Program Monitoring and Quality Assurance Using Real - time Monitoring Checklist During National Deworming Day Program

By

Akanksha Yadav

Dissertation submitted in partial fulfillment of the requirements of the degree

MBA Hospital and Health Management

Academic year, 2017-2019

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INSTITUTE OF HEALTH MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

TO WHOMSOEVER MAY CONCERN

This is to certify that Ms. Akanksha Yadav, student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone dissertation at Evidence Action from February 4, 2019 to May 3, 2019.

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

The dissertation is in fulfilment of the course requirements.

I wish her all the success in her future endeavours.

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The certificate is awarded to

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In recognition of having successfully completed her Internship in

National Program Team

And has successfully completed her Dissertation on

Program monitoring and quality assurance using real -time monitoring checklist during National Deworming Day program (February 2019)

between 4 February 2019 to 3 May 2019

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

We wish her all the best for future endeavors.

Dated:14 May 2019

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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **Program monitoring and quality assurance using real -time monitoring checklist during National Deworming Day program (February 2019)** and submitted by **Akanksha Yadav,** Enrolment No. - 0529 under the supervision of Dr.J P Singh for award of MBA in Hospital and Health Management of the University carried out during the period from February 4,2019 to May 3,2019 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.

Akanksha Yadav

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify all ethical issues have been considered while collecting data for my dissertation titled Program monitoring and quality assurance using real -time monitoring checklist during National Deworming Day program (February 2019).

Signature of student

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List of Abbreviations

ANM	Auxillary Nurse Midwifery
AWC	Anganwadi Centre
DC	District Coordinator
ICDS	Integrated Child Development Services
IEC	Information, Education and Communication
M&E	Monitoring and Evaluation
MIS	Management Information System
MoHFW	Ministry of Health and Family Welfare
MUD	Mop-up Day
NDD	National Deworming Day
RC	Regional Coordinator
STH	Soil Transmitted Helminths
TC	Tele-callers
UT	Union territory
WHO	World Health Organization

ABSTRACT

Background - National Deworming Day (NDD) is a fixed day mass deworming program, which aims to deworm all pre-school and school age children between the ages of 1-19 years (enrolled in schools, registered in anganwadis, unregistered and out-of-school) through the platform of schools and anganwadis. Initially paper-based reporting was adopted for NDD program in February 2016, this manual compilation and aggregation of data at different levels led to hindrances such as higher probability of human error, delays in data compilation and analysis, and difficulties spotting and revising incorrect data due to multiple levels of aggregation, leaving limited time to feed data back into the program for improvements. With the rapid pan-India scale up of the program, automation of monitoring data collection and compilation processes became crucial for program success. Google monitoring forms are process monitoring tools which allow automatic aggregation of monitoring data and gauging of results from real-time monitoring during NDD and mop-up day (MUD).

Objective - The purpose of this study is to understand the use of Google forms in NDD program monitoring and review its role in improvement of program quality.

Methodology- Observational cross-sectional descriptive study was carried out in Evidence Action supported Indian states (where Evidence Action provides technical assistance to the state government) during which field visits were conducted in Sonipat (Haryana) and Ghaziabad (Uttar Pradesh) during preparatory and NDD phase. Desk review of existing presentations/trackers and strategy notes on the technology interventions was done. Tool used in the study was Google monitoring forms.

Results - A total of 11,256 google forms were filled by Evidence Action team members during Preparatory and Monitoring visits for NDD February round – 2019. Out of these, 6,690 forms were filled for schools and 4,566 forms were filled for *Anganwadi*s. Evaluation of key performance indicators during training revealed 100% awareness about drug dosage, 77% availability of training kits. Detailed performance on state specific indicators discussed in results section.

Conclusion- Google forms enabled live tracking which helped in suggesting midcourse/ end course corrective actions, making the process more streamlined and simpler with the help of data visualization dashboard/ tracker. Use of online forms leads to efficient systems – aiding in quick analysis, ensuring uniformity across the systems, reducing the errors and enhancing time management which adds value to program quality

Chapter 1 - Introduction

According to World Health Organization estimates, 220 million children in India between the ages of 1 and 14 are at risk of parasitic intestinal worms, also known as Soil Transmitted Helminths (STH). These children represent approximately 68% of children in this age group and approximately 28% of the number of children estimated to be at risk of STH infections globally. *(WHO 2012: Eliminating soil-transmitted helminthiasis as a public health problem in children soil-transmitted helminthiasis progress 2001-2010)*

These can result from poor sanitation and hygiene conditions and are easily transmitted among children through contact with infected soil. The consequences of chronic worm infection are both widespread and debilitating. They can cause anemia and under-nutrition, thereby impairing mental and physical development. In areas where parasitic worms are endemic, administering safe, effective deworming drugs to children at schools and anganwadis is a development best buy due to its impact on educational and economic outcomes and low cost *(WHO 2010. Soil transmitted helminthiases: Eliminating soil-transmitted helminthiasis as a public health problem in children progress report 2001-2010 and strategic plan 2011-2020)*

In India, almost 7 in 10 children in the 6-59 months age group are anaemic. Nearly half of children under five in India are stunted and approximately 43% are underweight and the prevalence of anaemia in girls and boys of the age group 15-19 years is 56% and 30% respectively. Children with the highest intensity of STH infestation are often too sick or tired to concentrate at school or attend school at all. Subsequent life outcomes of these children are also considerably impacted due to lower lifetime incomes. *(NFHS-3: 2005-2006)*

National Deworming Day

In 2009, the Government of India recommended States/UTs to conduct mass deworming based on State specific STH prevalence. The guidelines also recommend integrating biannual deworming with the Vitamin–A Prophylaxis program for under five children. *(Government of India. MoHFW, Recommendations of the Technical committee on deworming; 2009 May.)*

In February 2015, the MoHFW, Government of India launched the National Deworming Day as part of National Health Mission in 11 states/UT, including Assam, Bihar, Chhattisgarh, Dadra and Nagar Haveli, Haryana, Karnataka, Maharashtra, Madhya

Pradesh, Rajasthan, Tamil Nadu, and Tripura. After the unprecedented coverage of NDD with national level coverage of 8.9 crore children, the MoHFW mandated the observation of the NDD at pan-India level from February 2016.

It is a fixed day mass anganwadi and school-based deworming approach which has the potential to ensure maximum coverage with optimal utilization of resources, by leveraging existing programs and infrastructure.

A fixed day approach:

- Motivates states/UTs to prioritize deworming within current ICDS and school health programs
- Increases public awareness around deworming with standardized campaign message across the country
- Increases coverage of target beneficiaries
- Establishes structures to easily track and respond to any cases of adverse events
- Ensures quality and consistency of coverage reporting

NDD is observed in all states/UTs of the India on 10 February every year. It is followed up by mop-up day on 15 February, with the intent to deworm children who missed the dose of NDD due to sickness or absenteeism. *(NDD operational guidelines)*

Goal of NDD – the objective of NDD is to deworm all pre-school and school age children between the ages of 1-19 years (enrolled in schools, registered in anganwadis, unregistered and out-of-school) through the platform of schools and anganwadis in order to improve their overall health, nutritional status, access to education and quality of life.

Technical assistance by Evidence Action - Evidence Action is a technical assistance partner to the national and state governments for NDD program. It provides support in development of operational guidelines and implementation strategy. It also develops and implements monitoring and evaluation systems, and reporting formats for NDD. Evidence Action provides technical assistance to 11 states out of 36 states and union territories, which is approximately 53% of the total population of India.

Fig1.1: Evidence Action supported states

Monitoring and supervision plan

To ensure the quality of program delivery and technical assistance to NDD, Evidence Action has set in place a robust Monitoring and Evaluation (M&E) system to measure effectiveness in achieving intended program results. M&E is a critical component of the Evidence Action technical assistance to the Government program at both national and state level, which helps to track progress and facilitate timely decision making for program improvements and strengthening.

Understanding program reach and quality is central to a successful deworming intervention. To achieve this, Evidence Action supports the design and implementation of a robust monitoring and evaluation strategy for the Ministry of Health and Family Welfare's school and *anganwadi* based deworming program. Key components of this strategy is rolled out during and after each deworming round, when the program is monitored through:

- Process monitoring
- Coverage validation
- NDD Mobile App
- NDD Google Monitoring form

The data collected is used to assess the status of deworming related activities, give feedback to government, verify program coverage rates, and provide recommendations for program improvements for future rounds.

