

Evidence
Action

Deworm the
World Initiative



Independent Monitoring of
National Deworming Day in Tripura
February 2017

REPORT
September 2017

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EXECUTIVE SUMMARY

In India an estimated 220 million¹ children or one quarter of the global burden are living with STH infection. In February 2015, the Government of India launched National Deworming Day (NDD) to deworm all children between 1-19 years. The program aims to deworm all at-risk children through the supervised administration of albendazole tablets to all children aged 1-19 at *anganwadis* (preschools) and schools, including unregistered and out-of-school children.

Tripura implemented its first round of NDD in February 2016 and performs biannual treatment. On February 10, 2017, Tripura observed the NDD round in all eight districts followed by Mop-Up Day on February 15, 2017. Evidence Action's Deworm the World Initiative, as the technical assistance partner to the state government, engaged an independent research agency to conduct process monitoring on NDD and Mop-Up Day to assess the preparedness of *anganwadis* and schools to implement the NDD program and to perform coverage validation post NDD to evaluate the accuracy of the reporting data and coverage estimates.

Findings from process monitoring highlighted that nearly 100% of schools and *anganwadis* observed NDD or Mop-Up Day. Results show that all schools and *anganwadis* received sufficient tablets. Ninety-two percent of school teachers and 98% of *anganwadi* workers attended trainings. However, 64% of schools and 68% of *anganwadis* received an integrated distribution of NDD kits.² Coverage validation data revealed that 61% of schools and 62% of *anganwadis* followed correct protocols for recording the number of children dewormed. A substantial proportion of *anganwadi* workers did not have a list of unregistered (87%) and out-of-school children (62%). In the interviews conducted, 99% or nearly all of enrolled children reported they received an albendazole tablet.

The independent monitoring of NDD highlights opportunities to strengthen and improve program quality and coverage by ensuring timely communication of training dates to schools and *anganwadis*. Other opportunities include updating the contact database of functionaries across stakeholder departments to facilitate timely information dissemination on the program, strengthening the integrated distribution of NDD kits and enhancing the engagement of ASHAs and private schools.

¹ Soil transmitted helminths, Number of children (Pre-SAC and SAC) requiring Preventive Chemotherapy for Soil transmitted helminths, WHO (2014)
http://apps.who.int/neglected_diseases/ntddata/sth/sth.html

² Integrated distribution of NDD kits including albendazole, banner/poster and handout-reporting forms provided to schools and AWC during the trainings at cluster or PHC level.

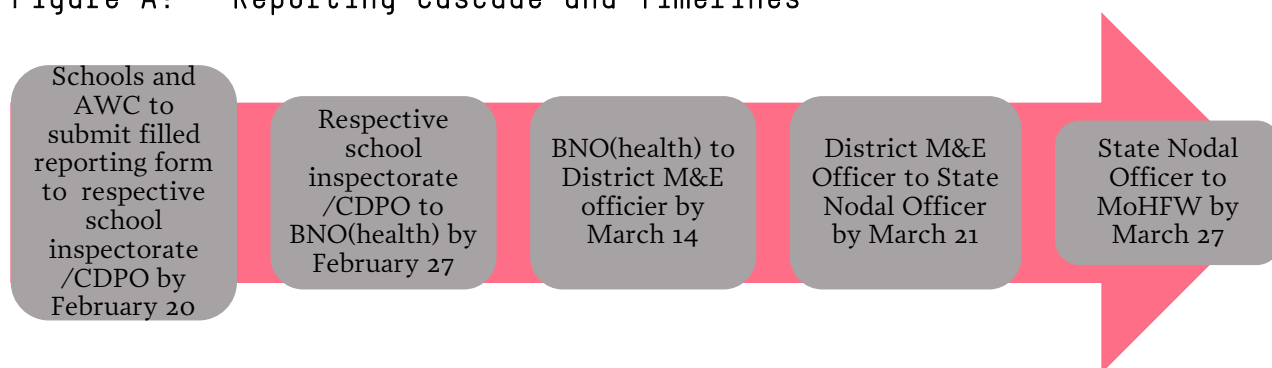
1. MONITORING AND EVALUATION

Understanding program reach and quality is a key component in determining if a NDD round was successful. Evidence Action worked intensively with the Government of Tripura's Departments of Health, Education, Social Welfare, and Social Education to assess the quality of program planning and implementation with the objective of identifying gaps and developing recommendations for improvements in future NDD rounds. Evidence Action conducted process monitoring to understand government implementers' preparedness for NDD and their adherence to the program's prescribed processes. After NDD, we conducted coverage validation to verify government-reported treatment figures.

1.1 Process Monitoring and Coverage Validation

Process monitoring assesses the preparedness of schools, *anganwadis*, and health systems to implement NDD and the extent to which they have followed recommended processes to ensure a high quality program. Evidence Action assessed program preparedness during the pre-NDD phase and retained independent monitors to observe the processes on NDD and Mop-Up Day. Evidence Action conducted process monitoring in two ways: a) telephone monitoring and b) physical verification by visiting schools/*anganwadis* and training venues.

Figure A: Reporting Cascade and Timelines



Coverage validation is an ex-post check of the accuracy of the reporting data and coverage estimates. Coverage validation data was gathered through interviews with headmasters and *anganwadi* workers and three students (in three randomly selected classes) in each sampled school and by checking all registers and reporting forms in schools and *anganwadis*. These activities provided a framework to validate coverage reported by schools and *anganwadis* and to calculate the level of inaccuracy in reported data by comparing the recounted numbers.

1.2 Recording and Reporting Processes

Recording and reporting processes are an important means to assess the estimated number of program beneficiaries. With close support from Evidence Action's team, the Department of Health collected and compiled the coverage report for NDD within the reporting timelines. The

coverage reporting in the state was done using paper as well as the NDD app. The Government of India provided the state with 68 user IDs and passwords to all blocks and districts for the NDD mobile/web application-based coverage reporting. The designated nodal government official at the block level then used the NDD application to approve NDD coverage data entered in the application by block level officials. The functionary trainings included a session on reporting protocols, the reporting cascade, and reporting timelines (refer to **Figure A**) and were shared with districts through state directives. To record deworming at schools and *anganwadis*, a single tick mark (✓) was required next to a child’s name in the attendance register if they were dewormed on NDD, and a double-tick mark (✓✓) if dewormed on Mop-Up Day. Headmasters/principals and *anganwadi* workers compiled the number of dewormed children from attendance registers, filled out the summary reporting format, and submitted it to the next level.

1.3 Sampling and Sample Size

Evidence Action facilitated independent monitoring in all eight implementing districts. Through a competitive process, Evidence Action hired Market Xcel, an experienced independent research agency that provided 80 monitors. A two-stage probability sampling procedure was adopted to select schools and *anganwadis* for independent monitoring (**Table A**). A total of 160 schools and 159 *anganwadis* were covered during process monitoring on NDD and Mop-Up Day, and 400 schools and 400 *anganwadis* during coverage validation.

