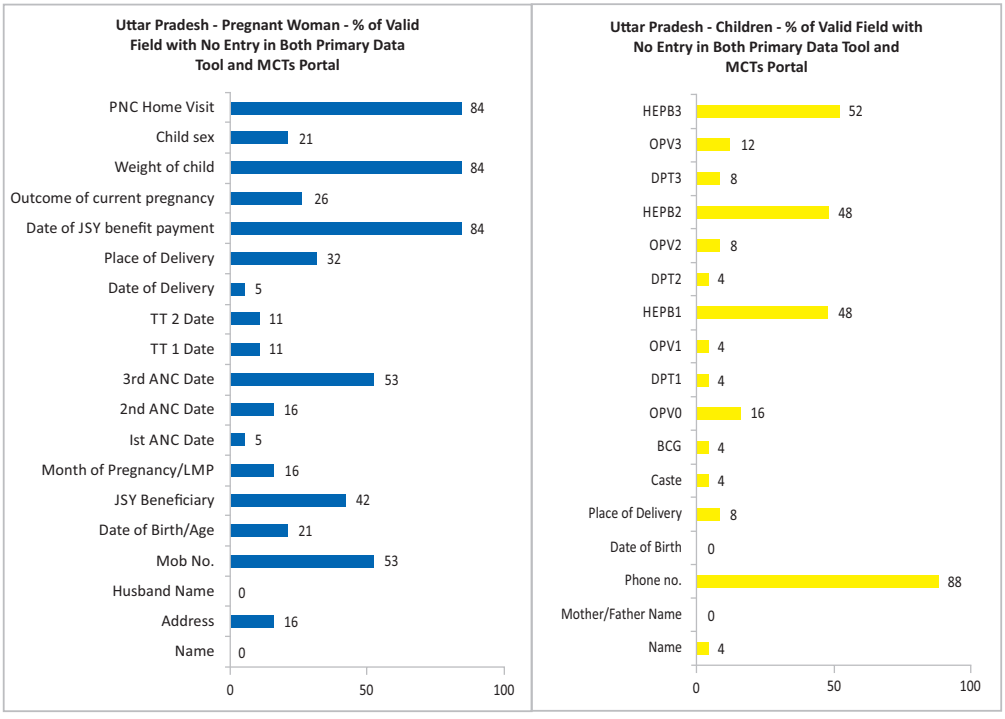
Field-wise results for completeness (valid data fields for beneficiaries with no entry in both primary data tool and MCTS Portal), Rajasthan

Graph 6- % of valid fields with no entry in both primary data tool and MCTS portal



Field-wise results for completeness (valid data fields for beneficiaries with no entry in both primary data tool and MCTS Portal), Uttar Pradesh

Graph 7- % of valid fields with no entry in both primary data tool and MCTS portal, Uttar Pradesh



- **Indicator 4:** Percentage of valid data fields for beneficiaries with entry in Primary Data Tool, without entry in MCTS Portal, and vice versa

% data found in primary tool, missing in MCTS portal =(Total no of valid data fields with entry in primary tool, and without entry in MCTS portal j / Total no of valid data fields j) x 100

% data found in MCTS portal, missing in primary tool =(Total no of valid data fields with entry in MCTS portal, and without entry in primary tool j / Total no of valid data fields j) x 100

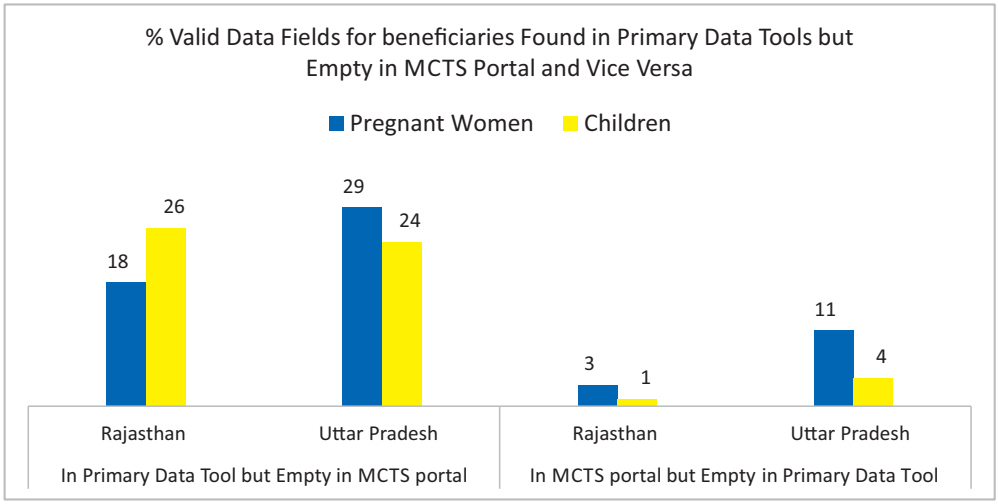
j = Pregnant Women, Children

This indicator presents the percentage of valid data fields for beneficiaries found filled in the primary data tool, and empty in the MCTS portal, and vice versa.

Table 161 Completeness - Valid data fields for beneficiaries with entries in primary data tool but not in MCTS Portal & vice versa

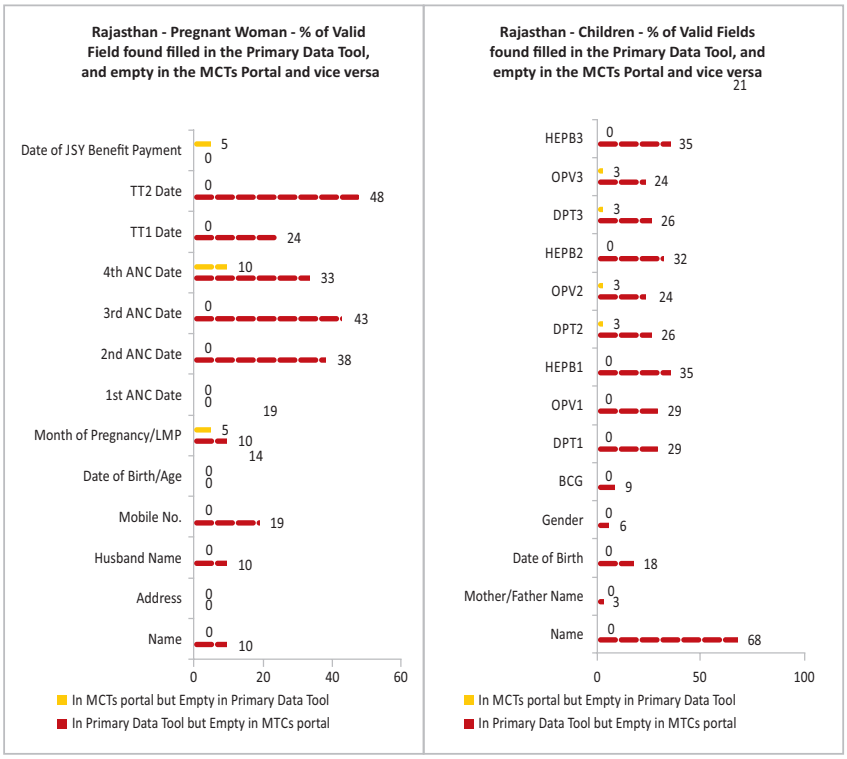
State	Pregnant Women							Children						
	Total beneficiary profiles found in both primary data tool and MCTS Portal (a)	Valid data fields (b)	Total valid data fields (a*b)	Total valid data fields with entry in primary data tool but not in MCTS Portal	Total valid data fields with entry in MCTS Portal but not in primary data tool	% of valid data fields with entry in primary data tool but not in MCTS Portal	% of valid data fields with entry in MCTS Portal but not in primary data tool	Total beneficiary profiles found in both primary data tool and MCTS Portal (a)	Valid data fields (b)	Total valid data fields (a*b)	Total valid data fields with entry in primary data tool but not in MCTS Portal	Total valid data fields with entry in MCTS Portal but not in primary data tool	% of valid data fields with entry in primary data tool but not in MCTS Portal	% of valid data fields with entry in MCTS Portal but not in primary data tool
Rajasthan	21	13	273	50	7	18	3	34	14	476	124	4	26	1
Uttar Pradesh	19	19	361	103	41	29	11	25	17	425	100	17	24	4

Graph 8-% valid data fields for beneficiaries found in Primary data tools but empty in MCTS portal and vice versa.



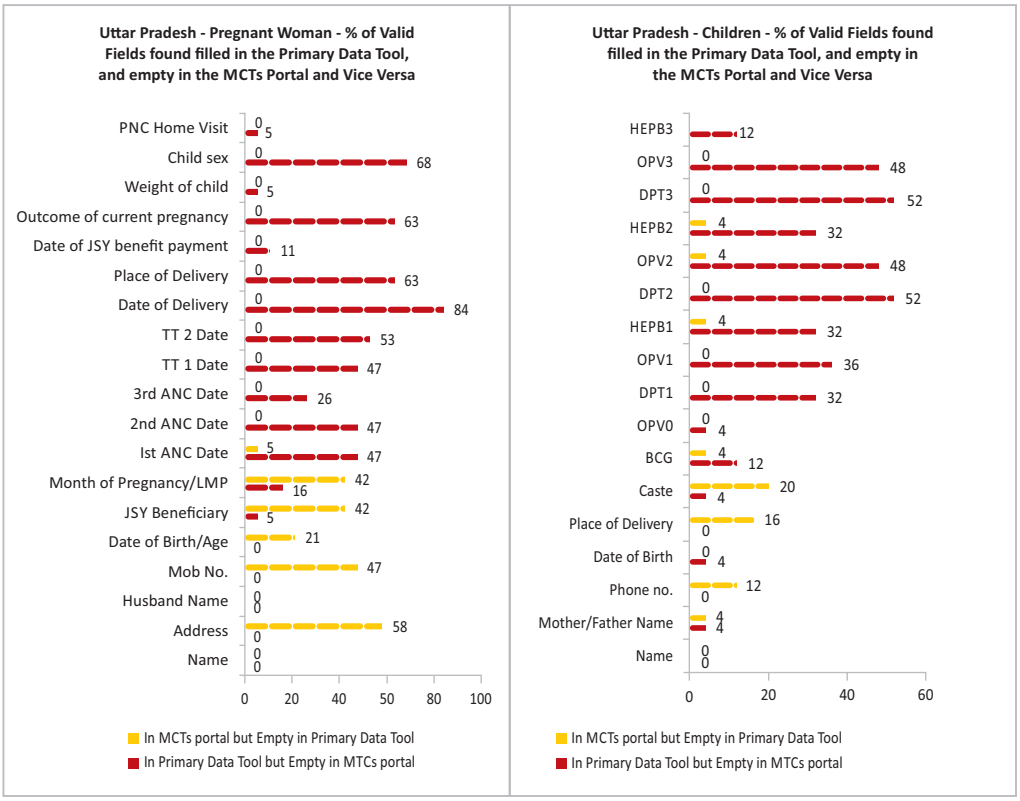
Field-wise results for completeness (% of valid data fields for beneficiaries found in primary data tool but empty in MCTS portal and vice versa), Rajasthan

Graph 9 - % of valid data fields for beneficiaries found in primary data tool but empty in MCTS portal and vice versa



Field-wise results for completeness (% of valid data fields for beneficiaries found in primary data tool but empty in MCTS portal and vice versa), Uttar Pradesh

Graph 10- % of valid data fields for beneficiaries found in primary data tool but empty in MCTS portal and vice versa, Uttar Pradesh



b) Accuracy

- **Indicator 5:** Percentage of filled valid data fields for beneficiaries with matching entries in both the Primary Data Tool and MCTS Portal

% data matching between primary tool ad MCTS portal j =

(Total no of valid data fields with matching entries in both primary tool and MCTS portal j / Total no of filled valid data fields j) x 100

j = Pregnant Women, Children

This indicator presents the percentage of entries filled in both primary data tool and MCTS portal, out of total valid fields for whole sample. This indicator also presents the percentage of matching entries, out of all filled valid data fields for beneficiaries, in the primary data tool and MCTS portal

Table 162 Total no. of fields for comparison between MCTS portal and register

State	Pregnant Women			Children		
	Total no.of profiles found both primary data source and MCTS portal	Valid data fields for comparison Pregnant women	Total no. of fields for comparison for whole sample of Pregnant Women	Actual sample size, Children	Fields in state MCTS portal, Children	Total no. of fields for comparison for whole sample of Children
Rajasthan	21	13	273	34	14	476
Uttar Pradesh	19	19	361	25	17	425

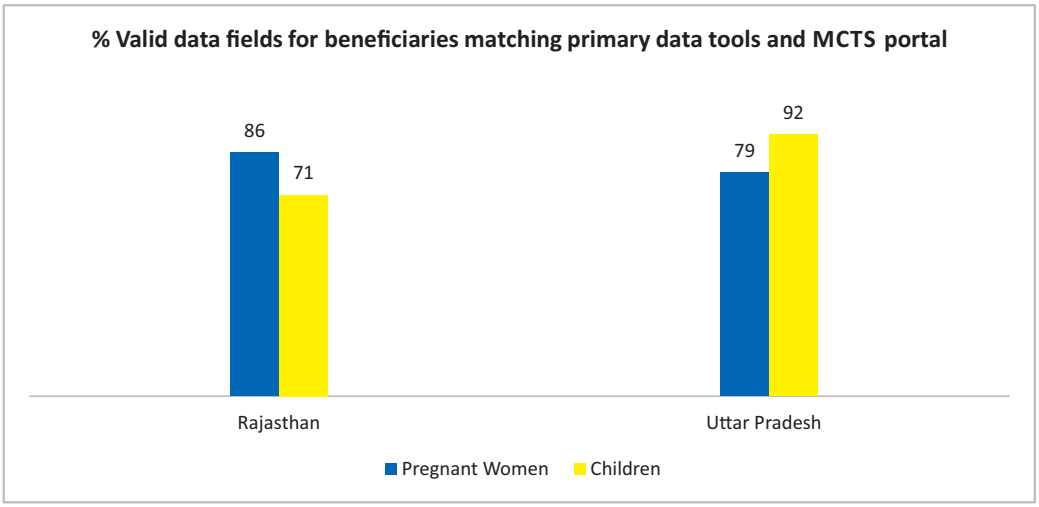
Table 163 % data filled in both primary data tool & MCTS portal

State	Pregnant Women			Children		
	Total no. of valid fields for comparison for whole Sample	Total valid data fields with entries both in primary data tool & MCTS portal	% Valid data fields filled both in primary data tool & MCTS portal	Total no. of valid fields for comparison for whole sample.	Total valid data fields with entries both in primary data tool & MCTS portal	% Valid data fields filled both in primary data tool & MCTS portal
Rajasthan	273	164	60%	476	314	66%
Uttar Pradesh	361	107	30%	425	230	54 %

Table 164 Accuracy - % data matching between primary data tool & MCTS portal from total valid data fields with entries both in primary data tool and MCTS portal.

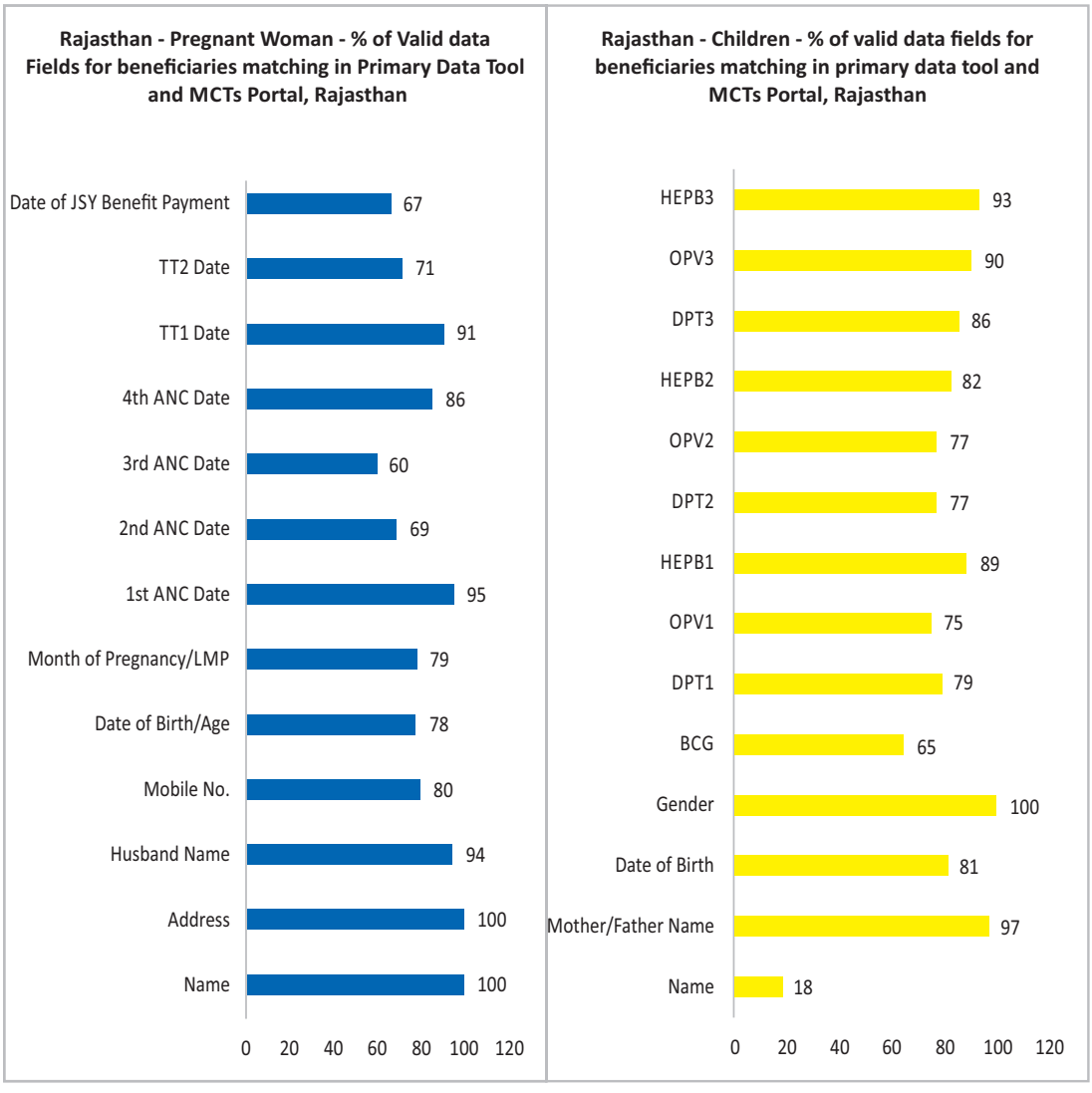
State	Pregnant Women			Children		
	Total valid data fields with entries both in primary data tool & MCTS portal	Total valid data fields with matching entries between primary data tool & MCTS portal	% Valid data fields matching between primary data tool & MCTS portal	Total valid data fields with entries both in primary data tool & MCTS portal	Total valid data fields with matching entries between primary data tool & MCTS portal	Total valid data fields with matching entries between primary data tool & MCTS portal
Rajasthan	164	141	86%	314	223	71%
Uttar Pradesh	107	84	79%	230	212	92%

Graph 11 – % valid data fields for beneficiaries matching primary data tools and MCTS portal



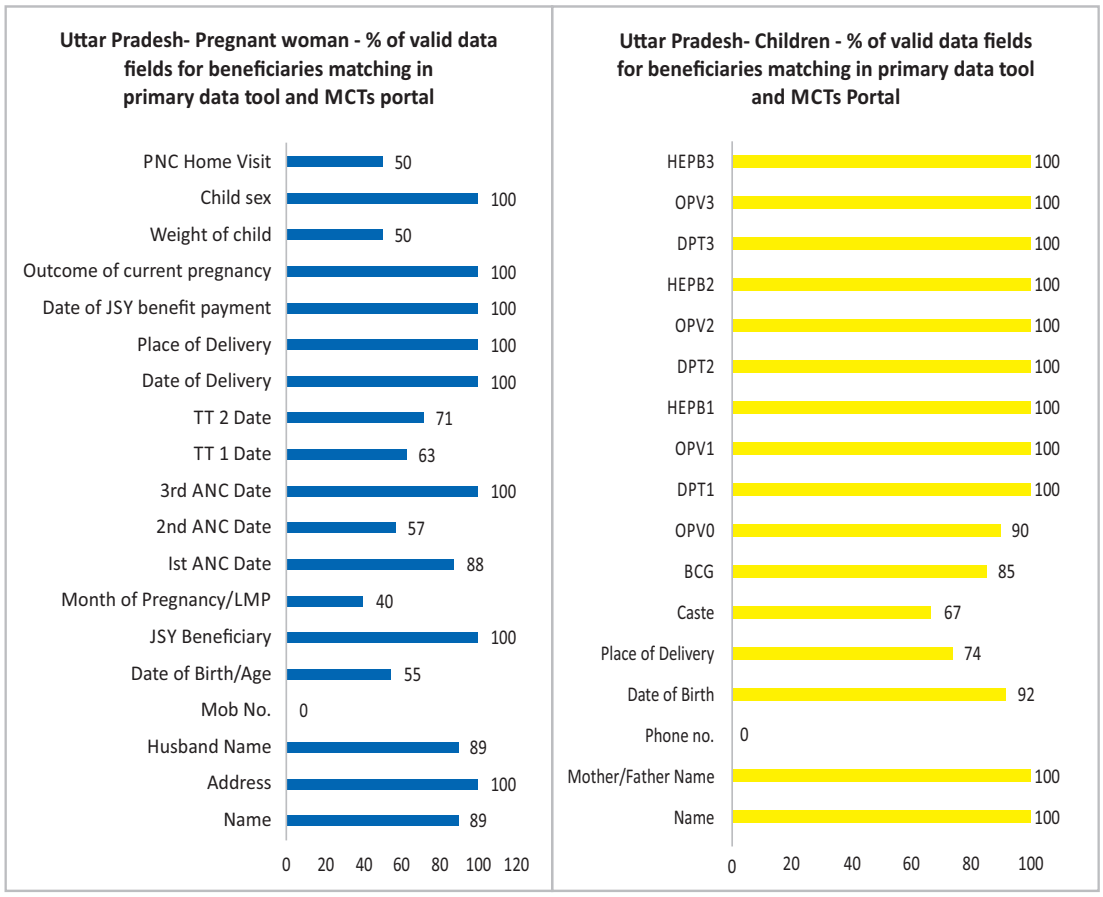
Field-wise results for Accuracy (% of valid data fields for beneficiaries matching in primary data tool and MCTS portal), Rajasthan

Graph 12 - % of valid data fields for beneficiaries matching in primary data tool and MCTS portal, Rajasthan



Field-wise results for Accuracy (% of valid data fields for beneficiaries matching in primary data tool and MCTS portal), Uttar Pradesh

