Evidence Action

Deworm the World Initiative

Independent Monitoring of National Deworming Day in Chhattisgarh September 2018

REPORT

October 2018

Background

During every round of National Deworming Day (NDD), Evidence Action conducts independent monitoring, which includes process monitoring on NDD and mop-up day and a coverage validation exercise post-NDD. This is conducted through an independent survey agency to assess the planning, implementation and quality of the NDD program with an objective of identifying gaps and suggesting recommendations for improvements in future NDD rounds. Process monitoring is conducted to understand state government's preparedness for NDD and adherence to the program's prescribed processes; and coverage validation is an ex-post check of the accuracy of the reporting data and coverage estimates to verify government-reported treatment figures.

Chhattisgarh observed the August 2018 round of NDD on September 10, (it was postponed due to scheduled Measles Rubella program and prevalence survey in the state), followed by mop-up day on September 14. Fieldwork for process monitoring was conducted on September 10 and 14, while coverage validation in the state was conducted during September 24 - 28. This extract is a summary of the broad findings from the surveys conducted in the state.

Survey Methodology

Using a two-stage probability sampling procedure, across all 27 districts, Evidence Action selected a total of 202 schools (155 government schools and 47 private schools) and 197 *anganwadis* were covered for process monitoring visits by the independent survey agency during NDD and mop-up days, and 500 schools (379 government schools and 121 private schools) and 501 *anganwadis* for coverage validation. Evidence Action designed and finalized survey tools with approvals from Chhattisgarh's state government. One combined tool for process monitoring was used for process monitoring at schools and *anganwadis* on NDD and mop-up day, and one each for schools and *anganwadis* for coverage validation.

Implementation

Prior to the survey, Evidence Action conducted a comprehensive training of master trainers who further conducted a two-days training each for process monitoring and coverage validation of 100 surveyors and 20 supervisors at Raipur. The training included an orientation on NDD, the importance of independent monitoring, details of the monitoring formats including CAPI (Computer Assisted Personal Interview) practices, survey protocols, and practical sessions. Each surveyor was allotted one school and one *anganwadi* for process monitoring on NDD and mop-up day, and subsequently five schools and five *anganwadis* for coverage validation. Surveyors were provided with a tablet computer with the latest CAPI version downloaded, battery charger, printed copy of monitoring formats as backup, and albendazole tablets for demonstration during data collection. The details of sampled schools were shared with them one day before the commencement of fieldwork to ensure that monitors did not contact schools and *anganwadis* in advance, as this could cause bias in the results.

Appropriate quality assurance measures were taken to ensure that the data collected was accurate, consistent and authenticated. For example, teachers and *anganwadi* workers (AWWs) were asked to sign a participation form with an official stamp to authenticate surveyor visits to schools or *anganwadis*. Further, consent based electronic thumb

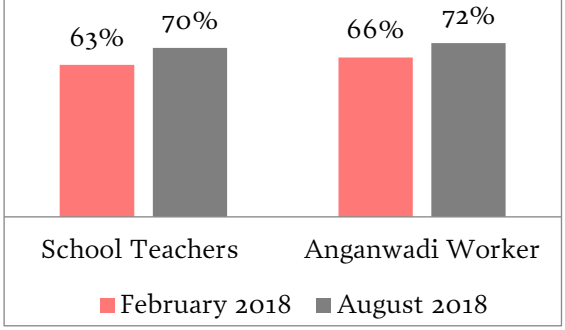
impression of all survey respondents including headmasters, teachers, AWWs, ASHAs and children were collected for verification purpose. The GPS location along with time stamp and photographs of all schools and *anganwadis* visited during data collection was also collected through CAPI to authenticate the location and time of the interview. Evidence Action reviewed all data sets and shared feedback with the agency for any inconsistencies observed and ensured timely corrective actions. All analysis was performed using STATA and Microsoft Excel.