NDD Google Monitoring forms

As a single fixed-day program, it is important that real time monitoring information from National Deworming Day is collected and analyzed for corrective action on mop-up day. An efficient way of doing this was via Google forms, which is easy, can be customized easily, is free-of-cost, and can be accessed via any smartphone or laptop with internet connection.

History - To increase the pace at which monitoring data reached program managers and state officials, Evidence Action designed a Google form based on the monitoring checklist prescribed in the National Deworming Day operational guidelines. The Google monitoring form was piloted in Uttar Pradesh during the August 2016 round, yielding promising results. The ease-of-use and quick analysis of data made possible via the Google form, made it ideal to be adopted by all other NDD implementing states in the

subsequent rounds. It allows maintaining and gauging of results from real-time monitoring during NDD and mop-up day. This form is used by all officials who conduct monitoring visits to the field on NDD or mop-up day.

Need for Google Monitoring form

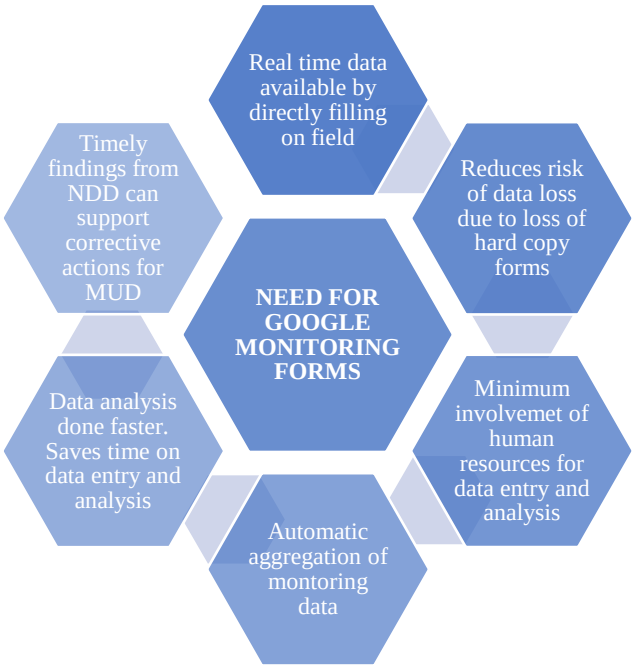


Fig 1.2 – Need for Google Monitoring Form

Google monitoring forms are used by Evidence Action in NDD for:

Training Quality Assessment

- Conduct training monitoring at all district level trainings, in coordination with District Coordinators (DC) and Regional Coordinators (RC).
- Fill both online and hard copy format of training monitoring checklist
- Disseminate status update on district level trainings with concerned RCs, Tele Callers (TC). Follow up with RCs and state teams for any corrective measures

Preparedness Monitoring

- Visit to sample schools and *anganwadi* (one week prior to NDD) to gather preparedness (drugs, reporting form, poster/handout, adverse event management etc.) for NDD.
- Undertaking corrective actions needed and observation/ feedback with RC and TC as appropriate
- Fill preparatory monitoring checklist during the visit

Monitoring visits on NDD or MUD

- Visit to schools and *anganwadi* on NDD and mop-up day to report on ground status of program implementation. Fill NDD google monitoring form and hard copy both
- Share observation/feedback from field with RCs and assigned TC on the same day before 3 pm
- Do facilitate for corrective action in coordination with Division level officials if gaps have been observed

- Daily monitoring of DCs - work priorities of the day i.e – key activities to be undertaken by DCs

Corrective Actions taken based on real time information

Using data from Google monitoring forms, letters are issued by state government to district and block officials for corrective actions for NDD/MUD on:

- Ensuring availability/sufficiency of albendazole tablets at schools and *Anganwadis*
- Facilitating availability of reporting formats for timely reporting
- Facilitating drug administration at schools and *anganwadis* on MUD where deworming was not conducted on NDD
- Ensuring coverage of left out children in schools and *anganwadis* on MUD
- Identifying need for increase in community level awareness through miking activity till MUD

Rationale

Google monitoring forms are process monitoring tools which allow automatic aggregation of monitoring data and gauging of results from real-time monitoring during NDD and mop-up day. It facilitates real time access to summary reporting and for timely dissemination of corrective actions to the concerned authorities for the gaps found in the field, thereby aiding in evidence based management of program implementation and quality assurance.

The purpose of this study is to understand the use of Google Monitoring forms in Program Monitoring and review its role in improvement of program quality

Objectives

- To understand the use of Google Monitoring forms in Process Monitoring
- To review the role of Google Monitoring forms in improvement of program quality

Chapter 2 - Review of Literature

Authors	Study location	Salient features
Helping teachers maintain classroom management practices using a self-monitoring checklist - 2015 *Regina M. Oliver, Joseph H. Wehby, J. Ron Nelson*	Elementary school in a metropolitan school district located in the southern part of the United States.	-Self monitoring checklists could be beneficial as a feedback loop for teacher-driven adaptations to evidence-based practices under real world conditions -Performance feedback -Staff development programs for teachers can use didactic training and performance feedback to generate initial accuracy of practices -Cost effective and pragmatic strategy to maintain implementation of evidence-based practices
Development of the SBIRT checklist for observation in real-time – 2017 *Janice A. Vendetti, Bonnie G. McRee & Frances K. Del Boca*	76 SBIRT providers in United States	-The Screening, Brief Intervention and Referral to Treatment Checklist for Observation in Real-time provides a flexible method for assessing adherence to evidence-based Screening, Brief Intervention and Referral to Treatment service protocols. -Preliminary evidence supports the criterion validity, feasibility and potential utility of the Screening, Brief Intervention and Referral to Treatment Checklist for Observation in Real-time protocol.
Guidelines for reporting of health interventions using mobile phones: mobile health (mHealth) evidence reporting and assessment (mERA) checklist – 2016 *Smisha Agarwal, Amnesty E LeFevre, Jaime Lee, Kelly L'Engle, Garrett Mehl*		-The checklist aims to identify a minimum set of information needed to define what the mHealth intervention is (content), where it is being implemented (context), and how it was implemented (technical features), to support replication of the intervention. Through widespread adoption, these guidelines should standardise the quality of mHealth evidence reporting, and indirectly improve the quality of mHealth evidence.
A Systematic Review of Methods and Procedures Used in EMA of Diet and Physical Activity Research in Youth: An Adapted STROBE Checklist for Reporting EMA studies – 2016 *(Yue Liao, Kara Skelton)*	13 studies selected from CINAHL, PsychINFO, PubMed & EBSCO host published before July 2015.	-Findings from this review suggest that in order to identify best practices for EMA methodology in nutrition and physical activity research among youth, more standardized EMA reporting is needed. -Missing the key information about EMA design features and participant compliance might lead to misinterpretation of results

Chapter 3 - Methodology

Study design – Observational cross-sectional descriptive study

The following study was undertaken to understand the role of Google monitoring forms in program monitoring of National Deworming Day February 2019. It plays a major role in the monitoring and evaluation strategy by assuring quality using real time monitoring checklist for pre NDD and NDD phase of the program. The intent of this study was to understand how the digitalization of monitoring forms has improved program quality over the rounds.