Graph 13 - % of valid data fields for beneficiaries matching in primary data tool and MCTS portal.



c) Overall System Performance

- **Indicator 6:** Percentage of MCTS portal data matching Primary Data Tool

MCTS performance metric = (Total no of MCTS portal data fields with entries that match their counterpart entries in the primary data tool j/ Total MCTS portal data fields for whole sample j) x 100

j = Pregnant Women, Children

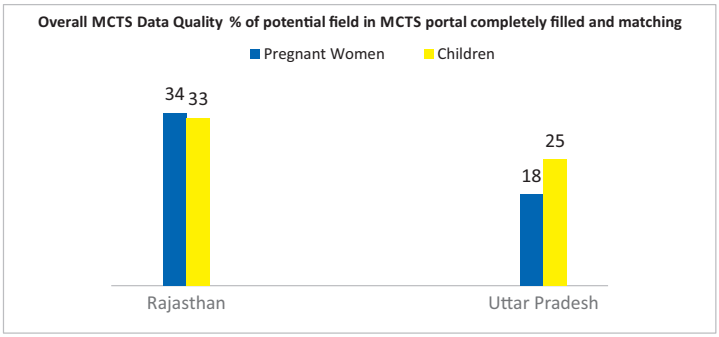
Table 165 - Total no. of fields in MCTS portal for whole sample

State	Pregnant Women			Children		
	Total beneficiary profiles found both In primary data source and MCTS portal	Fields in state MCTS portal	Total no. of fields in MCTS portal for whole sample	Actual sample size, Children	Fields in state MCTS portal,	Total no. of fields in MCTS portal for whole sample of Children
Rajasthan	21	20	420	40	17	680
Uttar Pradesh	24	20	480	44	19	836

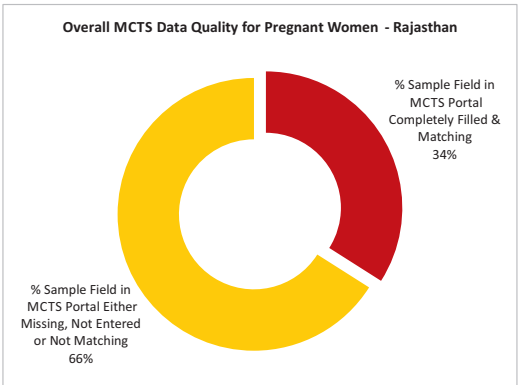
Table 166 – Overall system performance

State	Pregnant Women			Children		
	Total no. of fields in MCTS portal for whole sample	Total valid data fields with matching entries between primary data tool & MCTS portal	% Valid data fields matching between primary data tool & MCTS portal	Total valid data fields with entries both in primary data tool & MCTS portal	Total valid data fields with matching entries between primary data tool & MCTS portal	% Valid data fields matching between primary data tool & MCTS portal
Rajasthan	420	141	34%	680	223	33%
Uttar Pradesh	480	84	18%	836	212	25%

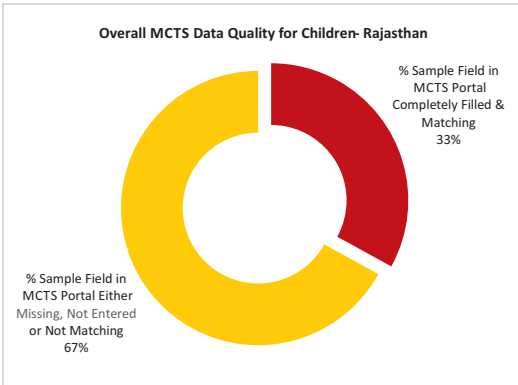
Graph 14 - Overall MCTS data quality,% of potential fields in MCTS portal completely filled and Matching



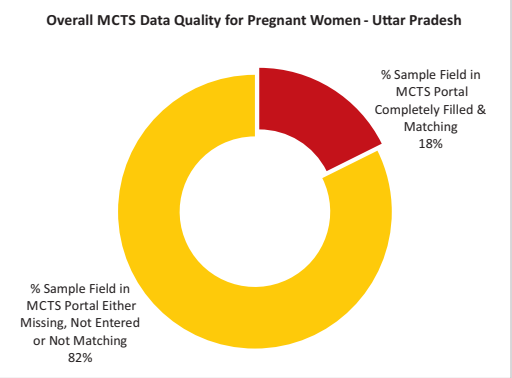
Graph 15 - Overall MCTS data quality for pregnant women, Rajasthan



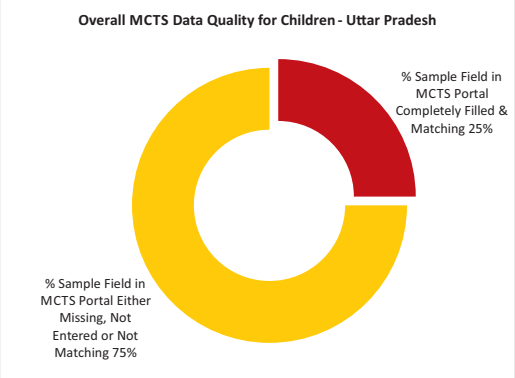
Graph 16- Overall data quality for children, Rajasthan



Graph 17- Overall MCTS data quality pregnant women- Uttar Pradesh

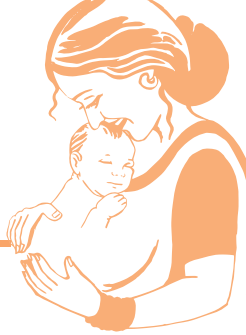


Graph 18 - Overall MCTS data quality for children, Uttar Pradesh



Chapter 5

Discussion



5.1 Introduction

The achievement of the main objectives of registering every pregnant woman and infant in the MCTS portal, and tracking them for completion of all scheduled services, depends on the following field processes:

- ability of the health system to capture all related information in the field and at the service delivery point;
- transferring accurate and complete information until the point of data entry;
- complete and accurate entry of that information in the MCTS portal; and
- timely generation of complete and accurate workplans with complete and accurate information and their transportation to the ANM before the next service session.

If all these processes are at their optimum level, the MCTS can be used as an accurate and accountable tool to collect, update, and transmit data on the status and progress of health services provided to pregnant women and children.

This section analyzes each of the three assessed states separately, using the DQA (where conducted fully) and field survey findings to highlight the current status of MCTS implementation in each state. As and where possible, an attempt has also been made to link field processes related to MCTS data capture, consolidation, and transfer, to the quality of data entered into the portal.

For the states of Rajasthan and UP, the correlation between the field survey evidence and the DQA reveals that the absence of well-coordinated data processes in the field directly compromises the MCTS portal's data quality.

For the state of Karnataka, the field survey data was the prime focus of the study and a DQA was done for a very small sample size. Hence, for Karnataka an effort has been made to dissect out the good practices that exist in the field with respect to MCTS implementation. The results from the preliminary DQA reveal that there is a need for an exhaustive DQA in the state to understand how robust field processes relating to data capture, consolidation, and transfer affect MCTS data quality.

The discussion section also addresses the awareness, generation, and utilization of MCTS workplans amongst frontline health workers for each state. In general, service delivery personnel would benefit from the MCTS workplan only if it facilitates the execution of their responsibilities with updated information on beneficiaries and required services. Workplan usage is thus tightly linked with robust field processes and the quality of MCTS portal data.

Lastly, this section also analyzes the engagement of monitoring and supervision staff, from the state to the block level, with the MCTS. Ideally, supervisory staff should not only be aware of how MCTS functions, but should also actively monitor its implementation using a set of defined indicators. Furthermore, reports should be generated using data in the portal for review and program management. An important aspect of supervision activities includes responding to MCTS implementation problems and providing regular feedback on system performance to blocks and PHCs.

By analyzing and linking evidence from all data obtained from the field, encompassing data quality, field data processes, workplan usage, and monitoring and supervision, this section aims to identify the key MCTS implementation challenges in each state.

5.2 Rajasthan

Introduction

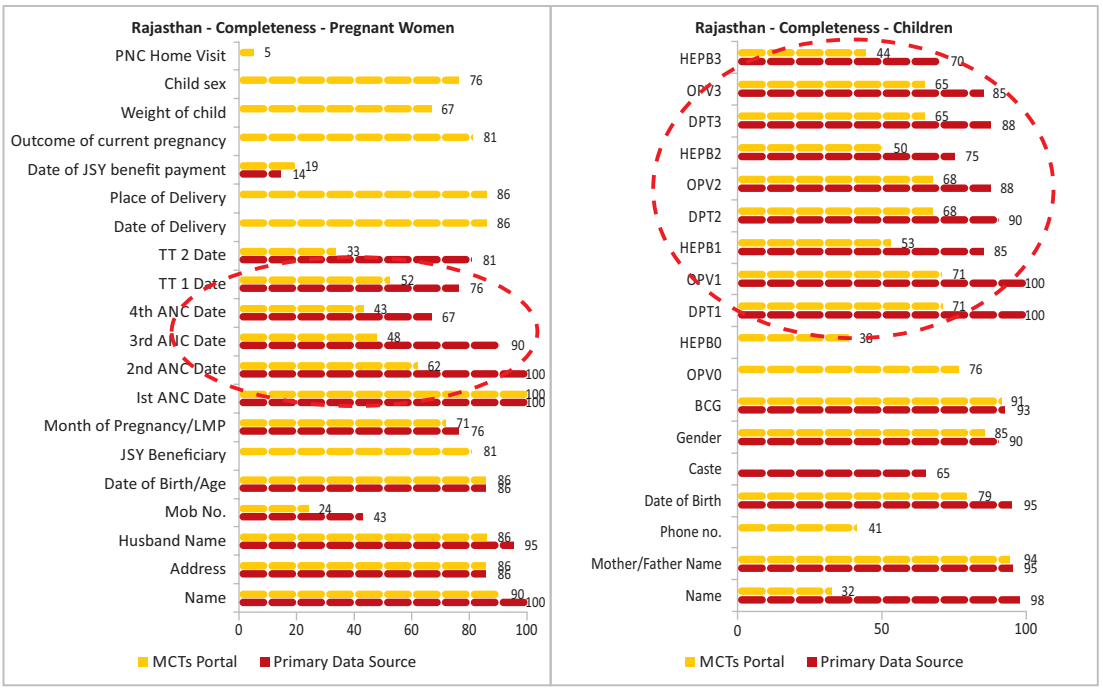
The assessment in Rajasthan indicates that the state's PCTS system is performing at 34 percent capacity for pregnant women, and 33 percent for children. These numbers encompass the completeness of data recorded by ANMs in their registers at the service delivery level, and the completeness and accuracy of data transfer to the PCTS portal.

Rajasthan, out of the three assessment states, has the highest portal beneficiary registration rate. All of the sampled women and 85 percent of the sampled children, have PCTS profiles. However, the completeness of these profiles, especially in terms of service delivery details, is poor. Low data completeness in the portal is, in fact, the primary weakness in Rajasthan's PCTS. There is also scope for improving accuracy rates.

Data field-wise DQA results reveal that beneficiary and service delivery data collected by the field staff is being incompletely transferred to the PCTS portal. For most of the data fields, there is a far higher rate of information being recorded in the primary data tool, the Service Delivery Register (SDR), and not available in the portal, than vice versa, for both pregnant women and children. Encircled fields in Graph 24 highlight the problem of incomplete data transfer processes.

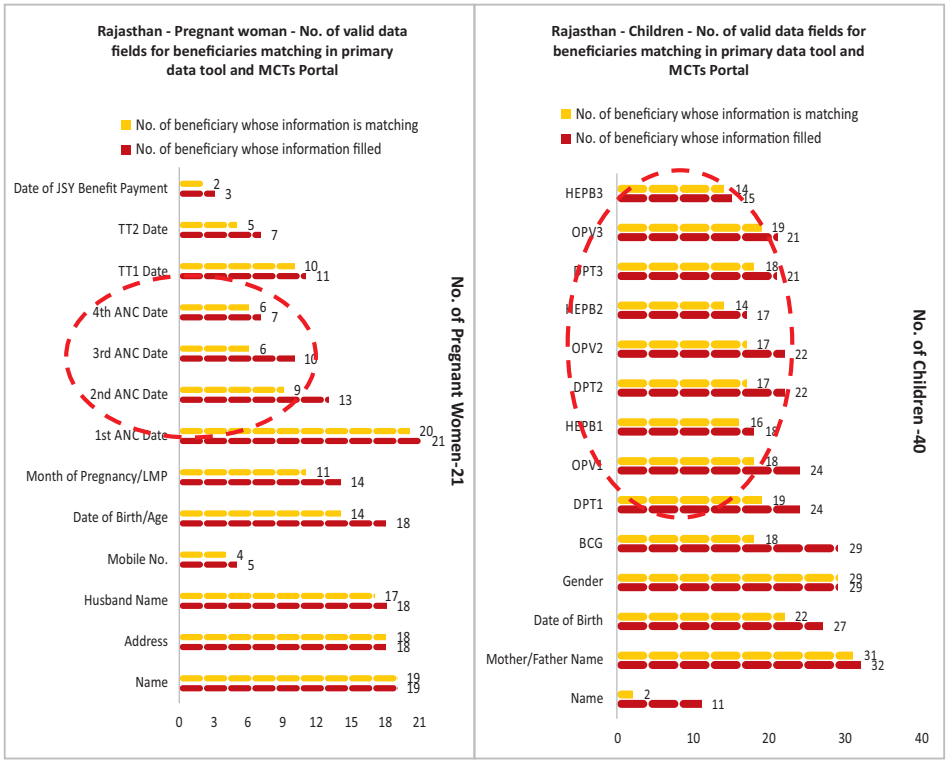
The cases in which data completeness in the portal exceeds completeness in the primary data source are caused primarily by the absence of these data fields in the primary data source, the SDR.

Graph 19 - % completeness in primary data source and PCTS portal



Basic beneficiary identification data (such as name, address, husband's name for pregnant women, and father's name for children), which are recorded by ANMs in their SDRs at the time of beneficiary registration, have the highest completeness rates in the portal. On the other hand, field-level service delivery details for pregnant women (such as TT vaccinations, ANC details, and PNC home visits - highlighted in Graph 19), and for children (such as HepB, DPT, and OPV vaccination details- shown in Graph 19) are highly incomplete in the portal. These field-level service delivery data require regular and time-bound transfers for updates in the portal.

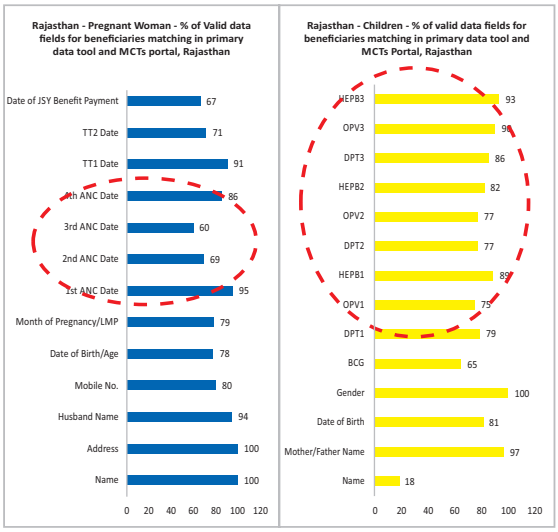
Graph 20 - No. of valid field matching in primary data source and PCTS portal



As the SDR is considered the most complete and the most instantly updated data source (in other words, the primary data tool), it is used as the basis of assessing the portal's data accuracy. DQA analysis for Rajasthan indicates that the match between the portal and the SDR is at 86 percent in the case of data for pregnant women and 71 percent for data on children.

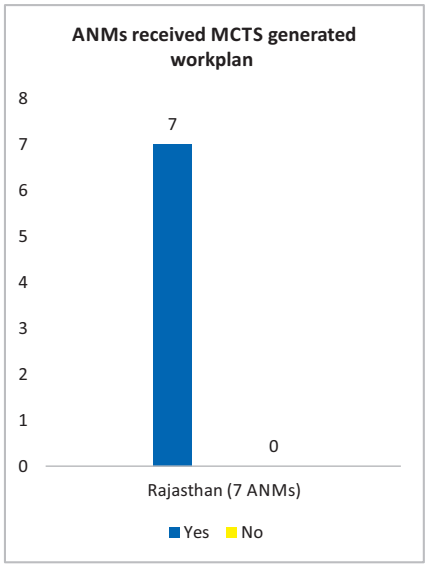
Graph 21 - % valid fields of beneficiaries matching in primary data source and PCTS portal

Graph 21 indicates accuracy rates of between 79 percent to 93 percent for child immunization details requiring field follow-up (DPT, OPV, HepB). However, the number of sampled children for whom these fields are filled both in SDRs and the portal range between 15 to 24 out of a total of 40 (Graph 20). Similarly, while pregnant women's ANC details (Graph 21)



demonstrate accuracy rates of 60 percent to 95 percent, Graph 20 depicts how the number of pregnant women for whom these data fields are filled in both SDRs and the portal plunges from 21 to 7, out of a total sample of 21 (Graph 20). Highly incomplete data, regardless of accuracy rates, cannot form the basis for effective service delivery planning and beneficiary tracking. Similarly, more data needs to be found in the portal for accuracy rates to have a significant impact on overall system performance.

Graph 22 - Generation and utilization of workplans



The primary PCTS output meant to aid service delivery by field health staff are the PCTS-generated workplans. ANMs in Rajasthan receive these from the data entry point, and most of them perceive it to be useful. However, field evidence suggests that the PCTS workplan is not being fully utilized to track and mobilize beneficiaries. Qualitative evidence suggests that workplans are generated once a month, which is insufficient to track MCH beneficiaries and their service delivery needs.

ASHAs, as the primary mobilizers of beneficiaries, should ideally be cognizant of and guided by PCTS workplans, but there is poor awareness about them amongst ASHAs. The aforementioned data problem is compromising the quality of workplan content and contributing to their under-utilization. Data quality issues, and the resulting low levels of workplan utilization, have five key root causes:

- incompatibility of field registers (SDRs) with portal needs,
- discrepancies in data recording and data transfer tools,
- infrequent field-level data consolidation and data transfer,
- shortage of PCTS-trained and dedicated data entry staff, and
- shortage of PCTS-trained field health staff.

Besides these, intermittent internet connectivity and power supply may also hamper the timeliness and efficiency of data entry and the generation of workplans and reports.

Data Collection, Consolidation, and Transfer Dynamics

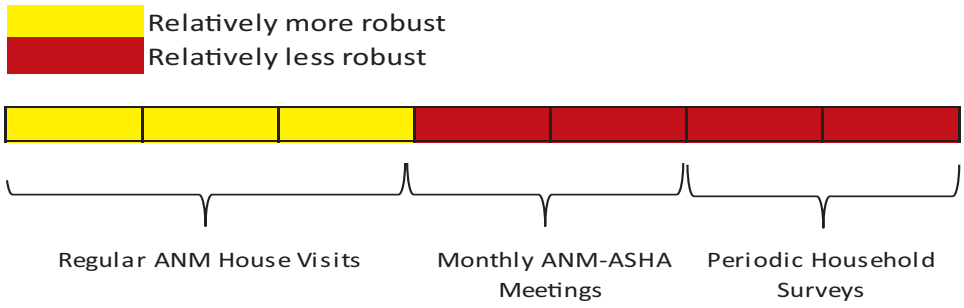
The field processes behind data collection and transfer to the PCTS portal need improvement. Lack of confidence in the capacity of field processes to accurately capture estimated beneficiary numbers is reflected in the continued use of state-level estimates in three out of four of the surveyed blocks, two of which also employ household surveys for the same purpose.

The beneficiary identification process, which is crucial in identifying and adding new individual beneficiaries into the PCTS portal, needs to be improved. There is a heavy reliance on periodic household surveys by ANMs, the periodicity of which fails to capture new beneficiary details sufficiently rapidly for entry into the PCTS system, thereby compromising its role as a tracking tool.

The most crucial components in the beneficiary identification process are regular field data collection (beneficiary identification) by ASHAs and information sharing between ASHAs and ANMs. ASHAs in Rajasthan are generally well trained to carry out their field responsibilities, with six out of seven interviewed ASHAs trained in identifying and tracking beneficiaries, and five out of seven trained on mobilizing the community for VHNDs or immunization days. That said, survey data suggests that the means by which field information from well-trained ASHAs is transferred to ANMs is not robust. Field-level data consolidation occurs infrequently. The two ANMs who report relying on ASHAs for identifying new beneficiaries also report meeting them only once a month for consolidating field data. Immediate notification of new beneficiaries by ASHAs to ANMs is the best way to minimize the time lag between identification and services.

The entry of new beneficiaries in the SDR during immunization sessions/VHNDs (the point of service delivery) defeats the purpose of PCTS acting as a service delivery planning and tracking tool. Amongst the reported methods of beneficiary identification in Rajasthan, regular house-to-house visits by ANMs can be considered the most effective, but only three out of seven interviewed ANMs report practicing this.

Graph 23 – Beneficiary identification methods, Rajasthan



Beneficiary Identification Methods, Rajasthan

Data Tools (Registers) Used by ANMs to Transfer Data to the PCTS Portal

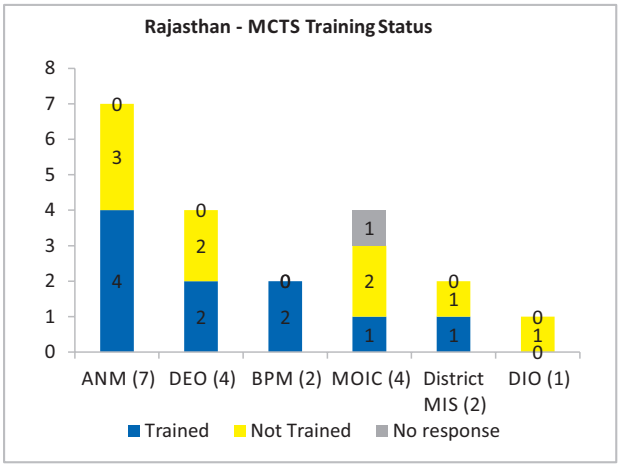
The registers and formats used in Rajasthan at the field level are poorly matched with the needs of the PCTS portal. The SDR, when fully filled, meets 65 percent of the PCTS portal's data needs for pregnant women, and 82 percent of the same for children. Of the fields in Graph 24 where data completeness in the portal exceeds data completeness in the primary data source, most are due primarily to the absence of these fields in the SDR. Some data, such as date of delivery for pregnant women (missing in the SDR), require DEOs to look into children's date of birth (present in the SDR) to make an entry.

Discrepancies in the registers used for data collection and data transfer indicate high levels of duplication of work for the ANM. Survey data on both new beneficiary identification and service delivery updation reveal that many ANMs transfer field information from their main registers (SDRs) onto hand-drawn formats for data transfer. This additional burden imposed by the PCTS on the ANM, who is already charged with a range of other record-keeping duties, detracts from the PCTS' ideal role of facilitating an ANM's work. Also, the additional inconvenient layer of data rerecording for the ANM may compromise the completeness and accuracy of data transferred into the portal, as ANMs may miss particular data entries or record them in the wrong data fields during the rerecording process.

