

Summer Training at



National Rural Health Mission (NRHM), MP

(1st April to 31st May, 2014)

Assessment of missing deliveries using MCH data in Raisen District, MP

By

Mohammad Farhan Khan

Under the guidance of

Dr. Suresh Joshi

**MBA- Hospital & Health Management (MBA-HM)
2013-2015**

IIHMR UNIVERSITY
The IIHMR University, Jaipur
2014

**INSTITUTE OF HEALTH
MANAGEMENT RESEARCH**

1, Prabhu Dayal Marg
Sanganer Airport, JAIPUR - 302 029, INDIA
Tel. : 3924700, 2791431-32
Fax : 91-141-3924738
E-mail : iihmr@iihmr.org
URL : <http://www.iihmr.org>
Gram : HEALTHINST

CERTIFICATE

This is to certify that **Dr. Mohammad Farhan**, has completed the summer training At **National Health Mission, MP** From 1.04.14 to 31.05.14 and have conducted the following projects under my personal guidance and supervision. All the data related to the study is the secondary data.

✓ Assessment of missing deliveries using MCH data in Raisen district, MP

His approach to the projects has been sincere, scientific and analytical. This work is partial fulfillment to the course requirements, recommended for the Post Graduate Diploma in Health and Hospital With specialization in Health Management.

I wish him all the success in future endeavors.



Colonel (Dr.) Ashok Kaushik,
Dean (Academic & Students Affairs)
IIHMR, Jaipur



Mentor Name
Dr. Suresh Joshi
Associate Professor
IIHMR, Jaipur



National Health Mission
3rd floor Bank of India Building, Arera Hills, Bhopal

No. /OA/*NRHM/4393*

Bhopal Dated:- *02.06.14*

CERTIFICATE

This is to certify that **Dr. Mohammad Farhan Khan** student of Institute of Health Management Research, Jaipur, has successfully completed summer training programme at National Health Mission (M.P) of two months dated 01/04/14 to 31/05/14. During summer training programme he has actively participated in the project titled **"ASSESSMENT OF MISSING DELIVERIES IN FACILITYWISE REPORTING IN RAISEN DISTRICT"**. I appreciate his contribution in the project mentioned.

I extend my best wishes for his bright future.

(Dr. J. L. Mishra)
Director
National Health Mission
Madhya Pradesh

Abbreviations

NRHM- National Rural Health Mission

ANM- Auxillary Nurse Midwife

ASHA - Accredited Social Health Activist

IFA- Iron Folic Acid

CHC- Community Health Centre

PHC- Primary Health Centre

SC- Sub Centre

BMO- Block Medical Officer

HMIS- Health Management Information System

MCTS-Maternal and Child Tracking System

ANC- Ante Natal Check Up

BCC- Behaviour Change Communication

JSY- Janani Suraksha Yojna

SBA- Skilled Birth Attendant

WHO- World Health Organization

BCG- Bacilli Calmatte Guarian

DPT- Diptheria, Pertusis, Tetanus

TT- Tetanus Toxoid

OPV- Oral Polio Vaccine

LMP- Last Menstrual Period

STI- Sexually Transmitted Infection

AHS- Annual Health Survey

DHIS- District Health Information Survey

Acknowledgements

I extend my sincere gratitude to Mission Director Dr. Geeta, Deputy Director Dr Rajeev Shrivastav, National Rural Health Mission(MP) for giving me the opportunity to have this summer training experience and undergoing the process of learning at NRHM, MP. I thank him for all the trust and faith that he posed in me and I only hope that I have been able to live up to his expectations. His guidance and support was helpful in enhancing our work.

I extend my sincere gratitude to Neeraj Shrivastav(State HMIS consultant) and Omesh Sharma (Asst. HMIS consultant) NRHM, MP who have been my guiding mentors for the summer internship program & have been instrumental in helping me shape this study in a desirable way.

Last but not the least; I would like to thank the entire staff of NRHM, MP for their support, co-operation and guidance.

I would also like to express my sincere thanks to Dr. S.D. Gupta, Director, IIHMR, Dr. Ashok Kaushik, Dean (Academics), my mentor Dr.Suresh Joshi, as well Mr. Dalbir Singh, Senior Placement Officer, for the proper guidance and cooperation extended by him. However, I accept the sole responsibility for any possible error of omission and would be extremely grateful to the readers of this Internship project report if they bring such mistakes to our notice.

Table of contents

Page No.

List of Acronyms/Abbreviation ----- (i)

Acknowledgement ----- (ii)

I)Health management Information System ----- 1

1) Background

2)Introduction

II) Maternal and child Tracking System ----- 9

1) Background

2) Introduction

III) Demographic Profile of MP and Raisen ----- 11

IV) Health Profile of MP and Raisen ----- 12

V) Review of Literature ----- 13

VI)Rationale of Study ----- 14

VII) Research Question ----- 14

VIII) Objectives ----- 14

IX) Methodology ----- 15

X) Problem statement ----- 15

XI) Result and Analysis ----- 17

XII) Problems identified ----- 19

XIII) Recommendation ----- 22

| XIV)References-----22

I) Health Management Information System

Background

Health Information Systems

Health Matrix Network (HMN) is a new initiative operating under WHO. The general goal for HMN is to increase the availability, quality, value and use of timely and accurate health information by catalyzing the joint funding and development of core country health information systems.

Also, strengthening country health information systems (HIS) in developing countries by assisting them to apply the HMN framework at country level, in conjunction with technical and catalytic financial support.

HIS Data Sources

- 1) Census
- 2) Vital registration
- 3) Survey
- 4) Health and disease records
- 5) Service records
- 6) Administrative records

Administrative records generate data on the overall functioning of the health system such as the availability of human resources, infrastructure and commodities as well as financial flows. Most of the health service based data are generated routinely in the course of recording and reporting on services delivered. Service availability mapping (SAM) is a special approach based upon periodic (e.g. biannual) district-managed census of facility inputs, processes and outputs.

Working team

- 1) Health Information and Research (HIR) Section. This section is operating under the Directorate of Policy and Planning. Other units are: -
 - 2) Health Research Systems and Surveys (HRS)
 - 3) National Sentinel Sites Systems (NSSS) which run DSS and
 - 4) Information Technology and Communication (ITC)

These units either support HMIS operations like ITC or supplement data to HMIS. The HMIS in its current form was conceptualized in the early 1990s

Introduction

HMIS-“A tool which helps in gathering, aggregating, analyzing and then using the information generated for taking actions to improve performance of health systems.”