Table A: Target and coverage of schools and *anganwadis* during independent monitoring

Indicators	Process		Coverage	
	Target	Achieved	Target	Achieved
Total number of districts	8	8	8	8
Total number of blocks	40	40	40	40
Total number of schools	160	160	400	400
Total no. of children interviewed in schools	NA	NA	1200	1191
Total number of <i>anganwadis</i>	160	159	400	400

1.4 Independent Monitoring Formats

To ensure comprehensive coverage and triangulation of data, three formats were administered: one combined tool for process monitoring at schools and *anganwadis* on NDD and Mop-Up Day, and one for schools and *anganwadis* for coverage validation. Evidence Action designed and finalized formats with approvals from Tripura’s Department of Health. The formats were

translated into the regional language, checked to ensure that the language was concise and easy to understand, and loaded onto tablet computers.

1.5 Authorization from the Government

Evidence Action conducted independent monitoring with approval from the state government. Once the state government requested participation from each school, the monitors carried a copy of the authorization letters to the schools and *anganwadis*, and explained the process of monitoring and coverage validation to a school headmaster or teacher or *anganwadi* worker while requesting their participation.

1.6 Training of Trainers and Independent Monitors

A two-phase training program was organized, with Evidence Action providing a one-day comprehensive training to five master trainers of Market Xcel in Delhi on February 3, 2017, followed by the master trainers further conducting a two-day training of 100 monitors (including buffer monitors) during February 7-8, 2017. The training included a brief orientation on NDD, the importance of independent monitoring, and details of the monitoring formats including computer-assisted personal interviews (CAPI) practices and practical sessions. At the end of the training, all participants were tested on their comprehension and ability to work in the field in order to qualify to participate.

1.7 Field Implementation

Each monitor was allotted one school and one *anganwadi* for process monitoring on NDD and Mop-Up Day to collect information on the availability of drugs, IEC materials, and further observations. Subsequently, each monitor was allotted five schools and five *anganwadis* for coverage validation. Monitors were provided a tablet computer, charger, printed copy of monitoring formats, and albendazole tablets for demonstration during data collection. The details of sample schools were shared with them one day before the commencement of fieldwork to ensure that monitors did not contact schools and *anganwadis* in advance. If a school or *anganwadi* was closed or non-traceable during process monitoring, it was replaced by another nearby site. During coverage validation, if a school was closed, monitors covered to cover the next school on their list and returned to the first school at another time on a subsequent day. If the school was non-traceable or closed consistently after attempting three visits, a new school was substituted for the old one. In the absence of reporting forms, the calculation of the verification factor is restricted to the sample where the copy was found for verification.

1.8 Data Processing and Analysis

The survey agency provided data to Evidence Action in the agreed upon electronic format. Evidence Action reviewed all the data sets, shared the feedback to the agency for any

inconsistencies observed, and once again reviewed the data sets after the survey agency addressed any inconsistencies. All the analysis was performed using Stata version 13/14 and Microsoft Excel 2013.

1.9 Quality Control

Appropriate quality control measures were taken to ensure data collected was accurate and comprehensive. Selected schools and *anganwadis* were contacted over the phone by Evidence Action representatives from the Delhi office and state teams to confirm that monitors visited sampled schools and *anganwadis*. Further, Evidence Action staff also visited selected schools and *anganwadis* to spot and cross check the monitoring processes and to verify monitoring visits. In all cases, school and *anganwadi* staff were asked to sign a participation form with an official stamp to verify that the school or *anganwadi* was actually visited. Further, monitors also verified the photographs of schools and *anganwadis* collected during IM data collection and built in to the CAPI system for during process monitoring and coverage validation to prove the location of the interview.

2. KEY FINDINGS

Key results³ and comparisons with the prior round from independent monitoring are provided below, with further details shared in annexures.

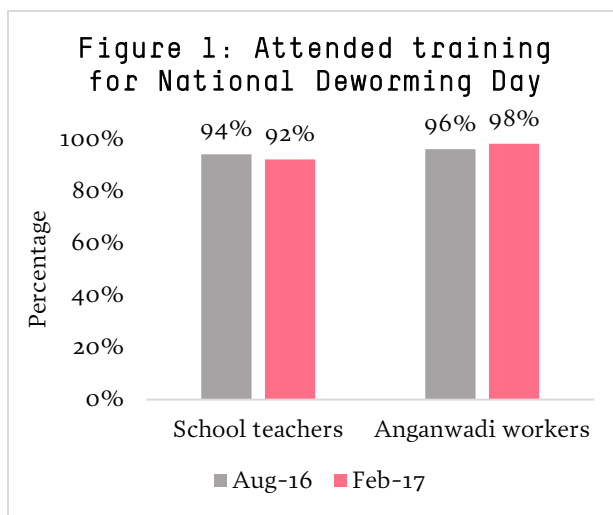
2.1 Training

For effective implementation of NDD, teachers and *anganwadi* workers are trained prior to the NDD round to account for teacher/*anganwadi* worker turnover and ensure an integrated distribution of drugs and IEC (posters/banners) materials during training sessions. Data in **Figure 1** shows consistency in *anganwadi* worker attendance with 98% of *anganwadi* workers attending training for the February 2017 round. However, attendance declined slightly for school teachers from 94% in the August 2016 round to 92% in the February 2017 round. Although all school teachers and *anganwadi* workers are expected to attend training for each round (regardless of training attendance in previous rounds), the slight decline of school teacher training attendance could be partially attributed to the proportion of teachers who reported having already attended training in past rounds or reported that they were too busy during the most recent training round to attend. Amongst those who did not attend training, 49% of teachers/headmasters did not attend because they were busy with other official and

³ The process monitoring and coverage validation data are based on sampled schools and *anganwadis*, therefore sampling weights are developed for each data set, except for process monitoring in *anganwadis* using selection probabilities. The sampling weights are further normalized at the state-level to obtain standard state weights. All analysis tables are based on the weighted sample, except for *anganwadis* findings from process monitoring.

personal work and 75% of *anganwadi* workers did not attend because they had attended training during past NDD rounds. Only 44% of trained teachers provided training to other teachers in their school. To ensure improved training quality and the success of the program, trained teachers should impart further training to other teachers in their schools.

A lack of information about the date and location of NDD trainings impacted the training attendance of teachers/headmasters and *anganwadi* workers as well. Approximately 40% of schools and 50% of *anganwadis* reported that they did not receive an SMS about deworming (**Table PM1**). The contact database should be updated on a regular basis in line with mandated annual updates to the Unified District Information System for Education (U-DISE). The lack of an updated contact database may have impacted the overall delivery of the SMS to the teachers and *anganwadis* workers.



Among private schools, 76% percent of private schools reported receiving NDD training. Private school participation in NDD is low compared to government schools. Only 27% of private schools received SMSs about deworming (**Table PM6**). Private schools require further engagement to ensure information on training dates and locations is accurately communicated.