The interviewed DEOs in Rajasthan unanimously report that both new beneficiary details and service delivery updation data are brought by ANMs for data entry on a monthly basis. With key field-level data collection, consolidation, and transfer processes occurring in long gaps, the PCTS is severely hampered in its ability to act as a tracking and service delivery planning tool.

Dedicated data entry staffing at the block level is inconsistent in Rajasthan, with at least half of the surveyed blocks using regular PHC staff with additional data entry charge. Quantitative and qualitative evidence from data entry and supervisory staff indicate that DEOs are being burdened with many responsibilities, some of which are not related to data entry. PCTS training for these data entry staff could also be improved, with training levels amongst surveyed DEOs standing at around 50 percent, and a MOIC from one district reporting that data entry completion can improve with PCTS-trained data entry staff.

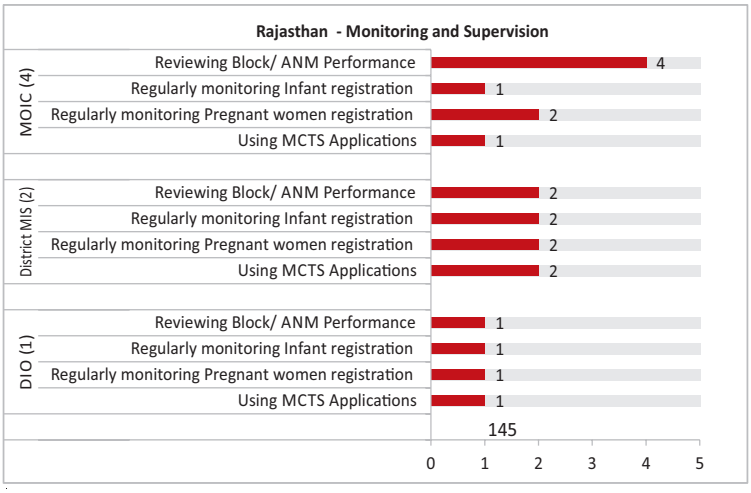
Graph 24 - PCTS training status, Rajasthan



PCTS training levels amongst ANMs is very inconsistent in Rajasthan, with all of the interviewed ANMs in one surveyed district not having received PCTS training, and all in the remaining district having received it. There is also a strong expressed need for greater training amongst the ANMs themselves. The indicated areas of need are crucial to the optimal functioning of the PCTS: using recording tools and computer-generated workplans and refresher trainings. Additionally, qualitative evidence from data entry staff (DEOs and MIS officials) and supervisory officials (DIOs), demonstrates a need for training field-level health staff to fully realize the potential of the PCTS. Survey evidence also suggests that training levels amongst MOICs is very inconsistent.

Monitoring and Supervision

Graph 25 – Monitoring and supervision, Rajasthan



Routine monitoring and supervision meetings for MCH services happen on a periodic, monthly basis. All MOICs and BPMs interviewed report meeting ANMs on a monthly basis to discuss field issues. These meetings also address PCTS implementation issues. ASHAs are also similarly engaged by supervisory officials.

Supervisory Visits

The evidence on supervisory field visits suggests that field supervision dynamics have room for improvement in Rajasthan. At least 50 percent of surveyed supervisory officials in Rajasthan do not have documented VHND/immunization session supervision plans. While the majority of ANMs report receiving at least one visit a month from supervisory officials on VHNDs/immunization days, these activities may need to be better planned and documented.

Out of the surveyed blocks, the majority have at least one supervisory official (MOIC or BPM) directly using the PCTS application. Reports and data, generated by PCTS, are used to guide MCH program management and prepare monthly progress reports. The recorded survey evidence indicates that blocks with BPMs were able to provide more detailed answers with regards to PCTS outputs usage.

Registration of Mobiles in the PCTS Portal

The engagement of supervisory staff with the mobile component of PCTS is very poor in Rajasthan. Out of all interviewed supervisory officials in Rajasthan (DIOs, MIS officials, MOICs, BPMs) only one MOIC has both registered his mobile in the PCTS system, and receives mobile updates from the system.

In all the blocks visited, feedback on PCTS activities is received by block-level officials from officials at higher levels (state or district and sometimes both depending on the block). However, the form in which this feedback is received remains variable (during supervisory visits, via email, or in district review meetings), and therefore there seems to be no formal and structured mechanism for feedback on PCTS-related activities in the state.

The recording of this feedback is also highly inconsistent. Available data from MOICs and DEOs indicate that records are not maintained consistently across the survey area for PCTS feedback from higher levels. The surveyed district with BPMs at the block level demonstrated comparatively better recording of feedback. Issues raised in the feedback pertain to registration status, timeliness and completeness of data, and the status of coverage of services.

The data suggests that district officials monitor the performance of PCTS, and also use its data for MCH program management. The services tracked include childhood immunization, ANC visits, sterilization, and deliveries.

MIS officials use data from the portal to prepare monthly progress reports. Therefore, the system is seen as useful by officials at the district level and its utilization extends to parameters that assess services provided and utilized by the community. MIS officials, as supervisory personnel who directly interact with PCTS as a data system, need to be trained on PCTS. One interviewed MIS official indicated a need for training both on PCTS and on data validation, which are crucial components for ensuring PCTS data quality.

Districts also receive feedback from state-level officials on PCTS implementation during review meetings and via emails and letters. As with the block level, feedback received at the district level from state officials does not arrive in any consistent form.

Conclusion

A high percentage of Rajasthan's beneficiary profiles are transferred from ANM registers (SDRs) to the PCTS portal, but the portal does not receive data sufficiently rapidly, or sufficiently accurately, to act as a beneficiary and service delivery tracking tool. Additionally, the cumbersome data transfer process from the field level to the point of data entry has created an additional burden of work for ANMs.

As the state's PCTS system is performing at 34 percent capacity for pregnant women and 33 percent for children, its potential to be used as a planning and tracking tool for MCH services is far from realized. Despite this, ANMs still perceive PCTS-generated workplans to be useful, and some supervisory staff use PCTS-generated reports in their MCH program management.

There is potential to stabilize PCTS-related data collection, consolidation, and transfer processes through greater training, recalibration of data tools, and strengthening of field dynamics. More robust data flow processes will allow for the PCTS to act as a strong monitoring mechanism for MCH service delivery, and for the generation of complete and accurate workplans to aid field health workers in delivering services.

5.3 Uttar Pradesh

Introduction

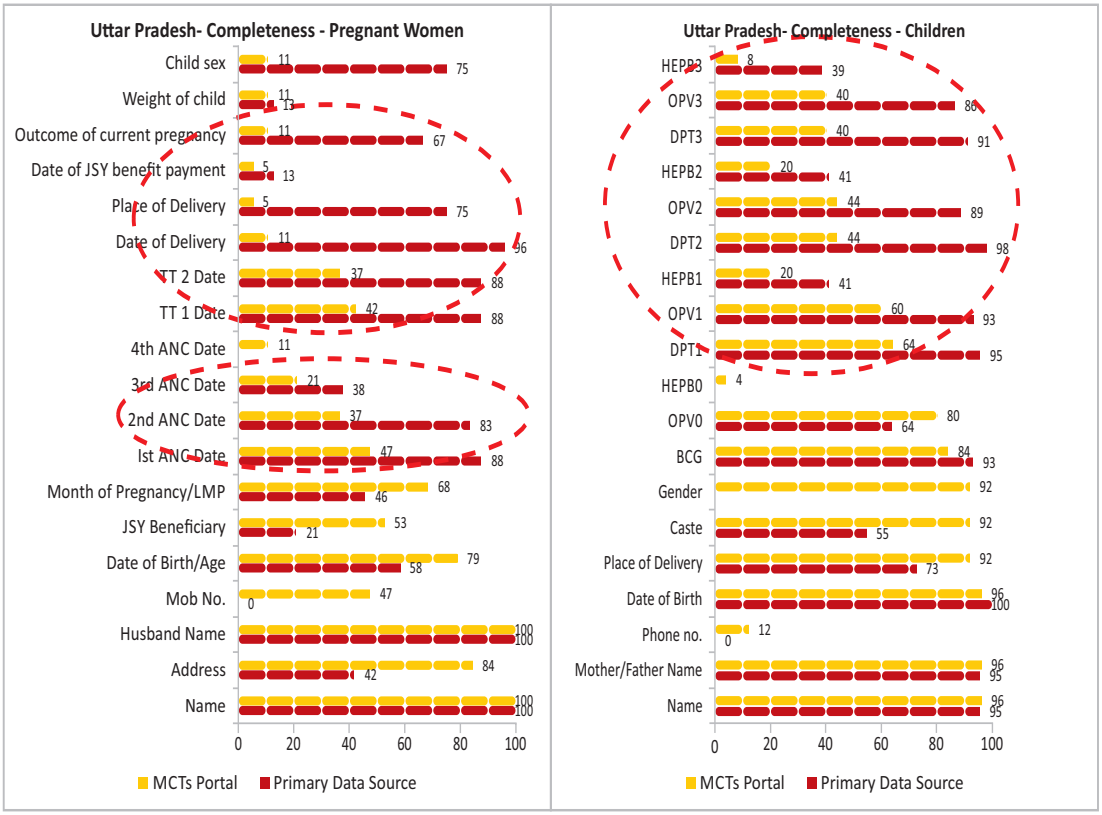
The assessment in Uttar Pradesh indicates that the state's MCTS is performing at 18 percent capacity for pregnant women and 25 percent for children. Parameters of data completeness in the MCTS registers and the portal and accuracy of data transfer from the registers to the portal were taken into consideration in assessing the performance of the MCTS. DQA findings report missing MCTS profiles as high as 21 percent for pregnant women and 43 percent for children, despite profile entries made in the registers. Additionally, comparison of data filled both in the registers and the portal for the remaining profiles highlights the challenges of low completeness which affect the overall MCTS performance.

DQA evidence reveals that the first level of data collection is incomplete. The MCTS registers are 58 percent complete for pregnant women and 72 percent for children. The MCTS register is the primary tool for data collection and transfer. Thus the completeness of the MCTS portal is dependent on the completeness of the registers for pregnant women and children. It can be therefore inferred, at the present level of MCTS functioning, that the MCTS portal cannot have completeness rates of more than 58 percent for pregnant women and 72 percent for children. The actual completeness rates for the MCTS portal, from DQA data, are only 38 percent for pregnant women and 56 percent for children.

Data field-wise completeness numbers indicate 100 percent completeness for basic details such as name and husband's name for pregnant women, and 95 percent to 100 percent completeness for name, mother's/father's name, and date of birth for children. However, data fields related to delivery and PNC details suffer from low completeness rates in the register. To cite a few examples, information on weight of child and PNC home visits is 11 percent complete for pregnant women, while information related to children's vaccination, such as Hep1 to Hep3, is 40-41 percent complete.

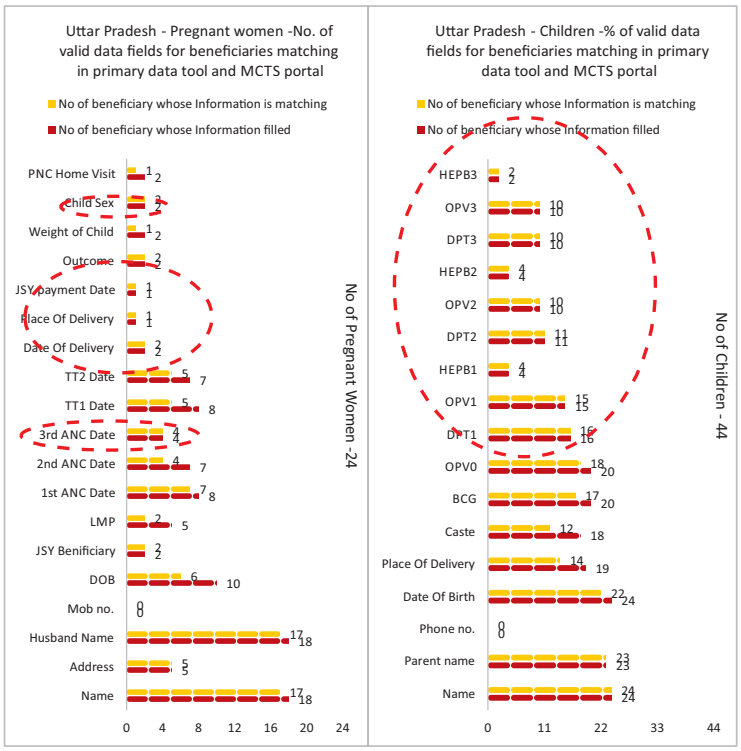
A comparison of data completeness between the registers and the portal highlights weaknesses in data transfer. For example, information on DPT2 vaccination rates for children is 98 percent complete in the registers, while the portal's completeness for the same data point is only 44 percent (Graph 26). Similar comparisons for data fields such as DPT (1, 2, 3), OPV (1,2,3), HepB (1,2,3) also indicate weaknesses in data transfer from the registers to the portal. Data fields on information related to pregnant women for ANC and TT vaccination details, date of delivery, place of delivery, and outcome of pregnancy also highlight problems of data transfer between the primary data tool and the portal (Graph 26).

Graph 26 - % completeness in portal and primary data source



The few cases for which availability in the portal exceeds availability in the registers are data fields such as mobile number, date of birth/age of child, JSY beneficiary, and month of pregnancy for pregnant women, and fields such as phone number, place of delivery, caste, and OPV0 for children (Graph 26). Information on mobile number/ phone number in the portal is 47 percent complete for pregnant women and 12 percent complete for children. However, this information is not filled in the registers as the register completeness rates for both stand at 0 percent. Qualitative evidence highlights that since beneficiary phone number/ mobile number is a mandatory field in the portal, DEOs report entering contact details of frontline health workers instead. Information on OPV0 is 80 percent complete in the portal, while it is only 64 percent complete in the registers. Qualitative data indicates that in cases of non-availability of OPV0 information in the registers, DEOs carry forward BCG vaccination dates for 0PV0 based on the assumption that BCG and OPV0 are provided to a child on the same day. These discrepancies highlight the challenges of data accuracy.

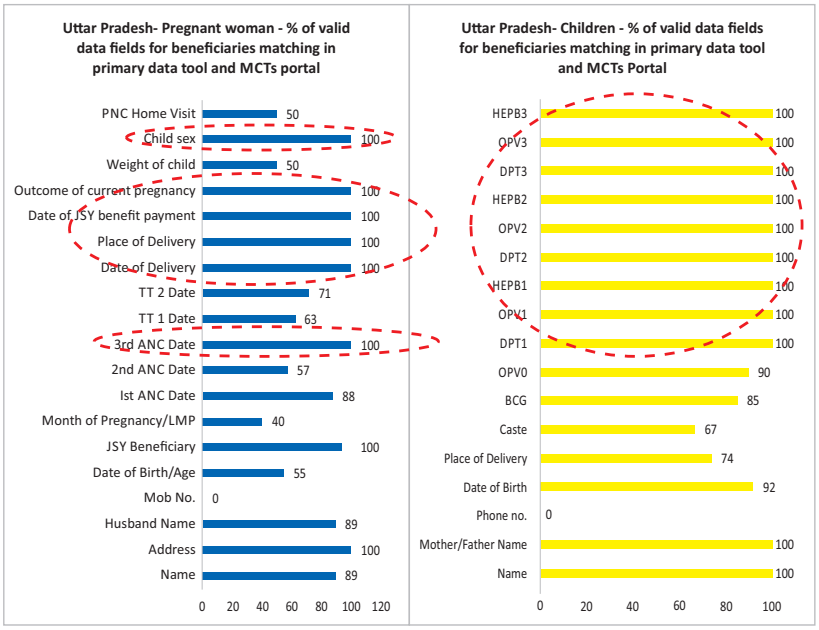
Graph 27 – No. of valid field matching in primary data tool ad MCTS portal



Since the MCTS register is the primary tool for recording information related to beneficiary registration and service delivery data, it is used as the basis of assessing portal data accuracy. Out of the total fields filled in both the registers and the portal, there is an 81 percent data match for pregnant women and 92 percent match for children. However, the high percentage of accuracy for children needs to be analyzed in the context of percentage of data filled both in the registers and the portal. Percentage of data filled in both is as low as 23 percent for pregnant women and 30 percent for children. In other words, 18 percent out of 23 percent data filled for pregnant women and 27 percent out of 30 percent data filled for children matches in the portal and the register.

Graph 28- % of valid data fields for beneficiaries matching primary data tool and MCTS portal

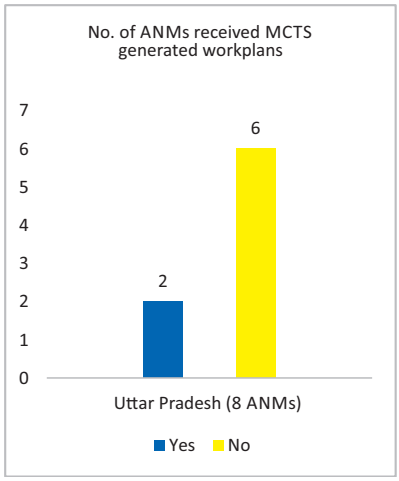
Field specific details indicate data accuracy is 100 percent for fields such as child sex, outcome of current pregnancy, date of JSY benefit payment, place of delivery, third ANC date, JSY beneficiary (Graph 28). However, data for the fields such as place of delivery and date of JSY benefit payment is filled only for 1 pregnant woman out of the sampled 24 cases (Graph 27). Data on child sex, outcome of current pregnancy, third ANC date, and JSY beneficiary is filled only for 2 pregnant women out of 24 sampled cases. Similarly field specific details



for children show 100 percent accuracy for fields related to vaccination details from DPT1 to Hep1 (Graph 26). However, data on Hep 1,2,3 and Measles is filled both in the register and portal for less than 10 children out of 44 sampled cases (Graph 27). Data for DPT1, 2, 3 and OPV 1,2,3 is also filled in the range of 11-15 children out of 44 sampled cases (Graph 32). Thus the high level of accuracy is negated by the poor level of completeness and so does not positively impact the overall system performance.

Generation and Utilization of Workplans

Graph 29 – No. of ANMs who received MCTS-generated workplans



Due to incomplete data in the MCTS portal, MCTS workplans are not being used for tracking beneficiaries and service delivery needs. Additionally, according to the survey data, six out of eight interviewed ANMs do not receive these workplans (Graph 29). None of the ASHAs have received MCTS-generated workplans; in fact four out of eight ASHAs are not even aware of MCTS. There is no system in place for distribution of MCTS workplans to ANMs and ASHAs before every session. Qualitative data highlights that on an average there are 20 sub-centers under each block PHC but there is no mechanism or separate budgetary provision for generation of MCTS workplans to them.

Data quality issues and the resulting low utilization of workplans have four key root causes:

- disorganized data transfer processes,
- discrepancy in data recording and data transfer tools,
- shortage of MCTS-trained supervisory and field staff, and
- insufficient budget.

Data Collection, Consolidation, and Transfer Dynamics

ANMs rely on ASHAs for beneficiary identification as well as for mobilization of beneficiaries. There is no systematic process for collaboration between ASHAs and ANMs for sharing of data pertaining to new beneficiaries. ANM responses on ANM-ASHA meetings for sharing new beneficiary details vary from once a week, to once a fortnight, to once a month. Three out of four interviewed DEOs said that ANMs transfer data on newly identified beneficiaries only once a month. The time lag between beneficiary identification in the field by ASHAs, and beneficiary profile registration in the portal, compromises timely data entry in the MCTS portal.

At the PHC level, available computers are used for data entry for all health information management databases (such as MCTS, HMIS, JSY software), as well as for other administrative work. Hindrances such as irregular electricity supply, inconsistent internet connectivity, inadequate generator back-up, and slow speed of the MCTS software, exacerbate the quality of data entry work.

A DEO is responsible for data entry for more than 20 sub-centers at each block PHC. Even though a notification has been circulated for appointing dedicated data entry operators for MCTS/HMIS by the state, these positions are not yet filled in all PHCs. At present, some of them are working as data information assistants, hired as contractual staff under NRHM, and have other administrative work responsibilities apart from MCTS. Breaks in the contract renewal process and the irregular receipt of salaries negatively affect motivation levels amongst DEOs.

All seven ANMs said that they sit with DEOs for data entry once a month and the registers have to be left at the PHC for completing MCTS data entry. Ideally, registers should not be separated from ANMs for more than a day, but the MCTS registers are reportedly kept in PHCs for up to seven days.

Qualitative data highlights a shortage of MCTS registers at the sub-district level. ANMs use their diaries, local formats, and tally sheets for recording service delivery information during immunization sessions. The use of multiple recording tools results in duplication of data documentation work from frontline workers. There are also discrepancies in the tools used for recording and sending data which further complicates the work of DEOs in the data transfer process. The following table highlights the issue of discrepancies between the MCTS portal and the MCTS register.

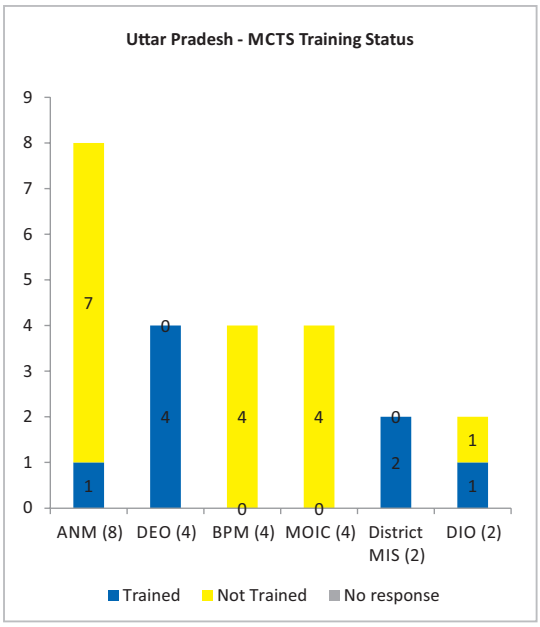
Table 167 Issues of discrepancy – Childrens' Section

Guideline for Hepatitis B	Column name in MCTS register	Column name in MCTS portal
HepB –Birth dose (Within 24 hours)	HepB 1	HepB0
HepB – 1st Dose (On 6 week)	HepB 2	HepB 1
HepB – 2nd Dose (On 10th week)	HepB3	HepB2
HepB- 3rd Dose (On 14th Week)	HepB 4	HepB3

It is left to the DEOs to match Hepatitis 1 from registers with Hepatitis 0 in the portal. Information on 'sex of child' gets recorded in the 'pregnant women' section in the register. So here too it becomes the responsibility of the DEOs to search for the appropriate information while filling up children-related information. These discrepancies contribute to low data accuracy rates.