WHO defined HMIS as “An information system specially designed to assist in the management and planning of health programmes, as opposed to delivery of care”. This system

started in 2008 for mother and child care data recording. Data entry is according to HMIS report. The Health Management Information System (HMIS) is considered to be a single biggest routine data system under the Ministry of Health and Family Welfare (MoHFW). It collects its information from more than 10540 health facilities. This system was established as a key tool for monitoring and evaluation of health sector reform performance in the country.

HMIS is a core system which provides management solutions to management questions through developed indicators which are applied at all levels of health delivery systems. HMIS indicators are in the form of rates, ratios and absolute numbers, and each has a threshold and target value whereby assessment of performance is based upon. In this respect the information is very useful in managing health delivery in the country at all levels of health delivery system in the country.

Conceptual Framework of HMIS: Use of Information



Data: Raw material in the form of numbers, characters, images that gives information after being analyzed.

Information: A meaningful collection of data organized with reference to a context.

Knowledge: When information is analyzed, communicated and acted upon, it becomes knowledge.

Data quality

Refers to the extent to which data measures what it intend to measure. Dimensions of data quality-

A) **Completeness**-Data completeness is assessed for the following:

- i) Number of facilities reported against total facilities
- ii) Number of data elements reported against total data elements in a reporting form.

Reasons for incomplete reporting-

- a) Unavailability of services in these facilities
- b) Unavailability of recording registers for these events
- c) Simple ignorance

B) **Timeliness**-Timely processing and reporting of data facilitates timely availability of data for decision making.

C) **Accuracy**- The correctness of data collected in terms of actual number of services provided or health events organized. Small errors at facility level will cumulate into bigger mistakes since data from various providers/facilities are aggregated. Reasons for inaccurate data-

- Dishonesty in reporting
- Systemic errors

- i) Errors due to multiple registers
 - ii) Misinterpretation of Data Elements
 - iii) Consistency of terms used
 - iv) Computation problem
 - v) Problem in data aggregation
 - vi) Lack of written guidelines & procedures
 - vii) Logistical Problems

- viii) Wrong choice of indicators /denominators
- ix) Duplication
- x) Reporting of missing values or lower figures
- xi) Data reported for nonexistent services
- xii) Ambiguity about data element

Data entry errors like typing error, wrong box entry, calculation error which can be corrected through

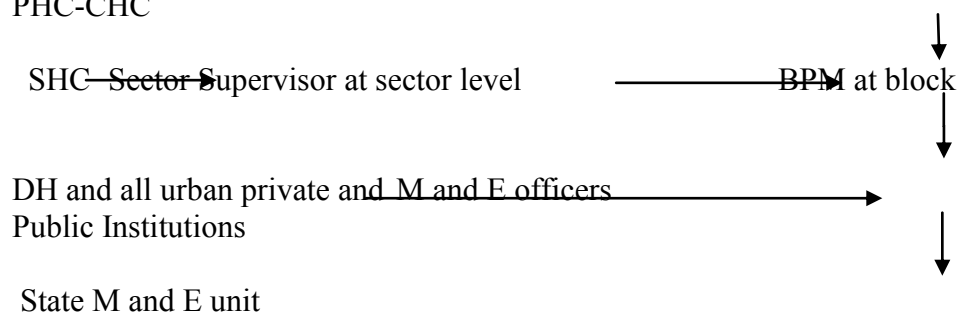
- a) Visual scanning.
- b) Validation checks- It is performed by comparing values of two (or more) data elements that are comparable. Violations of validation can be due to management issues like availability of vaccines/medicines in stock, disease outbreak and actual improvement due to a good BCC program.
- c) Statistical outliers- They are numbers that do not confirm to the trend or are unexpected values.

For maintaining a good data quality, feedback is the key. Many a times no feedback is provided on information collected from facilities and service providers after processing of data. Data or information or reports are always sent up in the hierarchy. Feedback ensures data quality and reliability; it also builds up the sense of responsibility among service providers.

HMIS portal under NRHM generates „**Feedback reports**“. The Feedback reports provide status of achievement against a target. Comparisons with facilities and time periods can also be made.

Data Validation Responsibility at Various Level

PHC-CHC



Facility wise reporting-each level reports that is, SC, PHC, CHC, district level, state level. At all levels data is collected and aggregated hence, quality is assured. Any under or over reporting can be captured. Compilation of reports is in district level.

To avoid any haphazard way of recording, one accountable data reporting system was developed which is a monthly reporting system. Data Aggregation Unit is place where data is collected and aggregated. The state can decide where the data entry point would be for HMIS portal. This could be District/ Block/ SDH/ PHC depending on the state requirements-

Availability of the following:

- 1) Computers
- 2) Internet
- 3) Trained Personnel – Nodal M & E Officers

- 4) Mapping of Health facilities – Facility Master updation
- 5) Latest template from HMIS Portal

Flow of data

Sub district to district, district to state, state to centre

Data entry

Data can be entered into the portal through:

- 1) Online data entry(into HMIS web portal)
- 2) Data Uploading-
 - i) Single Upload(Uploading data for single facility at once)
 - ii) Multiple Facility Upload(through MFU,user can upload data for 25 facilities at one go.

In data uploading data is entered in the Excel file, and then this file can be uploaded on portal, wherever the internet is available.Excel file can be downloaded from the portal in the downloads section -> HMIS formats.The sheet is encrypted and does not allow the user to change, delete or modify any items or cells.After uploading and verifying the data, the sub-district user has to forward the facility data.States are required to forward their data to Centre as soon as they verify it.Data forwarding ensures Data Authentication.Once forwarded the data cannot be changed until it has been reset to draft mode.Data can be forwarded from sub-district via:

- a) Bulk Forward
- b) Individual file forward

HMIS format

- 1) ANC services-Number of women registered for ANC
- 2) Number of women registered for JSY
- 3) Number of women given TT
- 4) Number of women with Anaemia
- 5) Number of women with Hypertension
- 6) Delivery services-Number of children home delivered by SBA or non Skilled Birth Attendants
- 7) Number of children visited within 24 hrs of delivery
- 8) Number of women given JSY incentive
- 9) Number of children born in public institution
- 10) Number of women,ASHA,ANM being paid JSY incentive
- 11) Number of C-sections
- 12) Details of new born-still births,live births,abortions,weight of new born
- 13) Post Natal Care
- 14) MTP
- 15) STD
- 16) Family planning
- 17) Child immunizations-BCG,DPT,OPV,Measles,Hepatitis
- 18) Vitamin A doses
- 19) Childhood diseases like Measles,Malaria,Diarrhoea
- 20) Lab tests
- 21) Mortality data
- 22) Line listing of births and deaths

A continuous flow of good quality information on inputs, outputs and outcome indicators facilitates monitoring of the objectives of NRHM.