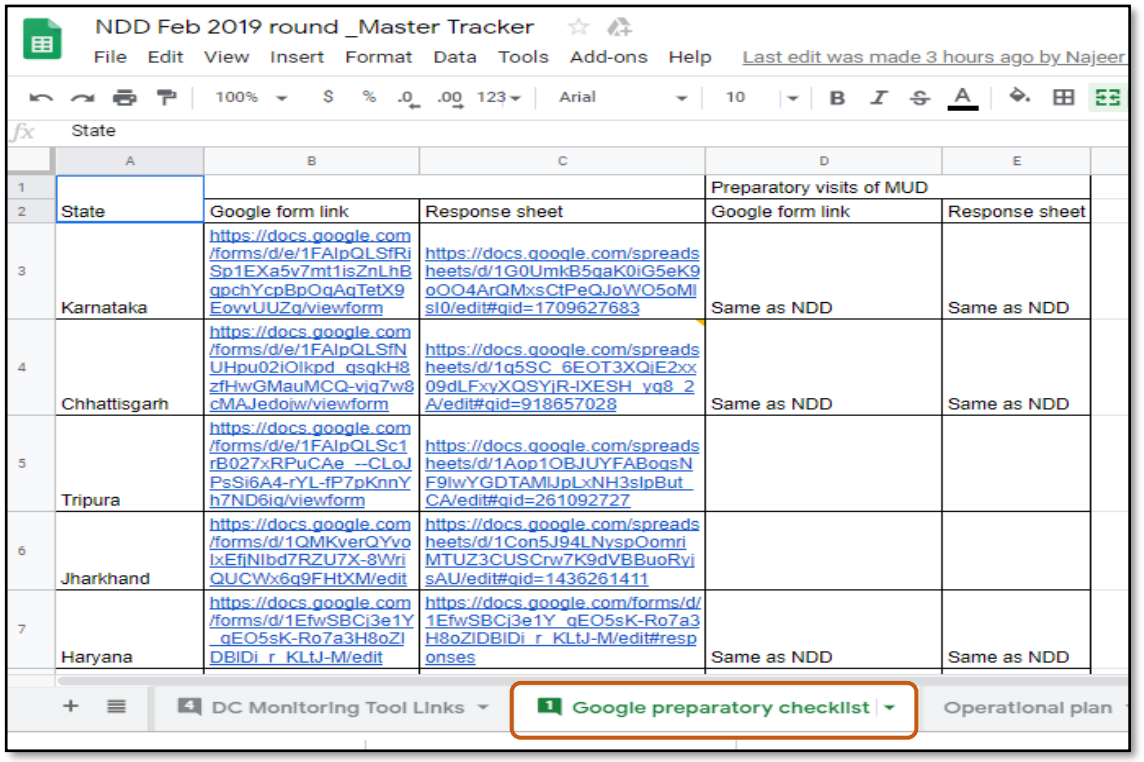
Study setting - India Evidence Action states

Evidence Action provides technical assistance to 11 states in implementing National Deworming Day program. In order to analyze the role of Google monitoring forms in successful implementation of the program as a technical assistance partner to state and national governments, this study was undertaken.

Duration – 3 months (4^{th} Feb – 3^{rd} May 2019)

Method of data collection – google preparatory checklist tracker, google monitoring forms response sheet, training monitoring tracker and documented communication with responsible authority for real time corrective actions

Google Preparatory Checklist tracker –



NDD Feb 2019 round _Master Tracker

File Edit View Insert Format Data Tools Add-ons Help Last edit was made 3 hours ago by Najeer

State

	A	B	C	D	E
1				Preparatory visits of MUD	
2	State	Google form link	Response sheet	Google form link	Response sheet
3	Karnataka	https://docs.google.com/forms/d/e/1FAIpQLSfRiSp1EXa5v7mt1isZnLhBqpchYcpBpOqAqTetX9EovvUUZg/viewform	https://docs.google.com/spreadsheets/d/1G0UmkB5qaK0iG5eK9oOO4ArQMxsCtPeQJoWO5oMIsI0/edit#gid=1709627683	Same as NDD	Same as NDD
4	Chhattisgarh	https://docs.google.com/forms/d/e/1FAIpQLSfNUHpu02iOIkpd_qsqkH8zfHwGMauMCQ-vjq7w8cMAJedojw/viewform	https://docs.google.com/spreadsheets/d/1q5SC_6EOT3XQjE2xx09dLFxyXQSYjR-IXESH_yq8_2A/edit#gid=918657028	Same as NDD	Same as NDD
5	Tripura	https://docs.google.com/forms/d/e/1FAIpQLSc1rB027xRPuCAe_--CLoJPsSi6A4-rYL-fP7pKnnYh7ND6ig/viewform	https://docs.google.com/spreadsheets/d/1Aop1OBJUYFABoqsNF9IwYGDTAMlJpLxNH3slpBut_CA/edit#gid=261092727		
6	Jharkhand	https://docs.google.com/forms/d/1QMKverQYvolxEfiNIbd7RZU7X-8WriQUCWx6q9FHtXM/edit	https://docs.google.com/spreadsheets/d/1Con5J94LNyspOomriMTUZ3CUSCrw7K9dVBBuoRyjsAU/edit#gid=1436261411		
7	Haryana	https://docs.google.com/forms/d/1EfwSBCj3e1Y_qEO5sK-Ro7a3H8oZIDBIDi_r_KLtJ-M/edit	https://docs.google.com/forms/d/1EfwSBCj3e1Y_qEO5sK-Ro7a3H8oZIDBIDi_r_KLtJ-M/edit#responses	Same as NDD	Same as NDD

DC Monitoring Tool Links | Google preparatory checklist | Operational plan

Fig 3.1 – Google preparatory checklist tracker

A Google preparatory checklist is used during preparatory visits to the schools and *anganwadis*, conducted 3-4 days prior to the National Deworming Day or Mop up day to analyze the level of preparations for the round. It provides a live insight of the existing situation in the field and all the responses are submitted to the M&E evaluation team latest by 3:00 pm, which are then analyzed for the gaps and the information is conveyed to the state government to take corrective actions accordingly.

Google preparatory checklist tracker is maintained for the round which gives information about the state specific form link and its response sheet for quick analysis and consistency checks.

- **Google monitoring form response sheet**

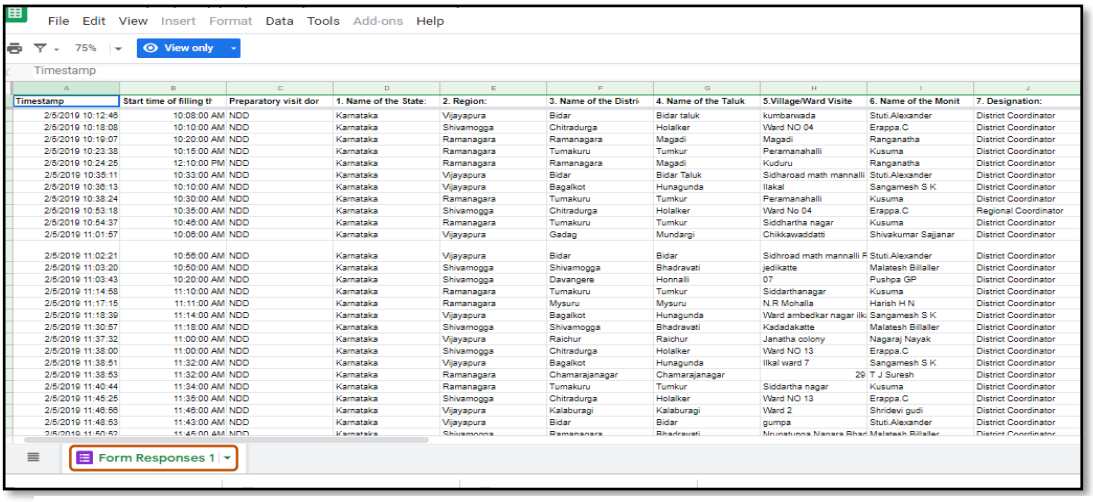
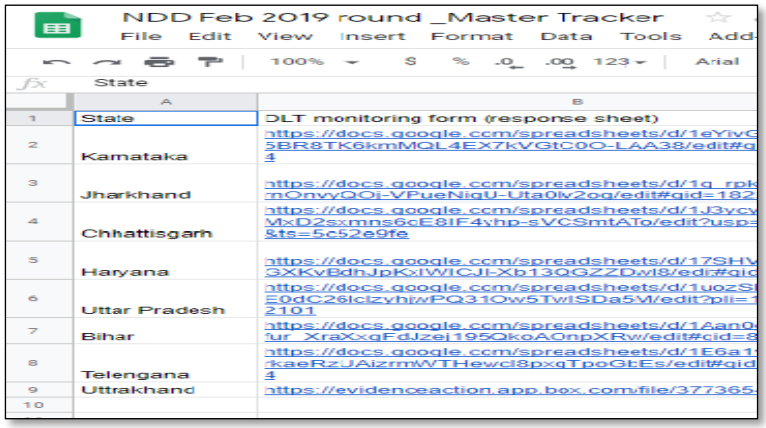


Fig 3.2 – Monitoring form response sheet

A compiled response sheet of the visits conducted is created and analyzed which gives a summary of the key areas which require attention prior to the round like – drug status, training, awareness etc.

