

Supportive Supervision of HMIS/UPHMIS Indicators for its Data Quality at Block Level

By

Shubham Nair

*Dissertation submitted for the partial fulfillment of the
MBA Hospital and Health Management*

Academic year, 2016-2018



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TO WHOMSOEVER MAY CONCERN

This is to certify that Shubham Nair student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at Indian Health Action Trust from 5th Feb 2018 to 30th April 2018.

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

The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.



Dr. Ashok Kaushik
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Date: 17 May 2018

CERTIFICATE

The certificate is awarded to

Mr. Shubham Nair

In recognition of having successfully completed his
Internship in the department of

Monitoring and Evaluation

and has successfully completed his Project on

**Supportive Supervision of HMIS/UPHMIS indicators for its data quality at block facility
level: Study in Farrukabad district of UP**

from

Date - 5th Feb to 30th April

**Indian Health Action Trust,
U.P.T.S.U, Lucknow**

He comes across as a committed, sincere & diligent person who has a strong
drive and zeal for learning.

We wish him all the best for future endeavors.



**Sr.HR Manager
IHAT, UPTSU, Lucknow**



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THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled A study on bottleneck analysis of HMIS/UPHMIS indicators for its data quality at block facility level: Study in Farrukhabad District of UP and submitted by Shubham Nair Enrollment No. IIHMR-U/01/2016-18/0499 under the supervision of Dr. Monika Chaudhary forward of MBA in Hospital and Health carried out during the period from 5th Feb 2018 to 30th April 2018 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.


Signature

ABSTRACT:

Supportive supervision is a key determinant of service quality and performance for developing informed decision making and planning in health system. The poor management of data and records is a huge issue in a health management setting. Many developing countries are facing this challenge of making an effective and efficient Health Management System. Uttar Pradesh has developed its own portal of HMIS called as UPHMIS to improve the data quality and records availability. This study explored and provided the data quality of UPHMIS/HMIS from health facilities in Farrukhabad District, UP. This study was descriptive cross sectional study on paper based data records of UPHMIS/HMIS in Farrukhabad. A quantitative tool has been prepared by the state team to assess the quality of data. Through this project we can evaluate the completeness, accuracy, data entered on time, validated and consistent.

Aim: To do assessment of quality of data on UPHMIS and HMIS by Supportive Supervision.

Study Design: Descriptive and Cross Sectional study in Farrukhabad District.

Statistical Analysis Used: Interpretation of data was done using averages, percentage and graphs on Microsoft Excel.

Results: Data quality has significantly improved by supportive supervision. Validation and accuracy of data has been done to improve the data quality of HMIS/UPHMIS of Farrukhabad district. Except Training Register all registers were maintained and filled appropriately. Matching status of the data has increased by this method.

Conclusion: To strengthen the data quality proper validation and cross check of the data must be done by BPM and MOIC before uploading of the data on the portal by Data Operator. Issues and problems of each and every staff member should reach MOIC and appropriate action must be taken. Major issue is because of Training data as no source documentation is available for the same.

ACKNOWLEDGMENT

I am thankful to have some wonderful people to lead me through in completion of this Project.

I owe my sincere gratitude to my mentor Charu Yadav (Zonal Specialist, M&E) for always motivating, supporting and guiding me throughout my Dissertation.

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List of Symbols and Abbreviation

PHC	Primary health center
CHC	Community health center
SC	Sub center
UPTSU	Uttar Pradesh technical support unit
HMIS	Health management information system
UPHMIS	Uttar Pradesh Health management information system
BPM	Block program manager
DPM	District program manager
DEO	District entry operator
MOI/C	Medical officer in charge
DPM	District program manager
BCPM	Block community program manager
ARO	Assistant research officer
HEO	Health education officer
SN	Staff nurse
NM	Nurse Mentor
SS	Supportive Supervision
BPHC	Block Primary health center
BCHC	Block Community health center
MO	Medical officer
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy
LT/LA	Lab Technician
ANM	Auxiliary nurse midwife
JSSK	Janani shishu shuraksha karyakaram
JSY	Janani Shuraksha yojana
PW	Pregnant women
DH	District Hospital
RMNCH+A	Reproductive maternal newborn and child health plus adolescent

