

**Summer Training at
India Health Acton Trust (IHAT), Lucknow, UP
(April 3 to June 2, 2017)**

**Understanding Challenges and Barriers of HMIS Data Quality: A Study
in Four Sub-Centers Of 25 HPDS Using Mixed Method Approach**

**By
Sekhar Das**

**Under the guidance of
Ms. Geetika Goswami**

**MBA Hospital & Health Management
2016-2018**


Institute of Health Management Research
The IIHMR University, Jaipur
2017

CERTIFICATE

This is to certify that **Mr. Sekhar Das** has undergone summer training at **India Health Action Trust (IHAT), Lucknow (UP)** from **3rd April 2017 to 2nd June 2017**.

The candidate himself completed the project assigned to him during summer training. His approach to the project was sincere and proactive. This summer training is in partial fulfillment of the course requirement recommended for the award of MBA in Hospital and Health Management.

I wish him success in all his future endeavors.



**Col (Dr.) Ashok Kaushik
Dean (Academic & Student Affair)
The IIHMR University, Jaipur**



**Ms. Geetika Goswami
Assistant Professor
The IIHMR University, Jaipur**

Ref. No. IHAT/HR/CERT/2017-2018/21

Date: 2 June 2017

To Whom It May Concern

Mr. Sekhar Das, S/o Late Swapan Kumar Das, resident of 30/17, Tilok Road, B-Zone, Durgapur, District Burdwan (West Bengal), has undergone an intensive internship programme with India Health Action Trust, U.P. Technical Support Unit, Lucknow, from 3rd April 2017 to 2nd June 2017.

During this period, Mr. Sekhar Das worked for our MNCH+A Project on "*Understanding Challenges and Barriers of HMIS Data Quality : A Study in Four Sub-Centers of 25 HPDs using Mixed Method Approach*".

This Internship was undertaken under the guidance of Dr. Arup Kumar Das, Team Leader - Monitoring & Evaluation Division, IHAT, U.P.T.S.U., Lucknow.

Mr. Sekhar Das has successfully completed the internship and has submitted the report to IHAT.

We wish him all success in his future endeavours.

Sul
02.06.17

Lokesh Kumar
Director – Operations



Acknowledgement

I, Sekhar Das, student of MBA in Health at IIHMR University, Jaipur, would like to sincerely express my heartfelt gratitude to Mr. Vikas Gothwal IAS, Executive Director, IHAT, for providing me the opportunity for training. Mr. John Anthony, Project Director(RMNCH+A) for providing me the opportunity for training. Mr. Satyendra Chauhan for granting me the opportunity for training.

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Abbreviations

ANM- Auxiliary Nurse Midwife

IHAT/TSU- Indian Health Action Trust/Technical Support Unit

SC- Sub Center

GoI- Government of India

HMIS- Health Management Information System

NRHM- National Rural Health Mission

NFHS- National Family Health Survey

DLHS- District Level Household and Facility Survey

SRS- Sample Registration System

DHIS- District Health Information Software.

NHSRC- National Health System Resource Center

IUCD- Intrauterine Contraceptive Device.

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

MoHFW- Ministry of Health and Family Welfare.

RCH- Reproductive Child Health

MCTS- Mother and Child Tracking System

1. Organization Profile-

VISION

To impact public health policy and programmes in the country through the application of programme science

MISSION

Our mission is to enhance the wellbeing of communities through evidence-based, gender-transformative, innovative, sustainable and scalable programmes.

IHAT works to improve public health in India and abroad by using its expertise in technical support, program implementation, research and advocacy to enhance public health policy and programmes.

TECHNICAL SUPPORT- IHAT transfers skills and knowledge to partners by offering techno-managerial support and building knowledge translation platforms. IHAT believes that strengthening the existing health system is the best way to achieve sustained health outcomes at scale. It has developed a “theory of change” to guide its support to government in improving these health outcomes and providing techno-managerial support lies at the core of this approach.

IHAT transfers skills and knowledge to partners through embedded techno-managerial support, including hands-on orientation to gap analysis and prioritization; developing standards, systems and processes; monitoring and evaluation; and problem solving.

IHAT assesses partners’ systems by reviewing their programme processes, outputs and outcomes, and shares objective feedback and constructive critique.

IHAT’s specialists explain and demonstrate user- friendly solutions for technical challenges and impart innovative strategies and principles of programme design, implementation, and evaluation. Technical support is, thus, an advisory role and does not include direct involvement in programme implementation or execution.

Technical Managerial Support focuses on Identifying and prioritizing gaps in existing systems and practices, followed by providing hands-on support to health facility staff and frontline workers to resolve these gaps.

2. Introduction-

A Health Management Information System (HMIS) is a system that integrates data collection, processing, reporting, and use of the information necessary for improving health service effectiveness and efficiency through better management at all levels of health services. Maintaining a good HMIS is an essential part in strengthening a health system (Chawla, Bansal & Indrayan 1997; World Health Organization Regional Office for the Western Pacific 1986).

The HMIS (HEALTH MANAGEMENT INFORMATION SYSTEM) In India—A DIGITAL INITIATIVE under National health Mission, Ministry of Health and Family welfare, Government of India(GoI): Realizing the importance of sound health information system as accurate, relevant and up-to-date, information is essential for the health service providers at all levels so that they can initiate action on the gaps in the system based on evidence and information, as envisioned in the National Rural Health Mission (NRHM), which was launched by the Government of India in April 2005. NRHM has a mandate to bringing about dramatic improvement in the health system and the health status of the people, especially those who live in the rural areas of the country. Apart from several mechanisms that would be established under NRHM, one of the core strategies is the “Strengthening capacities for data collection, assessment and review for evidence based planning, monitoring and supervision”. As a step in this direction, the Ministry of Health and Family Welfare, GOI, has established a dedicated Health Management Information System (HMIS) portal for all Public Health related information. The HMIS web portal was launched in October, 2008 to enable capturing data from both public and private institutions in rural and urban areas across the country. The portal is envisaged as a “Single Window” for all public health data for the Ministry of Health and Family Welfare. The web portal also has data from NFHS, DLHS, SRS etc. It is envisaged that it will also have data from Concurrent Evaluation of NRHM when the data is available. This HMIS has been initially rolled out up to the district level and as it stabilizes, it will then be expanded to sub-district/block level. This HMIS portal captures data to be collected as per the revised HMIS formats on a web-based system at the District level so that primary data can be easily aggregated and the information/reports flow quickly to the Ministry directly from the districts. The system also enables information to be entered for each facility so that MIS reporting can be of a better quality as well as help in assessing facility-wise performance. Further, one of the important initiatives in HMIS has been undertaken recently by National Health Systems Resource Centre (NHSRC9). As a nodal technical support agency for the NRHM, NHSRC is providing different forms of technical assistance to MoHFW. While particularly assistance on HMIS includes technical redesign of the HMIS to create architectural corrections in health systems; design, development and customization of free and open source HMIS software to meet the needs of the states; as well as training and capacity building on the use of information for action. The HMIS application customized by NHSRC incorporating various reporting formats and monitoring indicators under NRHM is called District Health Information Software-Version 2 (DHIS 2). This DHIS 2 has been deployed in different degrees in the States of Gujarat, Jharkhand, Kerala, and Madhya Pradesh, etc. At present data reporting from states is being completed by using DHIS 2 software and further state and district level aggregated data are being uploaded on to the national HMIS web-portal

3. Research Objective:

- To understand the levels and trends of HMIS data quality of selected RMNCH indicators
- To identify the reasons for data quality issues of the selected maternal health indicators

4. Research Question:

1. What is the variation of reporting status of SCs across 25 HPDs on selected indicators?
2. What is level of discrepancies in the HMIS reporting between reported portal data and its source documents (facility records & registers)?
3. What are facilitators or barriers for a SC ANM to provide a good data- Motivation, perceived risk, benefit, etc.
4. What are the systemic challenges - good and poor performing Sub-Centers.