- **Training monitoring tracker**

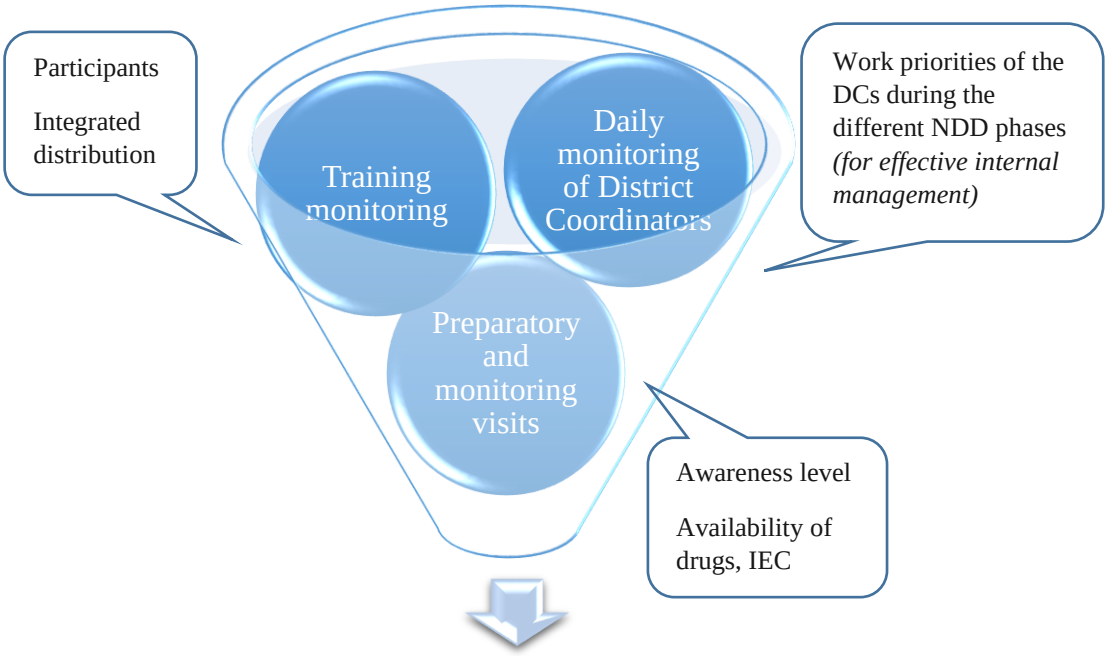


It is used to monitor the quality of training being conducted for NDD at district and block level. On the basis of this assessment, focus areas for action are identified.

Fig 3.3 – Sample format of Training monitoring tracker

- **Communication for corrective action**

Google monitoring forms facilitate multiple facets of the program during pre NDD and NDD phase by aiding in internal program management on a daily basis.



On the basis of the findings from these key performance indicators, government takes corrective actions in the form of release of program directives, letters, conducting refresher training, follow up SMSes

Fig 3.4 – Communication for corrective action

Study tools

- **Training monitoring forms** – used at district and block level to assess the level of training provided thereby facilitating training quality assessment. *(Annexure A)*
- **Preparatory checklist** – it is a tool that is used during the preparatory phase of the round, to analyze the level of preparedness for National Deworming Day. It consists of a set of questions covering the following aspects - awareness, training, drug availability, IEC material, adverse event reporting form etc.*(Annexure B)*
- **NDD/MUD Monitoring form** – it is used on the National Deworming Day or Mop up Day to monitor the program implementation at schools and *anganwadis*. The tool is divided into following components – NDD observations, training aspects, adverse events, community awareness and IEC material. *(Annexure C)*

Analysis Plan:

Desk review – in order to develop an understanding of the role of Google Monitoring forms, the existing presentations, trackers and strategy notes on the technology

interventions were reviewed. Documents included notes on Monitoring and Evaluation strategy, NDD operational guidelines, WHO operational guidelines, program reports and presentations from annual program review meeting.

Field visit to Schools and *Anganwadis* – 20 preparatory visits were conducted in Sonipat district of Haryana and 30 monitoring visits in Sonipat district and Ghaziabad district of Uttar Pradesh during the preparatory and NDD phase for which preparatory checklist and monitoring forms were used respectively. The checklist was to access the preparations of the site for NDD and was a questionnaire about NDD observations, training aspects, adverse events and community awareness and IEC materials . This assisted in developing an understanding of the role of Google forms as a process monitoring tool and how real time monitoring is done for facilitation of corrective actions on field in a time efficient manner.

Close support to the Evidence Action team towards technical assistance support in program monitoring - Worked in close coordination with Program team towards program monitoring and facilitating corrective actions mainly around NDD, in between NDD and MUD and on MUD. Data from monitoring visits were fed into google form and helped Evidence Action program team to compile visits from sites (schools and *anganwadi* centres). Real-time data was then shared by Evidence Action to state government for corrective actions prior to MUD.

Analysis of NDD field monitoring data - The data collected using monitoring checklist from all visits were entered in the standardized data entry template designed into Excel. Necessary data cleaning and consistency checks were done to ensure good quality data.

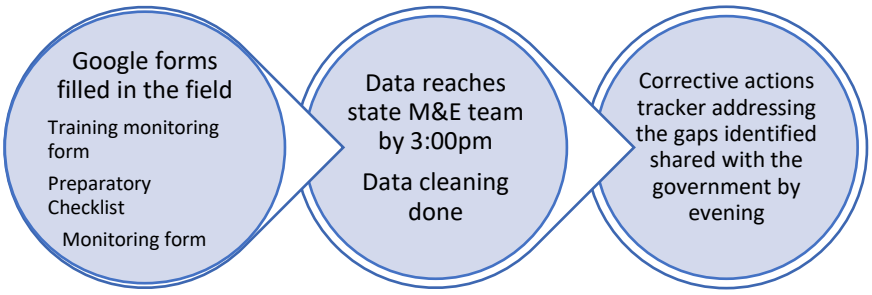


Fig 3.5 – Google monitoring form process flow

Training Quality Assessment:

Quality assessment of trainings was done in the NDD districts during pre-NDD phase was done using Google forms specifically designed for them. Evidence Action's District coordinators were oriented for the training monitoring procedure including data collection through the online monitoring form.

The online data collection enabled the team to make real time recommendations for the improvement of subsequent NDD trainings. Findings emerged from the monitoring data were regularly shared with the state government to take corrective actions.

Information on key indicators captured during training monitoring visits include-

- Age specific doses and way of consuming deworming drugs
- Availability of training kit
- Participants in the training
- Recording protocol and reporting timelines
- Time stamp

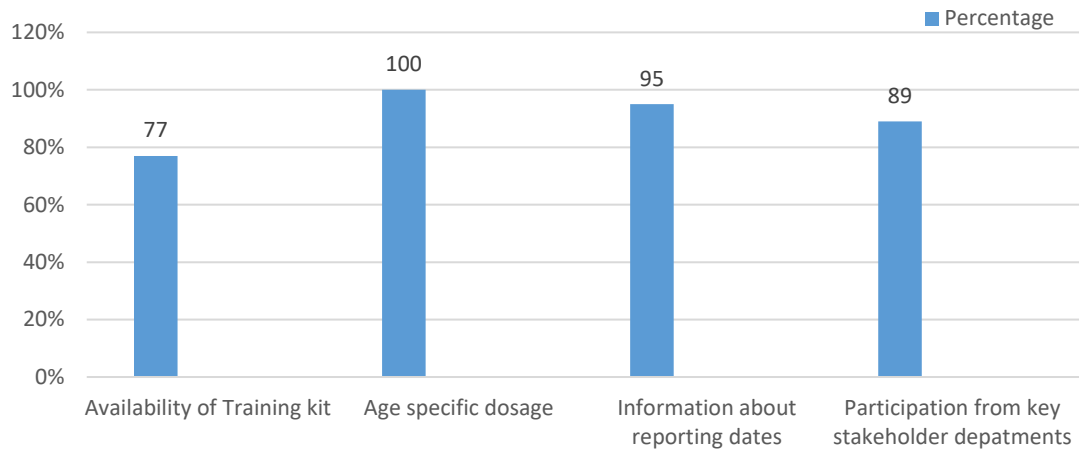


Figure 4.1 - Training Quality Assessment of NDD February 2019 round

Assessment of Training monitoring data was used to get insight into the participation from key stakeholder departments, timely organization (using time stamp), lacunas in the training and identification of key focus areas for refresher training or essential communication with stakeholders in the form of letters/emails.

Preparatory visit checklist:

Preparatory visits were carried out by Evidence Action team (District Coordinators and state team members) in NDD implementing districts. These visits are done in schools and anganwadis during the NDD and Mop up day to understand the preparedness for NDD/MUD.