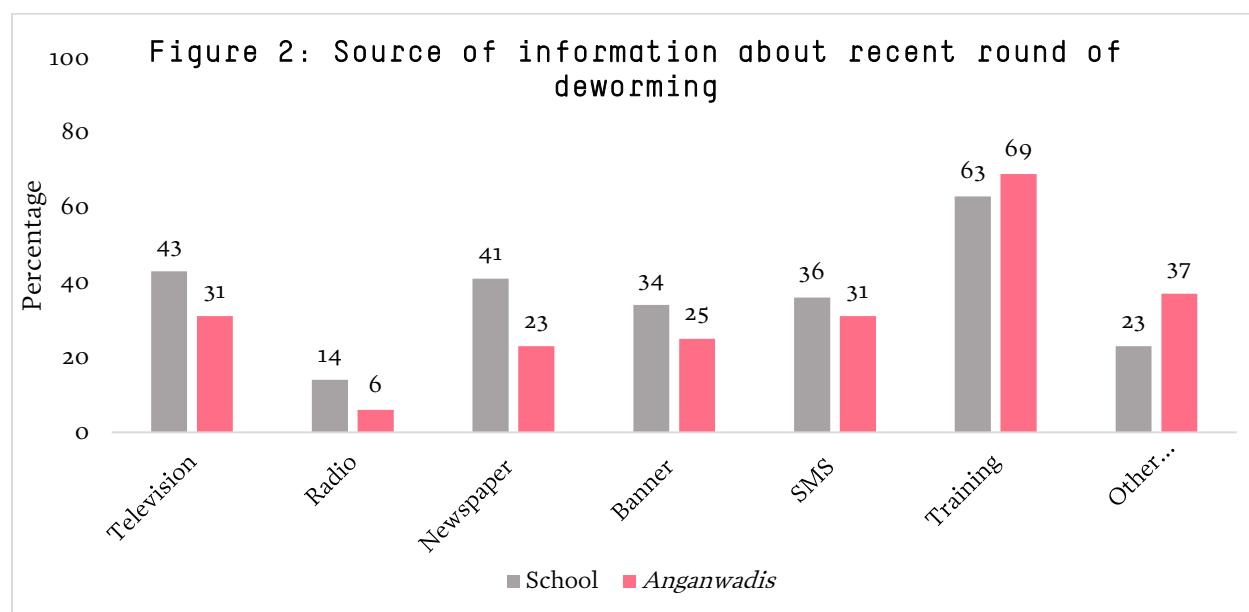
2.2 Integrated Distribution of NDD Materials Including Drugs

The NDD guidelines mandate integrated distribution of deworming tablets along with all IEC and training materials to schools and *anganwadi* centers at block level training in the form of a NDD kit⁴ to ensure the timely and cost effective delivery of materials. Despite the well-defined distribution plan, findings show that only 64% of schools and 68% of *anganwadis* in the state had an integrated distribution of materials and received complete NDD kits during training. This indicates that in a large number of schools and *anganwadis*, drugs and IEC materials were distributed separately from training (**Table PM3**). Results show that 100% of schools and *anganwadis* received tablets for deworming, while 95% of schools and 97% of *anganwadis* received posters/banners (**Table PM3**). Moreover, 100% of schools and *anganwadis* reported having received a sufficient quantity of drugs for deworming (**Table**

⁴Deworming Day, operational Guidelines 2016, Ministry of Health and Family Welfare, Government of India http://nrhm.gov.in/images/pdf/NDD-2016/Guidelines/Draft_NDD_2016_Operational_Guidelines.pdf National

PM2). About 92% of schools and 89% of *anganwadis* received handouts/reporting forms (Table PM3).

Among private schools, around 100% received tablets for deworming and all of them reported to have sufficient quantity. Of those that received tablets, 72% of the private schools covered during process monitoring received banners/posters and handouts/reporting forms (Table PM6).



2.3 Source of Information about the Recent Round of NDD

As depicted in **Figure 2**, 63% of schools and 69% of *anganwadis* reported receiving information on NDD via training.⁵ Approximately 41% of schools and 23% of *anganwadis* also reported having received information about NDD through the newspaper. The radio was the least effective source of information about NDD for this round as only 14% of schools and six percent of *anganwadis* reported to hear about NDD through the radio.

2.4 NDD Implementation

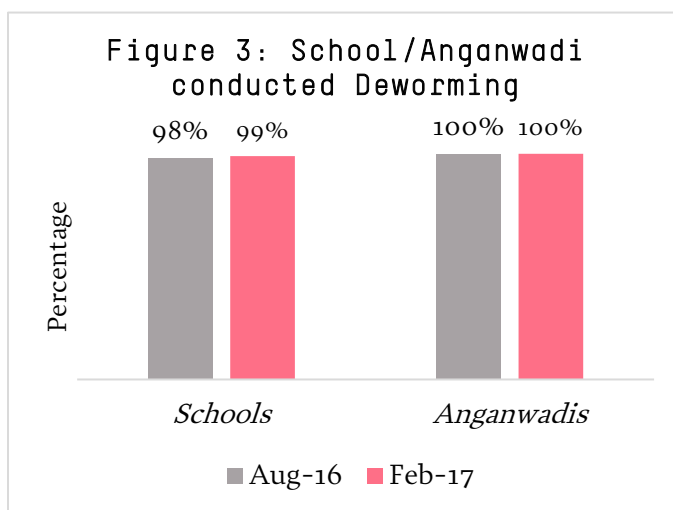
The proportion of schools and *anganwadis* that conducted deworming has remained high and consistent during the August 2016 and February 2017 rounds (**Figure 3**). The coverage validation data shows that around 99% of schools and 100% of *anganwadis* had dewormed children during the recent round of NDD or Mop-Up Day (**Table CV1**). Out of 154 schools and 150 *anganwadis* that implemented NDD, monitors were able to observe deworming activities in 86% of schools and 91% of *anganwadis* (**Table PM4**).

⁵ A major source of information is the maximum number of a medium reported by school teachers/headmasters and *anganwadi* workers.

2.5 Adverse Events - Knowledge and Management

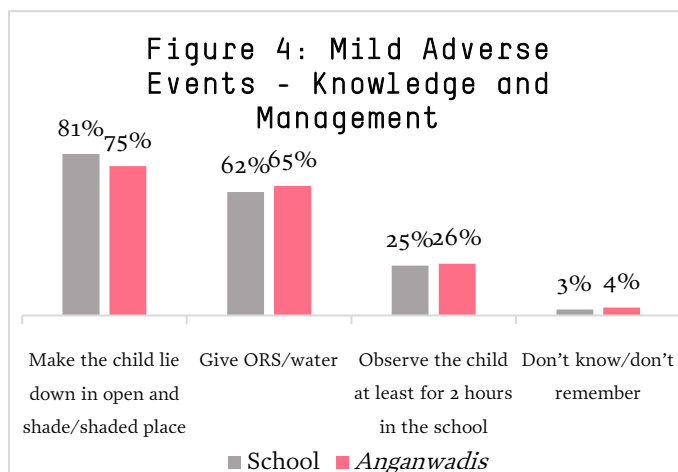
Interviews with headmasters and teachers and AWWs revealed a high degree of awareness regarding potential adverse events due to deworming and the appropriate protocols to follow in the case of such events. Vomiting was listed as a symptom by 82% of principals followed by abdominal pain (70%), while 74% of *anganwadi* workers listed nausea, followed by abdominal pain (69%) as a symptom of an adverse event.