Chapter 1. Introduction

Uttar Pradesh is the most populous state having area of 4540. Sq.km with 199.8 million people and population growth 20.2%. Sex ratio 912 and having male population is 104.4 million and Female population is 95331831. Total no. of tehsil in UP is 316 and 821 Gram panchayat. Literacy rate of UP is 67.7%

Maternal mortality rate of UP is 258 and crude birth rate is 24.8.

High Priority District population is **69 million**, 100 Block population is **31 million** and Expected annual number of deliveries in 100 Blocks is approx. **1 million**.

(a) UPTSU main focus area's:

- RMNCH+A
- Family Planning
- Nutrition
- Pneumonia and Diarrhoea

(b) Organogram of UPTSU:

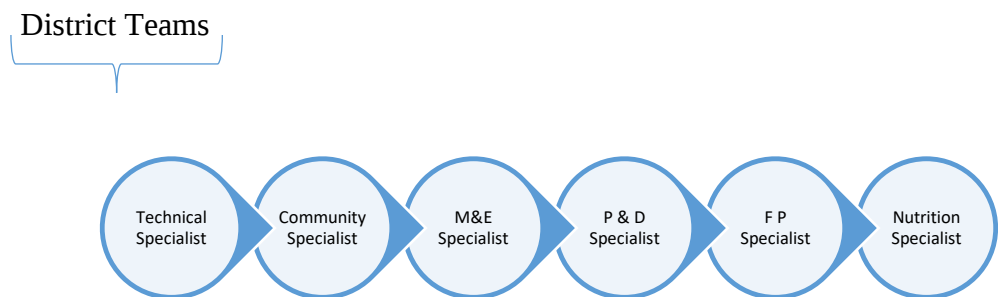


Figure 1 **Block Teams**

Figure 2

100 teams - one in each focus block

**BLOCK
LEVEL**

Nurse Mentor
(one per block)

ASM
(One ASM per 4-5 AS)

(C) UPHMIS

- UPHMIS is integrated portal for all data sources like GOI portal, Health report card, Manual reporting (MPR).
- Data will be imported from GOI HMIS portal to UPHMIS, and allow other programmes like MPR and HRC portal to enter directly to the instance.
- Integrated data set will be generated and analysed through UPHMIS.
- Dashboard will be populated through UPHMIS

Flow of information and Process in UPHMIS portal:

In 1st phase:

- UPHMIS will be pulled HMIS portal data.
- Manual reports (MPR) & HRC data will be directly entered on UPHMIS instance

In 2nd phase:

- HR and other national program data will be pulled from HRMS and other portal in UPHMIS

UPHMIS portal include HMIS (health management information system) portal, HRMS, National program portal like RNTCP, NBVDCP, IDSP, NLEP, NBCP etc., from DH (District Hospital) MPR, HRC, other RMNCH+A services are imported.

Process of data entry of CHC/PHC*/SC* include:

Data is collected from each department of facilities and after validation by MOI/C, ARO, and BPM data is entered in the UPHMIS portal by operator.

After importing data, we can integrate dashboard and analyses data for further use in decision making.

Purpose of importing other portal data into UPHMIS portal.

- Single platform to view all relevant data

- Comprehensive HMIS system is for capturing all data requirements of different programs going on in the state
- One stop data entry portal for the GOI HMIS data requirement and Go UP internal data requirement
- Data visualization for review and planning: HMIS bulletin, dashboards & dynamic reports

Indicators required for driving decisions are input indicators which is availability and quality and output indicators which is service utilization and outcome indicator like mortality morbidity etc.

