

CERTIFICATE

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Dr. Amanjot Kaur** student of **MBA Hospital and Health Management** from the IIHMR University; Jaipur has undergone summer training at **Immunization Technical Support Unit (ITSU), Delhi** from 1st April to 31st May, 2016.

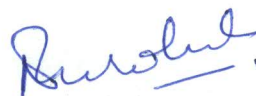
The candidate has successfully carried out the study designated to her during summer training and her approach to the study has been sincere, scientific & analytical.

The internship is in fulfilment of the course requirements.

I wish her all success in all his future endeavours.



Col. (Dr.) Ashok Kaushik
Dean (Academics & Student Affairs)
IIHMR University, Jaipur



Dr. Neetu Purohit
PhD, Associate Professor
IIHMR University, Jaipur

**Summer Training at
Public Health Foundation of India, Delhi**

- **Immunization Dashboard: A Critical Review**
- **Immunisation Coverage Monitoring Tool: Checklist for Assessment
of Its Utilization**

**By
Amanjot Kaur**

**Under the guidance of
Dr. Neetu Purohit**

**MBA Hospital and Health Management
2015-2017**



**The IIHMR University, Jaipur
2016**



PUBLIC
HEALTH
FOUNDATION
OF INDIA

Ref:137/31/05/2016/INT

31 May 2016

To Whomsoever It May Concern

This is to certify that Dr Amanjot Kaur Saini has successfully completed her Internship from 01 April 2016 to 31 May 2016 with Public Health Foundation of India (PHFI). During her internship period, she worked with the Immunization Technical Support Unit.

During the period of her internship programme with us she was found to be hardworking and sincere.

We wish her the very best in all her future endeavours.

For Public Health Foundation of India



Aparajita Roy
Head – Human Resources

Public Health Foundation of India

Plot No. 47, Sector 44, Gurgaon (Haryana) 122002. India Phone +91 124 4781400 Fax: +91 124 4781601 Website: www.phfi.org

Registered Address: ISID Campus, 4 Institutional Area, Vasant Kunj, New Delhi-110070. India

ACKNOWLEDGEMENT

*I feel privileged in expressing my kindest gratitude to **Dr. Vineet Goyal, Associate Advisor, Program Operations Monitoring and Evaluation , Immunization Technical Support Unit (ITSU), New Delhi** under whose able guidance and supervision this study was conducted. The keen interest he evinced throughout this period and the graciousness with which he gave his valuable advice was his exclusive acumen.*

I also feel privileged in expressing my thanks to Dr. Sachin Rewaria: Senior advisor Program Operations Monitoring and Evaluation (POME).

I would be failing in my duties if I miss to acknowledge and thank all those co-operating people who formed the subject of this study. These include the entire team of POME. They extended their wholehearted co-operation in different phases of my project.

My report might be incomplete without the guidance of my mentor, Dr. Neetu Purohit who provided me with timely suggestions. Also, Ms. Seema Mehta, who was always ready for support and guidance.

*I am indebted to my family especially my **mother Dr. Malwinder bir Kaur** who helped me in every possible way during my training.*

In the end I thank all those fellows and colleagues who have helped me in making this project a success and my apologies to anyone whose name I would have inadvertently forgotten to mention here.

(AMANJOT KAUR)

CONTENTS

Sr. No.	Title	Page No.
1	Acknowledgement	2
2	Table of Contents	3
3	Abbreviations	4
	PROJECT 1	
4	Introduction	5
5	Rationale, Objective and Research Methodology	
6	Understanding trends from Immunization Dashboards based on following aspects:	8
6.1	Full Immunization Coverage	
6.2	Timeliness of Reporting	
7	Improving the Usefulness of Immunization Dashboards	11
8	Changes Implemented	16
9	Conclusion	17
10	References	18
11	Annexure	20
	PROJECT 2	
12	Introduction	30
13	History of Immunization Coverage Monitoring Tool	31
14	Salient Features of Immunization Coverage Monitoring Tool	32
15	Immunization Coverage Monitoring Tool: Utilization Tool	33
16	Conclusion	36
17	References	37

ABBREVIATIONS:

AEFI:	Adverse Events Following Immunization
ANC:	Antenatal Care
CSSM:	Child Survival and Safe Motherhood
EPI:	Expanded Programme of Immunization
FIC:	Full Immunization Coverage
GoI:	Government of India
Hib:	Haemophilus influenza type b
HMIS:	Health Management Information System
ITSU:	Immunization Technical Support Unit
MCTS:	Mother and Child Tracking System
MDG:	Millennium Development Goals
MoHFW:	Ministry of Health and Family Welfare
NRHM:	National Rural Health Mission
RCH:	Reproductive Child Health
RI:	Routine Immunization
SLI:	Standard of Living Index
UIP:	Universal Immunization Programme
VPD:	Vaccine Preventable Diseases
CHC:	Community Health Centre
DIO:	District Immunization Officer
PHC:	Primary Health Centre
SC:	Sub Centre
SEPIO:	State Expanded Programme of Immunization Officer
TT:	Tetanus Toxoid

PROJECT 1

Immunization Dashboard: A Critical Review

INTRODUCTION:

Immunization has played an important role in reducing the morbidity and mortality due to the Vaccine Preventable Diseases (VPDs). It not only helps protect health and provide medical savings, but also yields indirect economic benefits, improves cognitive development, education attainment and labour productivity. Reduction in VPDs would not have been possible without the many steps taken by the Government of India (GoI) to step up child survival in the country, the most important being strengthening the country's Routine Immunization (RI) programme.

Information about the immunization coverage status in the country is made available by the HMIS and MCTS which are data collection systems specifically designed to support planning, management and decision making in health facilities and organizations. This information is provided by the Immunization Dashboards published by the Immunization Technical Support Unit (ITSU). Immunization Dashboards provide state-wise specific feedback on various immunization components (timeliness of reporting, coverage, training, VPD cases etc) on a monthly basis by analysing the data provided by the HMIS and MCTS. The Immunization Dashboards aim to improve quality and use of reported data on immunization for concrete programmatic action for addressing the challenges and strengthening the UIP.