Key Findings

Training

Prior to each NDD round, teachers and *anganwadi* workers are trained on NDD related processes and protocols to facilitate effective implementation of the program. While all teachers and AWWs are mandated to attend training for every round of NDD, irrespective of whether they had attended training in earlier rounds, 70% of teachers and 72% AWWs attended training for the August 2018 NDD round. This shows an increase of seven percentage points in schools and six percentage points *anganwadis* respectively in comparison to the February 2018 round (Figure 1). In this round, the state government sent reinforcement messages through bulk SMS to key government officials and frontline functionaries in stakeholder departments, which could be a reason for the improvement in training attendance. Training attendance of private school teachers was 59% this round, which is a tremendous rise by 22 percentage points from the February 2018 round (Annex- Table PM7). This increase could be attributed to a separate private school meeting at the district level.

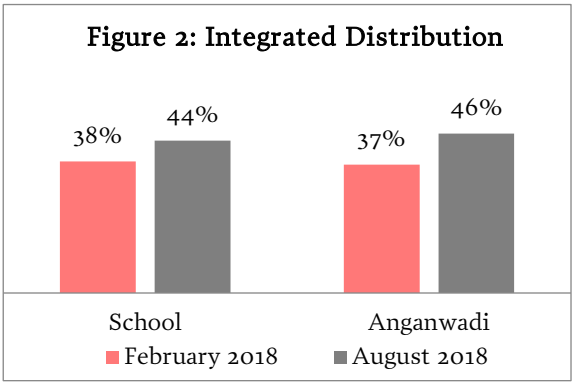
Figure 1: Attended training for National Deworming Day



Among those who did not attend the training, 43% of teachers and 53% of *anganwadi* workers reported having received no information about the NDD training date/venue/timing as the main reason for not attending the training (Annex- Table PM1). Further, 54% of teachers provided training to other teachers at their schools (Annex- Table PM1). Seventy-eight percent of headmasters/teachers and 73% of AWWs received NDD program related SMS, which showed a 24-percentage point increase for schools and 35 percentage point increase for anganwadis in comparison to the February 2018 round. Use of an updated database of mobile numbers is largely responsible for the increased delivery of SMS to teachers and AWWs. However, 22% of teachers and 27% of AWWs reported that they did not receive an SMS about NDD (Annex Table PM1).

Integrated Distribution of NDD Kit at Trainings

Although mandated in the NDD guidelines, integrated distribution of the NDD kit was low for both schools (44%) and *anganwadis* (46%) (Figure 2). The low level of integrated distribution is partly attributed to delays in drug procurement and delayed printing of IEC and training materials at state and further delayed distribution of drugs and IEC to districts block/sectors. Drug availability and their distribution at schools and *anganwadis* was ensured by the Cluster Resource Coordinator at schools, Lady Supervisors at *anganwadis,* and *Rasthriya Bal Suraksha Karyakram* teams, leading to 95% of schools and 94% *anganwadis* reporting to have received deworming tablets (Annex-Table PM4).



Seventy-five percent of schools and 72% of *anganwadis* received posters/banners, while 80% of schools and 75% of *anganwadis* received handouts/reporting forms (Annex-Table PM4). Ninety-seven percent of schools and *anganwadis* reported having received sufficient tablets for deworming (Annex-Table PM3).

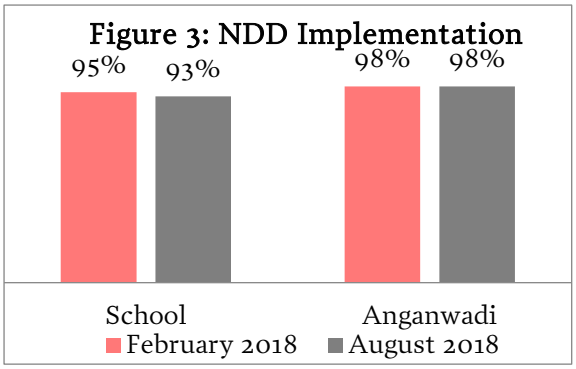
Among the sampled private schools, 83% received deworming tablets and among those, 88% reported having received sufficient quantity. Further, 54% of the private schools covered during process monitoring received posters/banners and 61% received handouts/reporting forms. (Annex Table PM7).