Around 31% of school teachers and 30% of *anganwadi* workers recognized fatigue as a symptom (Table PM5). Further, 81% of teachers and 75% of *anganwadi* workers knew to make a child lie down in an open, shaded place in case of any symptoms, and around two-thirds of schools and *anganwadis* knew to give ORS/water and one-fourth knew to observe for two hours (Figure 4). Further, only three percent of schools and four percent of *anganwadis* reported the need to call a PHC doctor if symptoms persisted (Table PM5).



2.6 Recording Protocol

Coverage validation data demonstrated that 61% of schools and 62% of *anganwadis* followed the correct recording protocols. For the analysis, information on recording protocols was gathered from all schools and *anganwadis* regardless of the availability of reporting forms at the site. Around 31% of schools and 22% of *anganwadis* followed partial protocols (marking down different symbols or making lists of dewormed children), however, eight percent of schools and 15% of *anganwadis* did not follow any protocol to keep records of dewormed children (Table CV2). As recommended in the NDD guidelines, teachers and *anganwadi* workers were supposed to retain a copy of reporting forms; however, reporting forms were available in only 74% of schools and 81% of *anganwadis*.



As per NDD guidelines, Accredited Social Health Activists (ASHAs) have a critical role to play in the success of the NDD program through generating community awareness and mobilizing out-of-school children. As part of the community mobilization and awareness campaign, ASHAs conduct village meetings with parents and disseminate information through local platforms such as *gram panchayats* and village health, sanitation, and nutrition committee (VHSNC) meetings to ensure greater coverage. ASHAs inform the community about the harmful effects of worm infestation, benefits of deworming, and behavior change practices required to reduce re-infection to beneficiaries. ASHAs are also the main point of contact for mobilizing hard to reach out-of-school children.

ASHAs receive an orientation on NDD during monthly review meetings. During their training, ASHAs receive a resource toolkit that includes a handout focusing on their roles and responsibilities towards community mobilization. After NDD, *anganwadi* workers (AWWs) prepare a list of out-of-school school- and preschool-age children who have missed the dose due to absence or sickness and share the list with ASHAs. ASHAs then work to inform parents to have their children be present to take the missed albendazole dose on Mop-Up Day.

Further, as per NDD guidelines, ASHAs are required to prepare a separate list of the children not attending schools and *anganwadis* and submit it to *anganwadi* workers, as recommended in the NDD guidelines. ASHAs can then claim a payment of Rs. 100 after submission. This incentive further promotes accurate coverage reporting and is intended to support the goal that every eligible child, especially out-of-school children, is administered albendazole. However, findings suggests that lists of out-of-school (6-19 years) and unregistered (1-5 years) children were available for only 38% of out-of-school children and 13% of unregistered children in *anganwadis* respectively (**Table CV1**).

2.7 Coverage Validation

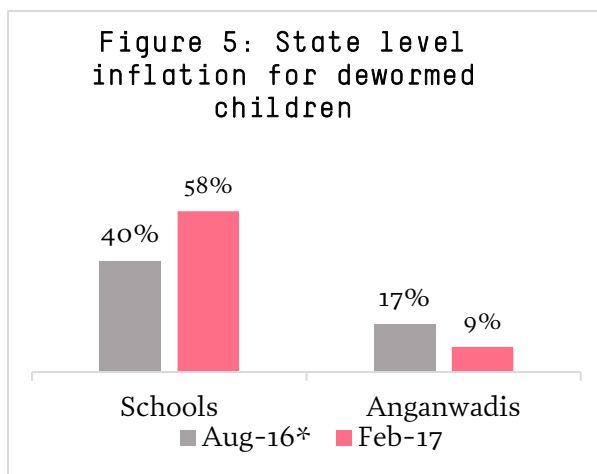
Verification factors are common indicators to measure the accuracy of reported treatment values for Neglected Tropical Disease control programs.⁶ The verification factor is a comparison of the aggregated number of ticks in school/*anganwadi* registers (indicating that children were dewormed) to the coverage reported submitted by schools/*anganwadis* to the state. Thus, the verification factor was estimated on the basis of the availability of a copy of reporting forms at schools and *anganwadis*. The coverage estimates based on attendance data provides a more robust estimate as compared to adjusted coverage based on the verification factor, as maximum attendance is calculated from all the schools covered during coverage validation. The state level verification factor for school enrolled children was 0.63, indicating

⁶ A verification factor of 1 means the schools reported the exact same figures that they recorded on deworming day. A verification factor less than 1 indicates over-reporting, while a verification factor greater than 1 indicates under-reporting.

that on average, for every 100 dewormed children reported by the school; sixty-three were verified through available documents.

This corresponds to an overall 58% inflation of reporting in the schools, meaning that reported numbers are approximately 58% higher than the numbers recorded in school attendance registers. Overall state-level verification factors for children dewormed at *anganwadis* was 0.92 with an inflation of nine percent. However, category-wise verification factors for registered (1-5 years), unregistered (1-5 years), and out-of-school (6-19 years) children were 0.94, 0.86, and 0.80 with a corresponding inflation of six percent, 16%, and 24% respectively (Figure 5). Further, we also estimated NDD treatment coverage in schools considering maximum attendance of children on NDD dates. Coverage validation data showed that 99% of schools conducted deworming on either NDD or Mop-Up Day, a maximum of 84% of children were in attendance, 99% of children received an albendazole tablet, and 99% of children reported to consume the albendazole tablet under supervision.

Taking these factors into account, 82% ($0.99 \times 0.84 \times 0.99 \times 0.99$) of enrolled children could have been dewormed in the schools. This indicates that NDD coverage in the schools lies somewhere between 63-82 percent in the state, potentially having met the WHO threshold of 75% coverage (Table CV2). Further, unlike schools, as interviews of children were not conducted during coverage validation is *anganwadis*, we could not imply an alternate method of estimating the coverage at *anganwadis*.



2.8 Trend Analysis

To understand the changes in selected indicators from the August 2016 to February 2017 NDD round, indicators are presented in graphical form below. Data in Figure 9 shows a decline by two percentage points in headmaster/teacher training attendance and no improvement in *anganwadi* worker training attendance from the August 2016 to February 2017 NDD round. Lack of information about the date and venue of NDD training and headmasters/teachers reporting being too busy with other official work to attend trainings are the main reasons for headmasters/teachers not attending trainings. *Anganwadi* workers did not attend training due to the postponement and rescheduling of training dates.

Findings also revealed that block functionaries were not sensitized on the necessity of attending trainings for each round. It is crucial that all block level trainings are completed as

scheduled and at least a week in advance of the NDD round (if the planned training schedule is delayed) in order to leave sufficient time for teachers to train other teachers in the schools and for teachers and *anganwadi* workers to mobilize the community and spread awareness about the program. Though training reinforcement SMSs were sent to alert teachers and *anganwadi* workers about training dates, the percentage of SMSs received only increased slightly and can be further improved. Additionally, ensuring an up-to-date contact database continues to impact the overall delivery of SMSs to teachers and *anganwadis workers*.