History of UIP:

Evolution of the Universal Immunization Programme (UIP):

1978: Expanded Programme of Immunization (EPI)

1985: Universal Immunization Programme

1992: Child Survival and Safe Motherhood (CSSM)

- Included both UIP and Safe motherhood programme

1997: Reproductive Child Health (RCH1)

2005: National Rural Health Mission (NRHM)

2012: GoI declared 2012 as “Year of Intensification of RI”

2014: India certified as “polio free country”

The Universal Immunization Programme (UIP) of the Government of India (GoI) aims to achieve full immunization of the target population of children and mothers in India. To enhance its efforts to fulfil this aim, the Ministry of Health and Family Welfare (MoHFW) has established the Immunization Technical Support Unit (ITSU). ITSU provides technical and management expertise and build capacity to design, create, implement and institutionalise a stronger immunization programme which is fully lead by the GoI. Also ITSU is engaged in operational research across the country for identifying existing gaps and to bring out practical solutions for improvements. ITSU helps to improve access, reach, quality and coverage of the RI programme in India.

The Objectives of UIP¹ are:

- Rapidly increase immunization coverage
- Improve the quality of services
- Establish a reliable cold chain system to the health facility system
- Introduce a district-wise system for monitoring of performance
- Achieve self-sufficiency in vaccine production

The ongoing efforts of MoHFW through UIP and RI are also in line with the UN Millennium Development Goals (MDG 4: reduce child mortality)

The UIP in India targets 2.7 crore infants and 3 crore pregnant women every year and is one of the largest in the world. Under the UIP, GoI is providing vaccination to prevent nine VPDs: Diphtheria, Pertussis, Tetanus, Childhood Tuberculosis, Hepatitis B, and

• ¹ Universal Immunization Programme Journal: State of the World’s Vaccine and Immunization, Third Edition, by UNICEF, WHO and The World Bank

Meningitis/pneumonia due to Haemophilus Influenza b (Hib), Japanese Encephalitis, Poliomyelitis and Measles. A new vaccine combination called Penta has replaced the DPT vaccine in most of the states (it includes vaccination for Diphtheria, Pertussis, Tetanus, Hepatitis B and Haemophilus influenza type b). Also, some new vaccines are being introduced into the UIP: Rotavirus Vaccine, Rubella Vaccine after the successful introduction of IPV (Inactivated Polio Vaccine).

Rationale:

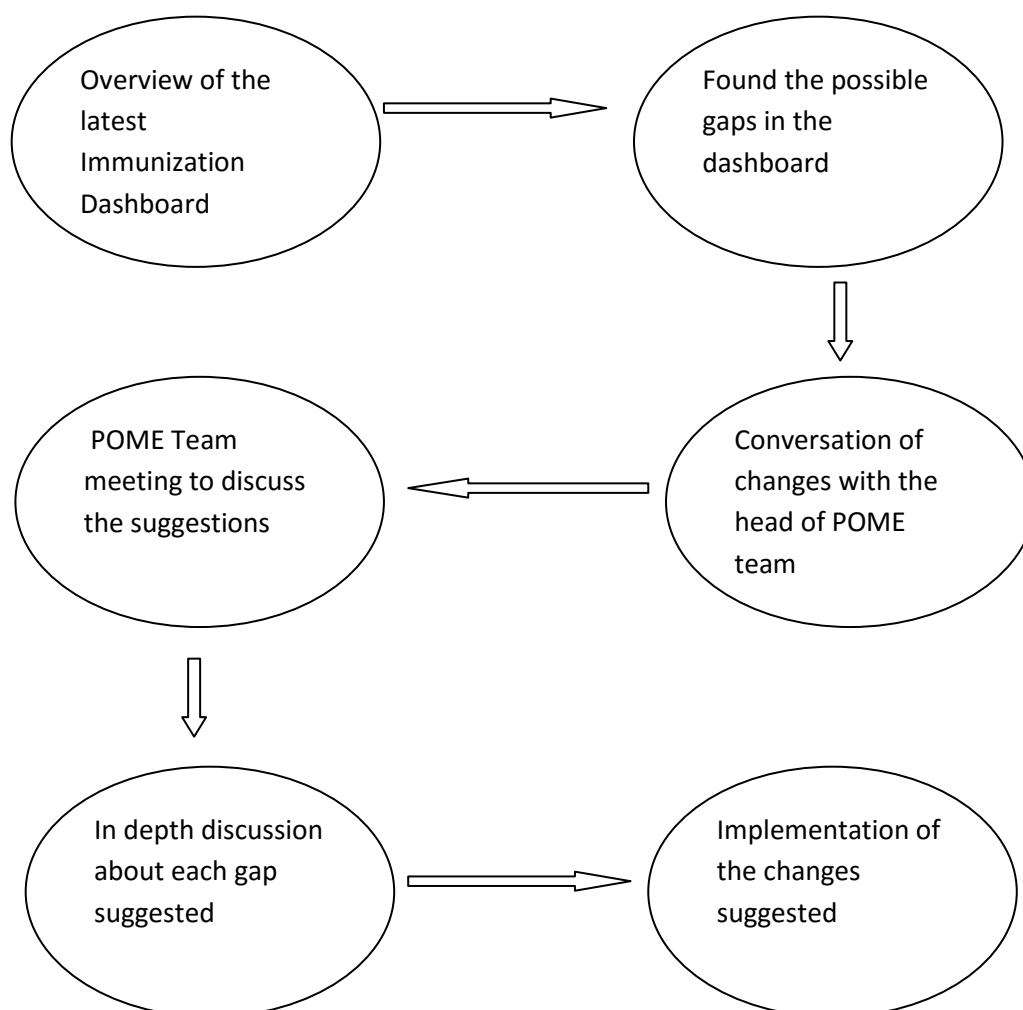
the immunization dashboards provide information about the immunization status of all the states of the country. Therefore the data given in the dashboard should not only be accurate, but also easily understandable. There should be timely up gradation and improvement of the dashboards for the efficient use and further implementation. Thus, I took up the task to critically review the dashboard and provide any possible suggestions.

Objective:

To find any possible gaps in the immunization dashboard and provide suggestions for the same.

Research Methodology:

In-depth review of the immunization dashboard by direct observation.



UNDERSTANDING TRENDS FROM THE IMMUNIZATION DASHBOARDS:

Measuring the effectiveness of RI can be done in two ways: measuring the coverage of an individual antigen or looking for the intended end-result i.e. the absence of a particular VPD. However, the coverage of individual antigens may vary because certain vaccines like polio and measles have ‘herd effect’. In addition, some states (mainly the four high priority states i.e. Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan) have very poor coverage rates and very high numbers of reported VPD cases (primarily measles and diphtheria). Therefore, the more appropriate method to measure RI effectiveness is to look for the absence of particular VPD cases in a state-wise analysis. This could be done with the help of VPD surveillance system in which WHO-coordinated Surveillance Networks have been established for specific VPDs.