Strategy for Data quality:

1. **Analysis and use of HMIS, GOI SS, Survey, and program monitoring:** Only analysis has to be done for identification of gap in program status and quality and prepare an action plan.
2. **Strengthening, analysis and use of UPHMIS:** Efforts have to made to strengthen the UPHMIS in all 25 HPDs and start using the data in gap analysis during review meeting
3. **Capacity Building for CMO/ACMO and DDM:** Capacity building of district level program manager and DDM will be planned for data analysis and use
4. **RCH Portal/Application Pilot:** RCH will be piloted in selected district for effective implementation of RCH register, portal and ANMOL

SUPPORTIVE SUPERVISION

“Supportive Supervision is a facilitative approach to supervision that promotes hand hold support, joint problem solving & communication between facilitator and participant”

Objective:

1. To validate and reduce the data element reported as blank and zero

2. To validate the data of some critical data element requires for frequent analysis
3. To develop the capacity of block facility staff for providing the hand hold support to lower facility (SC and PHC)

Supportive supervision for improvement of data quality:

- **Gap Identification:** Through gap identification we get to know which data element/section in the format is not matched with source register either left blank or entered zero in the format. Gaps are due to error in compiling source register and also in understanding data elements during reporting.

Problem Solving: First step to correct the data, which is entered in the period from 25 to 30 of every month in the UPHMIS portal, second step to add additional column in record book, third change the process of compiling the data by

- giving responsibility to individual person, fourth every SN, MOI/C, BPM, pharmacist, should have clarity on each data element.
- **Capacity building:** Make it sustainable, so that this whole process remains same for certain months, share the gaps with MOI/C after the SS visit, and discuss the reasons of gap, and orient staff on data element definition, and explain the process to conduct a SS in other facility.

Components of SS tool in Checklist

1. General Details
2. Government official's participation during supportive supervision (not necessary)
3. Validation of Critical data element
4. Summary of validation of Critical data element
5. Validation of zero and blank data element
6. Comment/Suggestion

There are separate Checklists for DWH, DMH and CHC/BCHC/BPHC.

Methodology of Supportive Supervision visits

- Day 0 - Identification of Poor Performing Facility

- Day 0 to 1 - Meeting with district officials to orient about the concept and method
- Day 1-3 - Visit to Facility for Supportive Supervision
- Day 4 - Feedback meeting with all district and block officials

Identification of poor performing facility:

- The poor performing block facilities is identified based on following data quality indicators selected for UPHMIS campaign
 - ✓ % of non-blank data element
 - ✓ % of non-zero data element
- 3 block facilities are selected from each of the 75 districts
- 1 DWH is selected by default from each of the district (Combined hospital if DWH is not available)
- This exercise has already completed by state and the list is shared

Supportive Supervision to facility:

1. Pre visit
2. During visit
3. Post visit

Pre Visit Preparation

Understand every data element of tool

Fill the prefill section of SS tool (value as per UPHMIS) as per data given in soft copy and facility identifier

Meet with district officials to conduct joint visit

The data for the month of Aug 17 to be considered for SS

Pre inform the block about SS

During Visit

- Spend full day at facility for SS (5~6 hour)
- Meet and explain status of data quality and purpose of visit to MO I/c, BPM, BARO

- Start SS process with BPM and BARO in a separate room
- Go through each of the element of tool and request the concern staff to join with register
- Validate the data element with source register/observation with the help of concern person
- Identify the reason for any discrepancy between reported data and actual status
- Share the discrepancy with concern person and provide the suggestive method of correction
- Discuss the identified issues with BPM/ BARO on data element requires correction
- Correct identified gap on portal and record on tool
- Share the findings with MO I/c and discuss the plan for SS to lower facility by BPM/ BARO

Post Visit

- Check the completeness of the tool
- Collect the SS tool from government officials
- Confirm timing and participation of feedback meeting with district officials
- Prepare summary slide (table of not matching for critical data element, status and improvement in zero/blank, major challenges and suggestive solution for feedback meeting and to share with DM)
- Meet with DM and share the findings