5. Data source and Methodology:

A. Data Source-

The study used the Health Management Information System (HMIS) data, which is downloaded from HMIS portal, and HMIS supportive supervision (HMIS-SS). HMIS is a web based system developed by Ministry of Health & Family Welfare, GoI. It includes a set of predetermined indicators across different levels of facilities based on a set of registers and other source documents at facilities. The facility wise data from the registers are collated to arrive at indicators.

HMIS Objectives-

- To design and implement Health Information applications that result in significant improvement in efficiency and effectiveness in delivering Health care Services.
- To adopt technology which result in significant improvement in the administrative efficiency of the Health Directorates/Institution.
- To introduce systems that simplifies/optimize reporting processes across all the services/ function under health system and improves their effectiveness.
- To establish interfaces among key directorates/sub departments for sharing data/information.

HMIS-SS data collected by UP-TSU team during the supervision in health facilities in 150 focused blocks out of 294 blocks in 25 HPDs in Uttar Pradesh. Each facilities supposed to maintain specific registers to record the services provided at the facility. The registers should be maintain properly and updated regularly. The UP-TSU team through Block Community Specialist (BCS), Nurse Mentors (NM) and District Monitoring Specialist (DM&E) were visited to different health facilities each month for supportive supervision. During supportive supervision, the downloaded HMIS data on certain indicators were matched with the facility records.

Qualitative survey was also conducted in four SCs to understand the ... The SCs are chosen based on the performance of SCs across key RMNCH indicators.

B. Methods-

- i. **Research Approach-** The mixed method approach has been taken for more evidence the better argument.
- ii. **Research Design-** The research used a facility-based sequential Explanatory study design i.e. study participants have been selected at a particular SCs/Block to assess the level of information utilization and data quality and associated factors. The purpose of this two phase, explanatory mixed method study will be obtain statistical, quantitative results from the 25 HPDs sample and then follow up with a few individuals to explore those result in more depth. In the first step, quantitative research question or hypothesis will addressed the relationship of discrepancy/variation of reporting status of SCs across 25 HPDs on selected indicators with ANMs. In the next step qualitative interviews or observations will be used to problem significant of data not matching with facility records, valid source document not available etc. by exploring aspects of the HMIS data quality with ANMs and ARO at SCs and Block facilities.
- iii. **Sampling-** The selection of District, SCs, Block is based on the basis of probability purposive sampling. The samples are from very large district,, first scoring the all selected indicator parameter, Not reported for 12 month=0, Not reported for 1-5 months=1, Reported in all months=3(HMIS) and No Source=0, Source not matched=1, and Matched=2(HMIS_SS) with Two Good and Poor performance SCs in One Block in each District. The performance is measured by score. The score has been given in HMIS supportive supervision data as “No source=0”, “source but not matched=1”, “Matched=2” and in HMIS portal data score is “Not reported in 12 month=0”, “Not reported in 6-12 month=1”, “Not reported in 1-5 month=2”, and “Reported in all month=3”. The highest score is 20 and lowest is 0. The two data is merged and sum the score of the selected indicators. The score is sort as ‘0-6’(<30%) is poor performance, ‘7-15’(>30% and <80%) is Modest performance and ‘16-20’(>80%) is good performance.
- iv. **Sample Area and Period-** The sub centers and block was selected for study, if the one block have both good and poor performance in each district. The two district is selected in two zone with highest number of sub centers with the scoring of good and poor performance. The first sample area is Khanpur Uttari & Narpur Nagar SC of Swar block under Rampur district has been selected and second, Puphi and Karapur SC of Bikapur block under Faizabad District through good and poor performance scoring. The Study performed in 2 months.
- v. **Data Collection-** A face to face interview using the semi-structured questionnaire with open-ended question was used to collect primary data among Four SCs and 2 Blocks.
- vi. **Study Setting and Conceptual framework-** Uttar Pradesh state, with a population of 200 million, has been divided into 75 districts. The IHAT is monitoring the 25 HPDs with 5 zone of the district. The public health system is 3 tier of facilities, with a SC over every 5000 population. SCs staff comprise of Auxiliary Nurse

Midwives (ANMs) and a male Multipurpose Health Worker (MPHW), who are provided with record registers, through which they maintain information on reproductive health, child health, and basic preventive and curative health care services delivered at facility. Every SCs submits report on number of beneficiaries who received those services in from 20th to 21st of calendar month to the Block. Conceptually, there are two points in the chain at which quality of data can be influenced in HMIS data. The first point is the entry of beneficiary information and provision of services in registers at SCs level. The second point is challenges happened at the time of collating of HMIS format. This means that differences may be observed between the entry and collating the information being recorded in ANMs registers. Both these aspects need to be taken into account for making a comprehensive statement on the HMIS data quality issues. For this purpose information of 4 selected indicators needs to be collected from the HMIS portal data and HMIS supportive supervision data generated by IHAT.

- vii. **Quantitative data analysis** - The HMIS of 2016-2017 financial year & HMIS-Supportive Supervision 2015-2016 (APRIL to AUGUST) data collect from the Organization (IHAT) and it was analysis to check the level and trend of the 25 High Priority Districts (HPDs) with the help of SATA-13 version in selected indicators. The analysis was conducted in HMIS 2016-17 data of 25 HPDs then block wise and Sub centers by tabulated forms. In HMIS data Four Criteria has been taken Reported Every Month, Not reported for 1-5 months, Not reported for 6-11 months and Not reported for 12 months. Drop the facility if there is no 'Facility code' given. The facility code was sorted for list the facilities according to month. The code given to the respective facility if "0" is=1 for non-reporting and "1 and above" is=0 for reporting by the facilities. Then replace the all code to "." If the facility is not Sub centers. Sum of the all each sub-centers which are not-reported in 12 months. It means how many months each sub-centers is not reported within 12 months. The alternative is who is reported for 12 months is mark as "0" in all sub centers. Recode the column into 0-5 month=1 with name '<6 month', 6-11 month=2 with name '6-11 months', and for 12 months not reported=3 with name '12 months', it is done to all four selected RMNCH indicators. HMIS Supportive Supervision data generated by IHAT is used for analyzed the level of discrepancies with HMIS portal data of selected indicators by "matched", "not-matched", "over reported" and "under reported" status with facilities register data. If Facility data matched with supervision data is called "Matched", that the valid source document is available to provide the data at time of supervision happened. The valid source document is the document provide by Government of India (GoI) like, RCH, MCTS, DELIVERY, etc. The "Not matched" criteria has been taken as valid source document is available but data didn't matched with facility record. If the data is matched with facility records but the valid source document not available at the time of supervision and even if the data is over or under reported and valid source is not available it is labeled as "No-Source". The over reported means if the HMIS portal data is more than the facility data, with the available of valid source document. The under reported means if the HMIS portal data is less than the facility data, with the available of valid source document.
- viii. **Selecting Indicator-** Improving the Reproductive, Maternal, Newborn Child and Adolescent Health and their survival is Central to the achievement of Maternal Health goals under NRHM. A strategic approach to Reproductive, Maternal, Newborn Child and Adolescent Health was created on May 2012 through an order from Ministry of Health & Family Welfare, Government of India. Ministry of Health & Family

Welfare, Government of India. Following the Government of India's "***Call to Action (CAT) Summit***" in February, 2013, the Ministry of Health & Family Welfare launched 3 years National Campaign focusing on Reproductive, Maternal, Newborn Child and Adolescent health and health related system strengthening (including Nutrition) to influence key interventions for prevention and treatment of diseases that result in unacceptable levels of morbidity and mortality in the high risk and vulnerable communities.

Four Key Performance indicators of RMNCH+A has been choose, Anti Natal Care(ANC) Registration, Home delivery, New born Weighed & Intrauterine contraceptive device(IUD) insertion.