The purpose of these visits is to observe and identify gaps which are then shared with concerned government officials through tele calling update on regular basis for reinforcement and timely redressal.

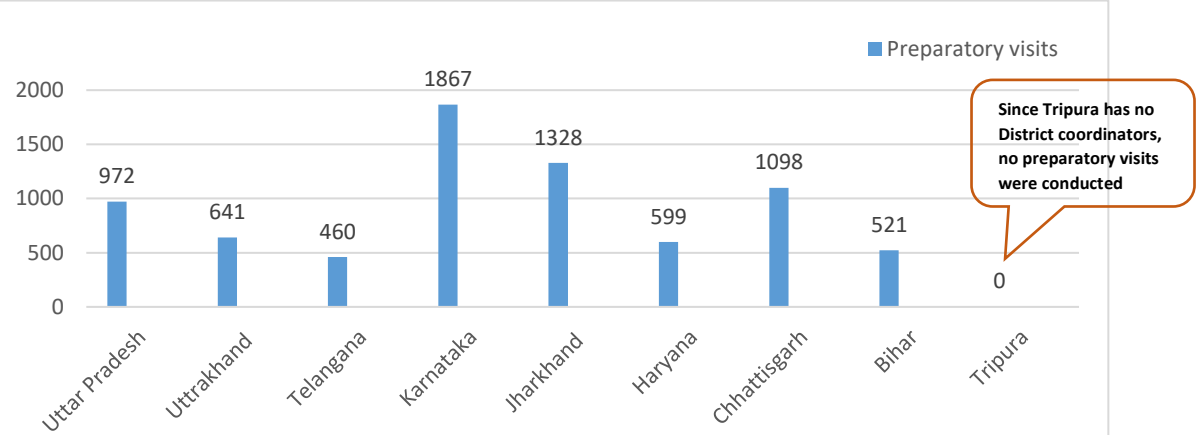


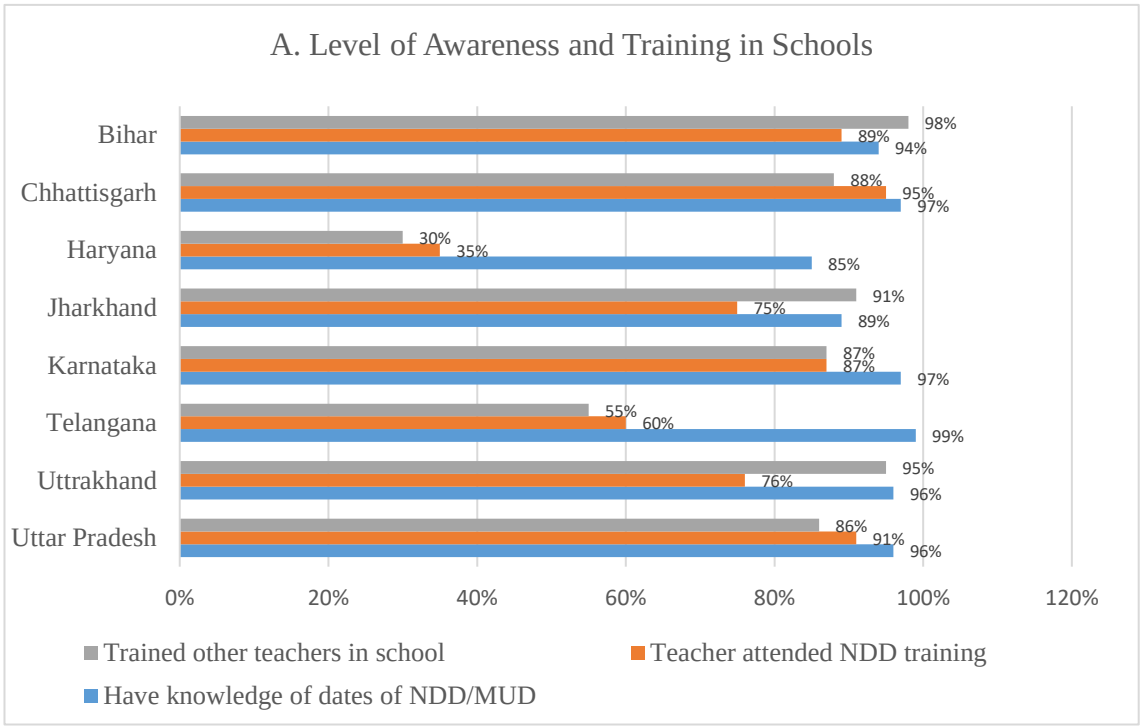
Figure 4.2 - Summary of Preparatory Monitoring Visits, National Deworming Day - February 2019

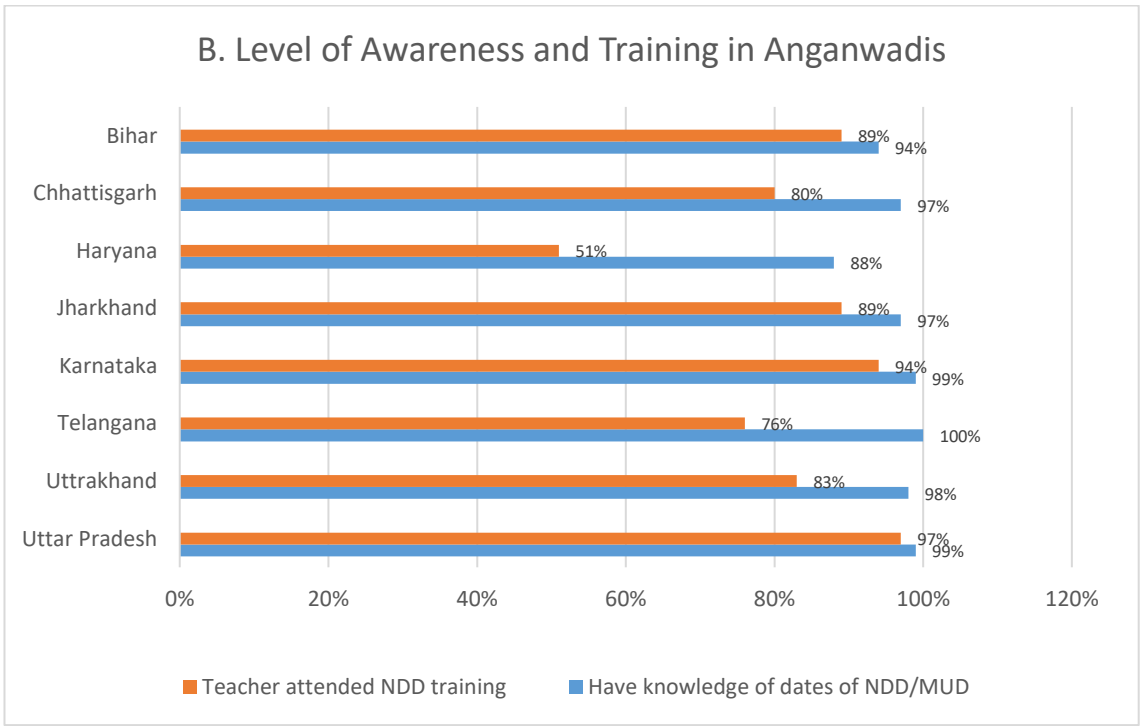
A total of 7,486 google forms were filled during the Preparatory visits for NDD February round – 2019. Out of these, 4,616 forms were filled for school visits and 2,870 forms were filled for *Anganwadi* visits.

Following indicators were addressed during the Preparatory Monitoring visits

- School/Anganwadi having knowledge of dates of NDD/MUD
- Teacher/Anganwadi workers attended NDD training
- Have trained other teachers in school
- Was the following available
    - Albendazole tablets
    - Posters
    - Handouts/Reporting forms
- Medicine sufficient for all children at School/AWC
- School/AWC have received expired albendazole tablets
- Contact number of nearest ANM/Health Centre available

Figure 4.3 – Level of awareness and training in Schools and *Anganwadis*





The performance on these indicators helped in providing focused assistance to the government by identifying the gap areas and addressing them in a timely manner so that program quality was not compromised.