Trends in **Figure 7** depict improvements for all indicators in schools and *anganwadis*, except for following correct reporting protocols. Limited reinforcement on the criticality of following reporting protocols during block trainings could be a possible reason for the decline in this indicator. Moreover, integrated distribution increased in the February 2017 NDD round. All the sampled *anganwadis* received sufficient drugs for the February 2017 round.

Figure 6: Comparison of training indicators for schools/*anganwadis*, August 2016 and February 2017 round

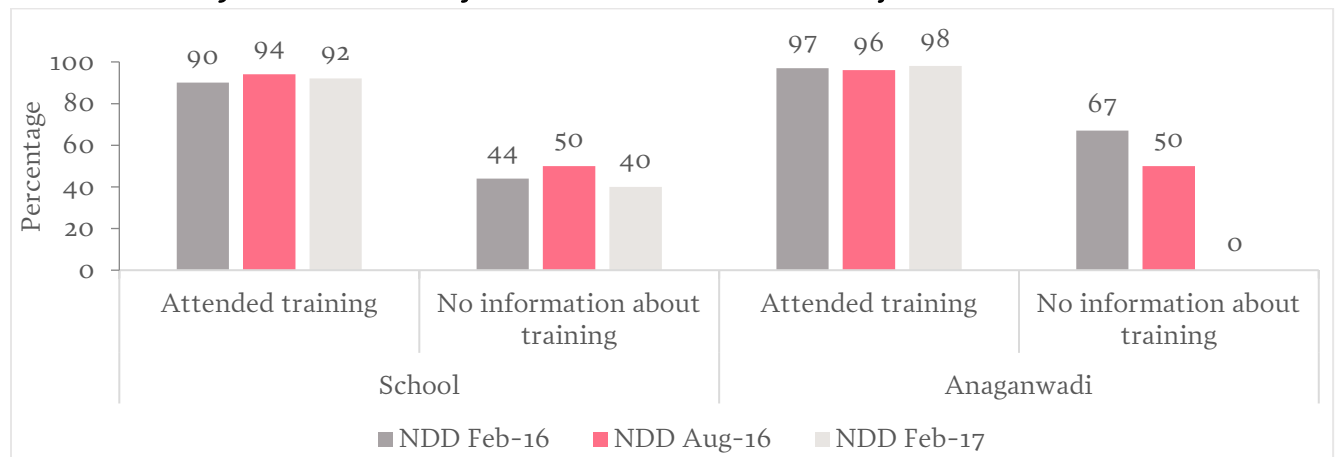
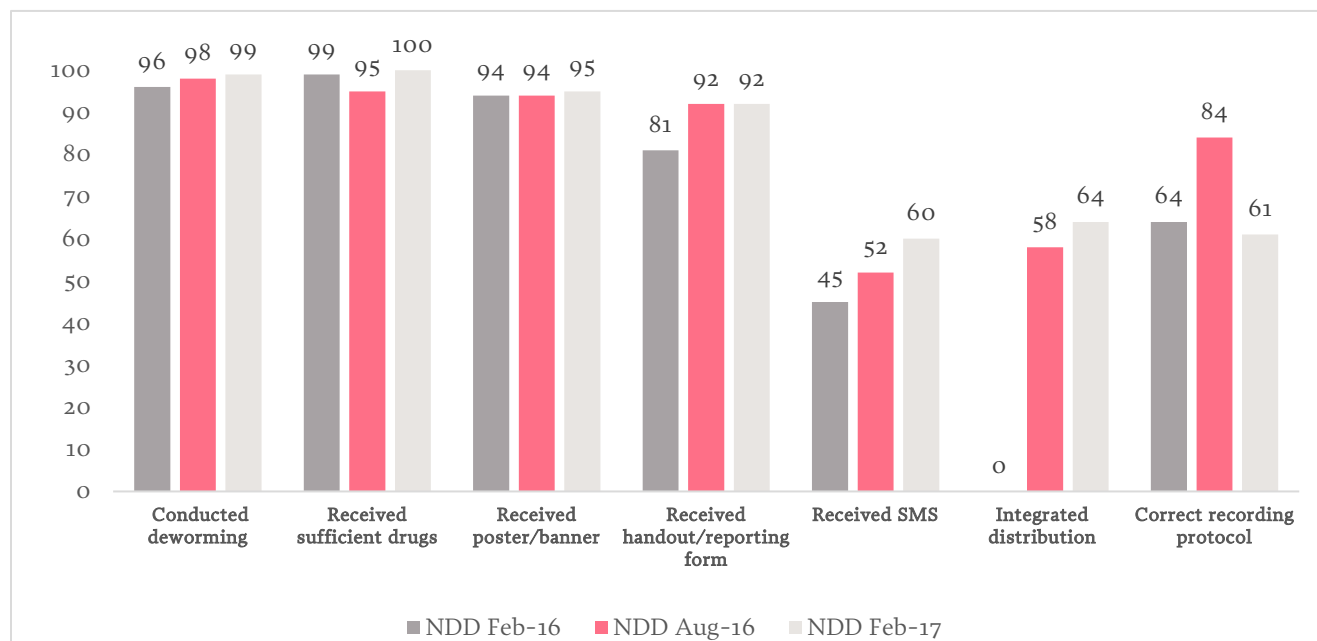


Figure 7: Comparison of key indicators in schools, August 2016 and February 2017 round



3. RECOMMENDATIONS

The independent monitoring exercise conducted during Tripura’s NDD round in February 2017 identifies gaps and opportunities to improve and strengthen future rounds. NDD leverages a fixed-day approach, requiring intensive and coordinated efforts between all stakeholders to successfully implement the program and to prevent gaps and delays. The following are the key recommendations for program improvements that emerged out of the monitoring and evaluation exercise.

1. Training is critical for the successful implementation of a high coverage, high quality program. As 60% of the school headmasters and 50% of the *anganwadi* workers received deworming-related SMSs for the February 2017 NDD round, updating the contact database of functionaries across all stakeholder departments will further ensure the maximum reach of reinforcement messages among the school teachers and *anganwadi* workers. This will facilitate comprehensive, effective, and timely dissemination of information to functionaries. For future rounds, all stakeholder departments must be encouraged to follow a systematic mechanism to update the contact database for the eight districts.
2. While a slight increase in integrated distribution is evident from the August 2016 to February 2017 NDD round in Tripura, it is low overall and needs to be strengthened with a focused approach. Most schools and *anganwadis* received training and IEC materials, however, the low level of integrated distribution demonstrates the need to

align the distribution cascade and hand over NDD kits to the teachers/headmasters and *anganwadi* workers at the time of training. Distribution at the block level trainings should be further strengthened by efficient planning for timely drug procurement and dissemination of training schedules. Reinforcement on integrated distribution during video conferences and through SMS alerts would be helpful in facilitating integrated distribution.