Indicators covered in HMIS

- Antenatal care coverage
- Delivery services indicators
- Post natal care indicators
- Immunization coverage indicators
- Neonatal & child health indicators
- Family planning coverage indicators
- Mortality indicators
- Service delivery indicators
- Laboratory services indicators

Classification of indicators

Input indicators: Indicates resources invested in the system, e.g., number of doctors per 100,000 people.

Process indicators: Indicates activities of the health system, e.g., percentage of doctors trained in safe delivery skills.

Output indicators: Indicates achievements made specific health strategies e.g. percentage of women who received 3 ANC's.

Outcome indicators: Indicates achievements of a health programme or health system. e.g institutional delivery rate, breastfeeding in one hour rate etc.

Impact indicators: Indicates achievement health status of particular group of people e.g. Maternal Mortality Ratio, Infant Mortality Rate, Total fertility Rate etc.

Data keeping

ASHAs of different villages keep records of their villages. ANM has her own records which is a compilation of all the villages of her health facility, which is then submitted to higher facility level which gets fed in HMIS by data operator.

Records of ANM includes services given by her at institution and outreach services, this includes vaccinations, ANC check -ups, family planning services(counseling on spacing period, temporary services like providing oral pills and condoms, permanent services like sterilizations) entries in MCP card(Mother and Child protection), normal deliveries, maintains eligible couple register(ECR).

Block consolidated report sums up all data related to block and doesn't give idea of each facility coming under the particular block. Live reports show data according to facilities, covering all parameters of health care and standard reports shows consolidated data that is of block and not facility wise. Under „standard reports“-status of report is known at facility level, that is whether report is being forwarded from level or not. Status of „state forward“ shows that data has reached from state to GOI. Data Item Wise Comparison of Facility Consolidated with District Consolidated under standard reports gives indicator wise comparison of sum of data of facilities in a district with the actual data at district level.

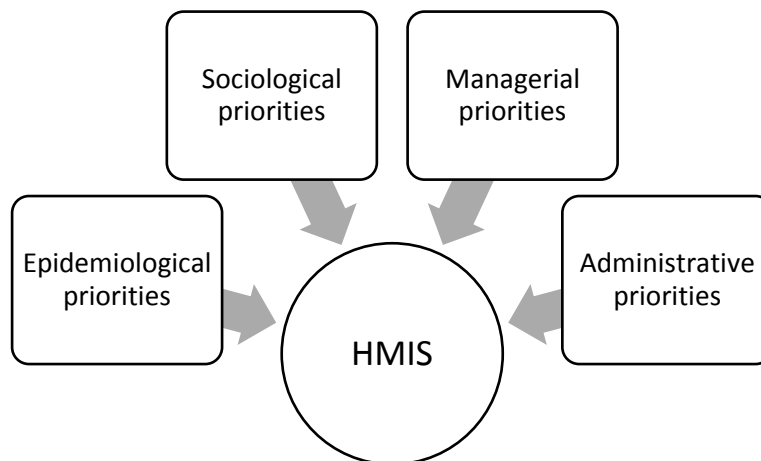
Data needs to be checked at each level by validation that is any mismatch between services provided and services utilized needs to be checked also through outlier, any data beyond maximum or minimum limit that is out of range can be checked.

For an effective HMIS

The system as a whole require to have proficiency in eight broad competency areas which are-

1. Understanding of data elements.
2. Understanding of indicators and the interpretation of data.
3. Understanding of data quality and its determinants
4. Use of information for health planning and monitoring.
5. Understanding national data requirements and functioning and use of National Web Portal.
6. Use of other applications deployed at district and state level that could also feed in National Portal.
7. Design issues that underlie choice of indicators, architecture of the system, and methods of HMIS evaluation.
8. Abilities to customize applications to suit local needs, to define programming requirements and programming skills.

Requirements for establishing HMIS



Establishment of HMIS provides reliable and cost effective mechanism for better monitoring, management, planning and decision making for effective health service delivery.

Advantages of HMIS

All levels in a health department, be it a Primary Health Centre or a District Hospital or the State or National Office, need information on regular basis. This information is used not only to monitor the health status of the population they serve but also to track progress towards achievement of targets under different health programs.

Information needs, purpose, and use of information differs at each level in the hierarchy. Therefore, a robust information system which can provide accurate, up-to-date, and timely information to the health department is needed at every level.

Following are the uses of HMIS at different levels of health department-

At the **National and State level**-It's a tool of policy and strategy making. It is useful for assessing the progress of national health programs.