Schools (Number – 4616)

Table 4.1: Availability of Albendazole and IEC material in schools *(Source – Annexure B)*

Availability of	**Albendazole**	**Posters**	**Handouts**	**Reporting forms**
Uttar Pradesh	94%	86%	87%	93%
Uttrakhand	97%	94%	87%	93%
Telangana	82%	62%	71%	78%
Karnataka	88%	86%	83%	86%
Jharkhand	83%	74%	80%	80%
Haryana	56%	54%	24%	48%
Chhattisgarh	69%	57%	53%	57%
Bihar	89%	79%	85%	85%

Anganwadis (Number – 2870)

Table 4.2: Availability of Albendazole and IEC material in anganwadis *(Source – Annexure B)*

Availability of	Albendazole	Posters	Handouts	Reporting forms
Uttar Pradesh	99%	92%	94%	97%
Uttrakhand	94%	93%	87%	93%
Telangana	82%	61%	68%	74%
Karnataka	94%	92%	89%	91%
Jharkhand	94%	80%	91%	91%
Haryana	59%	54%	19%	46%
Chhattisgarh	53%	44%	36%	35%
Bihar	92%	83%	87%	87%

Monitoring visit

On National Deworming Day (NDD) and mop-up day, monitoring visits were conducted by Evidence Action team across NDD implementing districts in the states.

The monitors observed and collected data on key indicators of the program like- availability of drugs, IEC and training materials, training and reporting protocols and to track other program activities in the field level. The NDD monitoring checklist as recommended by Government of India was used for the monitoring visits.

Purpose of Monitoring Visits- Monitoring plays a vital role in understanding the extent to which schools, *anganwadis*, and the health system are prepared to implement the NDD followed by mop-up day in the state. The purpose of the visits was to observe the quality of implementation and recommend areas of improvement for future NDD rounds.

Information on key indicators captured during monitoring visits include-

- Provision of deworming in schools and *anganwadis*
- Training participation and integrated distribution
- Awareness generation through type of community mobilization activities
- Special focus on private school participation in districts during NDD

The observations were collected in predesigned Google form having questionnaires of monitoring checklist and data from all visits which were automatically recorded in the standardized response sheet. The data was exported in MS Excel and necessary data cleaning and consistency checks were done to ensure good quality data.

Availability of provision of Deworming:

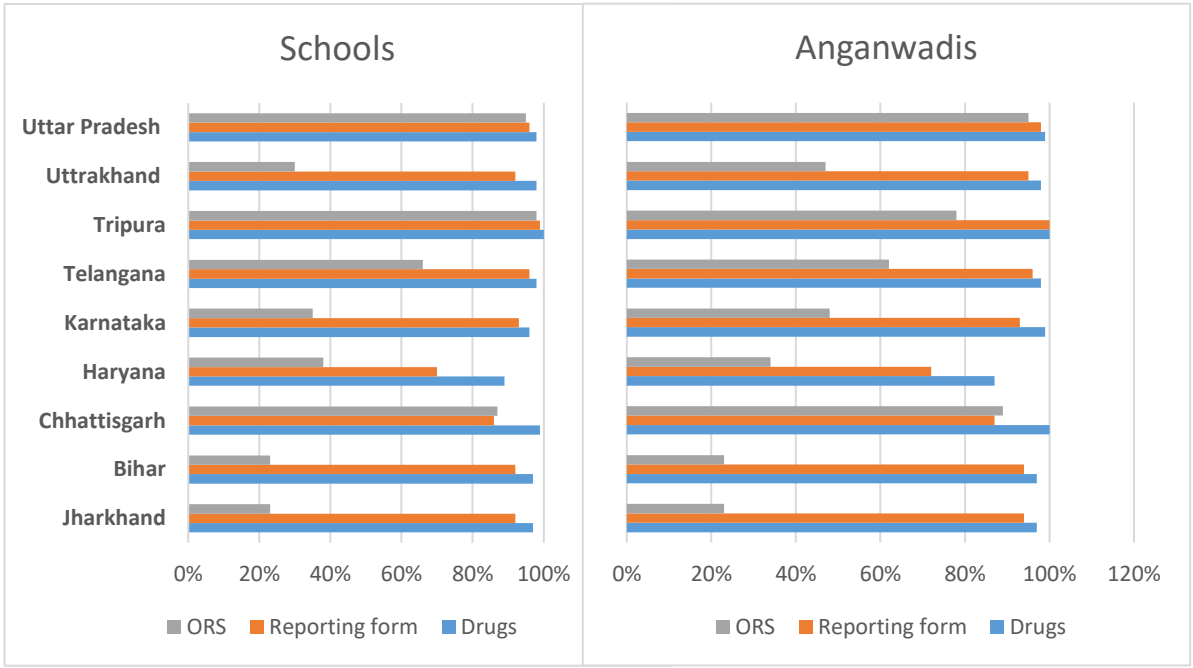
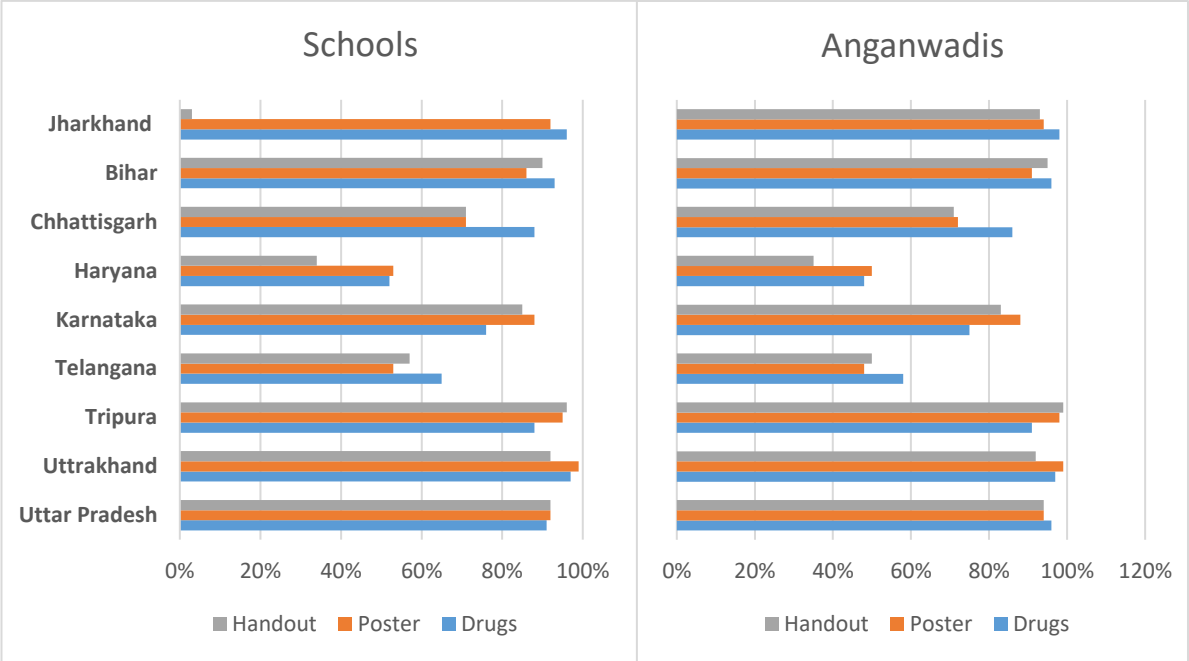


Figure 4.4: Provision of Deworming at schools and *anganwadis* on NDD/MUD

During the visits, it was observed whether schools and *anganwadis* had sufficient quantities of albendazole tablets, availability of reporting forms at the site visited. Sites were identified where there was drug shortage or the reporting forms were not available. These gaps were mitigated by timely communicating them to the state officials who suggested corrective actions to the district and block level officials.