Source of Information about the Recent Round of NDD

SMS (41%) followed by training (35%) was the most reported source of information in schools and training (43%) followed by SMS (32%) was the most reported source of information in *anganwadis* on NDD. Twenty-seven percent of schools and 14% of *anganwadis* reported that they received information about NDD through newspapers. Twenty percent of schools and 19% of *anganwadis* reported hearing about NDD from other teachers and *AWWs*. Use of social media also emerged as an effective source of information where 30% of school teachers and 15% of AWWs received information from government circulated reinforcement messages on WhatsAPP. Radio was the least effective source of information about NDD for the current round (Annex Table PM1).

NDD Implementation

As evident from Figure-3, the proportion of schools and *anganwadis* that conducted deworming remained high during both NDD rounds. One of the most commonly cited reasons for schools not conducting deworming was that they did not receive information about NDD (Annex- Table CV1). Out of all the schools and *anganwadis* visited during process



monitoring, surveyors were able to observe deworming activities in 98% of schools and *anganwadis* (Annex- Table PM5).

Adverse Events- Knowledge and Management

Interviews with headmasters/teachers and AWWs reveals a moderate degree of awareness (50% in schools and *anganwadis*) regarding potential adverse events due to deworming. A considerable knowledge gap was observed on appropriate protocols to follow in the case of such events. Vomiting and mild abdominal pain was listed as a side effect by 85% of teachers. Eighty-eight percent of AWWs listed vomiting, followed by mild abdominal pain (82%) in *anganwadis*. Further, 86% of teachers and 79% of AWWs knew to make a child lie down in an open, shaded place in the case of any symptoms of adverse events, and around 50% schools and *anganwadis* knew to give ORS/water. Only 32% of schools and 24% of AWWs knew to observe the child for at least two hours. Further, 79% of schools and 76% of *anganwadis* reported the need to call a PHC doctor if symptoms persisted (Annex- Table PM6). Findings necesitate emphasis on adverse event management protocols during training of teachers and AWWs.

Recording Protocol

Fifty-seven percent schools and 40% of *anganwadis* followed the correct (single and double ticks) recording protocol. Around 6% of schools and 14% of *anganwadis* carried out partial[1] recording. Thirty-seven percent of schools and 46% of *anganwadis* did not follow any recording protocol (Annexure- CV3). Further, as per NDD guidelines, all schools and *anganwadis* are supposed to retain a copy of reporting forms; however, only 56% of schools and 43% of *anganwadis* retained a copy for the verification (Annex –Table CV1). The findings from process monitoring suggests that 56% of schools and 59% of *anganwadi* workers were aware of this requirement (Annex –Table PM2).

Accredited Social Health Activists (ASHAs) called *Mitanin* in the state are required to prepare a list of out-of-school children and children unregistered in *anganwadis* and submit it to AWWs. However, only 22% of *anganwadis* reported to have the list of unregistered (1-5 years) children and 37% reported having the list of out-of-school children (6-19 years) (Annex –Table CV1). Of the *Mitanins* interviwed during coverage validation (who were available at the *anganwadis* at the time of surveyors visit), 52% reported to prepare the list of unregistered and out-of-school children. Out of these only 77% had shared it with the AWWs and only a mere 19% of *Mitanins* workers reported receiving incentives for the last round of NDD i.e. February 2018 (Annex –Table CV2).

Coverage Validation

Coverage validation provides an opportunity to assess the accuracy of reported data and verify government-reported treatment figures. Verification factors[2] are common indicators

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[1] Partial recording protocol includes schools/*anganwadis* where all the classes/registers did not follow correct protocol, but put different symbols and prepared separate list to record the information of dewormed children.

[1]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.

to measure the accuracy of reported treatment values for neglected tropical disease control programs[3]. It also gives us an idea about record keeping and data management at the service delivery point. The verification factor was estimated on the basis of the availability of a copy of reporting forms at schools and *anganwadis*. The state-level verification factor for school enrolled children was 0.44, indicating that on an average, for every 100 dewormed children reported by the school, forty-four were verified either through single/double tick or through other available documents at the school. Similarly, the overall state-level verification factor for children dewormed at *anganwadis* was 0.59, indicating that on an average; for every 100 dewormed children reported by the *anganwadi,* fifty-nine were verified through available documents (Annex – Table CV3).