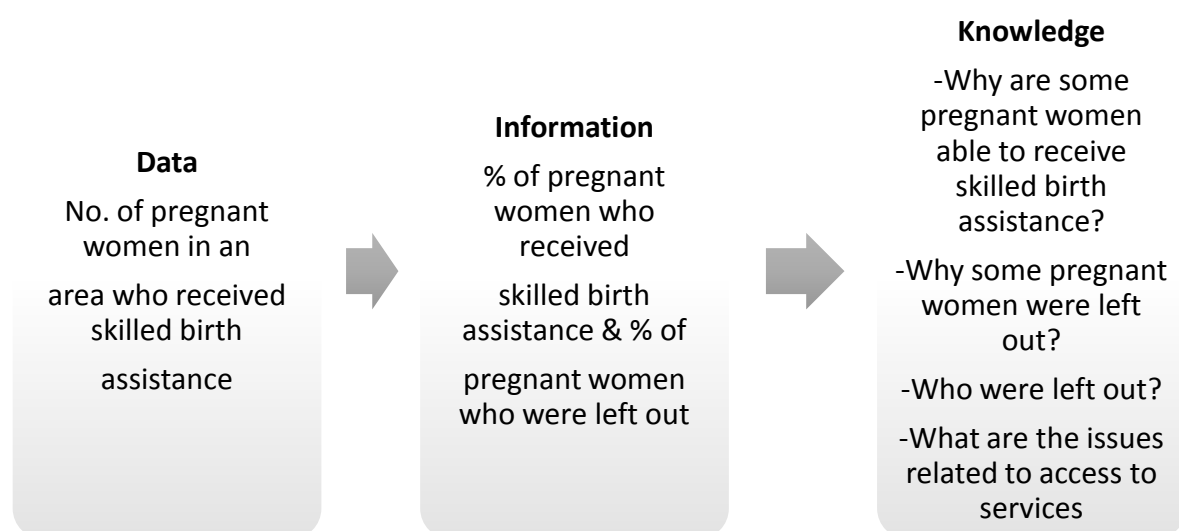
At the **State and District level**- It's a tool of program monitoring and management. It enables to distinguish well performing areas from those that require more support and resources. HMIS helps in planning and designing specific interventions that can strengthen a program.

At the **sub-District level** such as Block, PHC, sub-Center, and other facilities, HMIS facilitates: efficient and effective registering and collation of data; improvements in data quality; systems for complete reporting; timeliness and accuracy; provision of data analysis tools; interpretation and translation of data to guide action and intervention at local level.

Steps in Developing a Health Management Information System

- (1) Review the existing system
- (2) Define the data needs of relevant units within the health system
- (3) Determine the most appropriate and effective data flow
- (4) Design the data collection and reporting tools
- (5) Develop the procedures and mechanisms for data processing
- (6) Develop and implement a training program for data providers and data users
- (7) Pre-test, and if necessary, redesign the system for data collection, data flow, data processing and data utilization
- (8) Monitor and evaluate the system
- (9) Develop effective data dissemination and feedback mechanisms (effective way of motivating data producers is to constantly provide them with both positive and negative feedback on the status of the data they produce.)
- (10) Enhance the HMIS

Basic concept of HMIS



Public health facilities such as the District Hospital (DH)/Sub-district Hospital (SDH)/Community Health Centre (CHC)/Primary Health Centre (PHC)/Sub-district Health

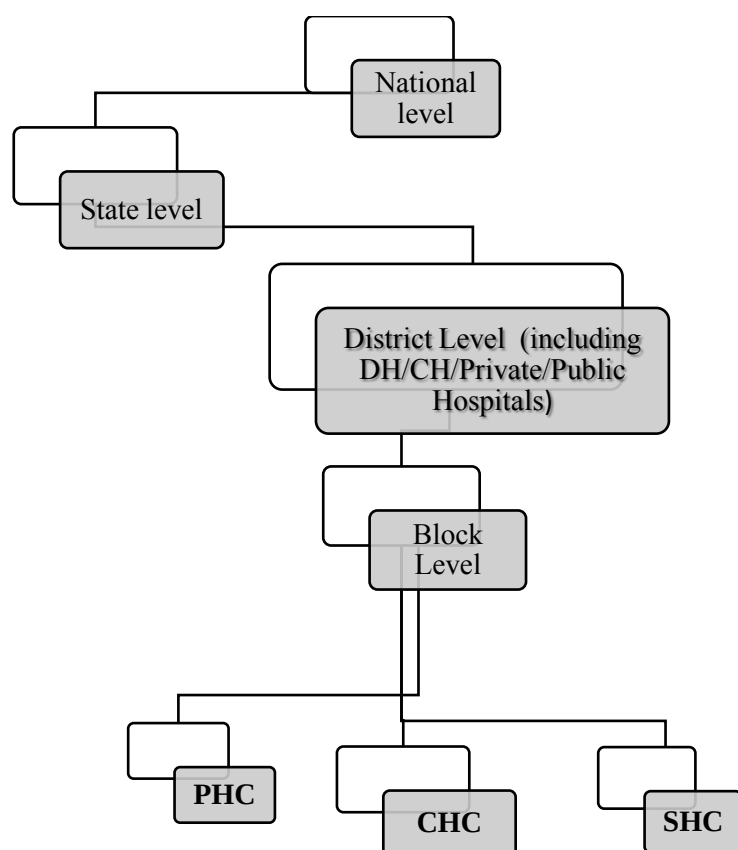
Centre (SHC) are categorized depending on the levels (1, 2 and 3) of maternal and child health care and service delivery. Among these levels, some have been categorized as delivery points based on their performance and case load.

Level 3 – (Comprehensive Level-FRU): All FRU-CHC/SDH/DH/area hospitals/ referral hospitals/tertiary hospitals where complications are managed including C-section and blood transfusion. An FRU shall be equipped also with a Newborn Stabilization Unit (NBSU) at CHC/SDH/others or Special Newborn Care Unit (SNCU) at DH and above. A District Hospital irrespective of caseload has to be a Level 3 institution.

Level 2 – (Basic Level): All 24x7 facilities (PHC/Non-FRU CHC/others) providing BEmOC services; conducting deliveries and managing of medical complications (not requiring surgery or blood transfusion) and have either a NBCC or NBSU.

Level 1 – All sub-centers and some PHCs which have not yet reached the next level of 24x7 PHC: where deliveries are conducted by a skilled-birth attendant (SBA).An NBCC must be established in all such facilities

Flow of information



II) Mother and Child Tracking System (MCTS)

Background

Tracking of Pregnant mothers and children has been recognized as a priority area for providing effective healthcare services to this group. As a major initiative in this regard, the Mother and Child Tracking system (MCH) is a name based pregnant mother and child tracking system. It is a management tool to reduce MMR/IMR/TFR and track the health service delivery at the individual level to improve the nutritional level of the child, to ensure completion of immunization in children by tracking the proper growth of the individual child, etc. If the efficiency of the health care delivery system is improved in terms of ensuring universal access to all pregnant women and children to maternal and child health services, reduction in maternal, infant and child mortality can be accelerated significantly.