3. As findings revealed, private schools performance can be improved by promoting private school engagement and encouraging their participation at state and district level coordination committee meetings, in training and facilitating drug logistics, and ensuring information on training dates and locations is accurately communicated.
4. Greater emphasis should be placed on generating community awareness and mobilizing out-of-school children to achieve high treatment coverage. As a substantial proportion of *anganwadi* centers did not have a list of unregistered and out-of-school children, greater involvement of ASHAs in mobilizing out-of-school children and spreading awareness on deworming benefits is needed. Efforts are required to increase ASHA participation and engage ASHAs to prepare these lists in their communities. ASHA participation could be further strengthened by highlighting the role of ASHAs in the joint directive, encouraging their participation in training sessions, and sending reminder SMSs to them with information on incentives.
5. Coverage validation findings revealed a lesser availability of a copy of reporting forms at schools and *anganwadis*. This directly impacts the evaluation of reported coverage data. Along with providing two copies of reporting forms during training, trainers should also ensure that teachers/headmasters and *anganwadi* workers understand the directive to maintain a copy of reporting forms and ensure practical sessions on recording protocols for schools and *anganwadis* facilitate accurate data documentation and management.
6. Coverage validation data demonstrated that 61% of schools and 62% of *anganwadis* followed correct recording protocols, which directly affects the evaluation of reported coverage data. Greater emphasis on recording protocols during training is likely to improve the quality of coverage data in the next round. Training and SMS reinforcement messages should highlight the importance of following correct reporting protocols and maintaining accurate and complete documentation. Practical sessions on recording protocols for teachers and *anganwadi* workers should be organized during primary health center (PHC) level training sessions.

4. WAY FORWARD

Program monitoring of the February 2017 NDD round in Tripura has provided useful insights on opportunities to increase coverage in future rounds, while also identifying gaps in program

planning and implementation. Evidence Action will continue to work with the Government of Tripura to coordinate efficient planning, strategies for integrated distribution and its supervision, and improve recording and reporting protocols. To further scale up program coverage in private schools, efforts should be coordinated to increase private school training attendance and engagement.

ANNEXURE :

Table PM1: Training, awareness and source of information about NDD among teachers/headmasters and *anganwadi* workers, February 2017

Indicators	School			<i>Anganwadi</i>		
	Denominator	Numerator	%	Denominator	Numerator	%
Attended training for current round of NDD	160	147	92	159	155	98
Reasons for not attending NDD training (Multiple Response)						
Location was too far away	13	0	0	4	1	25
Did not know the date/timings/venue	13	5	40	4	0	0
Busy in other official/personal work	13	6	49	4	0	0
Attended deworming training in the past	13	0	0	4	3	75
Not necessary	13	1	7	4	0	0
No incentives/no financial support	13	1	7	4	0	0
Trained teacher provided training to:						
All other teachers	147	65	44	NA	NA	NA
Few teachers	147	36	24	NA	NA	NA
No (himself/herself only teacher)	147	24	16	NA	NA	NA
No, did not train other teachers	147	22	15	NA	NA	NA
Awareness about the ways a child can get worm infection	160	156	98	159	154	97
Different ways a child can get worm infection (Multiple Response)						
Not using sanitary latrine	156	116	74	154	97	63
Having unclean surroundings	156	86	55	154	76	49
Consume vegetables and fruits without washing	156	60	39	154	54	35
Having uncovered food and drinking dirty water	156	61	39	154	61	40
Having long and dirty nails	156	99	63	154	97	63
Moving in bare feet	156	116	74	154	118	77
Having food without washing hands	156	111	71	154	101	66
Not washing hands after using toilets	156	75	47	154	83	52
Awareness about all the possible ways a child can get worm infection⁷	156	15	10	154	14	9
Perceive that health education should be provided to children	160	157	98	159	150	94
Knowledge about correct dose of albendazole tablet						
1-2 years of children	NA	NA	NA	159	153	96

⁷ Includes those who were aware that a child can get worm infection if she/he does not use sanitary latrine, have unclean surroundings, consume vegetable and fruits without washing, have uncovered food and drinking dirty water, have long and dirty nails, moves in bare fee, have food without washing hands and not washing hands after using toilets.

Indicators	School			<i>Anganwadi</i>		
	Denominator	Numerator	%	Denominator	Numerator	%
6-19 years of children	160	157	98	159	158	99
Awareness about non-administration of albendazole tablet to sick child						
Will not administer albendazole tablet to sick child	160	147	92	159	152	96
Awareness about consuming albendazole tablet						
Chew the tablet	160	152	95	159	155	98
Swallow the tablet directly	160	8	5	159	4	3
Awareness about consuming albendazole in school/<i>anganwadi</i>	160	151	94	159	153	96
Awareness about the last date for submitting the reporting form	160	82	51	159	70	44
Aware that completed reporting form should be submitted to BNO (edu.)/CDPO	160	86	54	159	122	77
Awareness about retaining a copy of the reporting form post submission	160	158	99	159	154	97
Source of information about current NDD round (Multiple Response)						
Television	160	69	43	159	50	31
Radio	160	22	14	159	9	6
Newspaper	160	66	41	159	36	23
Banner	160	54	34	159	40	25
SMS	160	58	36	159	50	31
Other school/teacher/ <i>anganwadi</i> worker	160	36	23	159	58	37
Training	160	101	63	159	109	69
Received SMS for current NDD round	160	96	60	159	79	50

Table PM2: Deworming activity, availability of albendazole tablets, and list of unregistered out-of-school children, February 2017

Indicators	School			<i>Anganwadi</i>		
	Denominator	Numerator	%	Denominator	Numerator	%
Albendazole tablet administered on the day of visit						
Yes, ongoing	160	81	51	159	89	56
Yes, already done	160	40	25	159	44	28
Yes, after sometime	160	33	21	159	17	11
No, will not administer today	160	6	4	159	9	6
Schools/<i>anganwadis</i> conducted deworming on either of the day⁸	160	158	99	159	158	99

⁸ Schools/*anganwadis* administered albendazole tablet to children either on NDD or Mop-Up Day.

Schools/ <i>anganwadis</i> conducted deworming on NDD ⁹	80	79	99	81	81	100
Schools/ <i>anganwadis</i> conducted deworming on Mop-Up Day ¹⁰	80	75	93	78	69	89
Attendance on NDD	11010	6970	63	NA	NA	NA
Attendance on Mop-Up Day	11747	7467	64	NA	NA	NA
Reasons for not conducting deworming:						
No information	6	1	17	1	0	0
Albendazole tablet not received	6	0	0	1	0	0
Apprehension of adverse events	6	0	0	1	0	0
Others ¹¹	6	2	33	1	1	100
<i>Anganwadis</i> having a list of unregistered/out-of-school children	NA	NA	NA	159	74	47
Albendazole was administered to out-of-school children	NA	NA	NA	150	104	69
Albendazole was administered to unregistered children	NA	NA	NA	150	94	63
Sufficient quantity of albendazole tablets ¹²	160	160	100	158	158	100

⁹Based on the samples visited on NDD.

¹⁰Based on the samples visited on Mop-Up day only.

¹¹School administer the albendazole tablet to children a day before holiday, children/student absent, postponed due to festival.

¹²This indicator is based on the sample that received albendazole tablet.