ANC-Provision of antenatal care, at least three antenatal care visits, iron prophylaxis for pregnant and lactating mothers, two doses of tetanus toxoid vaccine, detection and treatment of anemia in mothers, & management and referral of high-risk pregnancies.

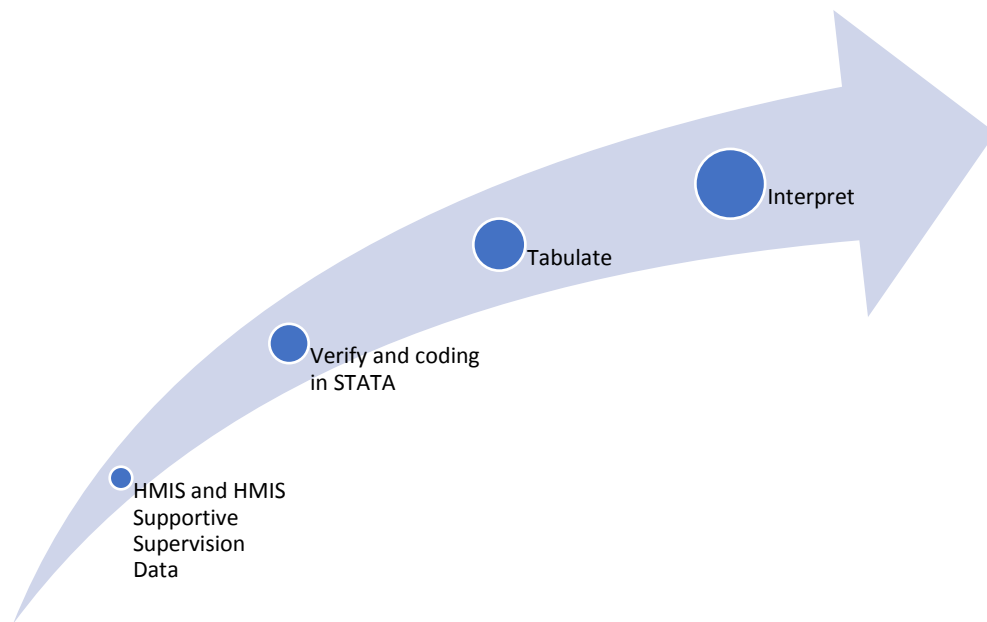
Home Delivery- Tracked and Encouragement of institutional deliveries or home deliveries assisted by trained health personal. Identification and management of reproductive tract and sexually transmitted infections.

New born weighed indicator- Birth weight is an important risk factor for child survival as children. Line listing of babies born with low birth weight and their follow should be ensured so that mothers are supported for optimum feeding and child care practices.

IUCD- The RMNCH+A strategy introduce a new scheme has been launched to incentives ASHAs to encourage the delay of the first birth newly married couples and ensure as spacing of three years between the first and second childbirths.

- ix. **Qualitative Data analysis**- The analysis is done through deductive approach using research questions to group the data and then look for similarities and differences. The two good and poor performing sub center is selected by quantitative data. The open-ended question is asked to find the facilitator and barrier.
- x. **Ethical Consideration**- Institutional ethical consideration was taken. Data was collected after written consent prepared. During the interview each participant was informed about the aim of the study. The interviewer discussed the issues of confidentiality and participants were informed that they had full right to refuse or discontinue participating in the research.

6. Secondary Data analysis Process-



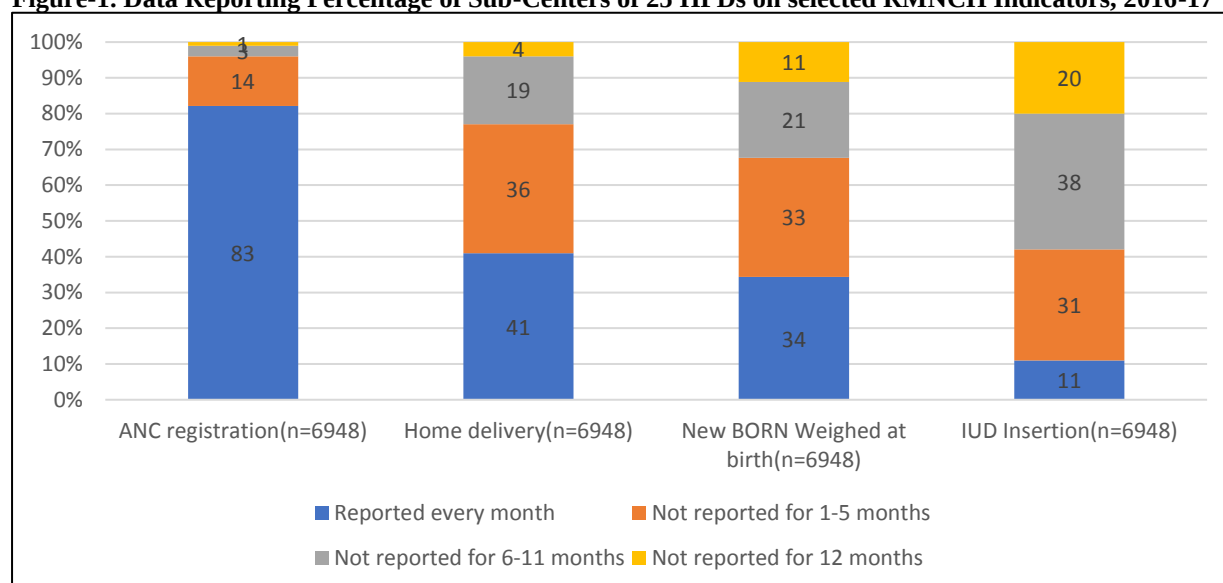
7. RESULTS: -

Levels & Trends in Data Quality:

a) Data Reporting Status-

Figure-1 presents the percentage distribution of reporting status in four category. About 83% of SCs reported data on pregnant woman ANC indicator in every month, with 41%, 34% and 11% reported in Home delivery New born Weighed and IUD insertion indicator respectively. On the other hand about 20% SCs have not reported in every months of IUD indicator data in last financial year.

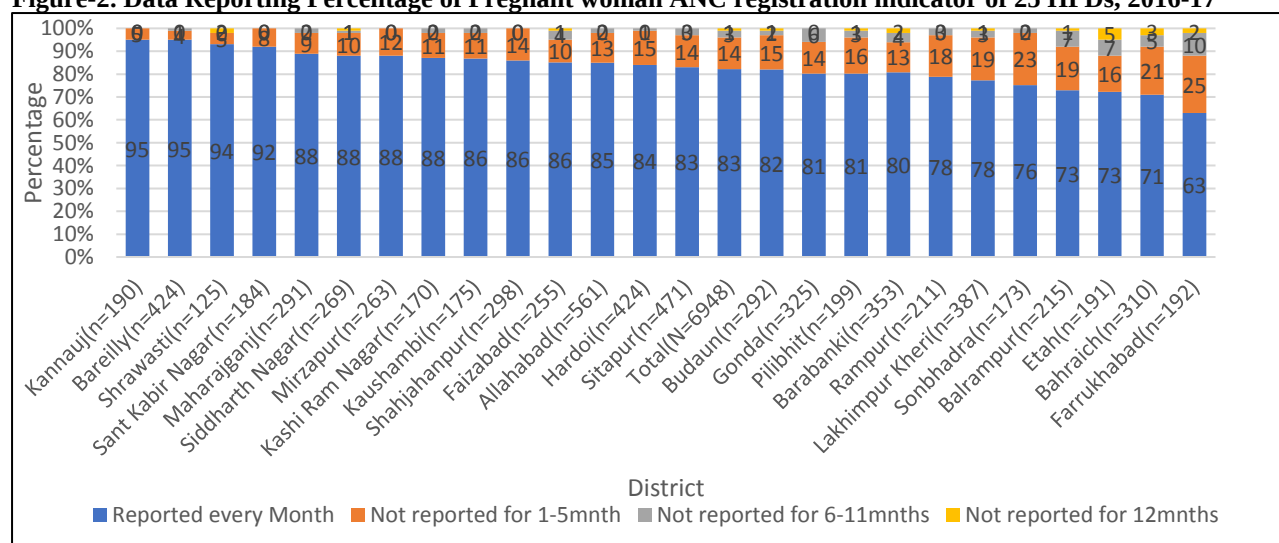
Figure-1. Data Reporting Percentage of Sub-Centers of 25 HPDs on selected RMNCH Indicators, 2016-17



-Data source-HMIS Portal data of Uttar Pradesh state

In Figure-2 Data Reporting Percentage of Sub-Centers of 25 HPDs of ANC registration indicator, the ANC indicator reported every month is very high in each district, the lowest is 63%. The Not reported for 12 months is low which means the ANC indicator data reported good in 2016-17 year.