A. On comparing the Immunization Dashboards of January 2015 and January 2016, we find that though the National Full Immunization Coverage (FIC) remains somewhat unchanged (approximately 57.3%), there is a noticeable decline in the FIC of all the four High Priority States when observed individually.

State/ Country	FIC (Jan 2015) in %	FIC (Jan 2016) in %
India	64.5	65.3
Uttar Pradesh	52.7	47
Madhya Pradesh	66.4	53.5
Bihar	69.9	60.4
Rajasthan	74.2	60.7

In other words, the number of children (in lacs) not fully immunized in these states has increased. At first glance, the difference in the numbers in the Dashboard may be thought of as insignificant, but when the actual magnitude of the ‘left out’ or ‘drop out’ children is realised, it becomes an urgent medical situation, the reasons for which need to be addressed in the immediate future.

State/ country	Number of children NOT Fully Immunized (2015) in lakhs	Number of children NOT Fully Immunized (2016) in lakhs
India	94.6	91.4
Uttar Pradesh	26.4	29.5
Madhya Pradesh	6.6	8.8
Bihar	9.1	11.5
Rajasthan	4.7	7

Reasons for Low Full Immunization Coverage:

Reasons as reported till November 2014 (January 2015 Immunization Dashboard):

State	Awareness and Information Gap (%)	AEFI Gap (%)	Operational Gap (%)	Others (%)
Uttar Pradesh	31	31	11	27
Madhya Pradesh	63	16	6	15
Bihar	23	27	20	31
Rajasthan	39	14	7	40

Reasons as reported till November 2015 (January 2016 Immunization Dashboard):

State	Awareness and Information Gap (%)	AEFI Gap (%)	Operational Gap (%)	Others (%)
Uttar Pradesh	34	34	9	23
Madhya Pradesh	39	27	11	23
Bihar	30	30	16	24
Rajasthan	37	18	7	38

The **three major reasons** for low FIC in all the four High Priority States are (i) Awareness and Information Gap (ii) AEFI Gaps (iii) Operational Gap.

Operational Gaps include:

- Non-availability of vaccines or equipment
- Cold chain storage not in working condition (leading to non-efficacy of vaccines)
- Untrained staff to deliver vaccines
- Inappropriate vaccination schedules
- Lack of effective VPD surveillance system
- High rate of absenteeism among the involved healthcare providers
- Non-accessibility of the immunization sessions site
- Inability to procure vaccines in the underprivileged rural areas
- Absence of an effective routine reporting system
- Incorrect contradiction practices i.e. not immunising children with minor illnesses, low grade fever etc, which should not prevent them from getting vaccinated.

Awareness and Information Gaps include:

- Lack of understanding of benefits of immunization
- Lack of information about the schedule and venue for the immunization sessions
- Suspicion of the government health services (using disease itself to prevent the disease)
- Lack of information about the normal after effects of vaccination (for example fever, malaise, sore arms): reason for high ‘drop out’
- Unawareness about the importance of subsequent doses (in addition to the first dose: major reason for ‘drop outs’)

AEFI Gap includes:

- Non reporting of the AEFI, if any, by beneficiaries and relatives
- Ineffective AEFI surveillance and reporting system
- Failure to recognize any AEFI
- Inability to relate high AEFI rates to a particular vaccine batch/brand (which may have been incapacitated due to inappropriate storage and transport)
- Inability to relate high AEFI rates to a given segment of population as compared to the global or national population.

The UIP monitors its own performance not by measuring the impact on morbidity and mortality rates, but by assessing percentage coverage of the target population. But this criterion of assessing performance cannot be acceptable because the objective is to reduce morbidity and mortality due to the VPDs and not to merely increase the coverage of vaccination, since the latter is important only as far as it helps in achieving the former objective.

B. Reporting Timeliness

State	Number of Districts NOT reporting on time (Nov 2014)	Name of Districts NOT reporting on time (Nov 2014)	Number of Districts NOT reporting on time (Nov 2015)
Bihar	1	Sheohar	0
Rajasthan	1	Rajsamand	0
Uttar Pradesh	0		0
Madhya Pradesh	0		0

The timeliness of the district-wise reporting system of the High Priority States has improved, if we compare the data given in the Immunization Dashboards of January 2015 and January 2016.

IMPROVING THE USEFULNESS OF IMMUNIZATION DASHBOARDS:

1) State-wise analysis:

- Number of cases of Measles, Diphtheria and Pertussis is not mentioned for all the states (the data being available in the HMIS dashboard). This should be included if the concerned state health authorities are interested in the VPD profile of only his state.
- As stated in the dashboards, “more than 5% planned RI sessions not held”. This statement does not categorize the percentage above 5% in any form. This does not show, for example if any state has improved the session status (not held) from 20% to 7%; both 20% and 7% will be considered as ‘more than 5%’.
- Similarly, the reporting of percentage coverage of individual antigens is done as low if it is below 80%; but again, it does not categorize how low the coverage is or if there is any improvement from the previous years.
The statements quoting the ‘low coverage’ of individual antigens do not specify how low is low. (For example: Chandigarh = 76.3% and Kerala = 5% coverage in case of measles; these two, in no effective way, could be considered under the same category; according to the 2015-16 dashboard).
- Comparison with the previous year’s dashboard (if only of the low coverage percentage variables) could be done in order to check if there is any improvement or not, which would help the concerned program manager to plan and act accordingly for the next sessions. This comparison is not possible in the dashboards due to lack of space, but can be easily accommodated in a line or two in the state wise analysis.

2) Graphs on Hepatitis B birth dose coverage and MCV2 coverage:

- These two graphs can be combined for better comparison with each other as well as with the national expected percentage. On comparison, the reasons for the gap between the two antigens can be found and corrected. (For example: Delhi shows 88% coverage for BCG and only 28% coverage for MCV2). This difference is important to signify that though children receive the vaccines which are given at birth (in case of institutional deliveries), their guardians either do not understand the importance of immunization (or subsequent doses) or there are some

significant reasons for not getting their wards immunized which need to be considered and solutions sought for the same.