The category-wise verification factors for registered (1-5 years), unregistered (1-5 years) and out-of-school (6-19 years) children were 0.52, 1.25, and 0.72 respectively for *anganwadis* (Annex CV3). The data suggests miss reporting and aggregation error of coverage figures, in *anganwadis* and therefore highlights a need for proper record keeping. Despite challenges in reporting and documentation of NDD coverage data, based on children's interviews, the majority of the children present at schools on NDD or mop-up day received (97%) and consumed (99%) the albendazole tablet on either NDD or mop-up day.

Against the state government reported 87% coverage in schools and 89% coverage for 1-5 years registered children in *anganwadis*, attempts were made to understand the maximum number of children that could have been dewormed at schools and *anganwadis* through coverage validation data. The NDD treatment coverage in schools was estimated considering the maximum attendance of children on NDD dates. Coverage validation data showed that 93% of schools conducted deworming on either NDD or mop-up day (Annex-Table CV1), a maximum of 86% of children were in attendance (Annex-Table CV3), 97% of children received an albendazole tablet, and 97% of children reported to consume the tablet under supervision (Annex-Table CV4). Considering these factors, 75%[4] (0.93*0.86*0.97*0.97) of enrolled children could have been dewormed at schools. Since interviews of children are not conducted in *anganwadis*, the verification factor of 1-5 years registered children from coverage validation data is applied to government reported coverage data for the same category. It was estimated that around 46% (0.89*0.52) of registered children (1-5 years) in *anganwadis* could have been dewormed. The calculation of verification factors is based on only those schools and *anganwadis* where a copy of the reporting form was available for verification. Therefore, adjusted coverage in *anganwadis* based on verification factor needs to be interpreted with caution.

[2]WHO (2013), Data Quality Assessment tool for Neglected Tropical Diseases: Guidelines for Implementation December 2013.

[4] This was estimated on the basis of NDD implementation status (93%), maximum attendance on NDD and mop-up day (86%); children received albendazole (97%) and supervised drug administration (97%). In absence of children interview in *anganwadis*, the government reported coverage was adjusted by implying state level verification factor.

Recommendations

The following are the key recommendations for program improvements that emerged from the process monitoring exercise.

1. Although training participation of teachers and *anganwadi* workers in the current NDD round has improved from the February 2018 round, this needs to be sustained and additional efforts need to be made to ensure maximum participation in the next round. Delays/or rescheduling of trainings (delays/rescheduling in four districts) to be avoided at all counts by effective planning and coordination between the three key stakeholder departments. District/block level officials must ensure private school teachers' participation during training to further improve the training attendance and subsequently strengthen the program.

2. The percentage of headmasters/teachers and AWWs that received deworming related SMS has increased from previous round. However, its level remains moderate, despite using an updated contact database (received from Women & Child Development department). More efforts need to be made to improve the credibility of the database, especially for *anganwadis*. SMS reach to all functionaries will help facilitate comprehensive, effective and timely dissemination of information pertaining to NDD.

3. While a significant increase in integrated distribution is evident from the February 2018 to August 2018 NDD rounds in both schools and *anganwadis*, it remained low and there is ample scope to improve in future rounds. As integrated distribution of the NDD kit is cost effective, eases logistical concerns and ensures quality services, efforts should be made to strengthen integrated distribution with timely drugs procurement and printing of IEC materials. Efforts are required to strengthen and align the distribution cascade (NDD kits) and hand over NDD kits to the teachers/headmasters and AWWs at the time of training.

4. Although adherence to correct recording protocols has improved from February 2018 to August 2018 in both schools and *anganwadis*, there is scope for further improvement. Training and reinforcement messages shared through SMS needs to have an increased focus on the importance of following correct reporting protocols and maintaining correct and complete documentation. Practical sessions on recording protocols for teachers and *anganwadi* workers can be organized during sector level trainings.