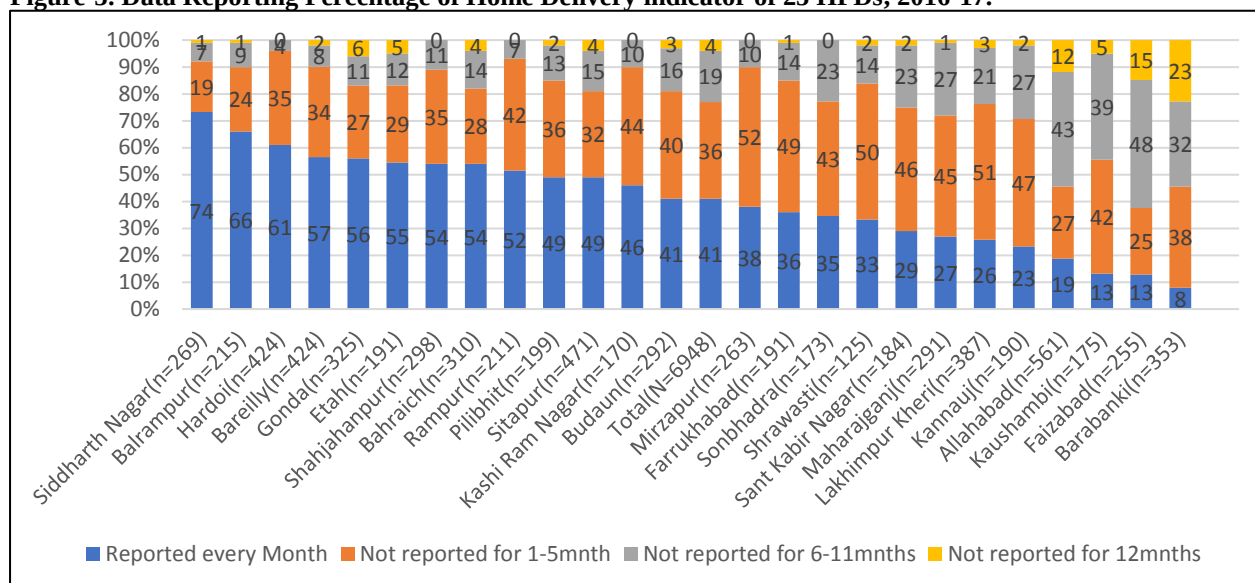
Figure-2. Data Reporting Percentage of Pregnant woman ANC registration indicator of 25 HPDs, 2016-17



-Data source-HMIS Portal data of Uttar Pradesh state

In figure-3 Data Reporting Percentage of Sub-Centers of 25 HPDs of Home Delivery indicator, the data shows that in Home delivery, sub centers of Siddharth Nagar is in highest in reported for every month(74%) and lowest reported in Barabanki District(8%) although highest in not reported for 12 months(23%). The data of not reported for 1-5 months is highest in Mirzapur district(52%).

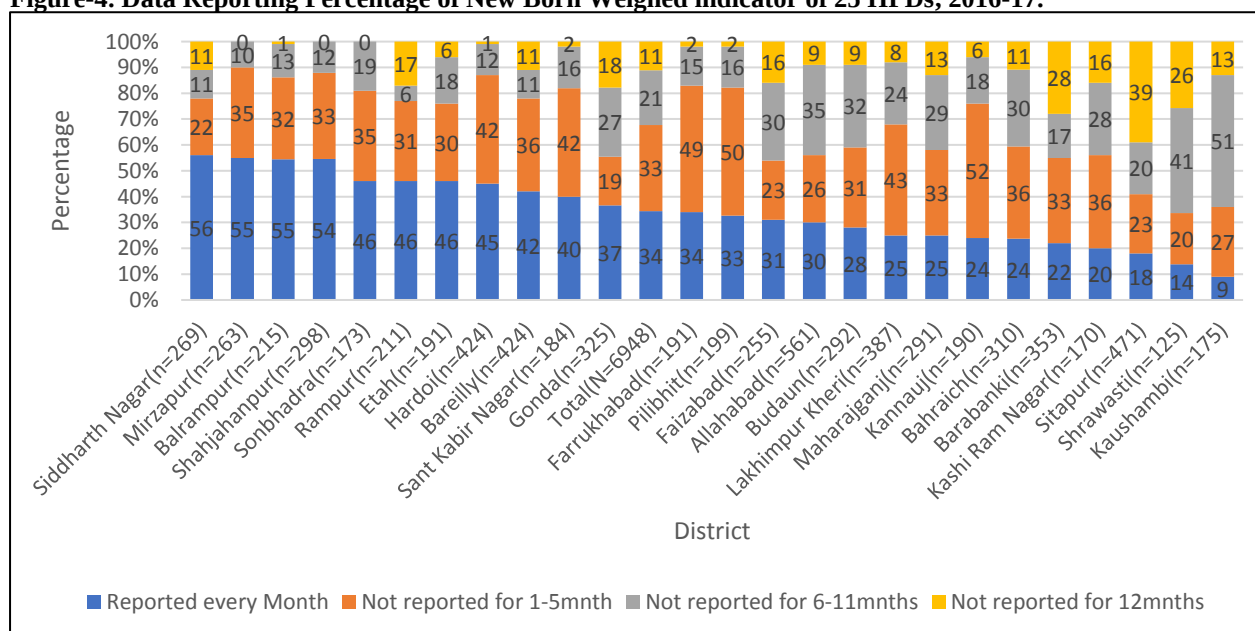
Figure-3. Data Reporting Percentage of Home Delivery indicator of 25 HPDs, 2016-17.



-Data source-HMIS Portal data of Uttar Pradesh state

In Figure-4 Data Reporting Percentage of Sub-Centers of 25 HPDs of New born Weighed indicator, In New born Weighed indicator the reporting of Sub-Centers for every month is very poor with highest in Siddharth Nagar (56%) and lowest % in Kaushambi (9%). In not reported for 12 months is highest in Sitapur district (39%) and lowest has been seen in three district, Mirzapur, Shahjahanpur, Sonbadhra (0%). Many district not reported from 1-5 months is higher percentage than reported in all months and even some district not reported from 6-11 months are higher % than reported in all months & not reported for 1-5 months.

Figure-4. Data Reporting Percentage of New Born Weighed indicator of 25 HPDs, 2016-17.