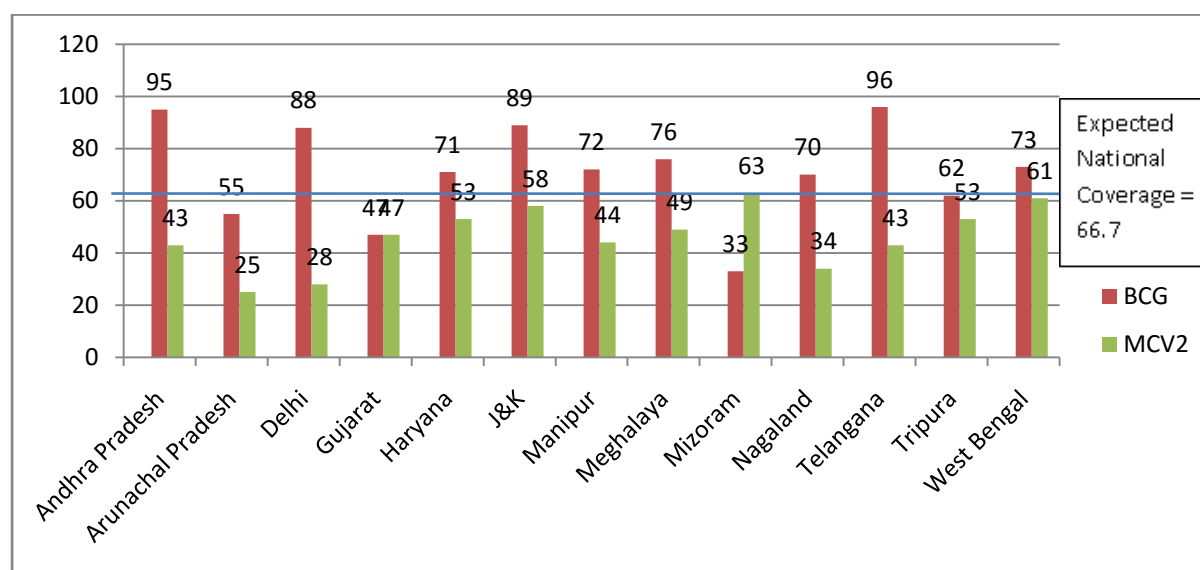


Figure 1: Hep B Birth Dose Coverage VS MCV2 Coverage

3) HMIS data (0-11 months immunization data):

- The data provides information about the states showing over-reporting as well as states showing lowest performance in terms of Full Immunization (FI) and individual antigen coverage, when compared to the expected national FI percentage. But there is a lot of written data in single long sentences, which could be a reason for many people to not read this page. This data could be better understood in a graphical presentation, tabular presentation or some pictorial form which would be easier to compare as well as faster and easier to read.(graphs: individual antigen coverage). As it is the first page of the dashboard, it must provide just an overview of the immunization status of the country and a rough idea of the states which are fairly performing and the states which are performing poorly (the details being provided on the further pages of the dashboard: including the executive dashboard, HMIS dashboard and MCTS dashboard, various graphs, charts and maps: all in terms of the various immunization components). The suggested charts, table and the simplified written data are attached in the annexure.
- The national coverage for DPT3/Penta3 is not given to compare with the state-wise performance, whose data is given.

4) Executive dashboard:

- The current sequence is: FIC %, children not fully immunized, number of planned sessions not held, concurrent monitoring data, individual antigen coverage, measles cases reported, and percentage of trained staff.
- An improvement in this could be to sequence the percentage coverage of individual antigens and number of VPD cases next to the FI column. This way the entire data on immunization status would be available in a continuum, whereas in the current sequence, it is interrupted by the data on field monitoring.
- In the dashboard, there is a column showing 'Number of Planned Sessions NOT Held'. But there is no data regarding the actual number of sessions which were actually planned. So there is no way of comparing or measuring the gap between the planned sessions and the sessions which were held. (Though UP has the maximum number of sessions held, it ranks very low in terms of percentage sessions held out of the planned i.e. 83%, whereas Andaman and Nicobar has a far less number of sessions held, but the percentage sessions held is close to 93% of the planned, according to the monitoring data from April 2015- Feb 2016).

5) HMIS dashboard:

- The current sequence is: estimated population of infants, Penta launch month and year, Hep B0 coverage, individual antigen coverage, dropout rate for DPT1-3/Penta1-3, number of planned sessions not held, and number of cases of childhood cases reported.
- As with the RI dashboard, the data about the immunization status including the number of cases of VPD reported could be presented together, for it will be easier to look for the entire status, rather than being interrupted by the sessions' data in between.
- Also, since Penta is being administered in almost all the states now, the 'launch month and year for Penta' column could be removed from the dashboard along with the shading of the states where Penta was introduced before October 2014.
- Instead, those states could be shaded which show either “-ve drop out” of DPT1-3/Penta1-3 or highest number of cases of VPDs.

6) Sequence of columns in the MCTS dashboard:

- The current sequence is: estimated number of infants, number of infants registered (registration details), facilities not reporting on MCTS server, infant immunization server details, drop out for DPT1-3.
- Just as in RI and HMIS dashboards, the data on facilities not reporting could follow the data on infant immunization server instead of preceding it.

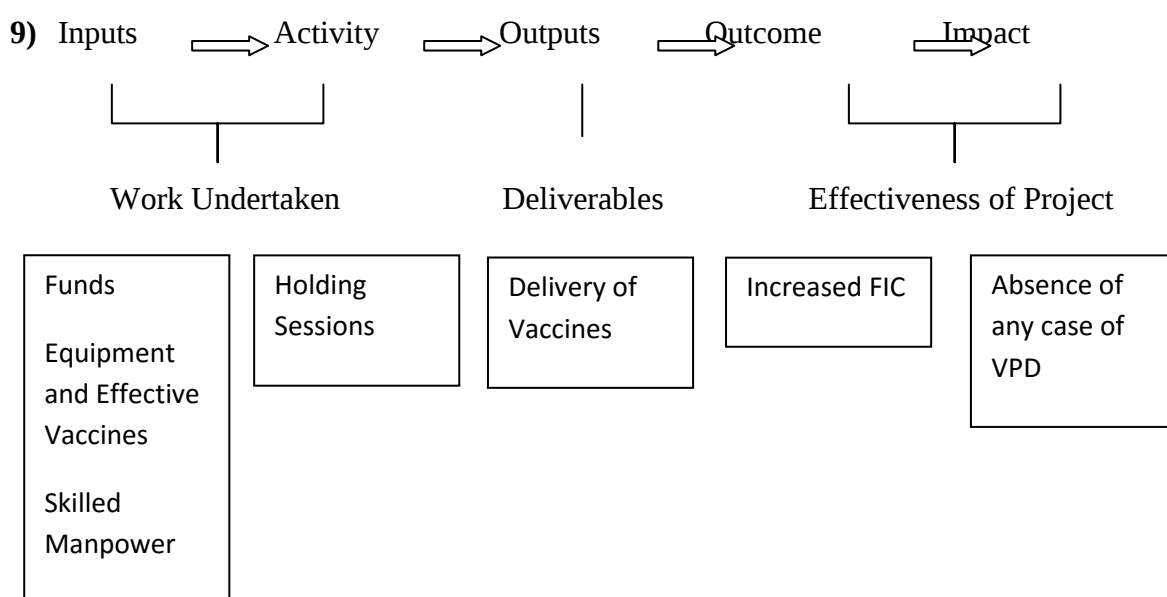
7) The graph showing the reasons for children not being fully immunized

broadly lists out four reasons, namely awareness and information gap, AEFI gap, operational gap and others.