Some other important message to communicate during meeting:

- **Proper Format distribution-** It has been observed that some of the blocks have not properly distribute the UPHMIS facility format to facilities. It is to inform that each of SC level format is printed in double copy- one for ANM and one for submission at block. So three such formats in double copy must be given to SC

- **Use of UPHMIS raw data for HMIS Bulletin-** We have again started the preparation of HMIS bulletin from the month of Aug 17. The data for HMIS bulletin will be download from UPHMIS raw data. So it is essential to import all the corrected HMIS excel file in UPHMIS to avoid any discrepancy
- **Update DP-** Many of facilities have not entered their DP status (Yes/No). So ensure to update DP status as per the KPI list and do not make any change till the official inclusion or exclusion of DP.

Chapter 2. Literature review

Author/citation	Type of study	Sample	Purpose	Key findings
Adedapo adejumo, An Assessment of Data Quality in Routine Health Information Systems in Oyo State, Nigeria.	cross sectional descriptive study taking a retrospective	sampling involved 4 stages: Stage 1 LGA Selection, Stage 2 Health Facility Selection, Stage 3 Data Element Selection, and Stage 4 Selection of key informants.	to assess the data quality in routine information systems in Oyo State Nigeria and to identify the factors that influence data quality in order to improve the use of routine health information for decision making.	1. Incomplete data was found in aggregated data reported from daily patient encounters in monthly summary forms as well as the electronic database (DHIS). 2. inaccuracies in the reported values with discrepancies between facility register recounts, summary form values and the values in the DHIS. 3. Quality issues were also worse for data elements that had multiple disaggregations making their collection and reporting more complex.
Moazzam Ali, Yoichi Horikoshi Pakistan Health Services Academy. Maternal and Child Health Project Pakistan Institute of		review of available literature was undertaken and data collected for almost all health information systems being	1. To do a situational analysis of the Health Management Information System (HMIS) system in Pakistan, highlighting	1. lack of information on management issue. 2.Poor data quality. 3.Lack of timely reporting and feedback.

Medical Sciences, Islamabad- Situation analysis of health management information system in Pakistan Pakistan J. Med. Res. Vo1.4 I fu'0.2, 2002		currently present in Pakistan in the health sector. Published and unpublished documents including government reports, peer review journals and other literature such as local journals are a source of information for this paper.	strengths and weaknesses in the system .	4.Inadequate information usage. 5.Lack of universal launch of HMIS.
Dr Hari Kumar S- Evaluation of Health Management Information Systems - A study of HMIS in Kerala	descriptive cross-sectional study	115 respondents from 26 sub-centres, 12 primary health centres, six blocks, two districts and the state level office.	To determine the technical, organisational and behavioural determinants that affect the Health Management Information System processes and performance in Kerala using the PRISM framework.	1.An evaluation of the district health information systems in Kenya found low rates for accuracy (30%) and completeness (19%). 2.Over-reporting of immunisation figures have also been reported in a study from Mozambique with higher values of 44 percent and 72 percent for BCG and measles respectively. 3.The overall level of use of information in meetings is only 35 percent. Even though the level of

				discussion on HMIS findings is high, the discussion on data quality is low.
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Chapter 3: Methodology

Materials and methods:

Study Design: Descriptive Study

Study Duration: Supportive supervision is done during a period of 3 months i.e. from February 2018 to May 2018.

Study Location: Supportive Supervision is conducted in 4 Blocks of Farrukhabad District in Uttar Pradesh. Total population of Farrukhabad is 18,85,204 (22.08% population lives in urban area) with population growth is 20.05%, sex ratio is 874 per male the avg. sex ratio in India is 940 (census 2011).

Study Population: Staff nurse, Pharmacist, Lab Technician, Assistant Research Officer, Health Education Officer, Block Program Manager, Data Entry Operator, were asked to show the records (source documents) to match with the portal data.