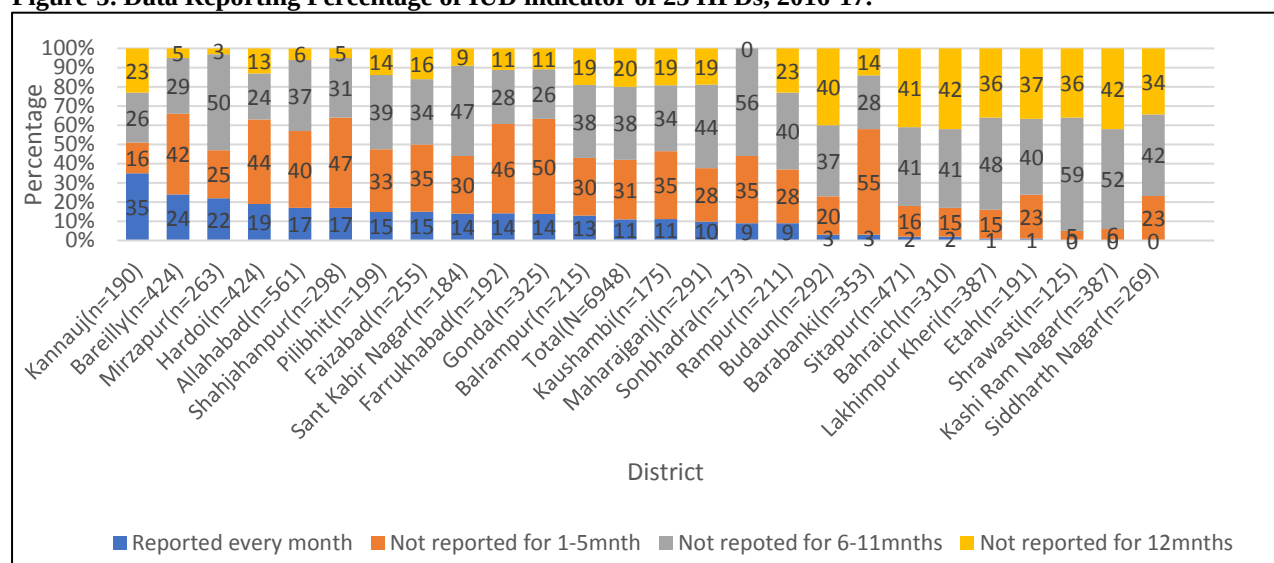


-Data source-HMIS Portal data of Uttar Pradesh state

In figure-5 Data Reporting Percentage of Sub-Centers of 25 HPDs of IUD indicator, in IUD indicator has been seen that it is the lowest percentage of reported with all selected indicator, Kannauj(35%) is highest in all district for reported 12 months in IUD indicator and lowest has been seen in 3 districts, Kashi ram Nagar(0%), Shrawasti(0%), Siddharth Nagar(0%). The not

reported for 12 months is highest in Kashi ram Nagar(42%). In maximum district the not reported for 6-11 months is higher % than reported and not reported for 1-5 /12 months has been constantly seen.

Figure-5. Data Reporting Percentage of IUD indicator of 25 HPDs, 2016-17.

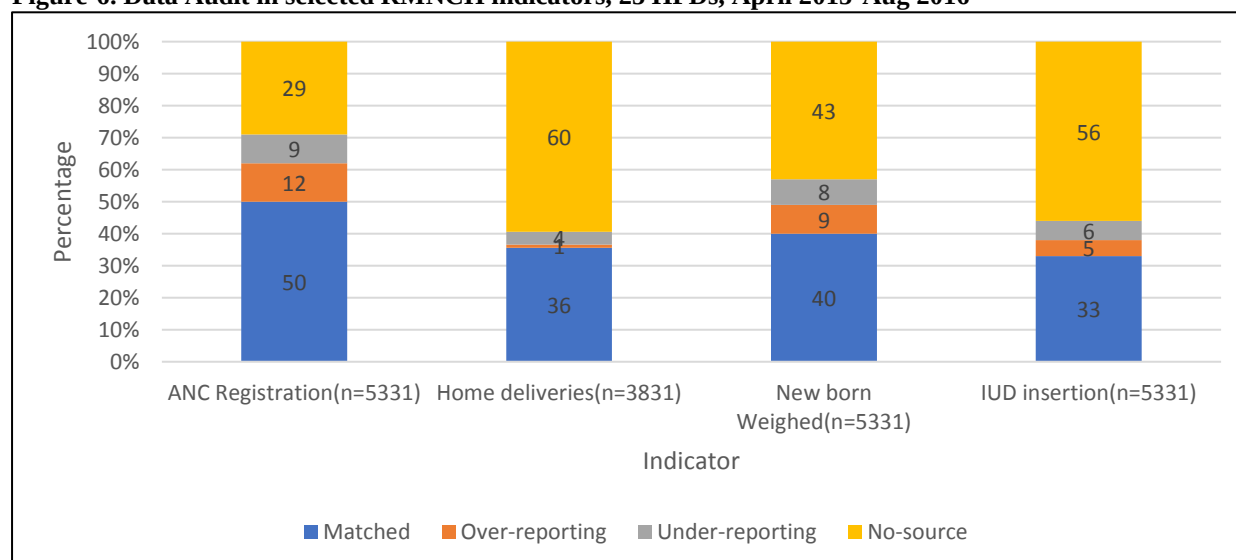


-Data source-HMIS Portal data of Uttar Pradesh state

b) Matching Status-

In Figure-2 presents the matching distribution of reporting status by four category HMIS supportive supervision data shows that matched % is poor in all indicator due to valid source document % is high. In ANC Registration indicator over and under reporting % is high among others indicator followed by New Born Weighed, IUD, Home deliveries indicator.

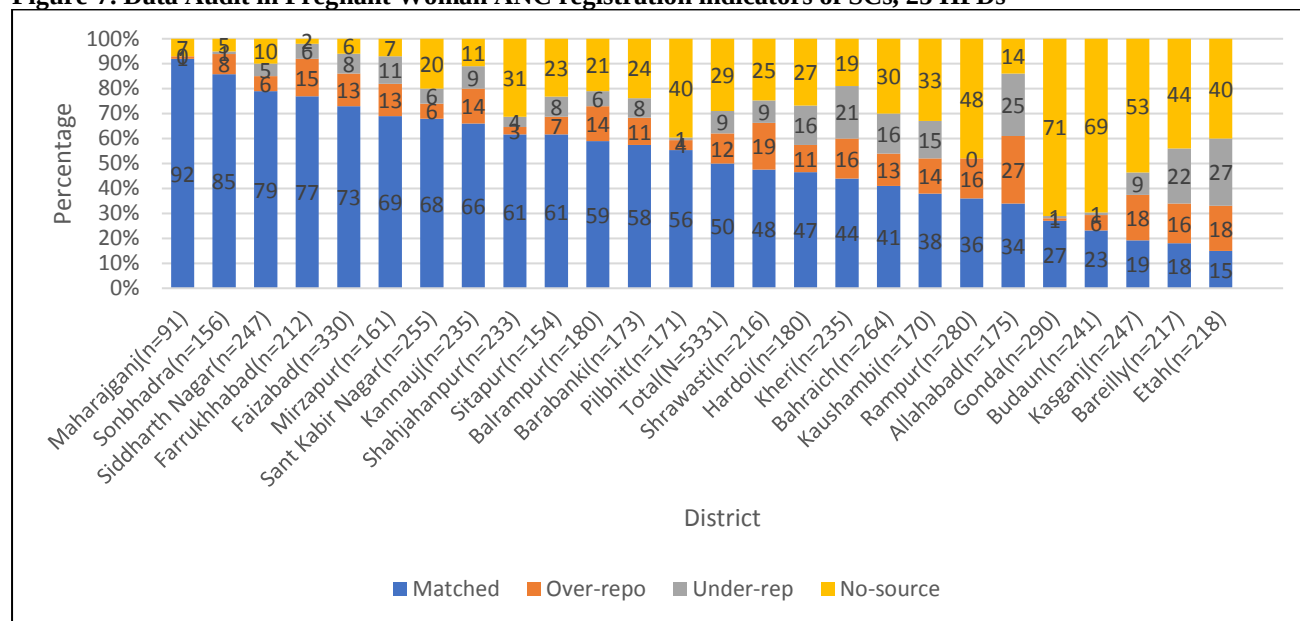
Figure-6. Data Audit in selected RMNCH indicators, 25 HPDs, April 2015-Aug 2016-



Data source-IHAT generated HMIS Supportive Supervisions data of Uttar Pradesh state.

In figure 2.1 data shows that in ANC registration indicator of Etah district matched % is low and valid source document % is high in Gonda & Budaun district. In maximum district, over and under reporting % is high with other selected indicators.