- In some states, the percentage of ‘operational’ and ‘others’ gap is maximum as compared to the other two or quite significance in themselves, and if a health worker wants to work on reducing this gap, he would want specifications regarding the ‘operational gap’ and ‘others’. Therefore, consideration could be made to elaborate further on these two.

8) Timeliness of HMIS data:

- Is it the same districts which are not reporting on time, every time?
- Reasons for some states with more than five districts not reporting on schedule consistently (For example: Kerala, HMIS 2015-2016).
- There is a general trend of not reporting on schedule in April-May for most of the states as compared to the subsequent months. Is there a specific reason(s) for this?



10) AEFI Reporting:

- Adverse Events Following Immunization (AEFI) were included in the previous years' Immunization Dashboards but have been removed from the latest edition.
- The World Health Organization (WHO) defines an AEFI as a medical incident that takes place after an immunisation, causes concern, and believed to be caused by immunisation.
- Limited awareness about AEFI and their reporting, both in the private and public sector, is a major setback for the strengthening of the RI in India, leading to inadequate or inaccurate reporting of the same. Thus, there is a perceived need to improve the AEFI surveillance and reporting in the private sector.
- AEFI or the lack of awareness about the difference between the normal after effects of immunization and AEFI may be cited as one of the reasons for 'left outs' and 'drop outs'. If the immunization dashboards provide information about the site, time, frequency and magnitude of the various AEFI, the involved health workers have a scope of finding the reasons for the same and act towards reducing the negative effects of the AEFI.

CHANGES SUGGESTED:

- ✓ The format of the first page giving the 0-11 months' immunization data is to be changed from only written to a less time consuming format, in terms of reading i.e. a mix of tabular and written form.
- ✓ Executive Dashboard: There is to be a change in the columns of the executive dashboard: the column of 'number of planned sessions not held' to be replaced by two columns, namely 'number of sessions planned' and 'percentage of planned sessions not held'.
 - The executive dashboard to be shifted next to the 0-11 months' immunization data.
- ✓ HMIS-RI dashboard: shading of the states in which Penta was introduced before October 2014 has been removed.
 - Also the column of 'month/year of Penta launch' has been removed.
 - A column of 'percentage of sessions not held' to replace the column 'number of sessions not held'.
- ✓ Bar chart showing the reasons for children not fully immunized: elaborating the 'others gap' and 'operational gap' due to their high percentage in some states to be considered.
- ✓ State wise analysis: comparison of FIC, MCV2 with last year's status to be considered.

CONCLUSION:

Immunization dashboards aim to improve quality and use of reported data on immunization for concrete programmatic action for addressing the challenges in strengthening UIP. But there is always scope for improvement. The Immunization Dashboards can be further improved by including the relevant points and removing the irrelevant ones as and when required. The presentations of various components of the dashboards (including the graphs, charts, maps and tables) can be changed time to time according to the needs and requirements of the users to make them easier to read and analyze the data depicted in the dashboards.

REFERENCES:

- Immunization Dashboards, January 2016; January 2015; 2013-14
- Universal Immunization Programme Journal: State of the World's Vaccine and Immunization, Third Edition, by UNICEF, WHO and The World Bank
- WHO | Adverse events following immunization (AEFI)
http://www.who.int/vaccine_safety/initiative/detection/AEFI/en/
- World Health Organization, Routine immunization
http://www.searo.who.int/india/topics/routine_immunization/en/
- WHO | National programmes and systems
http://www.who.int/immunization/programmes_systems/en/
- SOWVI_full_report_english_LR1.pdf (application/pdf Object)
http://www.unicef.org/immunization/files/SOWVI_full_report_english_LR1.pdf
- WHO | Strengthening routine immunization
http://www.who.int/immunization/diseases/poliomyelitis/endgame_objective2/routine_immunization/en/
- Adverse Event Following Immunization Secretariat (AEFI)
<https://www.itsu.org.in/aefi-program-1>
- WHO | Regulatory framework
http://www.who.int/vaccine_safety/initiative/framework/en/
- Status of Immunization and Need for Intensification of Routine Immunization in India
<http://www.indianpediatrics.net/may2012/may-357-361.htm>
- WHO | Effectiveness of planning and management interventions for improving age-appropriate immunization in rural India
<http://www.who.int/bulletin/volumes/88/2/08-059543/en/>
- WHO | WHO department on Immunization, Vaccines and Biologicals
<http://www.who.int/immunization/en/>
- WHO | Quality and standards
http://www.who.int/immunization_standards/en/
- WHO | Intradermal delivery of vaccines: potential benefits and current challenges
<http://www.who.int/bulletin/volumes/89/3/10-079426/en/>
- WHO | Immunization coverage
http://www.who.int/immunization/monitoring_surveillance/routine/coverage/en/