Sampling: 25 high priority districts are selected by GOI through composite score and after that each district have 4 TSU blocks (poor performing) and which is divided according to health index by TSU. Here I have Round 4 of SS visit,

Data Collection Instrument: Checklist has been prepared to collect and match the data from the facilities by state.

Data Collection Procedure: Primary data is collected by structured checklist

State provided us supportive supervision format and we have to visit the CHC/BCHC/BPHC. And we inform the MOI/c regarding audit and ask the Staff nurse, Pharmacist, Lab technician, BCPM, BARO to bring source register and data have to match with the source document to check the quality.

Indicators Like Human resource, Training of staff, HMIS (Institutional delivery, still birth, full ANC check-up, PPIUCD, Allopathic OPD, full immunization, etc.), Under-5 OPD & IPD data and JSSK.

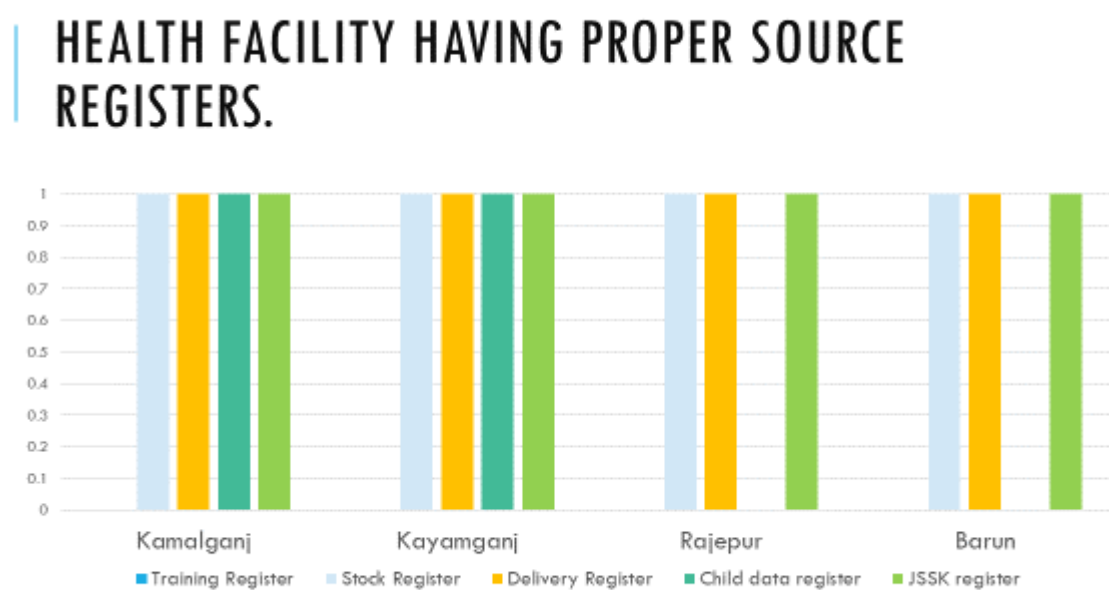
Data Entry: After data collection, it is discussed with the MOI/c and wrong data is corrected on the UPHMIS portal and supportive supervision data entry is done after the audit on the supportive supervision portal and submitted on the same day.

Ethical consideration: The respondents all belong to the Farrukhabad Health Services Department and foreseeing the possibility of them being held responsible for whatever information they are divulging, strict privacy and confidentiality with regard to all records and data were maintained.

The individual and personal details was not recorded in any form during the verification of the data.