Table PM3: Integrated distribution of albendazole tablets and IEC materials, February 2017

Items	Schools				<i>Anganwadi</i>			
	Received (N=160)	Denominator*	Received in training	Verified	Received (N=159)	Denominator*	Received in training	Verified
Albendazole tablet	100(160)	160	71(114)	96(154)	99(158)	158	78(123)	98(154)
Poster/banner	95(152)	152	89(136)	96(147)	97(154)	154	92(142)	99(153)
Handouts/reporting form	92(148)	148	89(132)	94(139)	89(141)	141	92(130)	96(135)
Adverse event reporting form	76(124)	122	93(113)	87(106)	67(106)	106	94(100)	86(91)
Others ¹³	15(23)	23	80(19)	91(22)	14(22)	22	96(21)	100(22)
Received all materials	92(147)	147	69(102)	92(134)	86(137)	137	79(108)	93(128)
Integrated distribution¹⁴	64(102)				68(108)			

Note: The denominator for item “received” is for schools and for *anganwadis*; Numerators for “received in training” and “verified” are given in parentheses; *Indicates common denominator for “received in training” and “verified”

Table PM4: Implementation of deworming activity and observation of monitor's, February 2017

Indicators	Schools			<i>Anganwadi</i>		
	Denominator	Numerator	%	Denominator	Numerator	%
Deworming activity took place	154	132	86	150	136	91
Albendazole tablets were administered by:						
Teacher/headmaster	81	80	99	NA	NA	NA
<i>Anganwadi</i> worker	NA	NA	NA	89	85	96
ASHA	NA	NA	NA	89	2	2
MPW	NA	NA	NA	89	2	2
Students	81	1	1	NA	NA	NA
Followed any recording	120	100	83	133	110	83

¹³ Others include hand wash/soap/nail cutter

¹⁴Integrated distribution of NDD kits includes albendazole tablet, banner/poster and handout-reporting forms and provided to schools and AWCs during the trainings at block or PHC level.

protocol¹⁵						
Protocol followed:						
Putting single/double tick	100	77	77	110	79	72
Put different symbols	100	10	10	110	5	5
Prepare the separate list for dewormed	100	14	14	110	26	24
Visibility of poster/banner during visits	152	151	99	154	153	99

Table PM5: Knowledge of Adverse events and Its Management, February 2017

Indicators	Schools			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Opinion of occurrence of an adverse event after administering albendazole tablet	160	101	63	159	90	57
Knowledge of possible adverse events (Multiple Response)						
Mild abdominal pain	101	71	70	90	62	69
Nausea	101	68	67	90	67	74
Vomiting	101	83	82	90	61	68
Diarrhea	101	22	22	90	24	27
Fatigue	101	31	31	90	27	30
All possible adverse event ¹⁶	101	4	3	90	4	4
Awareness about mild adverse event management						
Make the child lie down in open and shade/shaded place	160	130	81	159	119	75
Give ORS/water	160	100	62	159	103	65
Observe the child at least for 2 hours in the school	160	41	25	159	42	26
Don't know/don't remember	160	5	3	159	7	4
Awareness about severe adverse event management						
Call PHC or emergency number	160	112	70	159	119	75
Take the child to the hospital /call doctor to school	160	106	66	159	90	57
Don't know/don't remember	160	3	2	159	0	0

¹⁵ Any recording protocol implies putting single tick (✓), double tick (✓✓), any other symbol or preparing separate list for all those children administered albendazole tablets on NDD or Mop-Up Day.

¹⁶Includes those who have knowledge that a mild abdominal pain and nausea and vomiting and diarrhea and fatigue can be reported by a child after taking albendazole tablet.

Occurrence of cases of any adverse event	121	30	25	133	21	16
Available contact numbers of the nearest MPW or MO-PHC	160	136	85	159	129	81

Table PM6: Selected Indicators of Process Monitoring in Private Schools, February 2017

Indicators ¹⁷	Denominator	Numerator	%
Attended training for current round of NDD	12	9	76
Received albendazole tablets	12	12	100
Sufficient quantity of albendazole tablets	12	12	100
Received poster/banner	12	9	76
Received handouts/ reporting form	12	9	76
Received SMS for current NDD round	12	3	27
Albendazole administered to children	12	11	97
Reasons for not conducting deworming:			
No information	1	1	100
Albendazole tablets not received	1	0	0
Already dewormed all children on deworming day ¹⁸	1	0	0
Others ¹⁹	1	0	0
Albendazole tablet administered to children by teacher/headmaster ²⁰	7	7	100
Perceive that health education should be provided to children	12	10	83
Knowledge about correct doses of albendazole tablet	12	11	90
Awareness about non-administration of albendazole tablet to sick child	12	12	100
Opinion of occurrence of an adverse event after taking albendazole tablet	12	7	55
Opinion of occurrence of possible adverse events			
Mild abdominal pain:	7	3	38
Nausea	7	2	32
Vomiting	7	5	82
Diarrhea	7	2	25
Fatigue	7	3	45
Occurrence of cases of any adverse event	11	0	0
Awareness about mild adverse event management:			
Let the child rest in an open and shaded place	12	8	63
Provide clean water to drink/ORS	12	4	35
Contact the MPW/nearby PHC	12	5	41
Available contact numbers of the nearest MPW or MO-PHC	12	8	69

¹⁷These indicators are based on small samples, therefore, precautions should be taken while interpreting the results as these are not representative of all private schools in the state

¹⁸Based on the samples that did not conduct deworming on Mop-Up Day.

¹⁹School administer the albendazole tablet to children a day before holiday, children/student absent, postponed due to festival

²⁰This indicator is based on samples where deworming was ongoing.

Followed correct ²¹ recording protocol	5	2	46
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Table PM 7a: Indicators on convergence of NDD and WIFS program

Indicators	Schools			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Trainer provided you the information on these during NDD training²²						
Administration of IFA tablet	147	110	75	155	106	68
Importance of nail cutting	147	140	95	155	136	88
Importance of Hygiene and sanitation practices	147	133	90	155	131	85
NDD SMS includes information on²³						
Sufficiency of IFA tablets	97	63	65	79	48	61
Regular nail cutting	97	75	77	79	57	72
Handwashing before taking food and after toilet use	97	78	81	79	57	72
Knowledge about symptoms of Anemia (Multiple Response)						
Weakness	160	147	92	159	145	91
Breathing problem	160	62	39	159	61	38
Dizziness	160	108	68	159	111	70
Leg cramps	160	34	21	159	31	20
Unusually rapid heartbeat	160	27	17	159	22	14
Headache	160	74	46	159	78	49
Sufficient quantity of IFA tablet/syrup ²⁴	89	87	97	75	69	92
Visibility of poster for hand washing and Nail cutting during visits ²⁵	138	124	89	128	115	90
Visibility of poster for Anemia during visits ²⁶	92	73	79	94	83	88
Administer the IFA tablet/syrup to the Children / students every week in last two months	147	110	74	158	99	63
Reason for not administering the IFA tablet/syrup to the Children / students every week in last two months						
No information	38	21	54	59	23	39
IFA tablets/syrup not received	38	14	37	59	27	46
Apprehension of Adverse events	38	2	45	59	4	7

²¹ Correct recording protocol implies putting single tick (✓) on NDD and double tick (✓✓) for all those children administered albendazole tablets.

²² This indicator based on the sample who attended the NDD training.