Graph 30 - MCTS training status, Uttar Pradesh

Poor MCTS performance can also be linked with a shortage of MCTS-trained staff at district and sub-district levels. At the district level, as part of a Training of Trainers program, MIS officials are trained to provide MCTS training to DEOs. All the DEOs in the surveyed districts received MCTS training but qualitative evidence highlighted that DEOs do not find short MCTS trainings sufficient. At the district level, one out of two interviewed DIOs had not received MCTS training. None of the interviewed MOICs and BPMs (four of each) had received MCTS training. Seven out of eight interviewed ANMs had not received MCTS training and all of them expressed a need for it.



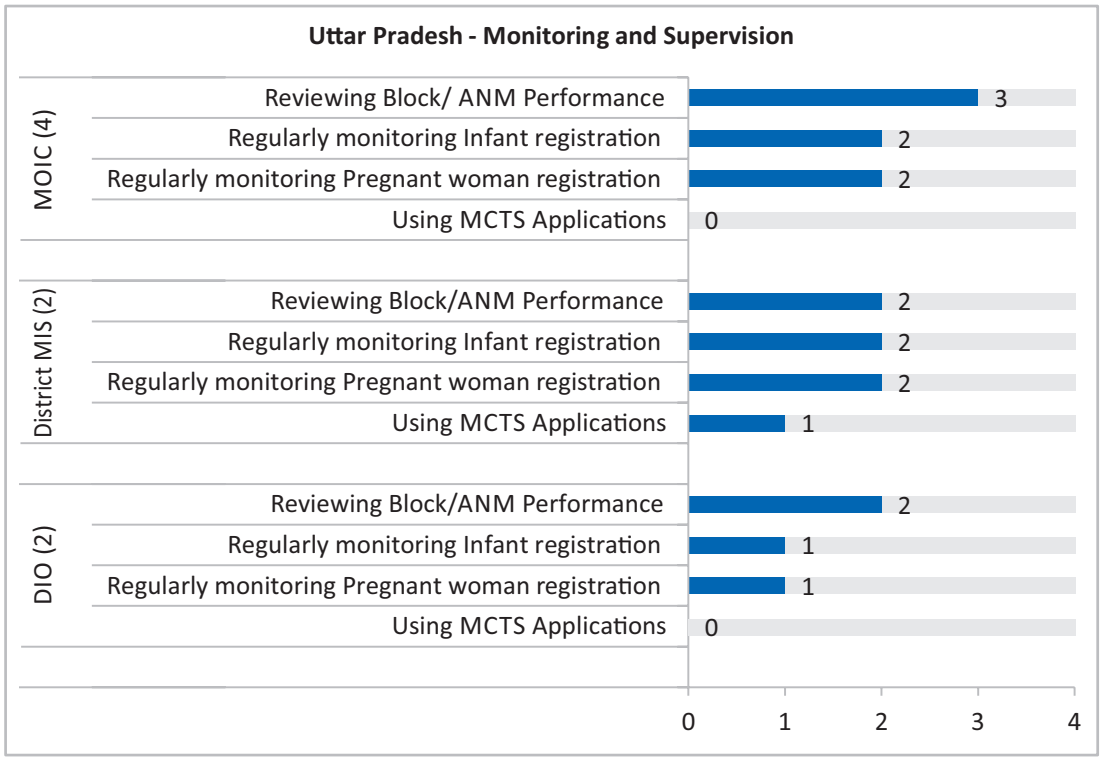
Four out of eight interviewed ASHAs were not aware of MCTS. In order to ensure the effective implementation of the MCTS, training of functionaries on MCTS from the grassroots to the state level needs to be prioritized (Graph 31).

Another significant concern raised is related to the MCTS budget. Though a separate budget is allocated under PIPs (Project Implementation Plans), the two DIOs and most of the interviewed MOICs and BPMs said that it is not sufficient and the funds are not received on time.

Monitoring and Supervision

At the state level, the MIS data analysis unit is responsible for analyzing data generated from MCTS and HMIS. The state has appointed District Program Managers as district MCTS nodal personnel. At the state level, the MCTS cell addresses queries from the field via a toll free number.

Graph 31 – Monitoring and supervision, Uttar Pradesh



At the block level, meetings are held with ANMs on a weekly basis where field-related issues are discussed. ASHA review meetings are conducted on a monthly basis. According to three out of four MOICs, issues related to MCTS are discussed in meetings with frontline health workers. To strengthen monitoring and supervision systems for MCTS, it is necessary to improve regular monitoring of pregnant women, infant MCTS registration, and the use of MCTS application by MOICs (Graph 31).

Supervisory Visits

Survey evidence on supervisory visits highlights the challenges in monitoring and supervision practices. None of the four interviewed MOICs prepare immunization supervision plans. Out of seven ANM responses received, only three reported receiving monitoring and supervision visits from higher level officials. Four ANMs from two blocks reported not receiving any supervisory visit. Meetings are held with

frontline workers on a regular basis where MCTS-related issues are discussed. Further, there is monitoring of beneficiary registration status - two out of four MOIC's report monitoring the status. Reports generated by MCTS are usually not used to guide MCH program management and monthly progress reports are not prepared.

Mobile Registration in MCTS Portal

The registration of mobiles in the MCTS for supervisory officials needs to be improved. One of the two interviewed DIOs, both interviewed MIS officials, two of the four interviewed MOICs, and only one of the four interviewed BPMs have registered their mobile phones in the MCTS portal and also receive MCTS-generated messages/ phone calls.

In all the surveyed blocks, feedback on MCTS activities is received by block-level officials from higher levels (state or district and sometimes both depending on the block). However, the form in which the feedback is received is not standardized. It is provided during supervisory visits, via email or in district review meetings and sometimes even through the MCTS inbuilt feedback mechanism. Feedback is received directly by the DEOs in three blocks; it pertains mainly to registration status of beneficiaries and very rarely to the issue of service delivery coverage.

The districts receive feedback from state-level officials on MCTS implementation during review meetings, via phone and email or through the inbuilt MCTS feedback mechanism. However, once again this feedback is limited in scope and focuses mainly on the MCTS beneficiary registration status and completeness of data. The feedback received is passed on by MIS officials to block-level data entry personnel during monthly or fortnightly meetings.

At the district level, one of the two interviewed officials regularly monitors MCTS registration in the blocks under the district. Both the DIOs stated that they do not directly use the MCTS application. The main focus of attention is on the registration of beneficiaries, updation of services delivered, and assessment of block-wise performance based on these same parameters.

Conclusion

At the present stage of implementation, the MCTS is focused on registration of beneficiaries in the portal. State initiatives such as the appointment of dedicated data entry operators for MCTS/HMIS at each block PHC, and the ToT program for data entry personnel at divisional and district levels, have not yet fully been implemented at the sub-district level. With enhanced human resources, timely allotment of sufficient funds, adequate training, and systematic monitoring and evaluation mechanisms, the MCTS will be able to achieve its primary objective of tracking beneficiaries and their service delivery needs.

5.4 Karnataka

Introduction

In the current assessment study, Karnataka was selected as it has a robust health system and represents one of the good performing states with respect to MCTS. No detailed DQA was conducted for the state as the main purpose was to understand the operation of field-level processes related to MCTS data capture and transfer.

As discussed above, the performance of the MCTS system is strongly linked with robust field processes which involve beneficiary estimation and identification, information sharing between field-level workers, and efficient data transfer processes.

Data Collection, Consolidation, and Transfer Dynamics

The field processes for MCTS in Karnataka are very robust. Beneficiary estimation and identification is done through regular household surveys conducted by frontline workers. The beneficiary identification process, which is crucial in identifying and adding new individual beneficiaries into the MCTS portal, is very strong. The frontline health workers (ANMs, ASHAs and the AWWs) work in a concerted manner to carry out periodic household surveys to identify beneficiaries. In addition, regular ANM house visits and ASHA identification and information, strengthen the beneficiary identification process.

The ASHAs in Karnataka are well-trained to carry out their field responsibilities, with three out of four interviewed ASHAs trained in identifying and tracking beneficiaries and in mobilizing the community for VHNDs or immunization days. In addition, results suggest that the means by which field information from well-trained ASHAs is transferred to ANMs is very robust. Field-level data consolidation between ASHAs, ANMs, and AWWs with regards to beneficiaries and service delivery details occurs weekly.

Once the beneficiaries are identified, their details are recorded by the ANMs in the MCH register and the beneficiaries are provided with a MCH card, which is referred to as the Thayi card in Karnataka. Survey data reveals that all four interviewed ANMs record new beneficiary and service delivery information in the MCH register and update it in the Thayi card, which is then sent to the DEO at the PHC for data entry. This card is very well matched with the needs of the portal. All fields for pregnant women and children that are needed in the MCTS portal are available in the Thayi card. Hence, there is minimum duplication of work for the ANM. She does not need to fill a separate MCTS register to transfer information into the portal.

Data entry has been extended to the sub-center level in Karnataka. However there are no dedicated data entry operators. At the sub-center level data entry is done by regular PHC staff. The PHC staff that takes on the responsibility of data entry receives an additional payment of Rs 300 a month as an incentive. MCTS training for these data entry staff can be improved, with training levels among surveyed DEOs standing at around 75 percent. As found in the qualitative surveys conducted as part of this study, the concerned personnel themselves feel the need for additional training. The infrastructure at the block level (three of the four blocks for which data is available) seems adequate, with all the surveyed blocks having a functional computer and good internet connections. However, all complained of inconsistent power supply.

The budget for MCTS in Karnataka is routed via funds allocated under the monitoring and evaluation component through NRHM. Half of the officials at the district (50 percent of DIOs) and a majority at the block level (75 percent of MOICs) felt that the budget is insufficient. This is reflected in the field level in the form of a shortage of consumables such as printer cartridges and paper at the block level.

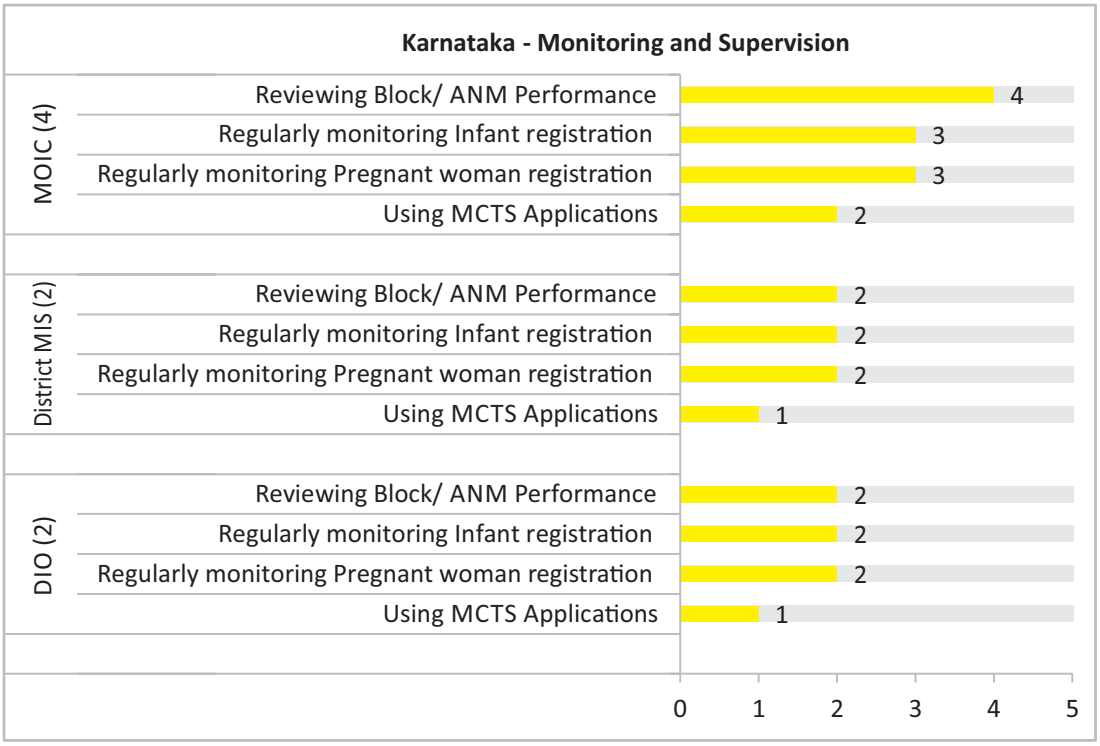
Ideally, field data that is fed into MCTS should generate workplans that allow for tracking individual beneficiaries and delivering appropriate services. As discussed

previously, ANMs in Karnataka do not receive MCTS-generated workplans from the data entry point, and most of them feel that if it is introduced it would serve as a useful tool. ASHAs, as the primary mobilizers of beneficiaries, should ideally be cognizant of and guided by MCTS workplans, but there is not even any awareness among them about MCTS-generated workplans.

Finally, MCTS training levels amongst ANMs are high with all interviewed ANMs having received training on MCTS. However, there is also a strong expressed need for greater training in the following areas, which are crucial to the optimal functioning and utilization of the MCTS: using recording tools, using computer-generated workplans, using SMSs to update data into the portal, and refresher training.

Monitoring and Supervision

Graph 32 - Monitoring and supervision – Karnataka



There is active monitoring, supervision, and feedback related to MCTS performance in Karnataka. Supervisory officials at all levels are engaged with monitoring MCTS performance and generating feedback, but there is a need for standardization of practices through monitoring and supervision guidelines and formats.

At the block level there is considerable monitoring and supervision of MCTS-related activities. Meetings between field workers and supervisory officials occur on a regular basis where MCTS-related issues are discussed. There is also regular monitoring of registration status and progress of MCTS by block-level health officials (75 percent of MOICs monitor the MCTS status). However, reports generated by MCTS are not used to their full potential to guide MCH program management (used by only 25 percent MOICs) and prepare monthly progress reports (used in 50 percent blocks).The data monitored mainly pertains to MCTS beneficiary registration status; in a few instances other details, such as JSY benefits, are also monitored.

In 50 percent of the blocks visited, feedback on MCTS activities is received by block-level officials (MOICs) from officials at higher levels (national, state, or district depending on the block). However, the form in which the feedback is received remains variable - either during supervisory visits or in district review meetings. Additionally, there is almost no record available at the block level of the feedback received (records were present only in 25 percent of the blocks). Therefore, there seems to be no formal and structured mechanism for receiving and recording feedback on MCTS-related activities in the state. The feedback that is received pertains mainly to the registration status of the beneficiaries and hence is limited in scope. In addition, information on MCTS application updates is received by three of the four DEOs at the block level. Survey data from three of the DEOs indicate that two of them share software-related concerns with the state/district-level officials and receive a response from them.

There is regular monitoring of MCTS implementation by district officials at the district level. The main parameter tracked is the registration of beneficiaries. Block-wise performance in the districts is assessed mainly by using this parameter. MIS officials also regularly receive MCTS application updates. They also share software-related concerns with state-level officials and get responses to their queries.

The DIOs use aspects of the MCTS data pertaining to service delivery and utilization for MCH program management and MIS officials in 50 percent of the districts use data from the portal to prepare monthly progress reports. Therefore, the system is seen as useful by officials at the district level even though its utilization is currently limited to parameters that assess registration status of beneficiaries, not service delivery utilization.

The districts also receive feedback from state-level officials on MCTS implementation. However once again this feedback is limited in scope and focuses mainly on the registration status of beneficiaries. The feedback received is passed on by the MIS officials to block-level data entry personnel during monthly meetings.

Therefore, field-level processes in Karnataka which affect data recording and transfer for MCTS seem to be well aligned. There is no duplication of data recording for capturing MCTS- related data; data transfer and data consolidation occurs in a timely manner; the coordination between field-level workers is good; and the monitoring and supervision processes for MCTS-related activities are in place. Furthermore, the state has taken many initiatives to improve MCTS performance, such as the provision of CUG (Closed User Group) sim cards to all ANMs.

Conclusion

In general, field-level processes in Karnataka linked to capturing the information for MCTS are robust. A survey investigator reported that the Joint Director, Statistics, at the state level monitors the MCTS application systematically. The few system weaknesses and problems observed at the field level are known, and measures are being taken by the state to correct some of them. At the time of the study a survey investigator reported that efforts are underway at the state to tackle some key problems seen with the MCTS portal at the state. These include delinking child and mother registration in the MCTS portal, improving the MCTS training content and training frequency for all frontline health workers and officials involved with MCTS implementation (depending on their roles), and trying to tackle the problem of registering the migrant population. The officials at the state level maintained that the current focus in Karnataka is to improve the registration of beneficiaries in the portal and hence no workplans are generated in the state.

DQA Analysis

A preliminary DQA test was conducted in Karnataka to obtain a very preliminary picture of how these strong field processes translate into data quality. The idea was to survey a random sample of 6-7 beneficiaries in both categories (pregnant women and children) for the DQA test. As discussed in the DQA section, beneficiaries were randomly selected from the community from both blocks in a particular district, and the Thayi card, or the MCH card, was regarded as the primary data tool to evaluate the completeness and accuracy of data entered into the portal.

The following are results from the small number of sampled beneficiaries:

Missing profiles: The profiles for 17 percent of pregnant women and 60 percent of children were missing from the MCTS portal. The table below summarizes the number of missing profiles in Karnataka:

Table 168 - Missing profiles in Karnataka

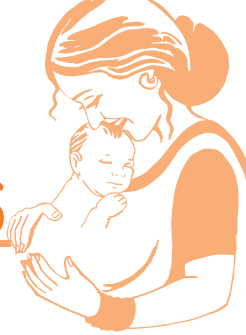
Pregnant Women			Children		
Total Thayi cards sampled	**Total Thayi card profiles found in the MCTS portal**	**Not in MCTS portal**	**Total Thayi cards sampled**	**Total Thayi card profiles found in the MCTS portal**	**Not in MCTS Portal**
6	5	1	5	2	3

Problems with data recording and transfer at the field level: Of the data found in the portal, inconsistencies were found with the information available at the field level in the primary data recording tool considered for analysis (Thayi card). This manifested itself in terms of problems with both completeness and accuracy of data present in the portal. The overall MCTS data quality measured in terms of percentage of completely filled fields in the MCTS portal that match with the information available in the Thayi card was found to be only 17 percent for pregnant women and 0.7 percent for children.

These findings suggest that a more thorough DQA needs to be conducted for Karnataka. A detailed DQA would help in understanding whether robust data capture and data transfer processes in the field translate into complete and accurate data transfer into the MCTS portal. This DQA would also help us understand the challenges and gaps that might be encountered even when all field-level processes function as planned. An interview with a DIO indicated that the MCTS in the relevant district (randomly sampled for the DQA) was undergoing strengthening measures since December 2012 (the date of the field survey), hence it is imperative that a more detailed and exhaustive DQA be conducted before any firm comments are made on the MCTS in Karnataka.

Chapter 6

Major Conclusions and Recommendations



This study has shown that the MCTS is performing only at 34 percent capacity for pregnant women and 33 percent for children in Rajasthan to 18 percent capacity for pregnant women and 25 percent for children in Uttar Pradesh. It is therefore failing to achieve its goal of tracking every beneficiary for maternal health services and infant immunization. Findings from two states have also shown that instead of achieving the planned objective of reducing the workload of the ANM, it has instead burdened her with more work - copying and transferring data for MCTS. There are challenges and barriers in the way of successful implementation of MCTS and its use for tracking individual beneficiaries for the completion of services.

6.1 Inclusion of Urban Areas into MCTS Ambit

As the MCTS was initiated under the NRHM, it faces the limitation of focusing solely on rural areas. While there are no restrictions on using it in urban areas, there are no systematic plans envisaging its use in urban settings. With an increasing share of the country's population being concentrated in urban settings and a growing portion of immunization activity occurring in the private sector, it is critical to sensitize urban health personnel towards using the MCTS for registering beneficiaries and tracking their service delivery needs. Under the new National Health Mission, which consists of both rural as well as urban missions, there is a focus on strengthening health service delivery in urban areas, which provides an opportunity to initiate MCTS in these areas.

Recommendations:

- SOPs to be developed for urban areas for smooth initiation and use of MCTS. This should include provision for utilization in both public as well as private sector.
- Inclusion of MCTS in training modules for National Urban Health Mission.

6.2 Human Resources, Budget, and Infrastructure

There is no dedicated data entry staff in Karnataka. Karnataka has introduced a provision of incentives for identified regular PHC staff to carry out data entry work. Rajasthan uses a combination of contractual data entry staff and other PHC staff for its data entry needs. In Uttar Pradesh, data entry is being done at the block-level PHC where contractual staff has been deployed to handle HMIS- and MCTS-related data entry. However, there are systemic issues related to fund availability and timely contract renewals, which interrupt MCTS data entry continuity.

Since the MCTS is a mission mode project, budgeting practices need to reflect this degree of priority. MCTS expenditures are categorized under the monitoring and evaluation budget head for all three surveyed states. The field survey also highlighted weaknesses in supplies of MCTS formats, registers, and printing material in Uttar Pradesh.

Recommendations:

- Plan for an assessment of daily/monthly workload for data entry staff, encompassing MCTS-related data entry along with total MIS-related work.

- Explore the possible relevance in other states (where data entry is also being done at the sub-block PHC level) of the Karnataka initiative of providing an incentive to regular PHC staff for data entry.
- Develop a mechanism to ensure continuity of MCTS data entry work through timely contract renewal.
- Outsource data entry in cases where there is huge data backlog due to delayed renewal of the contract or where the position of the data entry operator has been lying vacant for long (as evident in the study, it is difficult for a single operator to enter so much piled up data).
- Develop a plan for ensuring adequate supplies of printing and other MCTS-related material.

6.3 Training

For the successful implementation of the MCTS, and its regular use for tracking beneficiaries and their service delivery needs, supervisory and management staff need to be fully engaged. MCTS training is currently more focused on the MCTS application, data entry, and generation of workplans at field level. There is no module available that is tailored to train program personnel like ANMs and MOs at different levels in the health system based on their responsibilities vis-à-vis MCTS. There is a clear need for supervisory/managerial officials to be familiar with the data collation and report-generation capabilities of the MCTS to aid in MCH program management and in monitoring the time-bound generation and distribution of workplans. Field staff should be trained and retrained on data formats, data entry norms, ensuring data completeness and accuracy, and generation and use of workplans. The assessment also reflected the absence of any plan for refresher trainings in Uttar Pradesh and Rajasthan.

Recommendations:

- Create a clear plan for refresher training for staff, which complements existing monitoring and supervision SOPs.
- Plan for sensitization and training of all staff related to functioning and use of MCTS.
- Develop specific training modules tailored to meet the requirements of staff at different levels and with different responsibilities.