Data Analysis:

Figure (3)

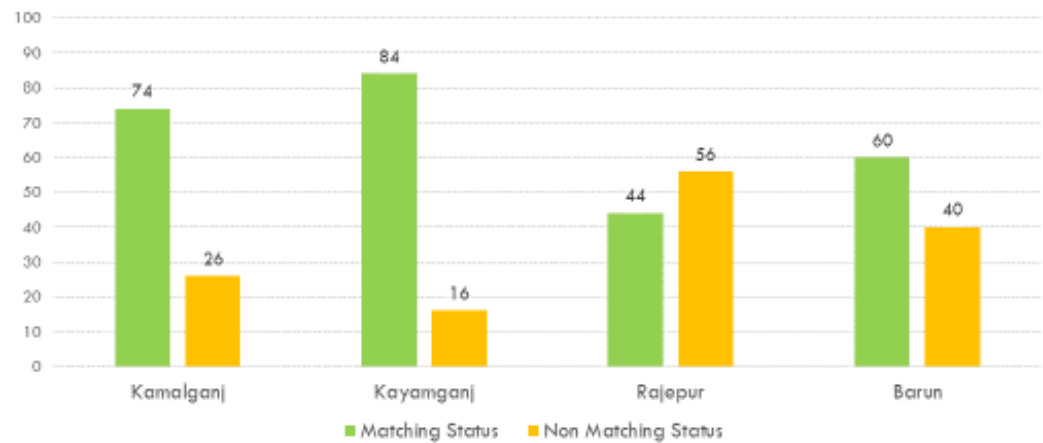


Interpretation from Figure (1): From this graph, we can see the following points-

- (a) Training registers are not available anywhere.
- (b) In Rajepur and Barun , Child data Register is not available

Figure(4)

MATCHING AND NON MATCHING STATUS OF HR SECTION

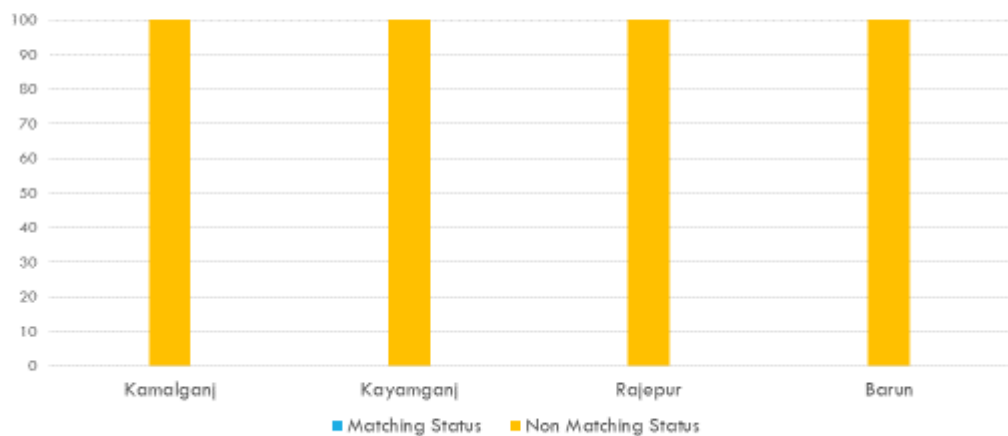


Interpretation from Figure (4): From this graph we can see the following points-

- (a) Rajepur Matching status of HR section is low.
- (b) Kayamganj has the highest matching status.

Figure(5)