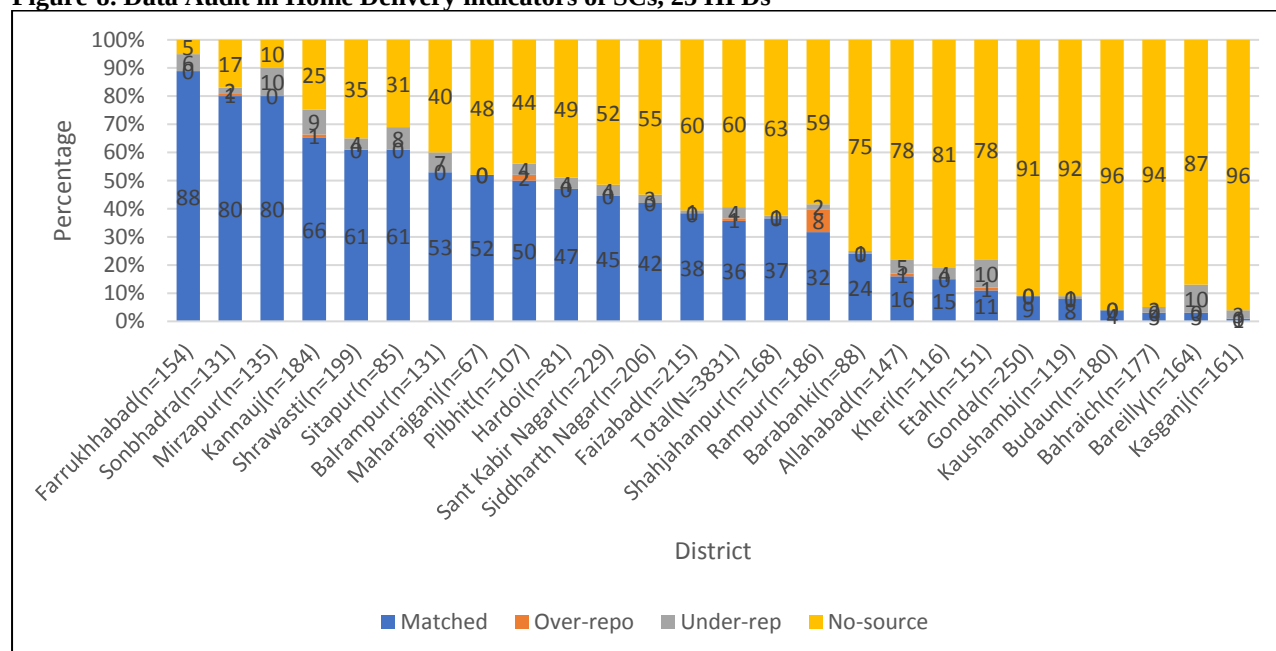
Figure-7. Data Audit in Pregnant Woman ANC registration indicators of SCs, 25 HPDs-



Data source-IHAT generated HMIS Supportive Supervisions data of Uttar Pradesh state.

In figure2.2 data shows maximum number of district that valid source document not available and matched is Kasganj district is very low 0.62%. The total Valid source document % is higher than matched %.

Figure-8. Data Audit in Home Delivery indicators of SCs, 25 HPDs-

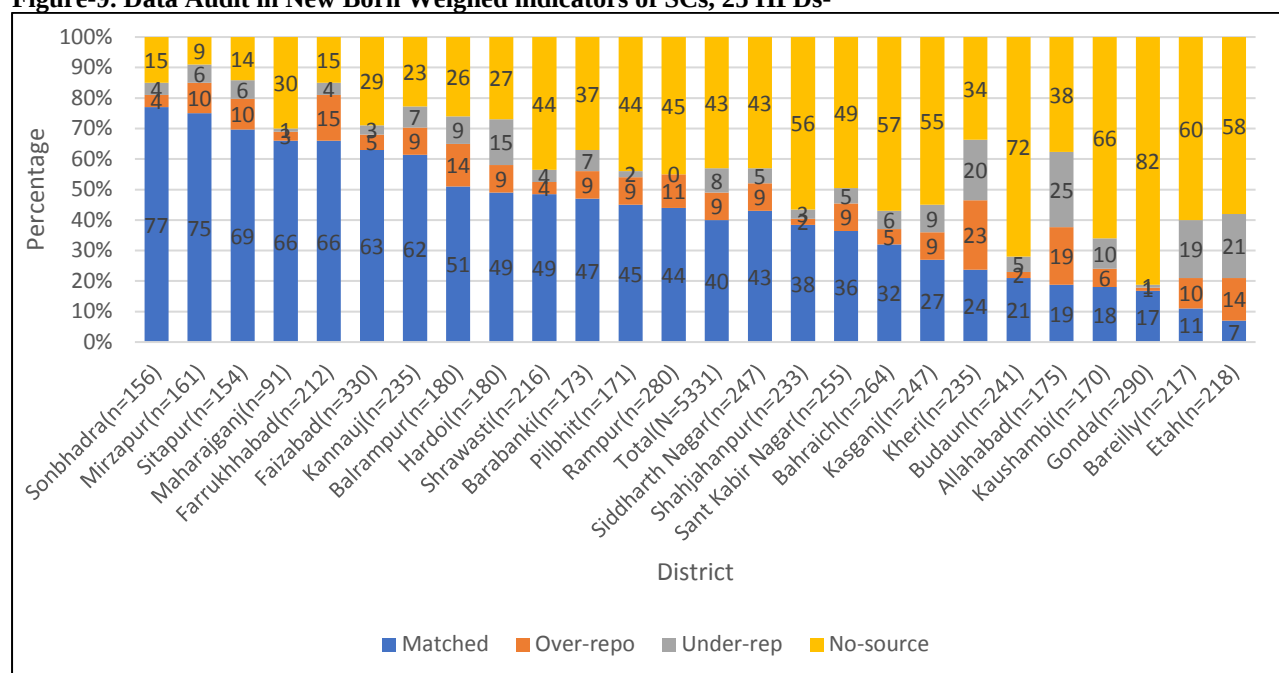


Data source-IHAT generated HMIS Supportive Supervisions data of Uttar Pradesh state.

In figure 2.3 data shows of New Born Weighed indicator that Etah district only 7% matched which is very low. In Gonda district Valid source document % is very high with 82%.

maximum district under and over reporting % is high with highest % district are Allahabad, Kheri and Etah is 44%, 43% and 35%. The total 5331 no. of facilities Valid source document % is higher than Matched %. Though there is a decreasing trend in Matched percentage.