²³ This indicator based on the sample who received SMS.

²⁴ This indicator based on the sample who received IFA tablet/syrup.

²⁵ This indicator based on the sample who received poster for hand washing and nail cutting.

²⁶ This indicator based on the sample who received poster for Anemia.

Others ²⁷	38	1	4	59	5	8
Awareness about non-administration of IFA tablet/syrup to sick child	149	111	74	159	131	83
Knowledge about correct process of Hand washing	160	138	87	159	130	82
Knowledge about correct dose of IFA syrup to 6-60 months children	NA	NA	NA	159	89	56
Knowledge about color of IFA tablet for 5-10 years children	147	91	62	159	84	53
Knowledge about color of IFA tablet for 10-19 years children	147	69	47	159	65	41
Children/student wash their hands before administration of deworming tablet	160	150	94	159	149	94
Children/student cut their nail before administration of deworming tablet	160	144	90	159	148	93

Table PM7b: Additional items related to other programs (WIFS) that received during training of National Deworming Day 2017

Additional items that you received during training of National Deworming Day February 2017	Schools				Received (N=159)	<i>Anganwadi</i>		
	Received	Denominator*	Received in training	Verified		Denominator*	Received in training	Verified
IFA Tablets/Syrups (N=148)	60(88)	88	82 (74)	98 (87)	47(75)	75	83(62)	93(70)
Poster for hand washing and Nail cutting(N=160)	87(139)	134	85(119)	93(130)	81(128)	128	88(113)	94(120)
Poster for Anemia (N=160)	57(92)	92	91(84)	93(85)	59(94)	94	88(83)	88 (83)

²⁷ Others include IFA tablets were expired, AWW will administer the IFA after deworming activity and IFA tablet was administered at PHC.

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Table CV1: Findings from Schools and *Anganwadis* Coverage Validation Data

Indicators	Schools			<i>Anganwadis</i>		
	Denominator	Numerator	%	Denominator	Numerator	%
Conducted deworming²⁸	400	397	99	400	400	100
Day-of albendazole administration (Multiple Response)						
National Deworming Day	397	382	96	400	398	99
Mop-Up Day	397	335	84	400	323	81
Between NDD and Mop-Up Day	397	5	1	400	0	0
Reasons for not conducting deworming						
No information	3	1	33	NA	NA	NA
Drugs not received	3	0	0	NA	NA	NA
Apprehension of adverse events	3	1	33	NA	NA	NA
Others ²⁹	3	1	33	NA	NA	NA
Albendazole left after deworming	397	282	71	400	250	63
Number of albendazole left						
Less than 50 tablets	282	236	84	250	248	99
50-100 tablets	282	32	11	250	2	1
More than 100 tablets	282	14	5	250	0	0
Copy of reporting form was available for verification	397	293	74	400	322	81
Reasons for non-availability of copy of reporting form						
Did not received	104	21	21	78	1	2
Submitted to ANM	104	69	66	78	61	78
Unable to locate	104	4	4	78	12	15
Other ³⁰	104	10	9	78	4	5
<i>Anganwadis</i> having list of unregistered children	NA	NA	NA	400	54	13
<i>Anganwadis</i> having list of out-of-school children	NA	NA	NA	400	154	38

²⁸ Schools and *anganwadis* that conducted deworming on NDD or Mop-Up Day.

²⁹ Other includes mainly, absence of headmaster/teacher and unavailability of drugs.

³⁰ Other includes mainly submitted to crp in brc and availability of blank form.

Table CV2: Recording protocol, verification, inflation, and attendance in schools and *anganwadis*

Indicators	School			<i>Anganwadis</i>		
	Denominator	Numerator	%	Denominator	Numerator	%
Followed correct ³¹ recording protocol	397	242	61	400	250	62
Followed partial ³² recording protocol	397	123	31	400	89	22
Followed no ³³ recording protocol	397	32	8	400	61	15
State-level verification factor ³⁴	32944	20810	0.63	11093	10171	0.92
<i>Anganwadi</i> registered children	NA	NA	NA	8771	8261	0.94
<i>Anganwadi</i> unregistered children	NA	NA	NA	741	638	0.86
Out-of-school children	NA	NA	NA	1581	1272	0.80
State-level inflation rate ³⁵	20810	12134	58	10171	922	9
<i>Anganwadi</i> registered children	NA	NA	NA	8261	510	6
<i>Anganwadi</i> unregistered children	NA	NA	NA	638	103	16
Out-of-school children	NA	NA	NA	1272	309	24

³¹ Correct recording protocol includes schools where all the classes put single tick (✓) on NDD and double tick (✓✓) on Mop-Up Day to record the information of dewormed children.

³² Partial recording protocol includes schools where all the classes did not follow correct protocol, put different symbols and prepared separate list to record the information of dewormed children.

³³ No protocol includes all those schools where none of the classes followed any protocol to record the information of dewormed children.

³⁴ Ratio of recounted value of the dewormed children to the reported value. This calculation is based on only those schools (n=293) and *anganwadis* (n=322) where deworming was conducted and copy of reporting form was available for verification.

³⁵ Proportion of over reported dewormed children against total verified children in schools and *anganwadis*. For *anganwadi* unregistered children total no of verified children are higher than the reported which imply that numbers are under-reported against verified children. Also for the same group of children inflation rate is negative, which indicates deflation due to under-reported children against verified children.

Attendance on previous day of NDD	54781	36195	66	NA	NA	NA
Attendance on NDD	54781	37192	68	NA	NA	NA
Attendance on Mop-Up Day	54781	39617	72	NA	NA	NA
Children who attended on both NDD and Mop-Up day	54781	30915	56	NA	NA	NA
Maximum attendance of children on Deworming Day and Mop-Up Day ³⁶	54781	45895	84	NA	NA	NA
School level inflation rate for schools followed the correct recording protocol	15928	8386	53	NA	NA	NA
Estimated NDD coverage based on NDD coverage data ³⁷	56			84		
Estimated NDD coverage based on school attendance ³⁸	82			NA		

Table CV3: Indicators based on interview of children during coverage validation in school

Indicators	Denominator	Numerator	%
Children received Albendazole tablets	1191	1185	99
Children consumed Albendazole tablet	1185	1184	100
Children aware about the Albendazole tablets	1185	1127	95
Source of information about NDD round			
Teacher/school	1127	1119	95
Television	1127	66	6
Radio	1127	9	1
Newspaper	1127	34	3
Poster/Banner	1127	188	16
Parents/siblings	1127	57	5

³⁶ Maximum attendance refers to the total attendance of children who were exclusively present in school either on NDD or Mop-Up Day and children who attended school on both days.

³⁷ This was estimated by implying state-level verification factor on government reported coverage for schools and AWC.

³⁸ This was estimated on the basis of NDD implementation status, attendance on NDD and Mop-Up Day, whether child received albendazole and its supervised administration. Since no child interview is conducted at *anganwadis*, this has not been estimated for *anganwadis*.

Friends/neighbors	1127	51	4
Way children consumed the tablet			
Chew the tablet	1184	1094	92
Swallow tablet directly	1184	89	8
Supervised administration of tablets	1184	1172	99