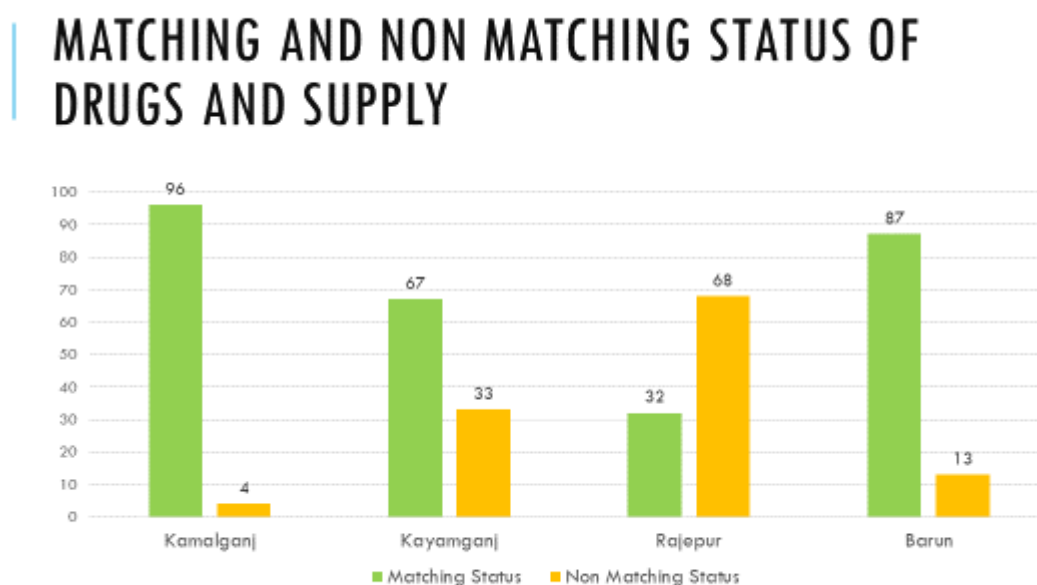
MATCHING AND NON MATCHING STATUS OF TRAINING SECTION



Interpretation from Figure(5): From this graph we can see the following points-

- (a) All the blocks have 100% non-matching status of Training section
- (b) The reason for this is because the Training registers are not maintained in these blocks.

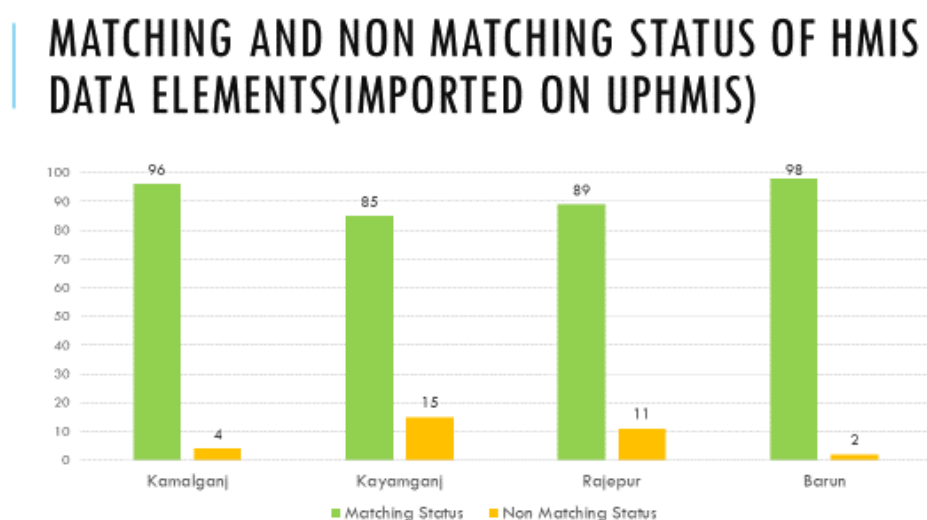
Figure(6)



Interpretation from Figure (6): From this graph we can see the following points-

- (a) Kamalganj has the highest matching status.
- (b) Rajepur has the lowest matching status.