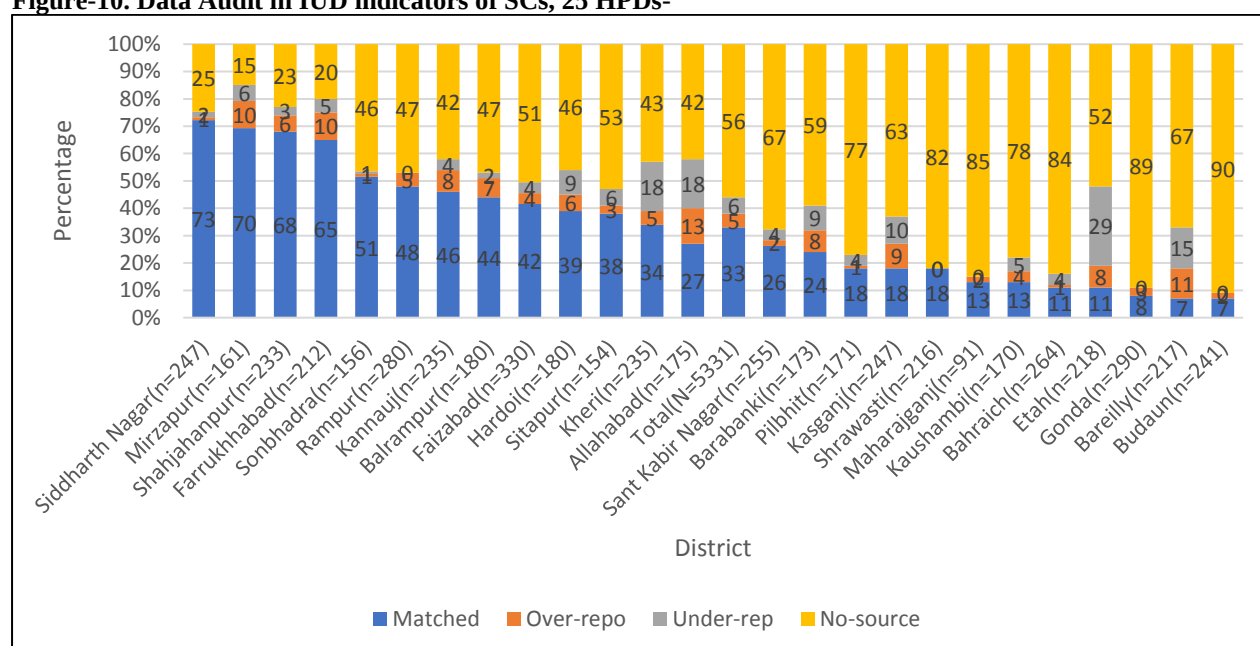
Figure-9. Data Audit in New Born Weighed indicators of SCs, 25 HPDs-



Data source-IHAT generated HMIS Supportive Supervisions data of Uttar Pradesh state.

In figure 2.4 data audit shows of IUD Insertion indicator that Matched % is highest in Siddharth Nagar with 73% and lowest in Budaun is 7%. The valid source document not available % is high in Budaun district with 90% and lowest in Mirzapur with 15%. The under reported % has been seen high in Etah, Allahabad, Kheri and Bareilly with 29%, 18%, 18% and 15%. The total proportion of no source document(56%) is not available though there is decreasing trend in matched proportion.

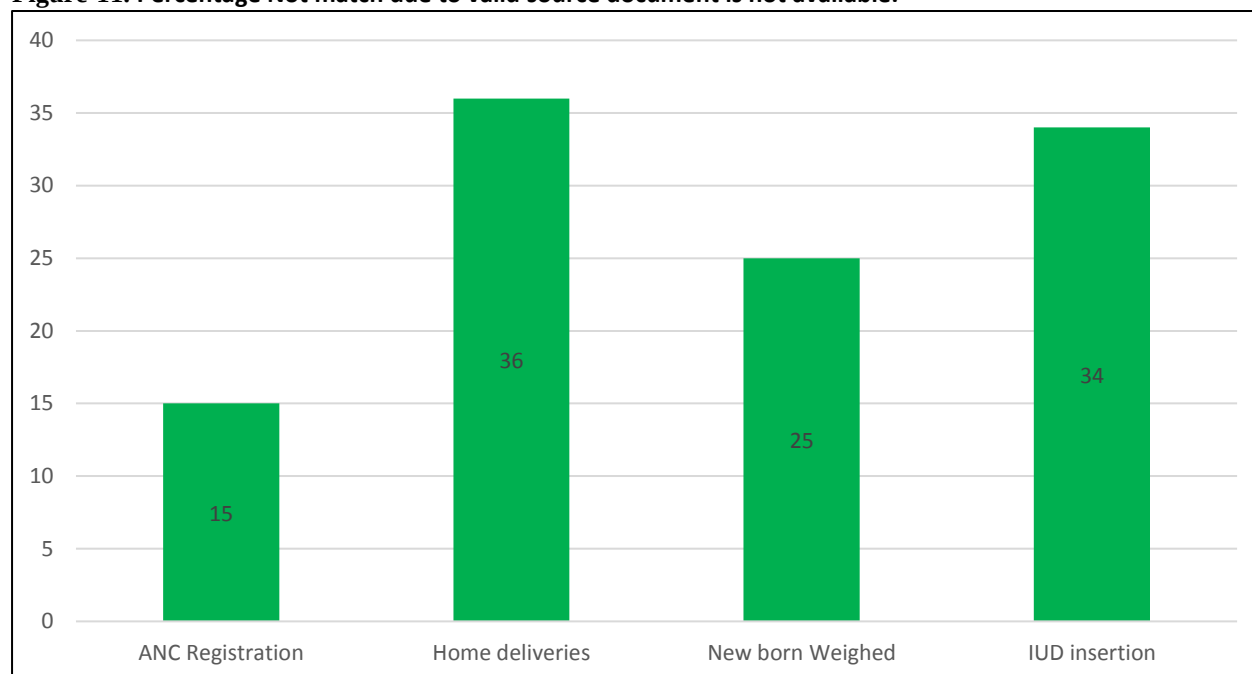
Figure-10. Data Audit in IUD indicators of SCs, 25 HPDs-



Data source-IHAT generated HMIS Supportive Supervisions data of Uttar Pradesh state.

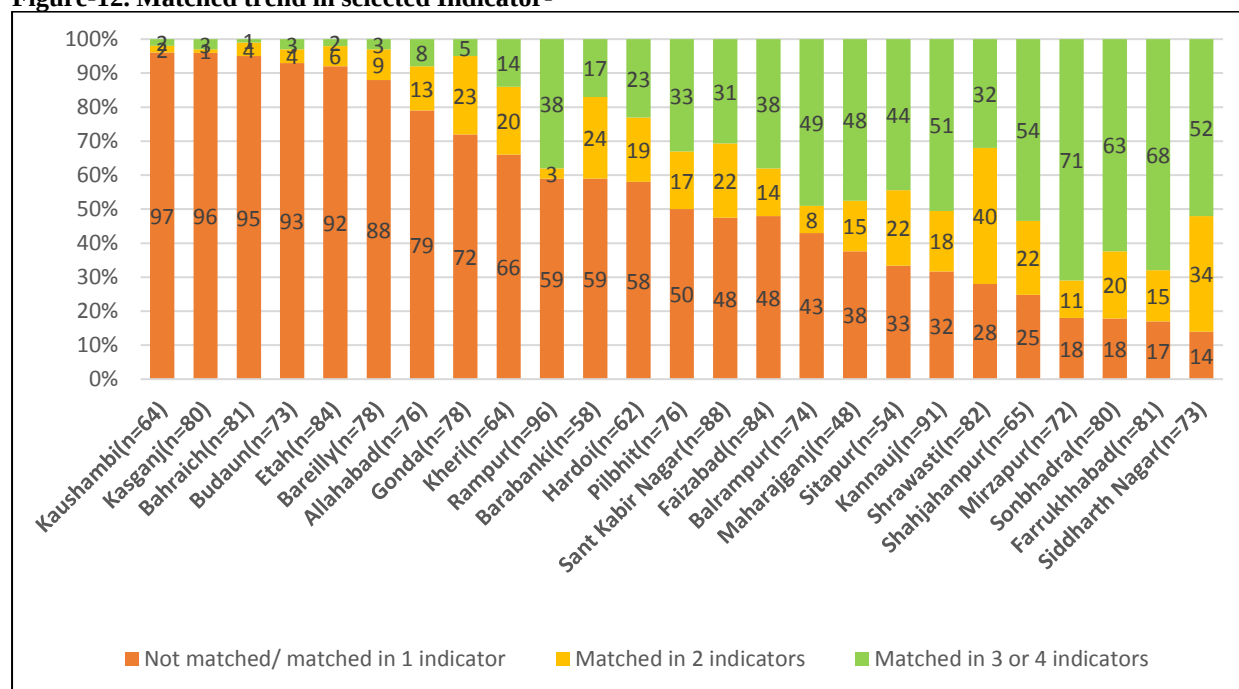
In figure-11 presents the percentage distribution in all selected indicators status of data is matched but valid source document is not available.