Introduction

Mother and Child Tracking System (MCTS) is an IT enabled application (<http://nrhmmcts.nic.in>) which will facilitate monitoring of universal access to maternal and child health services by all pregnant women and children. The system is developed jointly by the Ministry of Health and Family Welfare and National Informatics Centre and it was launched by the Government of India in December 2009 in collaboration with States/UTs. It is an innovative application of the information technology directed towards improving the efficiency of maternal and child health services. MCTS is designed to capture and track all pregnant women right from conception up to 42 days post-partum and all new born up to five years of age to ensure that the pregnant woman and children receive „full“ set of medical services thereby contributing to the reduction of maternal, infant and child mortality and achieving the goals laid down in the National Rural Health Mission as well as Millennium Development Goals.

It facilitates the service provider at the grass roots level in delivering services to women and children according to their specific needs. At the same time, MCTS supports health and family welfare managers and policy makers in measuring and monitoring the efficiency of the maternal and child health services in terms of needs, effectiveness and capacity, efficiency and evaluating up to what extent the increase in efficiency in the delivery of maternal and child health services has contributed to the decrease in maternal, infant and child mortality.

In this way, MCTS facilitates justification of investments in the public health and family welfare services delivery system. Started in 2011 in full manner, for area wise reporting, that is it includes records of all the beneficiaries of a village or block. It has been decided to have a name-based tracking system (being put in place by Government of India, MoHFW) whereby pregnant women and children can be tracked for their ANC's and immunization along with a feedback system for the ANM, ASHA to ensure that all pregnant women receive their Ante-Natal Care Check-ups (ANCs) and post-natal care (PNCs); and children receive their full immunization.

After the ANM has captured the base information and passed on to the Block PHC, she would be reporting the services delivered to the pregnant women and children based on the stipulated dates as per the ANC schedule and immunization schedule each month. Each pregnant mother/child record will result in the generation of a Unique ID with which the pregnant mother/child can be tracked subsequently.

Comparison between HMIS and MCTS

HMIS	MCTS
Facility wise reporting	Record base monitoring system
Records include those of immigrants too	Only people living in a particular area
Only those services which are provided by the facility	Each beneficiary is tracked no matter from where services are being taken

MCTS Portal

- I. Details of ASHA can be entered under „ASHA entry“
- II. Details of ANM can be entered under „ANM entry“, data operators can enter or change details according to NRHM format of ANM
- III. Details like name, village, joining date, of ANM and ASHA can be seen
- IV. Entries of pregnant women, past records can be got
- V. Child details like immunization status, details of health provider
- VI. Reports can be generated on-mother and child count, location details up to SC level can be generated.
- VII. Child and mother details-all mothers and children registered under MCTS
- VIII. ASHA count and ANM count
- IX. Under „beneficiary card mother“-Beneficiary details for all pregnant women
- X. „Beneficiary card child“-details of children
- XI. List of sub-centers with no ANM or no ASHA can be generated
- XII. Master reports generate name of duplicate health block, taluka, PHC, SC of a state (with the same name but under different areas)
- XIII. Work-plans for ANC and delivery can be generated
- XIV. National reports-state-wise child, mother, ANM, ASHA, health facility count can be got.

Under mother tracking-Pregnant female tracking format

Format includes details of mother along-with LMP, TT, IFA, STI and her child-weight etc. All post natal check -ups and details of health providers (ANM, ASHA), JSY registration, post delivery checkup.

Under child tracking-Child vaccination tracking format

Details of place of delivery, details of mother, immunizations-BCG, DPT, measles, OPV, TT, Hepatitis B, vitamin A

Through MCTS, performance of health worker and due dates can be got. Work-plans are given to ANM by data entry operator. Due list is generated according to beneficiary. Line listing and check list is made, as and when services are given by her. Due services are needed to be given at VHND. Feedback is provided by CMO. Work-plans for ANC consists of – name of mother, her details like contact number, address, LMP date, details of service providers like ANM and ASHA, services given, services due and expected date of delivery.

III) Demographic profile of Madhya Pradesh

Administrative Profile of the State of Madhya Pradesh

Parameters	Numbers
Development blocks	313
Tribal blocks	89
Number of towns/cities	394
Municipal corporations	14
Municipalities	85
Nagar Panchayats	235
Villages	55392
Inhabited villages	52143
Gram Panchayats	22029
Janpad Panchayats	313
District Panchayats	48

According to AHS-2012-13

Vital indicators of MP

MMR-227

IMR-62

Neonatal mortality rate-42

Under 5 mortality rate-83

According to census 2011-Block wise population and number of villages of Raisen

Sub district	Rural population	Urban population	Total population
Raisen	173496	52563	226059
Gairatganj	106834	18184	125018
Begamganj	112479	34031	146510
Goharganj	161466	107522	268988
Baraily	107656	34663	142319
Badi	92100	19603	111703
Silwani	136151	18623	154774
Udaipura	137990	18236	156226

Total population of Raisen=1028172(Rural) +303425(Urban)=133159

Health block	Villages
Badi Bareli	156
Begamganj	220
Gairatganj	172
Obedullahganj	231
Sanchi	217
Silwani	248
Udaipura	231

IV) Health Profile of MP and Raisen-AHS-11-12

ANC

Married pregnant women (15-49 yrs) registered for ANC(%)	Mothers who received any ANC(%)	Mothers who had ANC in 1 st trimester(%)	Place
70	91.1	70	MP
84.9	88	66.2	Raisen

Delivery care

Place	Institutional deliveries (%)	At government institutions (%)	At private institution (%)	Home deliveries(%)	Home deliveries conducted by SBA(%)	Safe delivery (%)
MP	79.7	68.7	10.9	20	31.1	85.9
Raisen	74.6	67	7.4	22.5	39.2	79.1

Immunizations

Place	Children of 12 -23months received BCG(%)	Birth registered(%)
MP	94.7	79.5
Raisen	94.1	81.5

Health profile

Blocks	CHCs	PHCs	SCs
Badi Bareli	2	4	45
Begamganj	1	1	20
Gairatganj	1	1	19
Raisen		3	30
Obedullahganj	1	5	22
Silwani	1	2	22
Udaipura	1	4	29

According to AHS-12-13

Rates	Madhya Pradesh	Raisen
Crude birth rate	24.5	26.9
Natural growth rate	16.8	19
Infant mortality rate	62	69
Neonatal mortality rate	42	48
Post neonatal mortality rate	21	21
Under 5 mortality rate	83	88

V) Review of literature

Before HMIS came into existence, several systems were operating. Most of these existed in public and nongovernmental organization (NGOs) health facilities. In addition, programs such as the TB and Leprosy and the National AIDS Control Program (NACP) had and continue to have their own separate reporting systems due to special requirements that could not be handled through HMIS. As a result-

- i) Systems were fragmented since a lot of data were collected with little capacity for analysis, interpretation or use at all levels of health delivery.
- ii) The flow of data was bottom up with no significant feedback between higher and lower levels.
- iii) Health facility workers were overburdened with several forms to fill from different reporting systems.
- iv) There was a lot of resources that were wasted due to duplication of efforts
- v) Policy and legal guidelines from the MoHSW directing data collection activities in the sector was lacking.