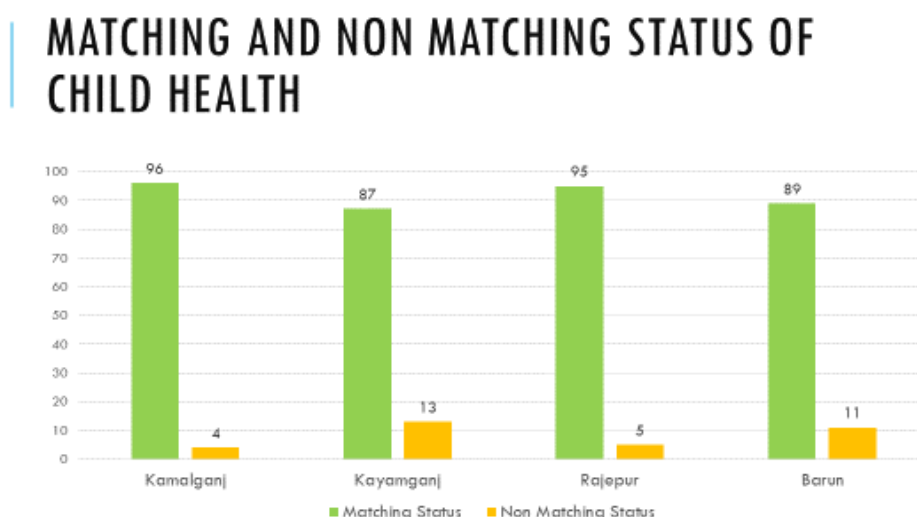
Figure (7)



Interpretation from figure (7)- From this graph we can see the following points:

- (a) Barun has the highest matching status of HMIS data element imported on UPHMIS.
- (b) While Kayamganj has the lowest (85%)

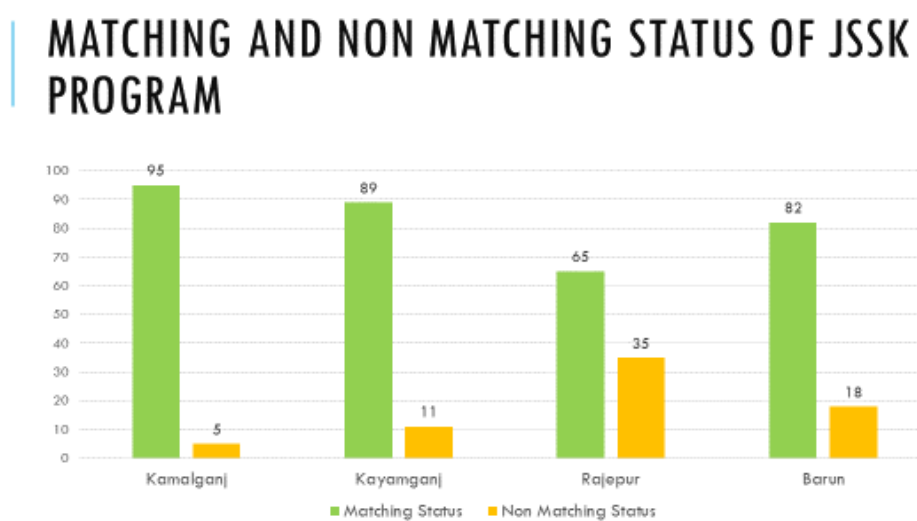
Figure (8)



Interpretation from figure (8)- from this graph we can see the following points:

- (a) Kamalganj has the highest matching status of Child Health
- (b) While Kayamganj has the lowest.

Figure (9)



Interpretation from figure (8)- from this graph we can see the following points:

- (a) Kamalganj has the highest matching status.
- (b) Rajepur has the lowest matching status.

Results

Findings from interviews and direct observations suggest that the supportive supervision project was successful in improving data quality and data collection at the community-level, achieving a consistent use of tools to facilitate supervision, and providing feedback on staff performance. Participants attributed these successes to standardized data collection tools, ongoing supervision, and training. Emphasis on data use strategies and collaboration and mentoring during supportive supervision visits emerged as aspects of the project that needed improvement.

Conclusion

Supportive supervision is a promising approach to improve routine data collection for M&E of community-based programs. It can increase staff capacity to collect, manage, and use data and improve leadership capacity to make decisions based on collected data. By enhancing a program's capacity to synthesize and disseminate information, it also contributes to the larger goal of health systems strengthening.