Integrated distribution during Training:

Figure 4.5: Integrated distribution during training



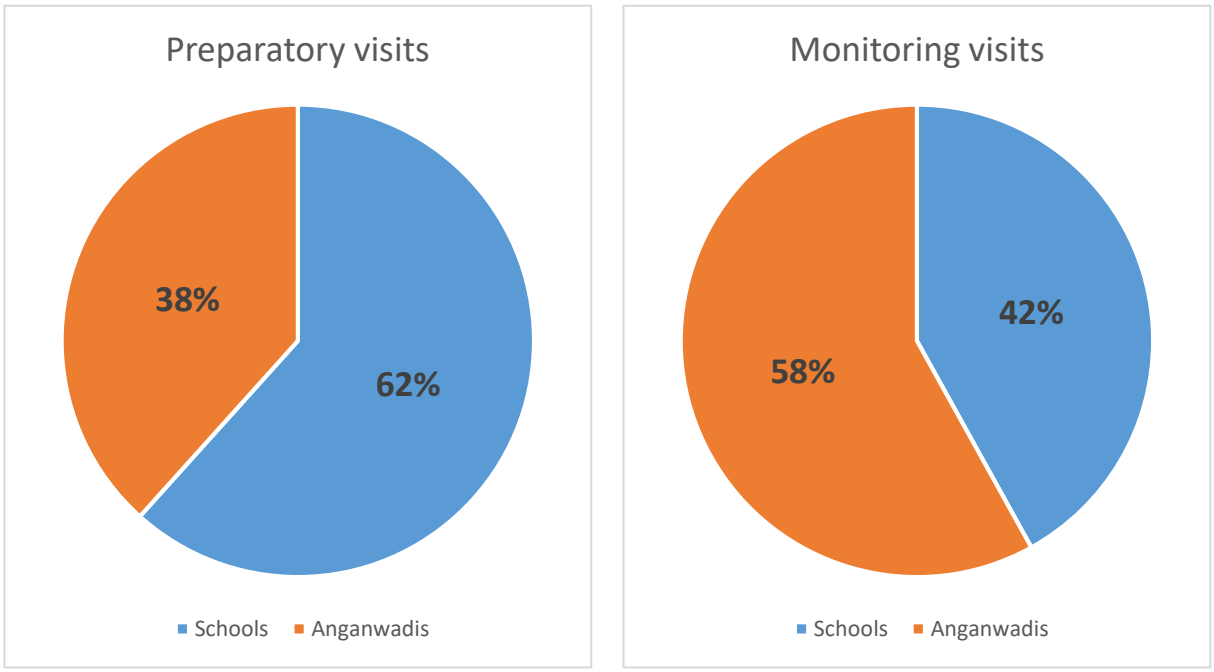
Integrated distribution refers to the combined distribution of drugs, IEC material and reporting forms during training (pre-NDD phase), which ensures better implementation of the program.

- Findings from these monitoring visits carried out during pre-NDD and NDD phase by Evidence Action are maintained on trackers that highlight the activities in a color-coded manner – Green (on time),Yellow (in process), Red (delayed activity)
- These trackers are shared with the government on regular basis to increase the pace at which monitoring data reaches Program managers and state officials to ensure quality of support as a technical assistance partner, by giving live updates from the field and suggesting the corrective actions with evidence.

Key Findings:

- Training quality assessment revealed that discussion on drug dosage had a positive trend with 100%, but the distribution of training kit still has a low percentage of 75%
- Color coded state specific trackers developed for preparatory and monitoring visits gave a live insight of the situation and aided greatly in taking corrective actions by sharing them with government
- Gap identified in the form on field was that the interlinked questions could accept values which had discrepancies (Number of children enrolled in schools and number of children present on day of visit)

Figure 4.6: Summary of Preparatory and Monitoring visits conducted by Evidence Action teams during NDD February 2019 round:



- A total of 7,486 google forms were filled during the Preparatory visits for NDD February round – 2019. Out of these, 4,616 forms were filled for school visits and 2,870 forms were filled for *Anganwadi* visits. *(Detailed summary of the visits can be found in Annexure D)*
- In total, 3770 google forms were used during monitoring visits on NDD/MUD February 2019. Out of the total visits, 2074 visits to School and 1696 visits to Anganwadi centres were conducted. *(Detailed summary of the visits can be found in Annexure E)*

Important clause on data sharing:

Evidence Action represented through it's in country technical consultant Pramanit Karya India Private Limited provided key technical assistance to states for program planning, implementation and monitoring. There was no specific data collected for this dissertation. The data / information included here is part of the larger technical assistance efforts of Evidence Action for national and state governments. All rights to any information / data in writing or other readable form above, belongs to Evidence Action.

Chapter 5 - Discussion

Google forms have greatly aided in evidence based management of program implementation by providing real time updates from the field during the preparatory and NDD/MUD phase of the round.

This technological intervention in Program Monitoring has a lot of benefits like:

- Live tracking enabled and suggest mid-course/ end course corrective actions – online forms have enabled the sharing of gaps identified on the field in real time which are shared with the responsible authority in a time efficient manner to make corrective actions.
- Process streamlined making it simple – human resource required for data collection and entry is reduced making the entire process simple and convenient. Earlier Evidence Action team had to manually fill the information from the hardcopies of the forms which was a time consuming a strenuous activity.
- Data visualization dashboard/ tracker – all the google forms have a dashboard which displays the information on key performance indicators that help us focus on the areas needing additional attention during the program.
- Efficient systems – quick analysis, uniformity across the systems. Errors are reduced as internal checks within the form exist (eg – numerical values and no vacant response space) and time management has been enhanced.

Additionally, Google forms also facilitate the training monitoring and give a feedback on the quality of the training conducted.

Recommendations – Additional features like – adding more internal checks within the form will help in bringing further efficiencies. Use of Google forms in areas with low internet connectivity may continue to be a challenge which can be mitigated by efficient planning of use of hard copies of these forms.

Way forward - With the establishment of MIS system, these forms can be integrated within the modules leading to enhanced use of data for program improvement. Uptake of google forms by national and state government for NDD program improvements reiterates the value addition of using these tools for meeting larger program goal to improve health and education outcomes of millions of children.

Annexures

Annexure A - Training Monitoring form

राष्ट्रीय कृमि मुक्ति दिवस फरवरी - ***2019***

अनुदेश: जो लागू नही हो उसे छोड़कर सभी जानकारी को भरना सुनिश्चित करें ।

<table>
<tr><td>राज्य का नाम</td><td colspan="5"></td><td>जिला का नाम</td><td colspan="9"></td></tr>
<tr><td>ब्लॉक का नाम</td><td colspan="5"></td><td>प्रशिक्षण की तारिख</td><td></td><td></td><td>/</td><td></td><td></td><td>/</td><td>2</td><td>0</td><td>1</td><td>7</td></tr>
<tr><td>प्रशिक्षण का स्तर</td><td colspan="6">[1] जिला
[2] ब्लाक</td><td>प्रशिक्षण का स्थान</td><td colspan="9"></td></tr>
<tr><td>प्रशिक्षण प्रारम्भ होने का समय</td><td>एच</td><td>एच</td><td>:</td><td>एम</td><td>एम</td><td>प्रशिक्षण समाप्त होने का समय</td><td>एच</td><td>एच</td><td>:</td><td>एम</td><td>एम</td></tr>
<tr><td rowspan="2">इस प्रशिक्षण के प्रतिभागी कौन है (सही विकल्प पर गोला लगाएं)</td><td>जिला स्तर पर</td><td colspan="4">1. शिक्षा विभाग</td><td colspan="3">2. स्वस्थ्य विभाग</td><td colspan="3">3. आईसीडीस</td></tr>
<tr><td>ब्लॉक स्तर</td><td colspan="4">1(अ).शिक्षक/हेडमास्टर
1(ब). निजी स्कूल के शिक्षक</td><td colspan="2">2. .एएनएम</td><td>3. आशा</td><td colspan="3">4. आंगनवाडी कार्य कर्ता</td></tr>
<tr><td>प्रशिक्षण शुरु होने के समय प्रतिभागियों की संख्या</td><td colspan="5"></td><td colspan="4">प्रशिक्षण खत्म होने के समय प्रतिभागियों की संख्या *(कृप्या अंत मे उपस्थित
प्रतिभागी की वास्तविक संख्या की गणना करें)</td><td colspan="4"></td></tr>
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Annexure B

Preparatory visit checklist

School/Anganwadi Preparatory Check List

National Deworming Day (NDD), February 2019

General Information							
1. State			2. District				
3. Division			4. Village/Ward				
5.	Monitoring Site		1. Government school	2. Private School	3. Anganwadi		
6.	School/AWC Name						
7.	School DISE/AWC Code						
Checklist Section							
8.	Are you aware about the dates of NDD and MUD?					1.YES	2.NO
9.	Have you or any other person from your school/AWC attended official training for NDD, August 2018?					1.YES	2.NO
10	If yes, did the teacher trained the other teachers in the School?					1.YES	2.NO
11	Has the school management committee happened?					1.YES	2.NO
12	Whether parents are informed about deworming program in the school management committee meeting?					1.YES	2.NO
13	Does the school/AWC have following things available for NDD, August 2018	Albendazole tablets	Yes	No			
		Poster/Banner	Yes	No			
		Handouts	Yes	No			
		Reporting form	Yes	No			
		Adverse event reporting form	Yes	No			
14	Are the drugs in sufficient quantity to deworm enrolled / out of school/unregistered children/ Anganwadi children					1. Yes	2. No
15	If no, how much drugs are short at your center? **Mention the quantity**						
16	Does the school/AWC have received any expired packet of drugs					1.Yes	2.No
17	Does the school/AWC have phone numbers of the nearest ANM or MO-PHC?					1. YES	2. NO
18	Please mention about any gaps in preparation related to NDD as shared by headmaster/Anganwadi worker.						