In 1993, the Ministry of Health decided to implement HMIS as a response to the above findings. HMIS is a part of the Health Sector Reform in the Ministry of Health as such it is operated through Sector Wide Approach program (SWAP) structure.

VI) Rationale of study

As we have observed in the census data of 2001, scope of study is that as per the estimation from the ASH; birth rate, population, number of pregnant women being registered for ante natal check up is decreasing. Reported number of deliveries is decreasing than reported

number of registered women, is even less than number of children registration in MCTS. The number of missing deliveries is increasing in HMIS compared to the estimated number of deliveries in MCTS – as the number of institutional deliveries is decreasing as well as number of home and private deliveries while target population is increasing. So the problem is if the people are inclined towards home deliveries and the number of institutional deliveries is decreasing so the number of home delivery or private delivery should increase, that is not visible in the data. Also we can interpret that the number of missing deliveries are most likely from the home delivery section as in the private and public institutions reporting is done properly. So we should investigate and take care of missing deliveries, to know the segment from where there is underreporting is happening so that we can regulate the data and find the gap. Causes of missing deliveries could be – under reporting, lack of seriousness towards work among health workers, lack of education and awareness in the community for maternal care and reporting and problems in reaching to the community.

The total number of reported deliveries is evidently less than the target number of deliveries so there is gap between the actual and reported data. To know the reason/causes of information related to missing deliveries in Raisen district and to bridge the gap by help of HMIS.

Program hoping that this will promote: -

- 1) Efficiency in all aspects of the system.
- 2) The supply of quality information on timely basis for different users.
- 3) This will enhance the whole process of strengthening HIS.
- 4) The HI&R staff will improve their skills.
- 5) Good working relationship with different partners.

VII) Research question

- What is the reason behind gap in estimated and reported deliveries under health information system in Raisen district of MP?
- How we can minimize the gap between the estimated and reported data?

VIII) Objectives

- To assess the data quality of health services.
- To strengthen health policies.
- To improve registration of deliveries (Home Deliveries, Institutional Deliveries) and abortions.
- To determine the data discrepancy between deliveries taking place at facility level and those which are being reported from them.

IX) Methodology

- Area of study – Raisen district.
- Cause - Despite of interventions for improvement in reporting of deliveries by the NRHM, there is a huge gap between estimated and reported cases of pregnancies and births.
- Type of study- Qualitative with no sample size
Reason-Number of villages in Raisen is 1460, which is quite large to cover in short span of time
- Tool used- Personal unstructured interview
- HMIS and MCTS data used available in the software
Reason- Direct questioning may give subjects a direction to answer in one particular way, hence hypothetical and leading questions were not considered. It also gives us privilege to know their knowledge about the matter.
- Study duration: Two months

X) Problem Statement

Despite of interventions for improvement in institutional deliveries by the NRHM, there is a huge gap between estimated and reported cases of pregnancies and births. In spite of proper health management information system (HMIS) in place, **Institutional deliveries in Raisen district of MP is 53% and Home deliveries is 12%, which in total reports to 65%.** (Source- HMIS portal)

Hence the question arises as to where the rest of the deliveries (35%) are being reported or why they are not being reported. (source-HMIS portal)

Institutions visited

Raisen district-

- 1) In Gairatganj block
CHC Gairatganj, PHC Dehgav
- 2) In Udaipura
CHC Udaipura, SC Bamhori Basoda
- 3) In Silwani
CHC Silwani, SC Chicholi
- 4) In Raisen
DH, Raisen
- 5) In Obedullahganj
CHC Mandideep, SC-Bamnai

Due to time constraints, out of 7 health blocks, 5 were visited by us.

Data elements and indicators used

1) **Yearly Growth in population**= (District population*Growth rate/100)*number of years taken

Eg. Number of years is taken from last census up to current year i.e. last census on 2011 and current year 2013-2014 so year taken is 3

2) **Estimated population**= Population of last census + Growth in population within period

3) **Live births** = Crude birth rate*total population/1000

4) **Pregnant women** = Live birth+10% of live births

5) **ANC registration rate**= Total number of ANC registered/ Estimated pregnancies