6.4 MCTS Application

During a desk review of the MCTS online application, it was observed that the performance of the immunization program is measured against registered beneficiaries, and not against the estimated beneficiary population. This results in high service delivery percentage figures, when, in reality, a large number of beneficiaries may not be entered in the portal. There are many more application-related issues highlighted in the MCTS application section. In order to enhance the utilization rate of the MCTS portal and to generate more user-friendly reports for program managers, the following are some recommendations, with more detailed recommendations available in the MCTS application section.

Recommendations:

- Dashboard needs to measure MCTS performance against the estimated number of beneficiaries, along with registered beneficiaries.
- Use uniform estimation of infants for both major MIS sources in the country: HIMS and MCTS.
- Make provisions for retrieving data by selecting information/indicators in the form of customized reports.
- Include a system in the MCTS application for documenting frequently encountered problems and the appropriate responses (such as FAQs).
- Make a provision for offline data entry in MCTS portal to counter the issue of poor internet connectivity in rural areas.

6.5 Primary Field Data Tools, Data Collection and Transfer Processes, and Generation and Use of Workplans

One of main objectives of the MCTS is to generate workplans that support frontline health workers (ANMs, ASHAs) in tracking beneficiaries for services, thus reducing their workload. This study finds that in two (UP and Rajasthan) of the total three surveyed states, it has created more work for the ANMs by giving them the responsibility of copying and transferring data to the PHC level. The mismatch between the tool ANMs use in the field for recording data and the tool used for data transfer, leads to ANMs recopying field data, and sometimes even hand-drawing registers, for transfer to PHCs. Besides this, ANMs have to visit PHCs to assist data entry operators. The time gap between data collection to data entry in the surveyed states range between instantaneous (SMS-based in Karnataka) to once in two or three months (Uttar Pradesh). This study also found that in many cases ANMs have to leave their main field register at the PHC for many days for data entry. Data quality assessment findings also show that the MCTS is performing at very low levels in terms of quality of information, and therefore workplans, where generated and distributed, are not helpful to ANMs in tracking beneficiaries and service delivery needs. Karnataka has initiated a system that sends SMSs to ANMs listing missed out beneficiaries.

It is observed that there are no standard operating procedures available for MCTS-related data flow processes in the field, and for the timely generation and distribution of workplans to ANMs before immunization sessions.

Recommendations:

- Standardize the tools used for recording of data at field level and its transfer to the PHC for data entry. (A simplified tool "Due List –cum- Tally Sheet," which is being used in some states, can be explored.)
- Develop national, as well as state-specific, SOPs to standardize and stabilize data transfer processes, timeliness of data entry into the portal, generation of workplans with updated and accurate information, and its distribution to ANMs before immunization sessions. The main issues to be considered for the SOPs: accuracy and completeness of data with minimum additional workload for ANMS; discouraging the practice of keeping field-level registers at the PHC, leaving ANMs without their registers in the field; and using the vaccine supply chain (Alternate Vaccine Delivery) for transfer of data/workplans on immunization sessions days.

- Reserve one day in a month, preferably the ANM meeting day at the PCH level, to complete empty data fields and conduct data validation exercises. In UP, taking into consideration the heavy data entry work burden, more than one day should be budgeted for conducting data validation exercises.
- Use workplans initially only for monitoring service delivery at the PHC level, and delink them from tracking of beneficiaries by ANMs/ASHAs at the field level. Continue the practice of preparing due lists by ANMs. ANMs should be provided with workplans in the local language. (Once field data collection, consolidation, and transfer processes are stabilized, and reliable workplans with complete and accurate information are generated, workplans can replace existing tracking tools used by ANMs. This should be done with clear timelines and set milestones.)

6.6 DQAs for MCTS Data

Data quality assessments conducted in this study have raised serious concerns on the MCTS data quality which generates the need for a mechanism to systematically review the quality of MCTS data on a regular basis.

Recommendations:

- Develop a SOP for MCTS staff and program managers for regular review of MCTS data for accuracy and completeness. Some recommended SOPs: Data entry operators to assign at least one day in a month with ANMs to review data for completeness and accuracy; MIS in-charges at block and district levels should also periodically cross-check sampled entries in the MCTS portal and in the field data tool; program managers and supervisors to check reports and data for completeness and accuracy periodically.
- Plan for periodic DQAs in the field to assess MCTS data quality and to prepare data improvement plans for states based on the findings.
- Prepare dashboards at the state, district and PHC levels to enhance the use of MCTS data and to keep track of reliability of MCTS data. (The prototype can be provided from the national level).
- Plan a detailed DQA for Karnataka to gain a deeper understanding of the quality of MCTS data.

6.7 Well-structured Monitoring and Feedback mechanisms for the MCTS, and use of MCTS data by Program Managers

Regular and quality monitoring of the MCTS is critical in ensuring its successful implementation. Though monitoring of MCTS is in place but it is mainly focused on the data entry and registration of new beneficiaries. The content and the quality of MCTS implementation is not being monitored. Currently program managers at state, district and PHC levels are not using MCTS data to its potential for monitoring the program performance and improving the coverage.

For a successful MCTS, a planning is required for monitoring of all aspects of MCTS implementation and its use (e.g. cadre wise training status on MCTS, facility wise registration and service delivery status, number of sessions where work-plan reached, facilities/districts and states where DQA conducted etc.). Program managers at all levels need to use data from MCTS to track the program progress.

Recommendations:

- Plan to include the MCTS as a regular part of overall M & E framework for immunization as well as MCH program management.
- Develop a plan for the establishment of a regular and structured MCTS implementation monitoring system at all levels. Program Managers should also monitor MCTS along with MIS staff.
    - Specific indicators to be identified for all levels of MCTS implementation and use.
    - Use of monthly dashboards to keep track of MCTS progress and to provide feedback to respective levels.
    - Regular reviews should be planned for data staff to review MCTS status, issues and solutions.
    - Written feedback should be given by supervisors on MCTS progress and follow up should be done for response from blocks and districts
- EPI officers, DIOs and MOs should use MCTS data for improving program performance and for keeping track of program progress. As practiced in UP and Rajasthan, MCTS data should also be compared with HIMS data for tracking service delivery

Annexure – A.1

Mother and Child Tracking System Assessment Study in Three States of India

Data Collection Tools - Discussion Points

Level – State – State NRHM Mission Director

1. Briefing on MCTS Assessment
2. Issue and problems in MCTS implementation
3. State initiatives to improve the MCTS implementation
4. Suggestion recommendation to improve the performance in the state
5. Support from national - expected and received

Level – State – State Immunization Officer and State Program Manager

1. Human resource management and capacity building of staff (Routine Immunization and MCTS)
2. Estimation of target
3. MCTS implementation and issues at state level
4. MCTS – data quality issues
5. Review of MCTS at state level
6. Performance of MCTS at state level and across districts
7. Issue and challenges of poor performing district
8. State Initiatives for improvement in MCTS implementation
9. Learning from good performing district
10. Utilization of MCTS for MCH program and state PIP and state action plan
11. Feedback mechanism (eForum, webchat, video conference, etc.)
12. Support from national (expected and received)
13. eMission *
14. Budget and expenditure

Level – State – MIS /M&E

1. Capacity Building (RI and MCTS)
2. Estimation of targets
3. MCTS portal – web-based/offline module – benefit and limitation
4. Issue, suggestion related to MCTS software
5. MCTS – resource material
6. MCTS implementation and issues at state level

7. MCTS – Data quality issues – initiative to improve the quality (timeliness, completeness and accuracy)
8. MCTS review process at state level
9. Utilization of MCTS for state PIP and state action plan – initiative to improve the utilization
10. Data triangulation – MCTS and other data sources
11. Feedback mechanism (eForum, webchat, video conference, etc.)
12. Support from national (expected and received

Level – District – District Collector

1. Briefing on MCTS Assessment
2. Issue and problems in MCTS implementation
3. District Initiatives in implementation of MCTS
4. Suggestion recommendation to improve the performance in the district
5. Support from state and national – received and expected

Level – District – Chief Medical Officer

1. Human Resource and Capacity Building at District for MCTS
2. MCTS – Implementation, Utilization and Performance at District
3. eMIssion* Teams
4. Budget and Fund Management
5. Support from state and national – received and expected

Mother and Child Tracking System Assessment Study in Three States of India

Data Collection Tools - In-depth Interview

Level – District – District Immunization Officer and District Team

Q.No.	Question	Response	Go to
1. Human resource and Capacity Building			
101	Since how long you are in position of DIO?	.....Year, ...Month	
102	Do you have any additional charge? If Yes, How many?	Yes..... ☐ No..... ☐	
103	Did you receive any training on Immunization? If Yes,	Yes..... ☐ No..... ☐ When..... Where..... Duration..... Whoconducted..... Was it useful Yes..... ☐ No..... ☐	
104	Did you receive any training on MCTS? If Yes, When?	Yes..... ☐ No..... ☐	
105	Do you need training in any component of Immunization or MCTS If Yes, What all Component?	Yes..... ☐ No..... ☐	
2. Immunization Session/ VHND Supervision			
201	Do you have any Field supervision plan for District Officials? If yes, is it documented? {If it is documented, then investigator need to collect the copy of plan}	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
3. MCTS Implementation and Utilization			
301	How Target of beneficiary is decided for the district? 1. Based on census data. 2. Estimated population as target sent by State authority 3. From field level survey (household survey) 4. Any other process, Specify	.....☐ .....☐ .....☐ .....☐	
302	Has all urban slums included in the Immunization/ VHND microplan? If yes, is this data related to urban slums is entered in MCTS portal?	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
303	Have You registered your mobile number in MCTS? Do you receive any information on SMS or call related to MCTS? If yes, then what? *{Multiple response}*	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ 1. Registration status..... ☐ 2. General health IEC message..... ☐ 3. Specific health services..... ☐ 4. Specific health scheme..... ☐ 5. Due list of beneficiary..... ☐ 6. Any other..... ☐ (specify).....	
304	Do you use MCTS application? If yes, then how many times in past one month Which username and password you use?	Yes..... ☐ No..... ☐	

Q.No.	Question	Response	Go to
305	Do you use any MCTS report for MCH program management? If yes which report	Yes..... ☐ No..... ☐ 1. ..... 2.	
4. MCTS Performance			
401	Is MCTS functional in all blocks of the district?	Yes..... ☐ No..... ☐	
402	Do you regularly monitor the registration of pregnant female against the estimated population? If yes, that how much registration completed in MCTS for this year till November 2012?	Yes..... ☐ No..... ☐ .....(in numbers) .....(in %)	
403	Do you regularly monitor the infant registration against the estimated population? If yes, that how much registration completed in MCTS for this year till November 2012?	Yes..... ☐ No..... ☐ .....(in numbers) .....(in %)	
404	Status of registration Pregnant Female Infant *(To be filled by investigator based on registration data given by DIO)*	Low..... ☐ High..... ☐ Normal..... ☐ Low..... ☐ High..... ☐ Normal..... ☐ As per Pro Rata basis 90-100% - Normal <90% - Low >100% - High	
405	If low, what may be the reasons of low registration for pregnant female? *{Multiple response}*	1. Poor identification..... ☐ 2. Not recording in MCTS register by ANM..... ☐ 3. Delay in Register reaching at data entry point..... ☐ 4. Poor Entry in MCTS Tool..... ☐ 5. Incomplete data in register..... ☐ 6. Any other..... ☐ (Specify).....	
406	If low, What may be the reasons of low registration for Infants? *{Multiple response}*	1. Poor identification..... ☐ 2. Not recording in MCTS register by ANM..... ☐ 3. Delay in Register reaching at data entry point..... ☐ 4. Poor Entry in MCTS Tool..... ☐ 5. Incomplete data in register..... ☐ 6. Poor Tracking after Delivery..... ☐ 7. Poor updating of records..... ☐ 8. Any other..... ☐ (Specify).....	
407	If high What may be the reasons of high registration of pregnant female Infants *{Investigator can use extra sheet, in case of insufficient space}*	....	
408	Do you have any suggestion or recommendation to improve the registration? If yes, then what? For Pregnant Female For Infants *{Investigator can use extra sheet, in case of insufficient space}*	Yes..... ☐ No..... ☐	

Q.No.	Question	Response	Go to
409	How you find the performance of district in MCTS roll-out?	1. Very good.....☐ 2. Average.....☐ 3. Below Average.....☐	
410	Do you assess block wise performance?	Yes.....☐ No.....☐	
411	What are the key performance indicators to assess the performance of blocks?	1. ..... 2. ..... 3.	
412	Name two better performing blocks in your district related to MCTS	1. ..... 2.	
413	Name two poor performing blocks in your district related to MCTS.	1. ..... 2.	
414	Do you Review MCTS performance with blocks If Yes How often	Yes.....☐ No.....☐	
5. MCTS Feedback Mechanism			
501	Do you receive feedback on MCTS implementation from higher official (National/ State/ District? If yes, from where? {Multiple response}	Yes.....☐ No.....☐ National.....☐ State.....☐	
502	How you receive the feedback? *{Multiple response}*	1. During State review meeting.....☐ 2. During supervisory visit.....☐ 3. MCTS inbuilt feedback mechanism .....☐ 4. Predisigned feedback format.....☐ 5. No structured feedback, only needbased.....☐ 6. Any other.....☐ Specify.....	
503	Is there any visit from State to provide supportive supervision on MCTS implementation? If yes, when it was conducted?	Yes.....☐ No.....☐ .....Month/Year .....Month /Year back	
6. eMission			
601	Is district level eMissions teams are functional?	Yes.....☐ No.....☐	
602	Who are the members of eMission team?	1. ..... 2. ..... 3.	
603	When the members were met last time?	.....month, ...year	
604	Is there any recommendation from eMIssion team incorporated in MCTS?	Yes.....☐ No.....☐	
7. Budget and Fund Management			
701	Is there a separate budget for MCTS implementation?	Yes.....☐ No.....☐	
702	Is that budget is sufficient?	Yes.....☐ No.....☐	
703	Is there any issue related to budget and expenditure? If yes, what all? {Investigator can use extra sheet, in case of insufficient space}	Yes.....☐ No.....☐	

C. Issue, challenges and recommendation

C.1 Human Resource to carry out MCH program at District

C.2 MCTS – Data Quality and Data flow

C.3 Block Level Performance

C.5 Utilization of MCTS to strengthen the MCH program

C.7. Do you think, the MCTS can be a single source of information for MCH program in the district?

C.8. Any Support required from State and National level?

Level – District – MIS Officer / MIS Nodal Person

Q.No.	Question	Response	Go to
1. Human resource and Capacity Building			
101	Type of position?	1. Regular staff..... ☐ 2. Contractual under NRHM..... ☐ 3. Any other specify..... ☐	
102	For how long you are working as {position mentioned in q. no. 101?	.....year, ...month	
103	Which are the MIS/M&E components in your job profile?	1. All NRHM components..... ☐ 2. Specific component of NRHM (list them)..... ☐ 3. Any other..... ☐ Specify.....	
104	Did you receive any training on MCTS? If yes, When? Was it useful?	Yes..... ☐ No..... ☐ ..... Yes..... ☐ No..... ☐	
105	What are your training needs related to MCTS ?	.....	
2. MCTS – Implementation and Utilization			
201	Have You registered your mobile number in MCTS? Do you receive any information on SMS or call related to MCTS? If yes, then what all?	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
202	Do you submit any monthly progress report related to District activities and achievement to state HQ?	Yes..... ☐ No..... ☐	
203	Do you use MCT S data to prepare the progress report? If yes, which data?	Yes..... ☐ No..... ☐	
204	Name the most commonly used MCTS report.	1. ..... 2.	
205	Are reports generated from MCTS portal as per district requirement?	Yes..... ☐ No..... ☐	
206	Do you use MCT S data to prepare the District Action Plan?	Yes..... ☐ No..... ☐	

Q.No.	Question	Response	Go to
207	Are reports generated from MCTS are user-friendly? If no, what are the problems? Formatting: Content: Completeness: Accuracy: Any other:	Yes..... ☐ No..... ☐	
208	Is there any problem in report generation? If yes, than what all?	Yes..... ☐ No..... ☐	
209	Is there is any specific problems related to MCTS Software? If yes what all	Yes..... ☐ No..... ☐	
210	Do you have access to primary data for the state? If yes then in which format? If no, do you think it is useful, if district have MCTS primary data? If yes, how you will utilize the data?	Yes..... ☐ No..... ☐ 1. MS Excel..... ☐ 2. MS Access..... ☐ 3. Any other tools ..... ☐ 4. Report but not editable..... ☐ 5. Other specify..... ☐ Yes..... ☐ No..... ☐	
211	Do you think web-based/online MCTS application is convenient for data entry? Do you think offline module is better option	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
212	How do you find the over-all performance software?	1. Very good..... ☐ 2. Good..... ☐ 3. Average..... ☐ 4. Below average..... ☐	
3. Feedback and supervision			
301	Do you visit blocks/sub-center for verification and validation of primary recording tools and MCTS data entry?	Yes..... ☐ No..... ☐	
302	Do you receive feedback on MCTS Implementation from higher official? If yes, from where? {Multiple response}	Yes..... ☐ No..... ☐ 1. National..... ☐ 2. State..... ☐	
303	What are the issues raised in feedback? *{Multiple response}*	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ 1. Registration status..... ☐ 2. Completeness of data..... ☐ 3. Timeliness of data..... ☐ 4. Status on coverage on services... ☐ 5. Any other..... ☐ 6.Specify.....	
304	Do you provide MCTS software related issues to state level officials? If yes? Do you receive any response?	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
305	Do you receive application updates from NIC/ MCTS cell?	Yes..... ☐ No..... ☐	
306	Is application updates communicated with proper instruction?	Yes..... ☐ No..... ☐	

Q.No.	Question	Response	Go to
4. MCTS Performance			
401	Is MCTS functional in all blocks of the district?	Yes..... ☐ No..... ☐	
402	Do you regularly monitor the registration of pregnant female against the estimated population? If yes, that how much registration completed in MCTS for this year till November 2012?	Yes..... ☐ No..... ☐ .....(in numbers) .....(in %)	
403	Do you regularly monitor the infant registration against the estimated population? If yes, that how much registration completed in MCTS for this year till November 2012?	Yes..... ☐ No..... ☐ .....(in numbers) .....(in %)	
404	Status of registration Pregnant Female Infant	Low..... ☐ High..... ☐ Normal..... ☐ Low..... ☐ High..... ☐ Normal..... ☐ As per Pro Rata basis 90-100% - Normal <90% - Low >100% - High	
405	If low, what may be the reasons of low registration for pregnant female? *{Multiple response}*	1. Poor identification..... ☐ 2. Not recording in MCTS register by ANM..... ☐ 3. Delay in Register reaching at data entry point..... ☐ 4. Poor Entry in MCTS Tool..... ☐ 5. Incomplete data in register..... ☐ 6. Any other..... ☐ (Specify).....	
406	If low, What may be the reasons of low registration for Infants? *{Multiple response}*	1. Poor identification..... ☐ 2. Not recording in MCTS register by ANM..... ☐ 3. Delay in Register reaching at data entry point..... ☐ 4. Poor Entry in MCTS Tool..... ☐ 5. Incomplete data in register..... ☐ 6. Poor Tracking after Delivery..... ☐ 7. Poor updating of records..... ☐ 8. Any other..... ☐ (Specify).....	
407	If high What may be the reasons of high registration of pregnant female Infants	....	
408	Do you have any suggestion or recommendation to improve the registration? If yes, then what? For Pregnant Female For Infants *{Investigator can use extra sheet, in case of insufficient space}*	Yes..... ☐ No..... ☐	
409	How you find the performance of district in MCTS roll-out?	1. Good..... ☐ 2. Average..... ☐ 3. Below Average..... ☐	
410	Do you assess block wise performance?	Yes..... ☐ No..... ☐	

Q.No.	Question	Response	Go to
411	What are the key performance indicators to assess the performance of blocks?	1. ..... 2. ..... 3.	
412	Name two better performing blocks	1. ..... 2.	
413	Name two poor performing blocks	1. ..... 2.	
5. MCTS – Review and feedback mechanism			
501	Is district has any formal MCTS feedback mechanism on timeliness and completeness?	Yes..... ☐ No..... ☐	
502	Is there any periodic meeting of all block level data entry operator to discuss MCTS related issue? If yes, frequency of meeting?	Yes..... ☐ No..... ☐	
503	How DEO at PHC communicate the problem in MCTS data entry?	1. On phone..... ☐ 2. By formal paper..... ☐ 3. During monthly meeting..... ☐ 4. Any other..... ☐ Specify.....	
504	Do you receive feedback on MCTS Implementation from higher official? If yes, from where? *{Multiple response}*	Yes..... ☐ No..... ☐ 1. National..... ☐ 2. State..... ☐	
505	How you receive the feedback? *{Multiple response}*	1. During review meeting..... ☐ 2. During supervisory visit..... ☐ 3. MCTS inbuilt feedback mechanism ..... ☐ 4. Predisigned feedback format..... ☐ 5. No formal system..... ☐ 6. Any other..... ☐ Specify.....	
506	What are the issues raised in feedback? *{Multiple response}*	1. Registration status..... ☐ 2. Completeness of data..... ☐ 3. Timeliness of data..... ☐ 4. Status on coverage on services... ☐ 5. Any other..... ☐ Specify.....	

C. Issue, challenges and recommendation

C.1 Implementation of MCTS for District

C.2 MCTS Data Quality

C.4 Effort for improvement in MCTS Implementation

C.5 Utilization of MCTS to strengthen the MCH program

C.6. Support Required

Level – Block Primary Health Center/ CHC – Medical Officer In-Charge along with BPM and Block Team

Q.No.	Question	Response	Go to
1. Human resource and Capacity Building			
101	You are positioned at Block PHC/CHC as:	1. Medical Officer In-charge.....☐ 2. Medical officer with additional charge of MOIc.....☐	102 103
102	For how long you are working here as Medical Officer In-charge?	.....year, ...month	
103	For how long Medical Officer In-charge position is vacant?	.....year, ...month	
104	Did you attend any Routine Immunization training using MO Handbook in last three years? If yes, what was the duration?	Yes.....☐ No.....☐ .....days	
105	Have you implemented MCTS in this PHC? If yes, then since when?	Yes.....☐ No.....☐ .....year, ...month	
106	Did you receive any training on MCTS? If Yes When? Where?	Yes.....☐ No.....☐	
107	If yes, was it useful? If No then why?	Yes.....☐ No.....☐	
108	What were the components covered during MCTS training? *{Multiple response}*	1. About MCTS Process.....☐ 2. Data Entry.....☐ 3. Report generation.....☐ 4. Analysis of reports.....☐ 5. Any other.....☐ (specify).....	
109	Is there any other component, which you feel, needs to be included in MCTS training? If yes, then what?	Yes.....☐ No.....☐ 1. ..... 2.	
110	Who does the MCTS Data Entry?	1. Outsourced agency/person.....☐ 2. By PHC itself.....☐ 3. Any other.....☐ (specify).....	111 113
111	If outsourced, what are the terms of contract?	1. Daily basis.....☐ 2. Payment against the quantum of Work.....☐ 3. Monthly Contract.....☐ 4. Yearly Contract.....☐ 5. Any other.....☐ (specify).....	