- WHO | Strategies to increase the demand for childhood vaccination in low- and middle-income countries: a systematic review and meta-analysis
<http://www.who.int/bulletin/volumes/93/5/BLT-14-146951-table-T1.html>
- A brief history of vaccines & vaccination in India
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4078488/>
- Vaccine Delivery - Bill & Melinda Gates Foundation
<http://www.gatesfoundation.org/What-We-Do/Global-Development/Vaccine-Delivery>
- Immunization Handbook for Medical Officers, published by Department of Health and Family Welfare
- Book: The Road to Universal Health Coverage; Chapter 13: vaccines and Immunization: An Integral Aspect of Universal Health Coverage
- Annual Report 2014-15, by Ministry of Health and Family Welfare; Chapter 5: Child Health Programme
- Journal of Indian Paediatrics, Volume 45, August 17,2008: Routine Immunization
- Paper presented at the 42nd Annual Conference of The Indian Econometric Society (TIES), held at GND University, Amritsar, India on 5-7 January, 2006
- VPD Surveillance in India: Opportunities and Challenges: presentation by Dr. Hamid Jafari at WHO: NPSP (National Polio Surveillance Programme), India
- Surveillance Manual | Vaccine Adverse Event Reporting System | VPDs | CDC
<http://www.cdc.gov/vaccines/pubs/surv-manual/chpt21-surv-adverse-events.html>
- Surveillance Manual | Indicators | Vaccine Preventable Diseases | CDC
<http://www.cdc.gov/vaccines/pubs/surv-manual/chpt18-surv-indicators.html>
- Immunise - Adverse Events Following Immunisation (AEFI)
<http://immunise.health.gov.au/internet/immunise/publishing.nsf/Content/aefi.htm>
- PEESP_CH6_EN_US.pdf (application/pdf Object)
http://www.polioeradication.org/Portals/0/Document/Resources/StrategyWork/PEESP_CH6_EN_US.pdf
- India's Vaccine Deficit: Why More Than Half Of Indian Children Are Not Fully Immunized, And What Can—And Should—Be Done
<http://content.healthaffairs.org/content/30/6/1096.full>
- Mission Indradhanush | National Health Mission
<https://www.itsu.org.in/mission-indradhanush>

- MCTS(Mother & Child Tracking System) - Government of India
<http://nrhm.gov.in/monitorings/98-mcts-mother-child-tracking-system.html>
- Health Management Information Systems (HMIS) — MEASURE Evaluation
<http://www.cpc.unc.edu/measure/resources/training/materials/health-management-information-systems-hmis-1>

Annexure

Suggestions for 0-11 months' immunization data:

Option 1

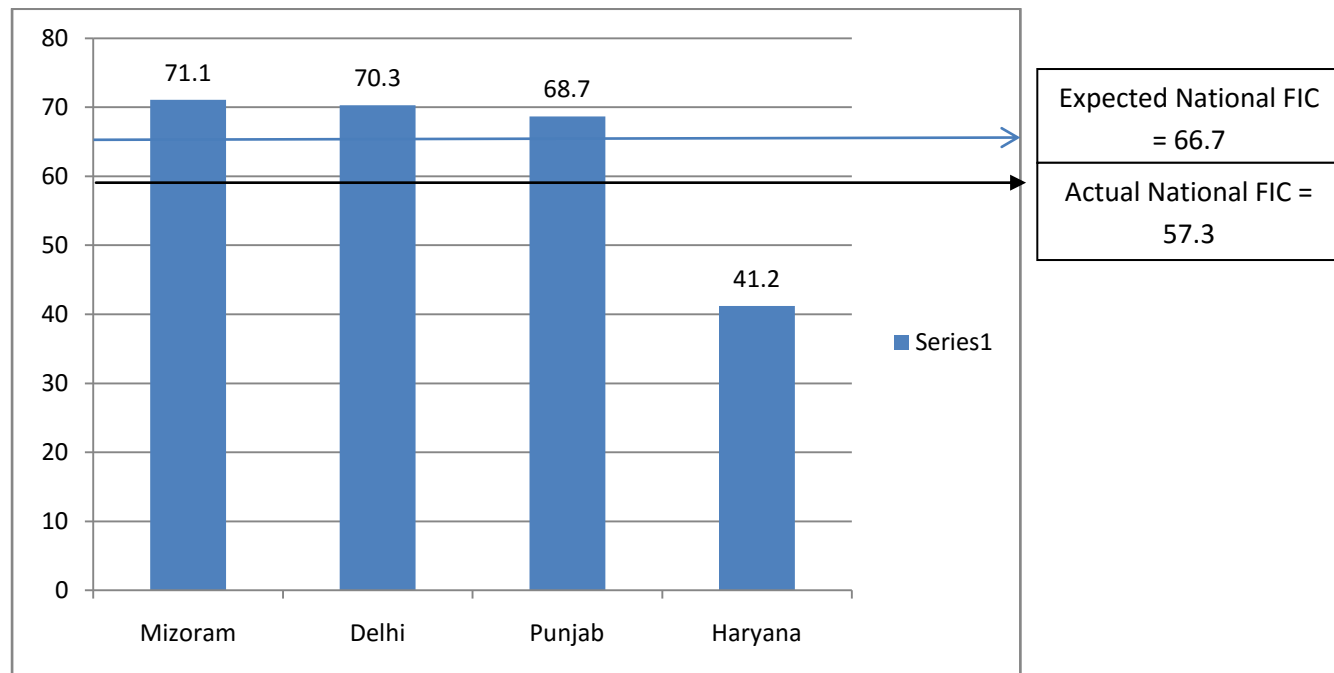


Figure 2: Full Immunization Coverage

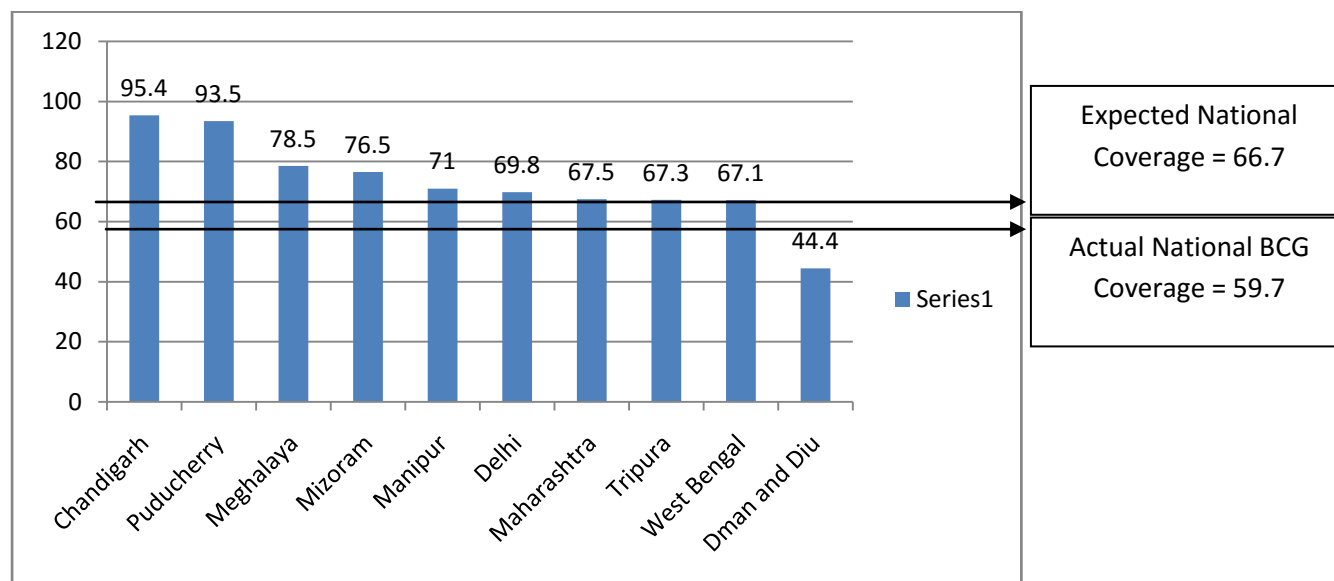


Figure 3: BCG Coverage

Option 2

Antigen	High Reporting States	Lowest Performing States
FIC Expected National = 66.7 Actual National = 57.3	Mizoram (71.1) Delhi (70.3) Punjab (68.7)	Haryana (41.2)
BCG Actual National = 59.7	Chandigarh (95.4) Puducherry (93.5) Meghalaya (78.5) Mizoram (76.5) Manipur (71.0) Delhi (69.8) Maharashtra (67.5) Tripura(67.3) West Bengal (67.1)	Daman & Diu (44.4)
DPT3	Mizoram (73.4) Meghalaya (71.9)	Puducherry (41.5) Daman & Diu (34.3)
JE1 Actual National = 47.9	-	Kerala (5.4) Arunachal Pradesh (17.8) Tamil Nadu (18.5) Nagaland (27.6) Telangana (37.2) Assam (41.8)
MCV1 Actual National = 58.6	Delhi (74.8) Mizoram (72.7) Punjab (69.3) Uttarakhand (68.1) Tripura (67.6) Telangana (67.5) Meghalaya (67)	Nagaland (45.6)
Hep B Actual National = 70.1	Tamil Nadu (>100%)	Mizoram (32.5) Assam (43.8) Gujarat (47)

Option 3

❖ Simplified Written data only:

➤ **FIC:**

- Expected = 66.7
- Actual = 57.3
- **High reporting States:**
 - Mizoram (71.1)
 - Delhi (70.3)
 - Punjab (68.7)

Lowest Performing State :

- Haryana (41.2)

➤ **BCG:**

- National Coverage = 59.7
- **High reporting States**
 - Chandigarh (95.4)
 - Puducherry (93.5)
 - Meghalaya (78.5)
 - Mizoram (76.5)
 - Manipur (71.0)
 - Delhi (69.8)
 - Maharashtra (67.5)
 - Tripura (67.3)
 - West Bengal (67.1)

Lowest Performing State :

- Daman & Diu (44.4)

➤ **DPT 3:**

- **High Reporting States:**
 - Mizoram (73.4)
 - Meghalaya (71.9)

Lowest Performing States:

- Puducherry (41.5)
- Daman & Diu (34.)

➤ **JE1**

- National Coverage = 47.9

- Lowest Performing States
 - Kerala (5.4)
 - Arunachal Pradesh (17.8)
 - Tamil Nadu (18.5)
 - Nagaland (27.6)
 - Telangana (37.2)
 - Assam (41.8)

➤ **MCV1:**

- National Coverage = 58.6
- High reporting States
 - Delhi (74.8)
 - Mizoram (72.7)
 - Punjab (69.3)
 - Uttarakhand (68.1)
 - Tripura (67.6)
 - Telangana (67.5)
 - Meghalaya (67)

Lowest Performing States:
Nagaland (45.6)

➤ **Hep B:**

- National Coverage = 70.1
- High Reporting States:
 - Tamil Nadu (>100%)

Lowest Performing States:
Mizoram (32.5)
Assam (43.8)
Gujarat (47)

Option 4:

When give with the executive dashboard:

- Till November 2015, the nation's full immunization coverage (**FIC**) was **57.3%** against the expected figure of 66.7% for 8 months. The state with **highest** reported FIC is **Mizoram (71.1%)** and with the **lowest** reported FIC is **Haryana (41.2%)**.
- The national average coverage for **BCG** is **59.7%**. The state with **highest** reported BCG coverage is **Chandigarh (95.4%)** and with the **lowest** reported BCG coverage is **Daman &Diu (44.4%)**.
- The state with **highest** reported **DPT3** coverage is **Mizoram (73.4%)** and with the **lowest** coverage is **Daman & Diu (34.3%)**.
- The national average coverage for **JE1** is **47.9%**. The state with the **lowest** reported JE1 coverage is **Kerala (5.4%)** with no state reporting close to the average national value.
- The average national coverage for **MCV1** is **58.6%**. The state with the **highest** reported MCV1coverage is **Delhi (74.8%)** and with the **lowest** reported coverage is **Nagaland (45.6%)**.
- The average national coverage for **Hep B** is **66.7%**. The state with the **highest** reported Hep B coverage is **Tamil Nadu (>100%)** and with the **lowest** reported coverage is **Gujarat (47%)**.

Option 5:

FIC

- Expected National = 66.7%
- Actual National = 57.3%
- Highest : Mizoram 71.1%
- Lowest : Haryana 41.2%

BCG

- Actual National : 59.7%
- Highest : Chandigarh 95.4%
- Lowest : Daman and Diu 44.4%

DPT3

- Highest : Mizoram 73.4%
- Lowest : Daman and Diu 34.3%

JE1

- Actual National = 47.9%
- Lowest : Kerala 5.4%

MCV1

- Actual National = 58.6%
- Highest : Delhi 74.8%
- Lowest : Nagaland 45.6%

Hep B

- Actual National = 70.1%
- Highest : Tamil Nadu >100%
- Lowest : Mizoram 32.5%

PROJECT 2

Immunization Coverage Monitoring Tool: Checklist for Assessment of its Utilization

Introduction:

Vaccines have played a pivotal role in improving child health and survival in India and across the world. They are considered one of the most cost-efficient solutions in the history of health and development and have contributed to the laudable decrease in the number of child deaths. But only delivering vaccines at the health care posts or session sites does not do the magic. It has to be made sure that the effective vaccines are being made available and are delivered to all the target beneficiaries (infants and pregnant women). The magnitude of this deliverance is captured in Health Management Information System (HMIS) and can be measured and analysed by the Immunization Coverage Monitoring Tool.