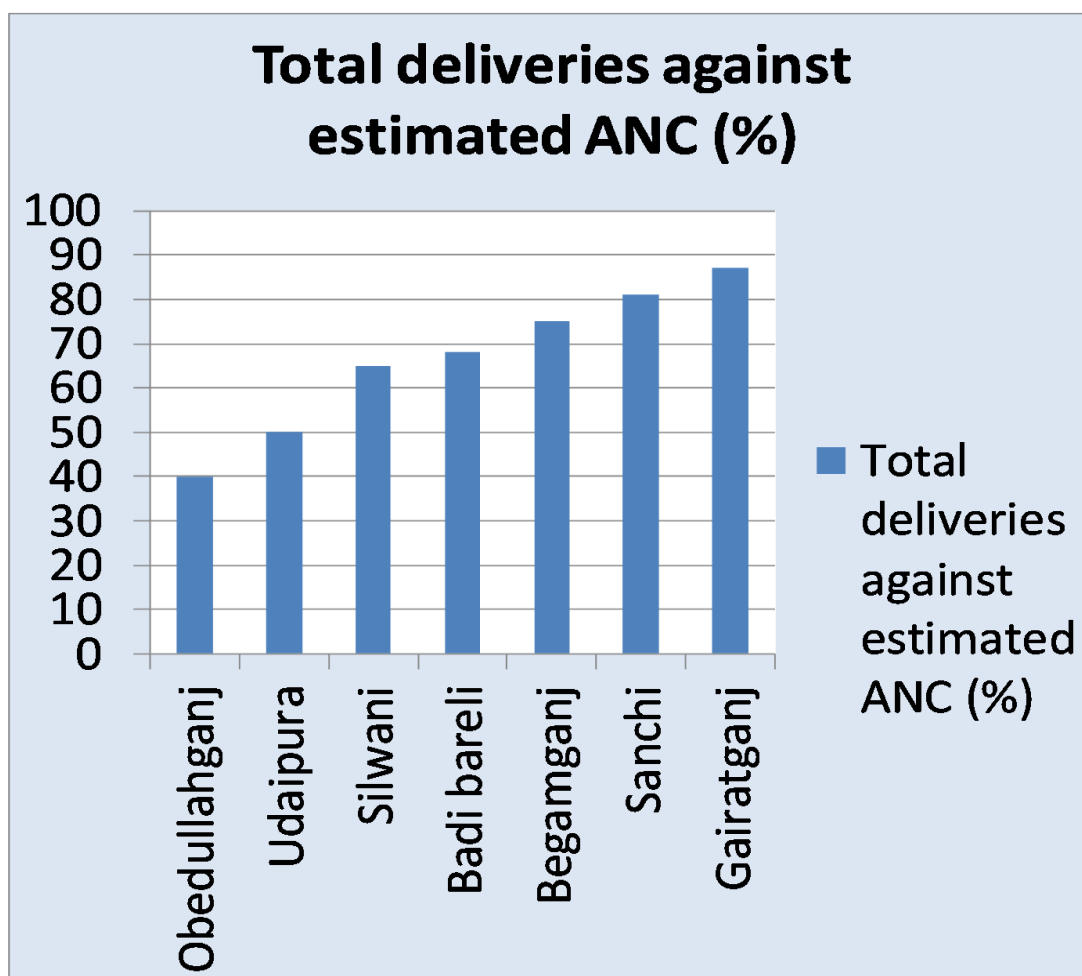
HMIS Report of Raisen: Generated on 15th April, 2014

Block	Reported deliveries	ANC registration	BCG given(children registered)
Obedullahganj	2013	4237	3372
Udaipura	2173	2272	1798
Silwani	2786	2955	2995
Badi Bareli	2540	3873	2764
Begamganj	1852	2270	1892
Sanchi	4464	4437	5777
Gairatganj	1852	2854	2243
TOTAL	17680	22898	20841

Gap between Reported and Estimated Deliveries

Block	Total deliveries against estimated Live births(in percent)	Total deliveries against estimated ANC(in percent)
Badi Bareli	75	68
Begamganj	76	75
Gairatganj	96	87
Obedullahganj	44	40
Raisen	89	81
Silwani	72	65
Udaipura	55	50

XI) Results and Analysis



In numbers-

- 1) Home deliveries-3157
- 2) Institutional-14523
- 3) Total deliveries-17680

In percent-

- 1) Percentage of home deliveries against estimated ANC-12%
- 2) Percentage of total deliveries against estimated ANC-65%
- 3) Institutional deliveries against estimated ANC-53%

MCTS report of MP and Raisen-

- Total mothers registered in MP-2,24,395 and in Raisen-32,823
- Children registered in Raisen-29,524

HMIS report on Raisen- Generated on 22nd May 2014

Blocks	Reported Deliveries	ANC Registration	Children Registered (BCG)
Obedullahganj	2013	8501	3372
Udaipura	2173	2715	1798
Silwani	2786	3587	2995
Badi Bareli	2540	5145	2764
Begamganj	4416	7565	5951
Sanchi	4464	5384	5580
Gairatganj	1852	2854	2243

- 1) Home deliveries-3758
- 2) Institutional deliveries-16486
- 3) Total deliveries20244
- 4) Institutional deliveries against estimated ANC-74%

Common findings related to recording

- i) Over writing, cutting in the forms and registers hence creating confusions to data operators
- ii) Incomplete registers and forms.
- iii) Writing in rough pages.
- iv) Records of ASHA and ANM not matching.
- v) Records in the register not matching with the form submitted at higher level.
- vi) Records in register include beneficiaries who have taken services from other block.
- vii) Place of delivery in some records are missing.

Problems identified

- i) Untrained data-operators who feed data are not clear with technical terms leading to wrong feeding of information.
- ii) Migration to other nearby regions-as Narsinghpur is near to Udaipura, Sagar is near to Silwani, many ANCs migrate.
- iii) Many ASHAs are not residing in their respective villages instead are settled in cities.
- iv) Unavailability of Gynaecologist- Normal delivery is conducted by BMO (in Udaipura and Silwani) and complicated cases are referred.
- v) Data operators in Udaipura are on private basis.
- vi) Conflicts between ASHA and ANM
- vii) CBRhas decreased, hence when compared to estimation, reporting is less.
- viii) Reporting is less from areas which have poor road connectivity.
- ix) In PHC Bamhori and Jaithari, health workers and specialists are not there, hence migration occurs.
- x) In Semrakhas- No ANM and any health worker, hence no recordings are made.
- xi) Reporting of home deliveries sometimes go missing, are reported under MCTS and not HMIS.

XII) Problems related to each block

GAIRATGANJ

Problems

- 1) Registration of 591 children was not done because of mistake of data entry operator.
- 2) Migration to Obedullahganj.
- 3) Referred cases were included under MCTS.
- 4) Work plan forms were filled later on which leads to errors.
- 5) Lack of motivation by ASHA causing less or no beneficiaries. ASHAs lack in knowledge and skills.
- 6) Operators who feed data are not clear with terms leading to wrong feeding of information.
- 7) Due to insufficient workers work load is much also hiring of private operators who are not clear with terms causes errors.
- 8) Late ANC registration-wide gap between LMP and ANC registration
- 9) Workload for medical officer at PHC Dehgaon is much. Other than OPDs, additional work related to field is also given to him.
- 10) Direct entries were not recorded separately.

UDAIPURA

Problems

- 1) Unavailability of Gynaecologist- Normal delivery is conducted by BMO and complicated cases are referred to Raisen district hospital but the distance is much so patients prefer to take services at District hospital, Narsinghpur.