Q.No.	Question	Response	Go to
112	Who finalize the contract? Are you satisfied with the performance of agency/person? If No, Why Not? *{Investigator can use extra sheet, in case of insufficient space}*	1. PHC.....☐ 2. District.....☐ 3. State.....☐ 4. Any other.....☐ (specify)..... Yes.....☐ No.....☐	116
113	If data entry is done by PHC itself, then who is responsible for that?	1. Dedicated Data Entry Operator.☐ 2. Other PHC Staff with additional charge.....☐ 3. Any other.....☐ (specify).....	114 201
114	If dedicated data entry operator (DEO), then what type of position is this?	1. Designated regular PHC staff.....☐ 2. Contractual under NRHM.....☐ 3. Supported by Partners.....☐ 4. Any other.....☐ (specify).....	201 115 201
115	If DEO is contractual under NRHM, then what is tenure of contract?	1. Monthly.....☐ 2. Half Yearly.....☐ 3. Yearly.....☐ 4. Any other.....☐ (specify).....	
116	Is renewal of contract done timely without any break between two contracts?	Yes.....☐ No.....☐	
117	In the last two years, are there any instances when contract was not renewed for more than one month?	Yes.....☐ No.....☐ If yes, then for how many month.....	
118	If there is incidence of any break, then who does the data entry for that period?	1. No data entry.....☐ 2. Outsourced.....☐ 3. Same DEO continue without contract.....☐ 4. Other PHC Staff.....☐ 5. Any other.....☐ (specify).....	
2. Estimation of Beneficiary			
201	What is the process of beneficiary estimation for the Block PHC/CHC? 1. Based on census data. 2. Estimated population as target sent by district/ State authority 3. From field level survey (household survey) 4. Any other process Specify	.....☐ .....☐ .....☐ .....☐	301 301 202
202	Who does household survey and beneficiary estimation? *{Multiple response}*	1. ANM.....☐ 2. AWW/AWH.....☐ 3. ASHA.....☐ 4. Any other.....☐ (specify).....	

Q.No.	Question	Response	Go to
203	How frequently household survey is repeated?	1. Monthly..... ☐ 2. 6 monthly..... ☐ 3. Yearly..... ☐ 4. Any other..... ☐ (specify).....	
204	Do you supervise/ monitor household survey or identification of beneficiary? If yes, when did you monitor/supervise household survey last time?	Yes..... ☐ No..... ☐	
3. Monitoring & Supervision			
301	How often, you conduct review meetings with ANM to discuss their field issues? Do ASHAs also attend these meetings?	1. Weekly..... ☐ 2. Monthly..... ☐ 3. Any others (specify)..... Yes..... ☐ No..... ☐	 303 302
302	How often is ASHA's review meetings held to discuss their field issues?	1. Weekly..... ☐ 2. Monthly..... ☐ 3. Any others (specify)..... ☐	
303	Do you discuss issues related to MCTS in these review meetings with ANM and ASHAs? Is meeting minutes documented? If Yes check the minutes of meetings for last three months and write major issues and action points related to MCTS *{Investigator can use extra sheet, in case of insufficient space}*	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
304	What are the common issues identified during these ANMs/ ASHAs meetings related to beneficiary identification/ registration? *{Multiple response}* *{Investigator can use extra sheet, in case of insufficient space}*	1. ASHA/ANM doesn't conduct House Hold Surveys..... ☐ 2. Difficulty in reaching Hard to reach areas..... ☐ 3. House Hold Surveys not repeated regularly..... ☐ 4. Beneficiary don't provide complete details..... ☐ 5. Recording tools are not available..... ☐ 6. Frequent changes in registers..... ☐ 7. Any other..... ☐ (specify).....	
305	What are the common issues discussed during these ANMs/ASHAs meetings related to tracking of beneficiary during meeting? *{Multiple response}* *{Investigator can use extra-sheet, in case of insufficient space}*	1. Due list not Prepared by ANM..... ☐ 2. Due List not shared with ASHA..... ☐ 3. MCTS Work plan not received..... ☐ 4. Duelist/Work plan not complete ☐ 5. ASHAs/AWWs not visiting houses as per Due list..... ☐ 6. Any other..... ☐ (specify).....	

Q.No.	Question	Response	Go to
306	What are the common issues discussed during these ANMs/ASHAs meetings related to mobilization of beneficiary? *{Multiple response}* *{Investigator can use extra sheet, in case of insufficient space}*	1. Houses not visited by mobilizer for mobilization..... ☐ 2. Resistance in community regarding immunization..... ☐ 3. Parents not willing go to session site ..... ☐ 4. Timing of VHND is not suitable.... ☐ 5. Any other..... ☐ (specify).....	
307	What are the common issues identified during these ANMs/ ASHAs meetings related to recording and reporting? *{Multiple response}* *{Investigator can use extra sheet, in case of insufficient space}*	1. Multiple Records in use..... ☐ 2. Not entering beneficiaries details in MCTS register..... ☐ 3. MCTS register not complete..... ☐ 4. No updating of records during VHND/ immunization session..... ☐ 5. Writing in the register nor legible. ☐ 6. Recording tools are not availabl ☐ 7. Frequent changes in registers.... ☐ 8. Any other..... ☐ (specify).....	
308	Do you have any specified field visit and VHND/ Immunization Session supervision plan? If yes, is it documented? *{If it is documented, then investigator needs to collect the copy of plan}*	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
309	Do you have any specified Immunization Session/ VHND supervision checklist? *{If yes, then investigator need to collect the copy of plan}*	Yes..... ☐ No..... ☐	
310	How many supervisory visits were made in last three months? *{Check supervisor checklist for these visits}*	MO I/C ..... Other MOs..... Other Supervisors.....	
4. MCTS Process and Utilization			
401	Does the MO I/C use MCTS application? If yes, then how many times in past one month Which username and password did MO I/C use?	Yes..... ☐ No..... ☐	
402	Which MCTS component you use the most? *{Multiple response}*	1. Data Entry..... ☐ 2. Reports..... ☐ 3. Scheduled Report..... ☐ 4. Workplan..... ☐ 5. Any other..... ☐ (specify).....	

Q.No.	Question	Response	Go to
403	Have You registered your mobile number in MCTS? Do you receive any information on SMS or call related to MCTS? If yes, then what all? *{Multiple response}*	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ 1. Registration status..... ☐ 2. General health IEC message..... ☐ 3. Specific health services..... ☐ 4. Specific health scheme..... ☐ 5. Due list of beneficiary..... ☐ 6. Any Other..... ☐ (Specify).....	
404	Do you regularly monitor the registration of pregnant female against the estimated population? If yes, that how much registration completed in MCTS for this year till November 2012?	Yes..... ☐ No..... ☐ .....(in numbers) .....(in %)	
405	Do you regularly monitor the infant registration against the estimated population? If yes, that how much registration completed in MCTS for this year till November 2012?	Yes..... ☐ No..... ☐ .....(in numbers) .....(in %)	
406	*(To be filled by investigator based on registration data given by MOI/C)* Status of registration Pregnant Female Infant	 Low..... ☐ High..... ☐ Normal..... ☐ Low..... ☐ High..... ☐ Normal..... ☐ As per Pro Rata basis 90-100% - Normal <90% - Low >100% - High	
407	If low, what may be the reasons of low registration for pregnant female? *{Multiple response}*	1. Poor identification..... ☐ 2. Not recording in MCTS register by ANM..... ☐ 3. Delay in Register reaching at data entry point..... ☐ 4. Poor Entry in MCTS Tool..... ☐ 5. Incomplete data in register..... ☐ 6. Any other..... ☐ (Specify).....	
408	If low, What may be the reasons of low registration for Infants? *{Multiple response}*	1. Poor identification..... ☐ 2. Not recording in MCTS register by ANM..... ☐ 3. Delay in Register reaching at data entry point..... ☐ 4. Poor Entry in MCTS Tool..... ☐ 5. Incomplete data in register..... ☐ 6. Poor Tracking after Delivery..... ☐ 7. Poor updating of records..... ☐ 8. Any other..... ☐ (Specify).....	
409	If high What may be the reasons of high registration of pregnant female Infants *{Investigator can use extra sheet, in case of insufficient space}*	....	

Q.No.	Question	Response	Go to
410	Do you have any suggestion or recommendation to improve the registration? If yes, then what? For Pregnant Female For Infants *{Investigator can use extra sheet, in case of insufficient space}*	Yes..... ☐ No..... ☐	
411	Do you know that MCTS generate work plan for ANM? If yes, then whether you are generating work plan or not	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	 413 412
412	If No, then what are the reasons for not generating?	....	
413	Do you ensure that it reaches ASHA and ANM before the next VHND/ Immunization session?	Yes..... ☐ No..... ☐	
414	If No then what are the reasons for not reaching? *{Investigator can use extra sheet, in case of insufficient space}*	....	
415	Do you think MCTS workplan is helpful in improving program coverage?	Yes..... ☐ No..... ☐	
416	If yes then how? If No then why not? {Investigator should discuss thoroughly on these aspects.} {Investigator can use extra sheet, in case of insufficient space}	....	
417	What are the issues in using work plan? *{Multiple response}* *{Investigator can use extra sheet, in case of insufficient space}*	1. Not in local language..... ☐ 2. Format not user friendly..... ☐ 3. Beneficiary details not correct... ☐ 4. Information is missing..... ☐ 5. Details not updated..... ☐ 6. ANM not receiving plan in time.. ☐ 7. Any other..... ☐ (specify).....	
418	Do you use any other report generated by MCTS for MCH program? If yes which report?	Yes..... ☐ No..... ☐	
419	Do you submit any monthly progress report related to PHC activities and achievement to district HQ?	Yes..... ☐ No..... ☐	420 421
420	Do you use MCTS data to prepare the progress report? If yes, which data? *{Investigator can use extra sheet, in case of insufficient space}*	Yes..... ☐ No..... ☐	
421	Do you think MCTS should capture some additional information which will help in tracking the beneficiaries and service delivery at VHND/ Immunization session? If Yes, then which information?	Yes..... ☐ No..... ☐	

Q.No.	Question	Response	Go to
5. MCTS Feedback Mechanism			
501	Do you receive feedback on MCTS implementation from higher official (National/ State/ District? If yes, from where? *{Multiple response}*	Yes.....☐ No.....☐ 1. National.....☐ 2. State.....☐ 3. District.....☐	502 505
502	How you receive the feedback? *{Multiple response}*	1. During review meeting.....☐ 2. During supervisory visit.....☐ 3. MCTS inbuilt feedback mechanism .....☐ 4. Predisigned feedback format.....☐ 5. No formal system.....☐ 6. Any other.....☐ Specify.....	
503	Do you have record on feedback? *Check these records for verification*	Yes.....☐ No.....☐	
504	Is there any visit from District & State to provide supportive supervision on MCTS implementation in last three months? If yes, please give last two dates?	Yes.....☐ No.....☐ .....Month/Year .....Month/Year	
505	Do you have any record of these visits? *{if yes, investigator need to collect the copy of report}*	Yes.....☐ No.....☐	
6. Budget and Expenditure			
601	Is there a separate budget for MCTS implementation?	Yes.....☐ No.....☐	602 606
602	Is that budget sufficient?	Yes.....☐ No.....☐	603 605
603	What is the schedule for receiving fund from the district? Month when you received last time?	1. No schedule.....☐ 2. Monthly.....☐ 3. Quarterly.....☐ 4. Half Yearly.....☐ 5. Annually.....☐	
604	Do you receive funds on time? If no, how do you manage the expenditure (i.e. consumable, data entry, etc.)	Yes.....☐ No.....☐ 1. No expenditure done.....☐ 2. Expenditure from other budget head.....☐ 3. Any other.....☐ Specify.....	
605	If budget is not sufficient, how you manage the expenditure?	Yes.....☐ No.....☐ 1. No expenditure done.....☐ 2. Expenditure from other budget head.....☐ 3. Any other.....☐ Specify.....	
606	Is there any other issue related to budget and expenditure? If yes, what? *{Investigator can use extra sheet, in case of insufficient space}*	Yes.....☐ No.....☐	

Discussion points on Issues, Suggestions, Ownership and Support required

1. What are the Issues in implementation of MCTS?
2. (Separately for Identification of beneficiaries, registration of beneficiaries, Data transfer from field to block and vice versa, Work plan generation and updating of records)
3. What are the Issues in Utilization of MCTS?
4. Is there any other issue related to budget and expenditure?
5. Is there any suggestion to improve the MCTS implementation?
6. Is there any suggestion to improve the MCTS utilization?
7. Is there any suggestion to improve the data quality in system?
8. Is there any suggestion on report module of MCTS?
9. What currently you are doing in improving MCTS?
10. What support you require from higher authorities for improving MCTS
11. Do MOi/c feel that MCTS will help in strengthening the MCH program in the block or not?

Level – Primary Health Center – Data Entry Operator

Q.No.	Question	Response	Go to
1. Human resource and Capacity Building			
101	How long you are working here as DEO?	.....year, ...month	
102	What is your qualification? *{Multiple response}*	1. Graduate ☐ 2. Post-graduate ☐ 3. Computer related diploma/ degree ☐ 4. Any other ☐ (specify).....	
103	What other work you do other than MCTS? *{Multiple response}*	1. HMIS Entry ☐ 2. Cold Chain MIS ☐ 3. Any other MIS ☐ 4. Admin Work ☐ 5. Other work ☐ (specify).....	
104	At which place you usually do Data Entry for MCTS? *{Multiple response}*	1. Outsource Agency's Office ☐ 2. At PHC ☐ 3. At internet Cafe ☐ 4. At Home ☐ 5. At District Headquarter ☐ 6. Any other ☐ (specify).....	
105	Did you receive any training on MCTS?	Yes ☐ No ☐	
106	If yes, was it useful?	Yes ☐ No ☐	
107	What are the components of MCTS training? *{Multiple response}*	1. About MCTS Implementation Process ☐ 2. Data Entry ☐ 3. Report generation ☐ 4. Analysis of reports ☐ 5. Any other ☐ (specify).....	

Q.No.	Question	Response	Go to
2. MCTS Process and Logistic of Recording and Reporting tools			
201	What additional jobs beside data entry, you do relate to MCTS? *{Multiple response}*	1. Only data entry..... ☐ 2. Verification of village and/or MCTS registers..... ☐ 3. Review of data quality with ANM .. ☐ 4. Attend review along with BMO.. ☐ 5. Any other..... ☐ (specify).....	
202	In which format you receive the information of new registration?	1. MCH Register..... ☐ 2. MCTS Register..... ☐ 3. ASHA/ Village register..... ☐ 4. Any other..... ☐ (specify).....	
203	Who brings the register/format? {response of Q. No. 202} at PHC for MCTS data entry *{Multiple response}*	1. ANM ..... ☐ 2. ASHA ..... ☐ 3. AVD courier ..... ☐ 4. Supervisor ..... ☐ 5. Other Health worker ..... ☐ 6. Any other ..... ☐ (specify).....	
204	How often do you receive the register/format (with new registration) for MCTS data entry?	1. Once in a week..... ☐ 2. Once in a fortnight..... ☐ 3. Once in a month/..... ☐ 4. Any other..... ☐ (specify).....	
205	How long you keep the register / format for data entry?	.....no. of days	
206	In which form you receive the information of updation of service delivery?	1. ANM/MCH/MCTS register..... ☐ 2. MCTS format..... ☐ 3. MCTS work plan..... ☐ 4. Any other..... ☐ (specify).....	
207	Who brings the register/format {response of Q. No. 202} with the details of services provided on immunization session / VHND to PHC for MCTS data entry? *{Multiple response}*	1. ANM..... ☐ 2. AVD courier..... ☐ 3. Supervisor..... ☐ 4. Other Health worker..... ☐ 5. Any other..... ☐ (specify).....	
208	How often you receive the register/format with the details of services provided on immunization session/ VHND for MCTS data entry?	1. Same day on Immunization session/ VHND..... ☐ 2. Next day of immunization session/ VHND..... ☐ 3. Within a week of last immunization session/ VHND..... ☐ 4. Any other..... ☐ (specify).....	
209	How long you keep the register / format with the details of services provided on immunization session/ VHND for data entry?	.....no. of days	

Q.No.	Question	Response	Go to
3. MCTS – Data entry and Verification			
301	{This question is only for contractual staff} Do you visit PHC daily? If no, what is the frequency?	Yes..... ☐ No..... ☐ 1. Certain days in week/month..... ☐ 2. On call basis..... ☐	
302	Approximately how much time it take to do a data entry for all details of one new registration?	.....Minutes.	
303	How much time it take to do a data entry for updation of a service delivery to beneficiary on Immunization session/ VHND?	.....Minutes.	
304	In a day, how much data entry you do? All details of one new registration (only) Updation of a service delivery to one beneficiary (only)	 .....no. .....no.	
305	Is there any mismatch between the field or column heading in the register/ format sent at PHC for MCTS data entry and the data entry screen of MCTS portal? If yes? Which field, list them	Yes..... ☐ No..... ☐ 1. ..... 2.	
306	Which are the common error/ problems in information filled in format / register sent by ANM?	1. Handwriting is not recognizable. ☐ 2. Information is incomplete..... ☐ 3. Information is incorrect..... ☐ 4. Any other..... ☐ (specify).....	
307	How you resolve / clarify the error/problem formats/registers? *{Multiple response}*	1. On phone..... ☐ 2. Visiting sub-center..... ☐ 3. Calling ASHA/ANM at PHC..... ☐ 4. During monthly meeting..... ☐ 5. Any other..... ☐ (specify).....	
308	What is the process of verification of data entry? Double check by DEO Verification by PHC official No verification	 All data..... ☐ random..... ☐ All data..... ☐ random..... ☐ ..... ☐	
4. MCTS Utilization			
401	Have you registered your mobile number in MCTS? Do you receive any information on SMS or call related to MCTS? If yes, then what? *{Multiple response}*	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ 1. Registration status..... ☐ 2. General health IEC message..... ☐ 3. Specific health services..... ☐ 4. Specific health scheme..... ☐ 5. Due list of beneficiary..... ☐ 6. Any Other..... ☐ (Specify).....	
402	Which report is useful in monitoring the registration of beneficiary? *{Multiple response}*	1. Reports..... ☐ 2. Scheduled Report..... ☐ 3. Workplan..... ☐ 4. Any other..... ☐ (specify).....	

Q.No.	Question	Response	Go to
403	Do you regularly monitor the registration of pregnant women against the estimated population? If yes, that how much registration completed in MCTS for this year till November 2012?	Yes.....☐ No.....☐ .....(in numbers) .....(in %)	
404	Do you regularly monitor the infant registration against the estimated population? If yes, that how much registration completed in MCTS for this year till November 2012?	Yes.....☐ No.....☐ .....(in numbers) .....(in %)	
405	Status of registration Pregnant Female Infant *(To be filled by investigator based on registration data given by MOI/C)*	Low.....☐ High.....☐ Normal.....☐ Low.....☐ High.....☐ Normal.....☐ As per Pro Rata basis 90-100% - Normal <90% - Low >100% - High	
406	If low, what may be the reasons of low registration for pregnant female? *{Multiple response}*	1. Poor identification.....☐ 2. Not recording in MCTS register by ANM.....☐ 3. Delay in Register reaching at data entry point.....☐ 4. Poor Entry in MCTS Tool.....☐ 5. Incomplete data in register.....☐ 6. Any other.....☐ (Specify).....	
407	If low, What may be the reasons of low registration for Infants? *{Multiple response}*	1. Poor identification.....☐ 2. Not recording in MCTS register by ANM.....☐ 3. Delay in Register reaching at data entry point.....☐ 4. Poor Entry in MCTS Tool.....☐ 5. Incomplete data in register.....☐ 6. Poor Tracking after Delivery.....☐ 7. Poor updating of records.....☐ 8. Any other.....☐ (Specify).....	
408	If high What may be the reasons of high registration of pregnant female Infants *{Investigator can use extra sheet, in case of insufficient space}*	....	
409	Do you have any suggestion or recommendation to improve the registration? If yes, then what? For Pregnant Female For Infants *{Investigator can use extra sheet, in case of insufficient space}*	Yes.....☐ No.....☐	
410	Do you know that MCTS generate work plan for ANM? If yes, then whether you are generating work plan or not	Yes.....☐ No.....☐ Yes.....☐ No.....☐	417 412 411

Q.No.	Question	Response	Go to
411	If No, then what are the reasons for not generating?	.....	
412	Do you ensure that it reaches ASHA and ANM before the next VHND/ Immunization session?	Yes.....☐ No.....☐	
413	If No then what are the reasons for not reaching?	....	
414	Do You think it is helpful in improving program coverage?	Yes.....☐ No.....☐	
415	If yes then how? If No then why not? {Investigator should discuss thoroughly on these aspects.}	....	
416	What are the issues in workplan? *{Multiple response}* *{Investigator can use extra sheet, in case of insufficient space}*	1. Not in local language..... ☐ 2. Format is not good..... ☐ 3. Beneficiary detail is not correct.. ☐ 4. Information is missing..... ☐ 5. Details are not updated..... ☐ 6. Not provided in time..... ☐ 7. Any other..... ☐ (specify).....	
417	Do you use any other reports generated by MCTS for MCH program? If yes, than which? Frequency of block report generation	Yes.....☐ No.....☐ 1. Beneficiary count..... ☐ 2. Health Provider Information..... ☐ 3. Health Facility Mapping..... ☐ 4. Childbirth..... ☐ 5. Tracking of Services..... ☐ 6. Tracking of High Risk Women and Children..... ☐ 7. Phone No. Verification..... ☐ 8. Workplan and Services Given.... ☐ 9. Any other..... ☐ (specify).....	
418	Who uses the MCTS reports? *{Multiple response}*	1. BMO..... ☐ 2. BPM..... ☐ 3. BEE..... ☐ 4. Medical officer..... ☐ 5. ANM..... ☐ 6. Any other..... ☐ (specify).....	420 421
419	Are reports generated from MCTS are user-friendly? If no, what are the problems? Formatting: Content: Completeness: Accuracy: Any other	Yes.....☐ No.....☐	
420	Is there any problem in report generation? If yes, than what? *{Multiple response}*	Yes.....☐ No.....☐ 1. Functionality of report module... ☐ 2. Exporting into PDF/Excel..... ☐ 3. Download in computer..... ☐ 4. Any other..... ☐ (specify).....	