Figure-11. Percentage Not match due to valid source document is not available.



c) Data Audit: Matching status in All Selected Indicator.

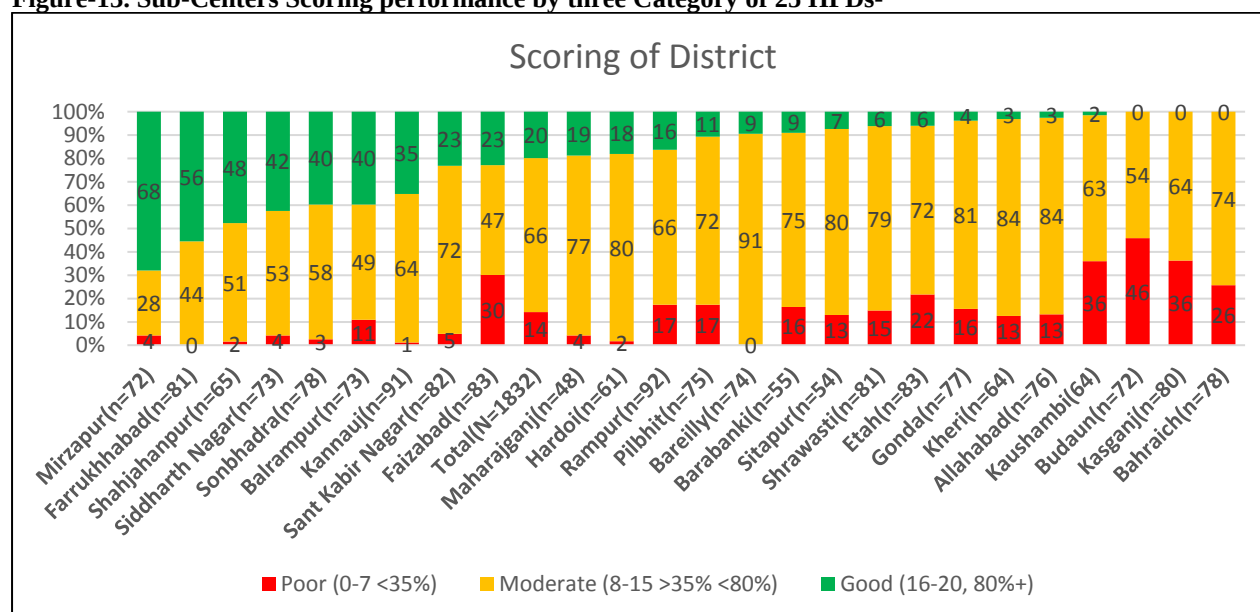
Figure-12. Matched trend in selected Indicator-



In above figure-4 shows that matching percentage in all selected 4 indicators among the SCs in 25 HPDs with 3 category, 1) Not matched in all indicator/matched in 1 indicator, 2) Matched in 2 Indicator and 3) Matched in 3 or 4 indicators

d) Performance of SCs-

Figure-13. Sub-Centers Scoring performance by three Category of 25 HPDs-



8. Determinants of data Quality Issues-

Based on the in-depth interview using the semi-structured questions, this study assessed the Facilitators/Issues of the HMIS data quality at health facilities and identified possible determinants of Understanding, Training, Organizational, and Motivation factors for HMIS data quality. We also enquired about the Systemic Challenges in relation to the HMIS data quality and opportunities to improve the data quality by AROs at block level.

Facilitators/barriers For SC ANMs-

- I. **Understanding-** From the interview, the ANMs are not using the valid registers for data entry, while all the registers were available in the study health facilities whereas facilities majority used the personal diary for day to day data entry of service delivered due to complex elements in registers. It is also confirmed that such occurrences are common in most of the SCs as per AROs.
- II. **Training-** The training provide for HMIS elements and reporting purpose to the SC ANMs is very effective from TSU it was observed from AROs and ANMs. During field study it is also find that services provided by ANMs of MUAC and SBA related training is not conducted from the GoI in Puphi Sub center of Bikapur block of Faizabad district.
- III. **Motivation-** There is no verbal appreciation and recognition given for ANMs performance.

Systemic Challenges-

- I. **Understanding-** The data elements training are provided from TSU was effective for educated ANMs. The elderly and low educated ANMs are understand the elements at time of training but after, retention from training is a challenge for those ANMs.
- II. **Supervision-** Lack of effective supervision for the using of valid register.
- III. **System Level-** The HMIS format change/added elements and provide with English language is a challenge for SC and Block level.
- IV. **Motivation-** The less motivation has been seen from immediate supervisor to AROs for HMIS data quality. Manipulation of data from supervisor could lead to demotivation the employee performance and quality of data.
- V. **Feedback-** Effective feedback not given from MOIC level for misreporting/over reporting to some ANMs for improve the data quality.
- VI. **Submission of data-** Completely and Timely data sometimes not provide by SCs. Complete data issues mostly for elderly ANMs.

9. Discussion-

We asked question to ANMs about data reporting process, understanding of elements, support given from block level, training provide, and motivation. The challenges prompted in our interview indicate that some these are related to common understanding, education level, concern person not provide the effective feedback, and not provide training with the assessment of their performance.

As interview of two ANMs conduct during the VHND session of Khanpur Uttari SC in Swar Block of Rampur District, and Puphi Sub center of Bikapur block of Faizabad district it has been seen that efforts was given and keen interest towards their task portray the result in terms of performance at a good level as they expected.

The data goes through the SCs reporting is got from personal source documents, hence their lack of results into improvising the data quality and this can be associated with errors of capturing less of the required or more of the variables. Errors made in filling the source documents are likely to effect accuracy and content completeness and the data quality. The same errors could be transcribed to the health facility data base through the hierarchy of reporting to the national level. ANMs with poor performance usually do not transmitted the data from their personal register to RCH register on regular basis of collected information.

The challenges observed from by HMIS officials(AROs) were related to all areas but the main challenge was in the area of data entry by elderly and less educated ANMs which is probably due to the retention of adequate training provide in data collation techniques. Wrong data entry at SCs level by ANMs workers needs continues/latest training and orientation of the newly format. The ANMs has been faced difficult to fill the English format of HMIS and if frequently change/added elements in the HMIS format. Although AROs faced problem for the changes happened a day before/after of the submitted by ANMs of the HMIS format at Block level. The changes may filled by data entry operator under the guidance of ARO and its leads to overload work for the time being. The feedback is not given properly for some

ANMs with effective way to improve the quality of data. There is no such action taken for data mismatch/over-reporting. Complete and timely information is another essential for public health decision making and policy making, planning, programming, and monitoring. HMIS reports were submitted timely and completely by majority of SCs and sometime few SCs had submitted by 30th of the month but not constantly happened for a particular SCs. The ARO is reported to MOIC, and the MOIC is responsible for all SCs, PHCs and CHCs facilities performance and it is portray by HMIS portal data, hence the manipulation of data may happened for increase their facility performance. As the manipulation may happened at all facilities.

10. Conclusion and Recommendation-

The level of data reporting and matching status in the Sub-Centers of 25 HPDs as below the standard percentage. The challenges are regularly not maintain the valid registers, lack of decision based on supervision and lack of feedback. To improving the data quality at the all facility level should needs trained data operators at block level. In addition following points need to be considered:-

- Use the local language HMIS(Hindi) format to avoid misunderstanding.
- Continuous training or support should be provide as per Minutes and observation takes from ARO for data quality issues of SC ANMs and others responsible employee for HMIS reporting if needed and more focus to the issues faced by elderly with low educated ANMs and provide training accordingly.
- Encourage/give advice to the all data provider individual for day to day entry to avoid backlogs(should be short time between collection and transmission the data). And should be increase the level of supervision for the use of valid register.

The sequential explanatory study identified some barrier and challenges associated with the quality of data in HMIS. The methods could be reproducible on a larger scale and could aid in development for data quality improvement. We believe bigger studies with large samples could unfold these issues in details.

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