- 2) Entries of April-June 2013 were recorded in DHIS-2. These entries were not included in RHMIS.
- 3) According to them majority of population falls under >50 years which indicates population falling under reproductive age group is less.
- 4) Target is given to ASHA for ANC registration of 9 ANC's per month
- 5) Late ANC registration. ANC mothers hide that they are pregnant because of superstitious belief.
- 6) Many ASHA workers are not residing in their respective villages instead are migrating in cities hence reporting is not up to the mark.
- 7) Improper way of recording data in registers (prefer to write in paper)
- 8) There are extra recording registers which contain data far more than entered in the HMIS and MCTS (This data is not authenticated).
- 9) HR not sufficient (Data operator for HMIS and MCTS are not trained and they are basically private workers getting wages on per record they feed).
- 10) ANM and ASHA of SC records services given at CHC and other health facilities, hence their registers show data more than that of their facility level-ANC and BCG recorded in Bhamhori SC according to HMIS is 84 and 21 respectively but records of ASHA shows 114 and 98 respectively.
- 11) Conflicts between ASHA and ANM

SILWANI

General details

Name of delivery point	Type of delivery point	Level of institution
Silwani	CHC	BEmONC(level2)
Jaithari	PHC	BEmONC(level2)
Bamhori	PHC	BEmONC(level2)
Siarmau	SHC	Level1
Goghari	SHC	Level1

Gap between estimated deliveries and reported is less due to wide awareness among people regarding birth control.

Problems

- 1) Reporting is less from areas which have poor road structure
- 2) Migration to DH Risen, Sagar, Bhopal
- 3) No Gynaecologist at block, deliveries done by ANM and staff nurse. Monthly approx. 30 ANC's are referred, mainly to DH but whether they are going or not is difficult to know.
- 4) Operators fill incomplete forms on their own hence wrong information is fed
- 5) Workload on BMO and ANM is much (1ANM covers 16 villages)
- 6) In PHC Bamhori and Jaithari, health workers and specialists are not there, hence migration occurs.

- 7) In Semrakhas, no ANM and any health worker hence no recordings are made. Home deliveries are done by Dais (approx. 84 deliveries go unreported)
- 8) Reporting of home deliveries sometimes go missing, are reported under MCTS and not HMIS
- 9) Untrained staff
- 10) Estimation of ANC and live births given was too high-awareness of family planning has increased among community

OBEDULLAHGANJ

Problems

- 1) As Obedullahganj is near to Bhopal, many ANCs migrate
- 2) More is the percentage of private deliveries hence beneficiaries are not captured
- 3) 131 ASHAs at present for 250 villages, which calls for more ASHAs to be recruited
- 4) Sub centres are not enough to provide services to all, hence more number of SCs are required
- 5) ASHAs are not trained
- 6) No operator from government side, operators are hired
- 7) Workload on staff is high
- 8) Deliveries are done by lady doctor and staff nurse
- 9) Timely data from facility level is not send
- 10) Many ANCs migrate to Maheshwari private hospital or Sultania

Gaps seen

- 1) ANM manipulates the data before sending to higher level
- 2) Children delivered at home get no or late BCG vaccinations.
- 3) For 1000 population, 30 ANC and 28 deliveries is target thus for achieving target false reporting is done.
- 4) Records of health workers do not match- Records of ANM for the month of April (2014) shows 21 ANCs and 17 deliveries but the data which is sent by her to the higher facility is 31 ANCs and 27 deliveries. Also the yearly picture (April 2013 to March 2014)- records of ANM shows ANC-316, BCG-282, Delivery-282, records of sector supervisor shows ANC-374, BCG-353, Delivery-342

Forms filled by ANM are incomplete and each element is manipulated. Eg. BCG figures are such that it matches with the delivery, no matter each child is being vaccinated or not.

General Problems Identified

- 1) Untrained data operators- Operators who feed data are not clear with technical terms leading to wrong feeding of information.
- 2) Migration to other regions, as Narsinghpur is near to Udaipura, Sagar is near to Silwani, many ANC migrate.
- 3) Many ASHAs are not residing in their respective villages instead are settled in cities hence reporting quality is not upto the mark.
- 4) Improper way of recording data in registers (prefer to write in paper)
- 5) Unavailability of Gynaecologist- normal delivery is conducted by BMO (in Udaipura and Silwani) and complicated cases are referred.

- 6) HR not sufficient-Data operators in Udaipura are on private basis and they resign quickly and its difficult for new operators to adjust.
- 7) Conflicts between ASHA and ANM
- 8) Reporting is less from areas which have poor road connectivity.
- 9) In PHC Bamhori and Jaithari, health workers and specialists are not there, hence migration occurs.
- 10) In Semrakhas-
No ANM and any health worker,hence no recordings are made.
- 11) Reporting of home deliveries sometimes missing, are reported under MCTS and not HMIS

XIII) Recommendations

- 1) Training of health workers in terms of reporting the data.
- 2) Every health worker should be aware of each data element of HMIS reports.
- 3) Migration can be minimized if all facilities are available at block level.
- 4) ANMs should be made aware of utilization of data reported.
- 5) Abortions and home deliveries must be reported.
- 6) Workload on ANM is much. Along with work at facility, field work is also expected hence,supportive ANMs be appointed.
- 7) Trained HMIS operators so that data is fed correctly.
- 8) Proper documentation so that data is recorded completely under all headings.
- 9) ANC should be done on time, late ANC check -ups be minimized
- 10) Program officers should have managerial skills/managerial background.
- 11) Timely data should be sent from facility level.
- 12) Reducing the content in ANM register-only relevant information be recorded.

XIV) References

- 1) Service provider's manual for understanding Health Management Information System, Volume I, published in January,2011
- 2) Health Program manager's manual for Health Management Information System, volume II, published in January, 2011
- 3) User manual for MCTS
- 4) <http://censusindia.gov.in/2011-common/AHSurvey.html>..accessed on 5th April,2014
- 5) <http://www.health.mp.gov.in/nrhbm.htm> accessed on 5th April
- 6) <http://nrhm-mcts.nic.in/> accessed on 9th April
- 7) https://nrhm-mis.nic.in/MOHFW_MIES/frmLogin.aspx accessed on 10th April