Q.No.	Question	Response	Go to
421	How do you find the over-all performance software?	1. Very good.....☐ 2. Good.....☐ 3. Average.....☐ 4. Below average.....☐	
5. MCTS Feedback and Supervision			
501	Do you receive feedback on MCTS implementation from higher official (National/ State/ District? If yes, from where? *{Multiple response}*	Yes.....☐ No.....☐ 1. National.....☐ 2. State.....☐ 3. District.....☐	502 505
502	How you receive the feedback? *{Multiple response}*	1. During review meeting.....☐ 2. During supervisory visit.....☐ 3. MCTS inbuilt feedback mechanism .....☐ 4. Predisigned feedback format.....☐ 5. No formal system.....☐ 6. Any other.....☐ Specify.....	
503	What are the issues raised in feedback? *{Multiple response}*	1. Registration status.....☐ 2. Completeness of data.....☐ 3. Timeliness of data.....☐ 4. Status on coverage on services..☐ 5. Any Other.....☐ (Specify).....	
504	What you do as corrective action after receiving the feedback?	1. Discussion with PHC staff during periodic meeting.....☐ 2. Field visit.....☐ 3. Any Other.....☐ (Specify).....	
505	Do you have record on these feedbacks? Check these records for verification	Yes.....☐ No.....☐	
506	Is there any visit from District & State to provide supportive supervision on MCTS implementation? If yes, when was it conducted?	Yes.....☐ No.....☐ .....Month/Year .....Month/Year	
507	Do you have any record of these visits? *{if yes, investigator need to collect the copy of report}*	Yes.....☐ No.....☐	
508	Do you receive application updates from NIC/MCTS cell?	Yes.....☐ No.....☐	509 510
509	Is application updates communicated with proper instruction?	Yes.....☐ No.....☐	
510	Do you provide MCTS software related feedback to district or state level officials? If yes? Do you receive any response?	Yes.....☐ No.....☐ Yes.....☐ No.....☐	

C. Issue, challenges and recommendation

C.1 Data entry

C.2 Data flow and logistic

C.3 Workload of data entry

C.4 Data Quality (timeliness and completeness)

C.5 Capacity Building

C.6 Utilization of MCTS (workplan and reports) for tracking of beneficiary

D. Efforts made by DEO in implementation and utilization of MCTS

E. Any other point discussed which are relevant but not captured in questionnaire:

Level – Sub-center – ANM

Q.No.	Question	Response	Go to
1. HR Status and Capacity Building			
101	Since how long are you working as an ANM?	.....year, ...month	
102	Since how long are you deployed at this sub-center?	.....year, ...month	
103	Did you receive any training on Immunization in last 3 years? If yes, *{Investigator can use extra sheet, in case of more training details}*	Yes..... ☐ No..... ☐ 1. When..... ☐ 2. Where..... ☐ 3. Duration..... ☐ 4. Who conducted..... ☐ 5. Was is useful Yes..... ☐ No..... ☐	
2. MCTS - General			
201	Do you know about MCTS? *{Investigator will prompt the ANM worker by referring MCTS differently – system where mother and child information computerized}*	Yes..... ☐ No..... ☐	202 301
202	Have you received any training on MCTS?	Yes..... ☐ No..... ☐	203 204
203	Details of training (recall by ANM) When Where Duration Who conducted Was it useful	.....year, ...Month ago .... Yes..... ☐ No..... ☐	
204	Do you have mobile phone for yourself Is Your number registered in MCTS	Yes..... ☐ No..... ☐ Number..... Yes..... ☐ No..... ☐	 205 207
205	Are you receiving regular call (pre-recorded) or SMS related to your work	Yes..... ☐ No..... ☐	206 207
206	If Yes; the SMS or calls are related to *{Multiple Answer}*	1. General health IEC message..... ☐ 2. Specific health services..... ☐ 3. Specific health scheme..... ☐ 4. Due list of beneficiary..... ☐ 5. Any other..... ☐ (specify).....	

Q.No.	Question	Response	Go to
207	Is pregnant woman or mother of child registered in your area/ village, receiving any health related call (pre-recorded) or SMS?	Yes..... ☐ No..... ☐ Don't know..... ☐	208 301 301
208	The SMS or calls are related to: {Multiple Answer}	1. General health IEC message..... ☐ 2. Specific health services..... ☐ 3. Specific health scheme..... ☐ 4. Services due..... ☐ 5. Any other..... ☐ (specify)..... 6. Don't know..... ☐	
209	Did any pregnant women or parent of children reported that, they could not understand the call or SMS?	Yes..... ☐ No..... ☐ Don't know..... ☐	
3. Identification, mobilization of beneficiary and support to ASHA			
301	How do you identify the beneficiaries? {Multiple Answer}	1. Household survey (periodic)..... ☐ 2. Regular House-to-House visit..... ☐ 3. ASHA identify and inform..... ☐ 4. Beneficieries comes at Session/ VHND ..... ☐ 5. Any other..... ☐ (specify).....	
302	Do you participate in House Hold Survey? If Yes, How you are involved in household survey? {Multiple Answer}	Yes..... ☐ No..... ☐ 1. Conduct independently..... ☐ 2. Supervise ASHA during survey.... ☐ 3. Verify the village register..... ☐ 4. Any other..... ☐ (specify).....	
303	Are you involved in mobilization of beneficiary to immunization session /VHND? If yes, then how? {Multiple Answer}	Yes..... ☐ No..... ☐ 1. Mobilize yourself ..... ☐ 2. Provide support to ASHA..... ☐ 3. Any other..... ☐ (specify).....	
304	Besides immunization session/VHND, when do you meet ASHA? {Multiple Answer}	1. During village/ House Visit..... ☐ 2. During review meeting at PHC... ☐ 3. Any other..... ☐ (specify)..... 4. No other Meetings..... ☐	
305	Do you discuss on following during these meetings: Identification of Beneficiaries Preparation of due list Mobilization of beneficiaries Drop out of beneficiaries {Multiple Answer} {Investigator should ask this question in discussion}	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
4. Recording of New Beneficiaries			
401	How you receive the details of newly identified beneficiary at village level? {Multiple Answer}	1. Form ASHA..... ☐ 2. From AWW..... ☐ 3. Any Other..... ☐ (Specify).....	

Q.No.	Question	Response	Go to
402	When do you receive the details of new beneficiary?	1. On Immunization Session/VHND day..... ☐ 2. Over phone immediately..... ☐ 3. During village visit by ANM..... ☐ 4. Any other occasions..... ☐ (specify).....	
403	Where do you record or compile the new beneficiary details?	1. ANM Diary..... ☐ 2. MCH Register..... ☐ 3. MCTS Register..... ☐ 4. MCTS formats..... ☐ 5. Any other..... ☐ (specify).....	
404	What type of problem you face in compilation of ASHA /village register? *{Investigator can use extra sheet, in case of insufficient space}*	1. Not Readable..... ☐ 2. Incomplete information..... ☐ 3. Duplication..... ☐ 4. Any other response..... ☐ (specify).....	
5. Due List and MCTS Workplan			
501	Do you have Due list *Interviewer physically verify duelist for that session*	Yes..... ☐ No..... ☐	
502	What is the process of duelist preparation?	1. Each ASHA prepares a list for their village and ANM compile..... ☐ 2. ANM and ASHA together prepares immediately after the last immunization session/ VHND..... ☐ 3. ANM alone prepare by referring her register, tally sheet and counter foils immediately after Immunization session/ VHND..... ☐ 4. ANM alone prepare by referring her register, tally sheet and counter foils on the days other then VHND.. ☐ 5. Any other..... ☐ (specify).....	
503	Do you share duelist with ASHA/AWW, if you prepare it alone?	Yes..... ☐ No..... ☐	
504	Do you receive MCTS work plan from PHC? *Interviewer physically verify MCTS work plan for that session*	Yes..... ☐ No..... ☐	
505	If yes, when did you receive that	1. On VHND day..... ☐ 2. Before VHND Day..... ☐ 3. Receive during Monthly PHC review meeting..... ☐ 4. Any other response..... ☐ (specify).....	
506	Who brings MCTS Work plan	1. ANM herself..... ☐ 2. Vaccine Courier..... ☐ 3. ASHA..... ☐ 4. Supervisor..... ☐ 5. Any other..... ☐ (specify).....	
507	Do you share MCTS Work plan with ASHA/AWW?	Yes..... ☐ No..... ☐	

Q.No.	Question	Response	Go to
508	Is computer generated workplan useful?	Yes..... ☐ No..... ☐	509
509	If No, What are the problems in computer generated workplan? *{Multiple Answer}*	1. Not in local language..... ☐ 2. Incorrect Information..... ☐ 3. Incomplete Information..... ☐ 4. Details are not updated..... ☐ 5. Not available in time..... ☐ 6. Any other..... ☐ (specify).....	
510	Do you receive SMS based Workplan	Yes..... ☐ No..... ☐	
511	If Yes, Is SMS based workplan useful?	Yes..... ☐ No..... ☐	
512	If No, What are the problems in SMS based workplan? *{Multiple Answer}*	1. Not in local language..... ☐ 2. Incorrect Information..... ☐ 3. Incomplete Information..... ☐ 4. Details are not updated..... ☐ 5. Not available in time..... ☐ 6. Any other..... ☐ (specify).....	
6. Supervision			
601	Number of Supervisory visits made during last month to supervise VHND/Immunization sessions in your field area	.....	
602	In last month who all visited the Immunization session / VHND for supervision	1. Nobody..... ☐ 2. Block Supervisor (LHV/HA)..... ☐ 3. Medical officers..... ☐ 4. District Officials..... ☐ 5. CDPO..... ☐ 6. Any other..... ☐ (specify).....	
7. Flow of Data for MCTS			
701	Which register or format are you using to send the details of new registration to PHC for MCTS data entry?	1. MCTS Register..... ☐ 2. MCH Register..... ☐ 3. ASHA/ Village Register..... ☐ 4. MCTS formats..... ☐ 5. Any other..... ☐ (specify).....	
702	How do you send the register/format to PHC for MCTS data entry	1. By Self..... ☐ 2. By Vaccine Courier/AVD..... ☐ 3. Supervisor..... ☐ 4. ASHA..... ☐ 5. Any other..... ☐ (specify).....	
703	How often do you send the register/format (with new registration) to PHC for MCTS data entry? *Multiple Response*	1. Immediately on Identification.... ☐ 2. Immediately After immunization session/ VHND Session..... ☐ 3. During Monthly PHC review Meetings..... ☐ 4. Any other..... ☐ (specify).....	

Q.No.	Question	Response	Go to
704	How long does PHC keep the register for data entry	.....no. of days	
705	In case, if registers are at PHC, how do you record the new registration?	1. No recording..... ☐ 2. Recording in diary..... ☐ 3. Any other..... ☐ (specify).....	
706	Which register or format you are using to send the details of services provided on immunization session / VHND to PHC for MCTS data entry?	1. MCTS Register..... ☐ 2. MCH Register..... ☐ 3. MCTS formats..... ☐ 4. MCTS workplan..... ☐ 5. Tally Sheet..... ☐ 6. Any other..... ☐ (specify).....	
707	How do you send the register/format with the details of services provided on immunization session / VHND to PHC for MCTS data entry	1. By Self..... ☐ 2. By Vaccine Courier/AVD..... ☐ 3. Supervisor..... ☐ 4. ASHA..... ☐ 5. Any other..... ☐ (specify).....	
708	How often you send the register/format with the details of services provided on immunization session/ VHND to PHC for MCTS data entry?	1. Same day on immunization session/ VHND..... ☐ 2. Any other..... ☐ (specify).....	
709	How long PHC keep the register / format for updation?	.....no. of days	
710	In case of registers / format are at PHC, how you record the details if services provided to beneficiary?	1. No recording..... ☐ 2. Recording in diary..... ☐ 3. Recording in blank paper..... ☐ 5. Any other..... ☐ (specify).....	
8. Feedback from PHC			
801	Do you receive any feedback from PHC on data sent in register/format?	Yes..... ☐ No..... ☐	802 901
802	How you receive the feedback *{Multiple Answer}*	1. On phone..... ☐ 2. On pre-defined feedback format.. ☐ 3. On blank paper..... ☐ 4. Discussion in monthly ANM meeting..... ☐ 5. Any other..... ☐ (specify).....	
803	Who provides the feedback? *{Multiple Answer}*	1. Block Medical Officer..... ☐ 2. Data Entry Operator..... ☐ 3. Block Extension Educator..... ☐ 4. Supervisor..... ☐ 5. Any other..... ☐ (specify).....	

Q.No.	Question	Response	Go to
804	What are the main issues highlighted by the supervisor? *{Multiple Answer}*	1. Late submission..... ☐ 2. Information is not readable..... ☐ 3. Incomplete data..... ☐ 4. Inaccurate data..... ☐ 5. Low registration..... ☐ 6. Poor Tracking..... ☐ 7. Any other..... ☐ (specify).....	
805	In case, if registers are at PHC, how do you record the new registration?	1. No recording..... ☐ 2. Recording in diary..... ☐ 3. Any other..... ☐ (specify).....	
9. MCTS Other Questions			
901	Do you think there is any benefit from MCTS to carry out your job with more efficiency? If yes, specify? *{Multiple Answer}* *{Investigator can use extra sheet, in case of insufficient space}*	Yes..... ☐ No..... ☐ 1. Tracking and mobilization become easy..... ☐ 2. All beneficiary gets information on due services in time..... ☐ 3. Less duplication of record keeping ..... ☐ 4. Any other..... ☐ (specify).....	
902	Do you personally sit with DEO during MCTS data entry? If yes, than how often?	Yes..... ☐ No..... ☐ 1. Once in a week..... ☐ 2. Once in a fortnight..... ☐ 3. Once in a month..... ☐ or No. of times in a month.....	
903	Do you need additional training on any specific area to build capacity in MCTS implementation? If yes, then which areas? *{Multiple Answer}* *{Investigator can use extra sheet, in case of insufficient space}*	Yes..... ☐ No..... ☐ 1. Recording tool..... ☐ 2. Computer generated workplan ☐ 3. MCTS Data entry..... ☐ 4. Any other..... ☐ (specify).....	

Discussion Points on Issues, Suggestions, Ownership and Support required

1. Any issues related to registration of beneficiaries
2. Any Suggestions to improve registration
3. Any issues related to Duelist preparation
4. Any issues or suggestion on MCTS Data entry
5. Any Suggestions in improving Duelist preparation
6. Any Issues related to MCTS Workplan
7. Any Suggestion in improving MCTS Workplan
8. What are you doing currently in improving MCTS registration and tracking of beneficiaries?
9. What support you require from higher authorities for improving MCTS registration and tracking of beneficiaries?
10. Any suggestion to improve overall MCTS implementation?
11. Do ANM feel that MCTS will help in strengthening the MCH program in her area or not?

Level –Village – ASHA

Q.No.	Question	Response	Go to
1. HR Status and Capacity Building			
101	Where you stay? Are you permanent resident of this village? (Ask Husband's house if married)	1. In same village..... ☐ 2. In other village..... ☐ Yes..... ☐ No..... ☐	
102	What is your education level?	1. No education..... ☐ 2. Less than five years..... ☐ 3. 5 to 9 years..... ☐ 4. More than 10 years..... ☐	
103	How long you are working as ASHA	.....year, ...month	
104	What all activities you do for immunization session/VHND? *{Investigator will tick mark in the suitable option listed below and can use separate sheet, for any other response}* 1. Creating awareness for MCH services 2. Identification and tracking of beneficiaries (House hold survey 3. Mobilize the beneficiaries towards utilization of immunization/VHND services 4. Act as depot for essential provision i.e. ORS packet, IFA tablet, choloquine, DDK, etc. 5. Any other Specify (as reported by ASHA)	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
105	What all activities you do for immunization session/VHND? *{Investigator will tick mark in the suitable option listed below and can use separate sheet, for any other response}* 1. Creating awareness for MCH services 2. Identification and tracking of beneficiaries (House hold survey 3. Mobilize the beneficiaries towards utilization of immunization/VHND services 4. Act as depot for essential provision i.e. ORS packet, IFA tablet, choloquine, DDK, etc. 5. Any other Specify (as reported by ASHA)	When Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
106	Do you feel need of training on any topic related to Immunization If yes, please list these topics	Yes..... ☐ No..... ☐	
2. Identification of Beneficiary – House Hold Survey			
201	Do you conduct household survey in your village?	Yes..... ☐ No..... ☐	202 301
202	What is the frequency?	1. No fixed schedule..... ☐ 2. One in six month..... ☐ 3. Once in one year..... ☐ 4. More than a year..... ☐ 5. Any other..... ☐ (specify).....	

Q.No.	Question	Response	Go to
203	When did you conduct the household survey last time?	.....Month ago	
204	Where do you record the details of beneficiary during survey	1. Household/ Village register..... ☐ 2. Predesigned household survey formats for pregnant women/ children..... ☐ 3. Any other..... ☐ (specify).....	
205	Whether you are updating household survey If Yes, How Often	Yes..... ☐ No..... ☐	
206	Do you get any support in household survey from	ANM Yes..... ☐ No..... ☐ AMW Yes..... ☐ No..... ☐ Any other..... ☐ (specify).....	
3. Recording of Beneficiary Details			
301	After Identification, where you record the details of	1. Pregnant Woman..... ☐ 2. Infants..... ☐	
302	Are you recording the mobile phone details of pregnant women or mother of new born children?	Yes..... ☐ No..... ☐	304 303
303	Reason for not recording	1. No Mobile phone..... ☐ 2. Don't want to share the number ☐ 3. Any other..... ☐ (specify).....	
304	Is there any AWW in your area	Yes..... ☐ No..... ☐	305 306
305	Do you match pregnant women/ mother and children details with AWW register?	Yes..... ☐ No..... ☐	
306	Do you share beneficiaries records with ANM If No, Why Not?	Yes..... ☐ No..... ☐	
307	How frequently you are meeting with ANM for sharing beneficiaries details & consolidation of ANM register	1. No consolidation, same register used by ANM..... ☐ 2. Once in a week..... ☐ 3. Once in a fortnight..... ☐ 4. Once in a month..... ☐ 5. Any other..... ☐ (specify).....	
4. Mobilization and tracking of beneficiary			
401	Do you have duelist for tracking and mobilization of beneficiaries?	Yes..... ☐ No..... ☐	305 306
402	Who prepared this due list?	1. ANM..... ☐ 2. ASHA herself..... ☐ 3. AWW..... ☐ 4. Any other response..... ☐ (specify).....	

Q.No.	Question	Response	Go to
403	If ANM or AWW is providing you duelist then when you are receiving that?	1. On immunization session/VHND. ☐ 2. Before Immunization session/VHND ..... ☐ 3. After Immunization session/VHND... ..... ☐ 4. Any other response ..... ☐ (specify).....	
404	Do you receive any support for tracking and mobilization of the beneficiary from..	ANM Yes..... ☐ No..... ☐ AMW Yes..... ☐ No..... ☐ Any other..... ☐ (specify).....	
5. MCTS – General and Workplan			
501	Are you aware of MCTS? *{Investigator will prompt the ASHA worker by referring MCTS differently – system where mother and child information computerized}*	Yes..... ☐ No..... ☐	502 601
502	Do you have mobile phone for yourself	Yes..... ☐ No..... ☐	503 507
503	Are you receiving regular call (pre-recorded) or SMS from MCTS	SMS Yes..... ☐ No..... ☐ Call Yes..... ☐ No..... ☐	504a 505 504b 505
504a	Can you read these messages or understand these SMS	Yes..... ☐ No..... ☐	
504b	Can you hear these messages or understand these calls	Yes..... ☐ No..... ☐	
505	Is pregnant woman or mother of child registered in your village, receiving any health related call (pre-recorded) or SMS?	Yes..... ☐ No..... ☐	506 507
506	Did any pregnant women or parent of children reported that, they could not understand the call or SMS?	Yes..... ☐ No..... ☐	
507	Do you aware MCTS Workplan? *{investigator will show the sample workplan}*	Yes..... ☐ No..... ☐	506 507
508	Do ANM provide you MCTS workplan? *{investigator will check MCTS Workplan with her}*	Yes..... ☐ No..... ☐	
509	If yes, When ANM provides you the MCTS workplan?	1. On immunization session/VHND. ☐ 2. Before Immunization session/VHND ..... ☐ 3. Any other response ..... ☐ (specify).....	
510	Is MCTS workplan useful	Yes..... ☐ No..... ☐	
6. Work Related Incentives			
601	Do you receive Immunization related incentives?	Yes..... ☐ No..... ☐	602 701

Q.No.	Question	Response	Go to
602	How much incentives you receive for: Identification Mobilization Fully Immunization Any other Specify *{Investigator need to check the state specific policy on incentives}* *How she informed?*	 INR .....per .....identification INR .....per .....mobilization INR .....per .....Fully immunization	
603	When you receive these incentives? How you get it?	1. Monthly..... ☐ 2. Quarterly..... ☐ 3. Any other..... ☐ (specify)..... 1. Cash..... ☐ 2. Bank Transer..... ☐ 3. Any other..... ☐ (specify).....	
604	Problems in getting incentives	....	
7. Meeting with ANM and PHC official			
701	Do you have review meetings with ANM? If Yes, How frequently?	Yes..... ☐ No..... ☐	
702	Do you have review meetings with PHC Official? If Yes, How Frequently?	Yes..... ☐ No..... ☐	
703	Any discussion done during these meetings related to MCTS?	Yes..... ☐ No..... ☐	

Discussion Points on Issues, Suggestions, Ownership and Support required

1. Any issues related to house hold surveys and registration of beneficiaries
2. Any Suggestions to improve house hold surveys and registration of beneficiaries
3. Issues in tracking and mobilization of the beneficiary for Immunization Session / VHND?
4. Any Suggestions in tracking and mobilization of the beneficiary for Immunization Session / VHND?
5. Any Issues related to MCTS Workplan
6. Any Suggestion in improving MCTS Workplan
7. Any problem in receiving incentives related to immunization/ VHND services?
8. What are you doing currently for improving identification, registration, tracking & mobilization of beneficiaries?
9. What support you require from higher authorities for improving identification, registration, tracking & mobilization of beneficiaries?
10. Any suggestion to improve overall MCTS implementation?