The Universal Immunization Programme (UIP) of the Government of India (GoI) aims to achieve full immunization of the target population of children and mothers in India. Universal Immunization Program has a set of indicators to monitor progress under different components of the program and evaluate the coverage of immunization amongst the target population. MoHFW has recommended constitution of task forces at the state and district level for critical review of the program at monthly interval involving various stakeholders at the particular level.

History of the Immunization Coverage Monitoring Tool:

India's Universal Immunization Program (UIP) is one of the largest in the world in terms of quantities of vaccine used, number of beneficiaries, the number of immunization sessions organized, the geographical spread and diversity of areas covered. The performance of the UIP is assessed by data related to immunization coverage not only at national and state, but also at district, sub-district and health facility for micro level analyses and planning. For the successful implementation of the immunization program, it is essential for the program manager to analyze the coverage data, reported vaccine preventable diseases (VPD) and most importantly the dropped out and left out infants and children.

One of the major contributions of National Rural Health Mission (NRHM) has been to put in place a nationwide Health Management Information System (HMIS). The HMIS web portal was launched by the Ministry of Health and Family Welfare (MoHFW) on 21st October, 2008 to enable capturing of public health data from both public and private institutions in rural and urban areas across the country.

HMIS provides the data on live birth, antigen wise coverage, fully immunized children, session planned & held and VPD cases on monthly basis in absolute numbers. These numbers are consolidation of reported numbers under specific administrative/planning unit (state, district, sub-district)

Child Immunization Division along with Immunization Technical Support Unit (ITSU) of the MoHFW developed an Excel based offline tool for the program manager at the state, district and sub-district level to monitor the coverage and other UIP program management components on a monthly basis. This tool generates performance dashboard, antigen-wise graph, drop out and left out charts directly from the HMIS data.

Under the guidance of DC (Immunization), Immunization Technical Support Unit (technical support arm of MoHFW) developed a tool- the "Immunization Coverage Monitoring (ICM) Tool" with the following objectives:

- Set and evaluate monthly goals in a timely fashion
- Compare performance and coverage over different time periods
- Monitor each vaccine and dose
- Quantify the gaps in terms of drop-out and left out children
- Accurately reflect the situation of their region

Salient features of the Immunization Coverage Monitoring Tool:

- A partners' meeting was conducted on 17 July 2015 for orientation on Immunization Coverage Monitoring Tool, which was developed by POME unit. Its current features, use and importance as a tool in the hand of program managers were discussed in details. The tool has been approved and disseminated by immunization division of MoHFW to states and partners who have been asked to analyze the HMIS data at decentralized level.
- This tool is an excel based offline tool with an ability to generate automated antigen wise coverage monitoring charts and dashboards.
- The tool can be used by any health official who needs to collate and analyze the immunization data of the HMIS at various levels. It can be used at various levels of the government and other partners working at various levels.
- Level of Use:-The tool can be used at
 - National Level –to analyze and compare state wise data
 - State Level –to analyze and compare district wise data
 - District Level –to analyze and compare block wise data
- The tool is best used after the 20th of the next month; as that is when the previous month's data is updated at the HMIS portal.

As the Immunization Coverage Monitoring Tool has to be disseminated to the state and district level for use by the SEPIOs, DIOs and other health officials, it is necessary to make sure that the tool has been appropriately distributed and also that the concerned officials have been trained at par to use the tool. For the sole purpose of the assessment of the utilization of the Immunization Coverage Monitoring Tool, a checklist has been prepared by the POME team of the ITSU.

Immunization Coverage Monitoring Tool: Utilization Tool

Questions 1-8 are for SEPIOs and DIOs:

- 1) Do you assess the immunization performance of your state/district/block?
 - a) Yes
 - b) No
 - c) Not aware
- 2) What kind of data is used for performance analysis and what are the sources of data?
(Multiple options can be ticked)
 - a) HMIS
 - b) MCTS
 - c) Any other (specify)
- 3) How do you analyse the HMIS data?

- 4) Are you aware about the Immunization Coverage Monitoring Tool?
 - a) Developed by ITSU-MoHFW
 - b) Developed by WHO
 - c) Aware about the tool but not about the developing organization

Investigator will continue if the answer is (a):

- 5) Have you received the tool developed by ITSU-MoHFW?
 - a) Yes
 - b) No

5.1) if yes, from where have you got the tool?

- a) MoHFW/ITSU/State/District
 - b) WHO
 - c) Others (specify)
- 6) Did you receive any training on how to use the tool?
 - a) Yes
 - b) No
- 7) Are you using the tool?
 - a) Yes
 - b) No

If Yes,

7.1) What are the good things about the tool?

7.2) What are the challenges in using the tool?

If No,

7.3) What are the reasons?

8) If any, what are the suggestions on improvement of the tool?

Questions 9, 10, 11 and 12 are for SEPIO

9) Have you taken any step to increase the awareness about the tool at the district level?

- a) Yes
- b) No

10) Have you disseminated the tool to the districts in your state?

- a) Yes
- b) No

10.1) If yes, have you received any feedback from them?

- a) Yes
- b) No

10.2) If yes, what feedback did you receive?

10.3) If no, why?

11) Have you arranged for the training of data managers in your state on how to use the tool?

a) Yes

b) No

12) Have you faced any problem in the implementation/roll out of the tool?

a) Yes

b) No

12.1) If yes, what?

Conclusion:

The Immunization Coverage Monitoring Tool is a significant step towards analysing the HMIS data at various levels. But only making the tool available at the state, district and sub-district level is not enough; the concerned healthcare officials and the data managers need to be appropriately trained and updated about the various features and also about the utilization of the tool. A way ahead for the Immunization Coverage Monitoring Tool is to identify and address the barriers faced by the users of the tool. Also, the strengths of the tool should be highlighted to make the tool more user-friendly. Actions should be planned and taken to promote the Immunization Coverage Monitoring Tool and analysis of the data should be at a decentralised level for the tool to be most effective.

References

- CMT-Pamphlet.pdf
<https://www.itsu.org.in/download.php?f=CMT-Pamphlet.pdf>
- Immunization Coverage Monitoring Tool- Guidelines
- Immunization Coverage Monitoring Tool- Utilization Assessment Tool
- WHO and UNICEF estimates of national infant immunization coverage: methods and processes
<http://www.who.int/bulletin/volumes/87/7/08-053819/en/>