Name & Contact no. of the Monitor

Signature of the Monitor

Annexure C

Monitoring visit form

National Deworming Day Monitoring Form-February 2019

Date of Visit (Tick the box which applies): ☐ National Deworming Day (__ /__ /2019) ☐ Mop-up day (__ /__ /2019)

GENERAL INFORMATION							
Name & Mobile No. of Monitoring Officer	Monitoring Site 1. Government school 2. Private School 3.*Anganwadi*	Name of School/ AWC:	School DISE/AWC Code:	State Name:	District Name:	Block Name:	Name of Ward /Village

If monitoring site is government/private school, please fill in the below two points:

a) Total children enrolled in the school		b) Total attendance in the school on the day of monitoring visit	

MONITORING SECTION: Circle the correct option based on your observations and interviews.

NDD Observations

1. Does the school/AWC have deworming drugs? 1. YES 2. NO (If No, skip to Q.4)
2. Are the drugs available in sufficient quantity to deworm the enrolled as well as out-of-school/unregistered children? 1. YES If Yes, specify the quantity of drugs - _____ 2. NO
3. What is the expiry date of the drugs?
4. Does the school/AWC have the following provisions for the deworming process? Circle all that apply.
   1. School/AWC handout/reporting form 2. Drinking water 3. ORS Packets 4. Others (specify)
5. Are the deworming drugs being administered to children? 1. YES 2.NO
6. If NO, why deworming is not happening at school/*Anganwadi*? Specify reason.
7. If YES, who is administering the drugs to the children? Circle all that apply. *(If the deworming has already happened, check with school headmaster/AWW)* 1. AWW 2. Teacher/ Principal 3. ASHA 4. Other (specify)_____
8. Is the ASHA present at the AWC? *(This question is applicable to Anganwadi Centre only)*
   1. YES 2. NO (If No, skip to Q.10)
9. Is the ASHA assisting the AWW in the deworming process? *(This question is applicable to Anganwadi Centre only)*
   1. YES 2.NO
10. Is the teacher/AWW separating sick children from healthy children before deworming?
    1. YES 2.NO 3. Incase not able to observe as deworming already happened, check with teacher/AWW
11. Did the teacher/AWW tick (✓/✓✓) each child's name in the attendance register after giving them the drug?
    1. YES 2. NO 3. Incase not able to observe as deworming already happened, check with teacher/AWW
12. Did the ASHA/AWW make a list of the out-of-school/unregistered children who got the drug?
    1. YES 2.NO 3. Non-enrolled children did not receive drugs at this AWC
13. Are out-of-school children getting deworming drug in the school/AWC? 1. YES 2.NO
14. Are teachers giving any health education related to deworming to the students?
    1. YES 2.NO 3. If Yes, check with 1-2 students if they are aware of deworming benefits and make note
15. Whether children are given appropriate dose (half tablet for 1-2 years/one tablet for 2-19 years) of Albendazole by teacher/AWW? 1. Yes 2. No
16. Are teacher/AWW asking children to eat tablets in front of them only?
    1. YES 2. NO 3. Incase not able to observe, make note
17. Whether children are told to chew the tablet before swallowing it?
    1. YES 2. NO 3. Incase not able to observe, make note

Training Aspects
18. Have you or any other person from your school/AWW attended official training for deworming in the last two months? 1. YES 2. NO If No, specify reason - _____
19. If YES, did those who attend deworming training provide training to others? 1. YES 2.NO If No, specify reason - _____
20. Where did the teacher/AWW receive training? 1. At school 2. At Block-level training 3. At District-level training 4. Other (Specify)_____
21. Materials received during training? 1. Tablets 2. Poster/banner 3. Handouts /reporting form 4. Adverse event reporting form 5. Others (Specify)_____
22. Did you receive any SMS about the NDD? 1. YES 2.NO
Adverse Events
23. According to the teacher/AWW, can the deworming drugs be administered to sick children? 1. YES 2. NO 3. Don't know
24. Is the teacher/AWW aware of the possibility of adverse events from deworming? 1. YES 2.NO 3. Don't know (Skip to Q.26)
25. If YES, according to the teacher/AWW, what is the appropriate response in case of severe adverse events? Circle all that apply. 1. Let the child rest in an open and shaded place 2. Provide clean water to drink 3. Contact the ANM/nearby PHC 4. Others (Specify) _____
26. What possible adverse events could be reported by children after having the tablets? Circle all that apply. 1. Mild abdominal pain 2. Nausea/vomiting 3. Diarrhea 4. Fatigue 5. Don't know 6. Others (Specify) _____
27. Did you witness any serious cases of adverse events in the school/AWC? 1. YES 2.NO
28. Does the school/AWC have phone numbers of the nearest ANM or MO-PHC? 1. YES 2.NO
Community Awareness and IEC Materials
29. Which of the following IEC materials are visible at the school/AWC? Circle all that apply. 1. Poster 2. Banner 3. No IEC materials 4. Not received 4. Others (Specify)_____
30. Which of the following reference documents are available at the school/AWC? Circle all that apply. 1. Teacher/AWW Handout/reporting form 2. Adverse Events Protocol 3. No documents 4. Others (Specify)_____
31. Which of the following community mobilization steps have been under taken by the ASHA before NDD? Circle all that apply. 1. Conducted village meetings with parents 2. Informed parents about harmful effects of worms 3. Informed parents of benefits of deworming 4. Informed parents about behavior change to prevent reinfection 5. Others (Specify)_____
32. From where did you get information about the recent round of deworming program? 1. Departmental communication 2. Television 3. Radio Newspaper 4. Banner 5. SMS 6. Training 7. Others (Specify)_____
33. What are the different ways that children can get worm infection? Circle all that apply. 1. Having foods without washing hands 2. Not washing hands after using toilets 3. Not using sanitary toilets 4. Moving in bare feet 5. Consume vegetables and fruits without washing
ADDITIONAL COMMENTS: Please write any observations that have not been captured in the preceding sections

Annexure D

Summary Note on Preparatory Monitoring Visits, NDD - February 2019

Haryana

A total of 599 preparatory visits were made by the District Coordinators and State Team members of Evidence Action prior to NDD (N=323) and mop-up day (N=276) during NDD February 2019 round in 15 districts. These visits were conducted between February 6-13, 2019, a total of 248 *anganwadi* centres and 351 schools/degree college/ITI /degree college/ITI were visited to understand the preparedness for deworming during NDD/mop-up day. Based on the information collected in the checklist, information was shared and instructions were provided to the concerned government officials on the day of monitoring visit close the gaps related to shortage of drugs or IEC & training material at any of the visited sites prior to NDD/mop-up day. The same was also reinforced and followed up through tele-calling support to the respective block level officials for necessary interventions and corrective measures.

FINDING FROM PREPARATORY MONITORING, FEBRUARY 2019						
Indicators	**Schools/degree college/ITI / Degree college/ Polytechnic/ ITI**			***Anganwadi***		
	%	**N**	**D**	**%**	**N**	**D**
School/AWC have knowledge of dates of NDD	85%	298	351	88%	219	248
Teacher/ *Anganwadi* worker attended NDD training	35%	123	351	51%	127	248
Has trained other teachers in schools/degree college/ITI	30%	107	351	-	-	-
Was the following available						
A. Albendazole tablets	56%	195	351	59%	147	248
B. Posters	54%	188	351	54%	134	248
C. Handouts	24%	84	351	19%	47	248
D. Reporting forms	48%	168	351	46%	114	248
Medicine sufficient for all children at school/ AWC	55%	193	351	59%	146	248
School/AWC have received expired albendazole tablets	0%	0	351	0%	0	248
Contact number of nearest ANM/ Health Centre available	80%	281	351	88%	217	248

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