Mother and Child Tracking System Assessment Study in Three States of India

Data Collection Tools - Observation Checklist

Level – State - Infrastructure and HR

Q.No.	Observation Topics	Response		
1. Infrastructure				
No. of Districts.....No. of Blocks.....No. of PHC.....No. of CHC.....				
No. of additional PHC.....No. of sub-center.....No. of urban health post.....				
No. of Cold chain-points.....				
2. Human Resource and Capacity Building				
201	Current Staff Position State Immunization Officer State program manager M&E MIS person District Immunization Officer District Program Manager MIS /M&E Officer/Data person at District Data entry operator (for all blocks) Medical officer (Regular) Medical Officer (contractual) Health Supervisors (LHV/Health Asst. ANM (Regular) ANM (Contractual) ASHA Other	Sanction	Currently Vacant	Trained in RI in last three years (Dec. 2009)
202	Details of MCTS Training: State Immunization Officer State program manager M&E MIS person others	**Received or Not**	**When**	**Where**
203	Is there any resource material (guideline or user manual) provided for MCTS? If yes then Is it useful? If no, do you think it is needed?		Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
204	Is there any component that is needed and missing in resource material? If yes, than what		Yes..... ☐ No..... ☐ 1. ..... 2.	
3. IT Setup				
301	Is there a separate MCTS Cell/ IT room in State HQ		Yes..... ☐ No..... ☐	
302	Is there a dedicated computer for MCTS related job?		Yes..... ☐ No..... ☐	
303	Is there any specific configuration shared by MoHFW/ NIC for computer? If yes, computer procured as per configuration?		Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
304	When did computer procured?		.....Month, ...Year	

Q.No.	Observation Topics	Response
305	Performance of computer for MCTS related work?	1. Very Good..... ☐ 2. Good..... ☐ 3. Average..... ☐ 4. Poor..... ☐
306	Is there a dedicated printer for MCTS work? If yes, is it working	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐
307	Is all IT hardware are under AMC? Performance of AMC Agency	Yes..... ☐ No..... ☐ 1. Very Good..... ☐ 2. Good..... ☐ 3. Average..... ☐ 4. Poor..... ☐
308	Is there dedicated telephone line for IT room	Yes..... ☐ No..... ☐
309	What type of internet connection exist	1. Dial-up..... ☐ 2. Broadband..... ☐
310	Performance of Internet	1. Very Good..... ☐ 2. Good..... ☐ 3. Average..... ☐ 4. Poor..... ☐
311	No of working hours it is disconnected during a day time	..... hours
312	Is there any alternate internet connection If no, what are the alternate arrangement	Yes..... ☐ No..... ☐ 1. Data entry at home..... ☐ 2. At Internet cafe..... ☐ 3. Wait for reconnection..... ☐ 4. Any other..... ☐ (specify).....
313	Is power supply regular? If no, what is downtime?	Yes..... ☐ No..... ☐ 1. Frequent..... ☐ 2. Fixed time power cut..... ☐ No. of hours of downtown.....
314	Is computer is connected to generator	Yes..... ☐ No..... ☐
315	Is there dedicated UPS for computer? Is it functional	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐
316	Is there locked storage to keep MCTS registers and formats? If yes then is it sufficient?	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐
317	Is there enough supply of consumable of MCTS/MCH register MCTS/MCH format Printer cartridge Printer papers	 Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐

Level – District - Infrastructure and HR

Q.No.	Observation Topics	Response		
1. Infrastructure				
No. of Blocks.....No. of PHC.....No. of CHC.....No. of additional PHC..... No. of sub-center.....No. of urban health post.....No. of Cold chain-points.....				
2. Human Resource and Capacity Building				
201	Current Staff Position	Sanction	Currently Vacant	Trained in RI in last three years (Dec. 2009)
	District Immunization Officer	.....	.....	.....
	District Program Manager	.....	.....	.....
	MIS /M&E Officer/Data person at District	.....	.....	.....
	Data entry operator (for all blocks)	.....	.....	.....
	Medical officer (Regular)	.....	.....	.....
	Medical Officer (contractual)	.....	.....	.....
	Health Supervisors (LHV/Health Asst.	.....	.....	.....
	ANM (Regular)	.....	.....	.....
	ANM (Contractual)	.....	.....	.....
	ASHA	.....	.....	.....
	Other	.....	.....	.....
202	Details of MCTS Training:	**Received or Not**	**When**	**Where**
	District Immunization Officer	.....	.....	.....
	District Program Manager	.....	.....	.....
	MIS /M&E Officer/Data person at District	.....	.....	.....
	others	.....	.....	.....
203	Is there any resource material (guideline or user manual) provided for MCTS?		Yes.....☐	No.....☐
	If yes then Is it useful?		Yes.....☐	No.....☐
	If no, do you think it is needed?		Yes.....☐	No.....☐
204	Is there any component that is needed and missing in resource material?		Yes.....☐	No.....☐
	If yes, than what		1. ..... 2.	
3. IT Setup				
301	Is there a separate MCTS Cell/ IT room in State HQ		Yes.....☐	No.....☐
302	Is there a dedicated computer for MCTS related job?		Yes.....☐	No.....☐
303	Is there any specific configuration shared by MoHFW/ NIC for computer?		Yes.....☐	No.....☐
	If yes, computer procured as per configuration?		Yes.....☐	No.....☐
304	When did computer procured?		.....Month, ...Year	
305	Performance of computer for MCTS related work?		1. Very Good.....☐ 2. Good.....☐ 3. Average.....☐ 4. Poor.....☐	
306	Is there a dedicated printer for MCTS work?		Yes.....☐	No.....☐
	If yes, is it working		Yes.....☐	No.....☐

Q.No.	Observation Topics	Response
307	Is all IT hardware are under AMC?	Yes..... ☐ No..... ☐
	Performance of AMC Agency	1. Very Good..... ☐ 2. Good..... ☐ 3. Average..... ☐ 4. Poor..... ☐
308	Is there dedicated telephone line for IT room	Yes..... ☐ No..... ☐
309	What type of internet connection exist	1. Dial-up..... ☐ 2. Broadband..... ☐
310	Performance of Internet	1. Very Good..... ☐ 2. Good..... ☐ 3. Average..... ☐ 4. Poor..... ☐
311	No of working hours it is disconnected during a day time	..... hours
312	Is there any alternate internet connection	Yes..... ☐ No..... ☐
	If no, what are the alternate arrangement	1. Data entry at home..... ☐ 2. At Internet cafe..... ☐ 3. Wait for reconnection..... ☐ 4. Any other..... ☐ (specify).....
313	Is power supply regular?	Yes..... ☐ No..... ☐
	If no, what is downtime?	1. Frequent..... ☐ 2. Fixed time power cut..... ☐ No. of hours of downtown.....
314	Is computer is connected to generator	Yes..... ☐ No..... ☐
315	Is there dedicated UPS for computer?	Yes..... ☐ No..... ☐
	Is it functional	Yes..... ☐ No..... ☐
316	Is there locked storage to keep MCTS registers and formats?	Yes..... ☐ No..... ☐
	If yes then is it sufficient?	Yes..... ☐ No..... ☐
317	Is there enough supply of consumable of	
	MCTS/MCH register	Yes..... ☐ No..... ☐
	MCTS/MCH format	Yes..... ☐ No..... ☐
	Printer cartridge	Yes..... ☐ No..... ☐
	Printer papers	Yes..... ☐ No..... ☐

Level PHC/CHC - Infrastructure, HR and Protocol

Q.No.	Observation Topics	Response		
1. Infrastructure				
No. of PHC.....No. of CHC.....No. of additional PHC.....				
No. of sub-center.....No. of urban health post.....No. of Cold chain-points.....				
2. Human Resource and Capacity Building				
201	Current Staff Position	Sanction	Currently Vacant	Trained in RI in last three years (Dec. 2009)
	Block Medical Officer	.....	.....	.....
	Medical Office	.....	.....	.....
	Data Entry Operator	.....	.....	.....
	Health Supervisor	.....	.....	.....
	LHV	.....	.....	.....
	BHV	.....	.....	.....
	Cold Chain Handlers	.....	.....	.....
	Block Program manager	.....	.....	.....
	Block Educator	.....	.....	.....
	Regular ANM	.....	.....	.....
	Contractual ANM	.....	.....	.....
	ASHA	.....	.....	.....
	Other position	.....	.....	.....
202	Details of MCTS Training:	**Received or Not**	**When**	**Where**
	Block Medical Officer	.....	.....	.....
	Medical Officer	.....	.....	.....
	Data Entry Operator	.....	.....	.....
	Health Supervisor	.....	.....	.....
	LHV	.....	.....	.....
	BHV	.....	.....	.....
	Block Program manager	.....	.....	.....
	Block Educator	.....	.....	.....
	Regular ANM	.....	.....	.....
	Contractual ANM	.....	.....	.....
	ASHA	.....	.....	.....
203	Is there any resource material (guideline or user manual) provided for MCTS? If yes then Is it useful? If no, do you think it is needed?		Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐	
204	Is there any component that is needed and missing in resource material? If yes, than what		Yes..... ☐ No..... ☐ 1. ..... 2. ..... 3.	
3. Protocol				
301	RI Coverage Monitoring Chart displayed at health facility		Yes..... ☐ No..... ☐	
302	Daily Immunization session held at Block level Health Facility		Yes..... ☐ No..... ☐	
303	Immunization Session/ VHND wise reporting done at Block Health Facility by all ANM		Yes..... ☐ No..... ☐	
304	Any stock out of an vaccine experienced in last 3 month *{Tick No even if one vaccine is stock out}* If yes, List them		Yes..... ☐ No..... ☐	

Q.No.	Observation Topics	Response
305	Is temperature log book kept for all equipment If yes, is it updated	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐
306	Temperature inside ILR between +2 to +8 c	Yes..... ☐ No..... ☐
307	Any vial of frozen DPT/DT/TT/ HepB vaccine present in ILR?	Yes..... ☐ No..... ☐
308	Any vial of expired vaccine present in ILR	Yes..... ☐ No..... ☐
309	All immunization waste is being disposed of as per norms	Yes..... ☐ No..... ☐
310	Is immunization waste management outsourced to external agency If no, is there a functional safety pit available for disposal?	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐
311	Component of RI Microplan available:	Yes..... ☐ No..... ☐ .....
4. IT Setup		
401	Is there a separate MCTS Cell/ IT room in State HQ	Yes..... ☐ No..... ☐
402	Is there a dedicated computer for MCTS related job?	Yes..... ☐ No..... ☐
403	Is there any specific configuration shared by MoHFW/ NIC for computer? If yes, computer procured as per configuration?	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐
404	When did computer procured?	.....Month, ...Year
405	Performance of computer for MCTS related work?	1. Very Good..... ☐ 2. Good..... ☐ 3. Average..... ☐ 4. Poor..... ☐
406	Is there a dedicated printer for MCTS work? If yes, is it working	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐
407	Is all IT hardware are under AMC? Performance of AMC Agency	Yes..... ☐ No..... ☐ 1. Very Good..... ☐ 2. Good..... ☐ 3. Average..... ☐ 4. Poor..... ☐
408	Is there dedicated telephone line for IT room	Yes..... ☐ No..... ☐
409	What type of internet connection exist	1. Dial-up..... ☐ 2. Broadband..... ☐
410	Performance of Internet	1. Very Good..... ☐ 2. Good..... ☐ 3. Average..... ☐ 4. Poor..... ☐
411	No of working hours it is disconnected during a day time	..... hours

Q.No.	Observation Topics	Response
412	Is there any alternate internet connection	Yes..... ☐ No..... ☐
	If no, what are the alternate arrangement	1. Data entry at home..... ☐ 2. At Internet cafe..... ☐ 3. Wait for reconnection..... ☐ 4. Any other..... ☐ (specify).....
413	Is power supply regular?	Yes..... ☐ No..... ☐
	If no, what is downtime?	1. Frequent..... ☐ 2. Fixed time power cut..... ☐ No. of hours of downtown.....
414	Is computer is connected to generator	Yes..... ☐ No..... ☐
415	Is there dedicated UPS for computer?	Yes..... ☐ No..... ☐
	Is it functional	Yes..... ☐ No..... ☐
416	Is there locked storage to keep MCTS registers and formats?	Yes..... ☐ No..... ☐
	If yes then is it sufficient?	Yes..... ☐ No..... ☐
417	Is there enough supply of consumable of	
	MCTS/MCH register	Yes..... ☐ No..... ☐
	MCTS/MCH format	Yes..... ☐ No..... ☐
	Printer cartridge	Yes..... ☐ No..... ☐
	Printer papers	Yes..... ☐ No..... ☐

Level – Primary Health Center - Vaccine Distribution

Q.No.	Question	Response
101	No. of Immunization Session/VHND planned today as per micro-plan	.....
102	No. of Immunization Session/VHND for which vaccines is **NOT** distributed today	.....
103	Reason for NOT distributing the vaccine for Immunization Session/ VHND	1. ANM is on leave..... ☐ 2. Vaccine courier absent..... ☐ 3. Vaccines are out of stock..... ☐ 4. Any other..... ☐ (Specify).....
104	Is Alternate vaccine distribution plan available?	Yes..... ☐ No..... ☐
105	For how many immunization sessions/VHND vaccine is collected by the couriers (AVD)	No. ..... ☐
106	For how many immunization sessions/VHND vaccine is collected by ANM or not through AVD In case no AVD then Whether ANMs carrying MCTS Workplan with them	No. ..... ☐ Yes..... ☐ No..... ☐
107	For how many Immunization Session/VHND Courier (AVD) is **NOT** carrying the MCTS Work plan Reason for NOT carrying the MCTS Workplan	No. ..... ☐ 1. MCTS Work plan not prepared... ☐ 2. MCTS Work plan already delivered..... ☐ 3. Any other..... ☐ (Specify).....
108	For how many Immunization Session/VHND Courier (AVD) is **NOT** carrying tally sheet Format Reason for NOT carrying the tally sheet	No. ..... ☐ 1. Tally Sheets not available..... ☐ 2. Tally sheet not distributed..... ☐ 3. Tally Sheets already delivered.... ☐ 4. Any other..... ☐ (Specify).....
109	Vaccines are being distributed as per	1. MCTS Workplan..... ☐ 2. Estimated Population..... ☐ 3. One vial for each antigen for each session..... ☐ 4. Any other..... ☐ (Specify).....
110	Do Vaccine Carriers have conditioned Ice Pack *Guidelines. Randomly check three vaccine carriers Check for beads of water on surface of icepacks and sound of water heard on shaking it*	Yes..... ☐ No..... ☐ *Put No if any of the ice packs is not conditioned*
111	Which vaccine is NOT distributed for today's session Put tick if any of the vaccines not distributed to even a single ANM Put reasons for not giving vaccines for session	BCG..... ☐ DPT..... ☐ JE..... ☐ Measles..... ☐ tOPV..... ☐ HepB..... ☐ TT..... ☐
112	Randomly check three vaccine carriers and observe vaccines vials Is any vial found in the mentioned condition?	1. VVM unusable stage (Stage III and IV)..... ☐ 2. Without Label..... ☐ 3. Frozen Vaccine (DPT, TT, Hep B).. ☐ 4. Expired Vaccine Vial..... ☐

Level – Sub-center - Immunization Session / VHND

Q.No.	Question	Response
101	Is the Session happening with Village Health & Nutrition Day (VHND)?	Yes..... ☐ No..... ☐
102	Who all are present during the Immunization Session/ VHND?	1. ANM..... ☐ 2. ASHA..... ☐ 3. AWW..... ☐ 4. Helper..... ☐ 5. Panchayat representative..... ☐ 6. Any other..... ☐ (Specify).....
103	Who brought vaccine & logistics to this Immunization session/ VHND site?	1. Vaccine Courier (AVD)..... ☐ 2. ANM..... ☐ 3. Supervisor..... ☐ 4. Any other..... ☐ (Specify).....
104	Which of the vaccines and diluents are available at Immunization Session/ VHND site?	BCG..... ☐ DPT..... ☐ Measles..... ☐ JE..... ☐ DT..... ☐ tOPV..... ☐ Hepatitis B..... ☐ BCG Diluent..... ☐ Measles Diluent ☐ JE Diluent..... ☐
105	Which of the Logistics are available at Immunization Session/VHND site	**Syringes** AD (0.1 ml)..... ☐ 5 ml Reconstitution..... ☐ AS (0.5ml)..... ☐ **Other** Blank RI Card..... ☐ Vitamin-ASolution..... ☐ Counterfoil..... ☐
106	Which of the mentioned Logistics are available at Immunization Session/VHND site	**Drugs** ORS Packet..... ☐ Paracetamol..... ☐ Zinc Tablet..... ☐ Iron (IFA) Tablet.. ☐ **Others** Tracking bag.... ☐ B P Apparatus.. ☐ Functional Hub Cutter..... ☐ Plastic spoon/Cap for Vit-A..... ☐ Nutritional Supplements card..... ☐ Weighing machine..... ☐
107	Observe vaccine vials ANM is using or going to use (unopened vials in VC). Is any vial found in the mentioned condition? If yes, tick and record vaccine details	1. Without label..... ☐ 2. Unreadable label..... ☐ 3. VVM stage III or IV (unusable)..... ☐ 4. Expired vaccine Vial..... ☐ 5. BCG/measles vaccine reconstituted more than 4 hours back..... ☐ 6. JE vaccine reconstituted more than 2 hours back..... ☐
108	Has ANM written time of reconstitution reconstituted vials?	Yes..... ☐ No..... ☐

Q.No.	Question	Response
109	How is ANM segregating immunization waste	1. Red bag & black bag..... ☐ 2. Not Done..... ☐ 3. Any other..... ☐ (Specify).....
110	Is ANM delivering all four key messages to the caregivers 1. What vaccine was given and what disease it prevents? 2. When to come for the next visit? 3. What are the minor side-effects and how to deal with them? 4. To keep the immunization card safe and to bring it along for the next visit *Investigator need to observe this for 2 beneficiaries at least*	Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐ Yes..... ☐ No..... ☐
111	Is ANM advising the care-givers to wait for 30 minutes after vaccination	Yes..... ☐ No..... ☐ Not observe..... ☐
2. Interview with Care Giver		
201	Who mobilized you to this Immunization Session/ VHND	ASHA ANM Other Specify Care giver 1 ☐ ☐ ☐ ..... Care giver 2 ☐ ☐ ☐ .....
3. Due List and MCTS Workplan		
301	ANM is having	Due list..... ☐ MCTS Workplan..... ☐ Both..... ☐ None..... ☐
302	ANM providing services by following the	Due list..... ☐ MCTS Workplan..... ☐ Both..... ☐ None..... ☐
303	ASHA carrying the	Due list..... ☐ MCTS Workplan..... ☐ Both..... ☐ None..... ☐
304	ASHA is mobilizing the beneficiary using	Due list..... ☐ MCTS Workplan..... ☐ Both..... ☐ None..... ☐
4. Recording and Reporting		
401	ANM is recording the details of services provided to Pregnant Women in	Tally Sheet..... ☐ MCTS Register..... ☐ ANM Diary..... ☐ MCH Register..... ☐ Not Recording..... ☐ Any other..... ☐ Tally Sheet..... ☐ Specify.....
402	ANM is recording the details of services provided to Children in	Tally Sheet..... ☐ MCTS Register..... ☐ ANM Diary..... ☐ MCH Register..... ☐ Not Recording..... ☐ Any other..... ☐ Tally Sheet..... ☐ Specify.....

Q.No.	Question	Response
403	When a beneficiary reached the immunization site/ VHND, his/her name is available in following recoding tool? (observe this for 3 beneficiaries)	Multiple Responses MCTS Register / MCTS Work plan / Due list / Other (specify) / Not recorded at all Beneficiary 1 ☐ ☐ ☐ ☐..... ☐ Beneficiary 2 ☐ ☐ ☐ ☐..... ☐ Beneficiary 3 ☐ ☐ ☐ ☐..... ☐
404	If a pregnant woman/ child is not registered, then where is ANM registering?	1. Not registering..... ☐ 2. Diary/blank paper..... ☐ 3. ASHA/Village register..... ☐ 4. MCTS register..... ☐ 5. Tally Sheet..... ☐ 6. Any other..... ☐ (Specify)..... 7. Not Observed..... ☐
405	Is ANM verifying the mobile number of beneficiary If yes then how?	Yes..... ☐ No..... ☐ 1. Verifying in register recorded earlier..... ☐ 2. Recording the new number..... ☐ 3. Updating the changed number ☐

Annexure B

Mother and Child Tracking System Assessment Study in Three States of India

Field Activity Plan

State	Location	Activities	10th Dec Monday	11th Dec Tuesday	12th Dec Wednesday	13th Dec Thursday	14th Dec Friday	15th Dec Saturday
Rajasthan	State HQ	Meeting with state official						
	State HQ	IDI with state official						
	District HQ	IDI with district official						
	Block / PHC	Observation - vaccine distribution						
	Sub-center	Observation - VHND/Immunization Site						
	Sub-center	IDI with ANM and ASHA						
	Sub-center	DQA - Accuracy and Completeness						
	Block / PHC	IDI with block official						
	Block / PHC	Observation - Infrastructure						
	Block / PHC	DQA - Accuracy, Timeliness and Completeness						
	State HQ	Debriefing - State official						
Uttar Pradesh	State HQ	Meeting with state official						
	State HQ	IDI with state official						
	District HQ	IDI with district official						
	Block / PHC	Observation - vaccine distribution						
	Sub-center	Observation - VHND/Immunization Site						
	Sub-center	IDI with ANM and ASHA						
	Sub-center	DQA - Accuracy and Completeness						
	Block / PHC	IDI with block official						
	Block / PHC	Observation - Infrastructure						
	Block / PHC	DQA - Accuracy, Timeliness and Completeness						
	State HQ	Debriefing - State official						
Karnataka	State HQ	Meeting with state official						
	State HQ	IDI with state official						
	District HQ	IDI with district official						
	Block / PHC	Observation - vaccine distribution						
	Sub-center	Observation - VHND/Immunization Site						
	Sub-center	IDI with ANM and ASHA						
	Sub-center	DQA - Accuracy and Completeness						
	Block / PHC	IDI with block official						
	Block / PHC	Observation - Infrastructure						
	Block / PHC	DQA - Accuracy, Timeliness and Completeness						
	State HQ	Debriefing - State official						

Annexure C

Mother and Child Tracking System Assessment Study in Three States of India

Team Composition

State	District	District Team	Agency
Rajasthan	Alwar	Dr. Prem Singh	ITSU
		Dr. Manisha Chawla	UNICEF
		Dr. Sandeep	PATH
		Mr. Laxman Sharma	ITSU
	Bundi	Mr. Amit Sharma	ITSU
		Mr. Sraban Kumar	UNICEF
		Ms. Susmita Roy	ITSU
		Vinod Rathore	UNICEF
Uttar Pradesh	Baranbaki	Dr. Manish Jain	mCHIP
		Dr. Sangeeta Karmakar	*UNICEF*
		Dr. Bhupendra Tripathi	mCHIP
		Dr. Sanket	mCHIP
	Hamirpur	Dr. Shailendra	mCHIP
		Dr. Kamal Verma	UNICEF
		Dr. Akshat	mCHIP
		Ms. Amruta	ITSU
Karnataka	Kodagu	Dr. Ganguli	ITSU
		Dr. Vasundhara	Punjab Govt.
		Dr. Kapil	ITSU
		Dr. Santosh Shirol	UNICEF
	Mysore	Dr. Amrita Sekhar	ITSU
		Dr. Arundam Ray	NPSP
		Dr. Rajeev Gera	ITSU
		Dr. Brijesh Mehta	UNICEF

ITSU

Immunization Technical Support Unit
Ministry of Health and Family Welfare