5. Guidelines from state to districts were released to improve the engagement of *Mitanins* in mobilizing out-of-school children and spreading awareness about deworming benefits. In this round, however, only 37% of AWWs had lists of out-of-school children. Therefore, it is crucial that the role of *MMitanins* in mobilizing unregistered and out-of-school children should be discussed in detail during trainings. *Mitanins* participation should be strengthened by highlighting the role of *Mitanins* in the joint directive, encouraging their participation in training sessions, community mobilization, and sending reminder SMS to them with information on incentives.

6. Coverage validation findings showed a significant decrease in estimated coverage in both schools (from 83% in the February 2018 NDD to 75% in the August 2018 round) and *anganwadis* (from 74% in February 2018 to 46% in August 2018 round). This could be attributed to a decrease in the maximum attendance in schools and decrease in the verification factor (for 1-5 registered children) in *anganwadis*. Emphasis should be given to maintain high attendance on NDD days and to achieve maximum NDD coverage in schools. Though it is suggested to maintain a proper record and reporting at *anganwadis*, it remains challenging to do so for unregistered and out-of-school children.

ANNEXURE

Findings from Process Monitoring and Coverage Validation of National Deworming Day (NDD), August 2018, Chhattisgarh

Table A: Sample description including number of Schools and *Anganwadis* covered during Process Monitoring and Coverage Validation

Sample Details	Number
Total number of districts in the state	27
Total number of NDD districts in the state	27
Number of districts covered under process monitoring and coverage validation	27
Number of trained monitors deployed during process monitoring and coverage validation	100
Number of blocks in the state	146
Number of blocks in NDD districts	146
Number of blocks[5] covered during process monitoring and coverage validation	100
Total number of schools covered during process monitoring	202
• Number of government schools covered[6]	155
• Number of private schools covered	47
Total number of *anganwadis* covered[7] during process monitoring	197
Total number of schools covered during coverage validation	500
• Number of government schools covered[8]	379
• Number of private schools covered	121
Total number of *anganwadis* covered[9] during coverage validation	501

Table PM1: Training and source of information about NDD among teachers/headmasters and *anganwadi* workers, August 2018

[5]These are sampled blocks selected from U-DISE data, 2016-17.
[6]These are the actual schools covered during NDD and MUD visits. Numbers given in subsequent tables (numerator and denominator) are weighted
[7]These are the actual anganwadis covered during NDD and MUD visits. Numbers given in subsequent tables (numerator and denominator) are unweighted.
[8]These are the actual schools covered during Coverage Validation visits. Numbers given in subsequent tables (numerator and denominator) are weighted
[9]These are the actual anganwadis covered during Coverage Validation visits. Numbers given in subsequent tables (numerator and denominator) are weighted.

Indicators	School			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Attended training for current round of NDD	202	141	70	197	142	72
Ever attended training for NDD[10]	202	154	76	197	155	79
Never attended training for NDD	202	48	24	197	42	21
Reasons for not attending current NDD round training (Multiple Response)						
Location was too far away	61	0	0	55	1	2
Did not know the date/timings/venue	61	26	43	55	29	53
Busy in other official/personal work	61	3	5	55	2	4
Attended deworming training in the past	61	13	21	55	13	24
Not necessary	61	3	5	55	1	2
No incentives/no financial support	61	1	2	55	1	2
Trained teacher that provided training to other teachers in their schools						
All other teachers	141	76	54	Not Applicable		
Few teachers	141	31	22	Not Applicable		
No (himself/herself only teacher)	141	13	9	Not Applicable		
No, did not train other teachers	141	21	15	Not Applicable		
Source of information about current NDD round (Multiple Response)						
Television	202	50	25	197	38	19
Radio	202	7	3	197	8	4
Newspaper	202	55	27	197	27	14
Banner	202	37	18	197	36	18
SMS	202	82	41	197	63	32

[10]Includes those school teachers and *anganwadi* workers who attended training either for NDD August 2018 or attended tanning in past.

Indicators	School			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Others school/teacher/*anganwadi* worker	202	40	20	197	37	19
WhatsApp message	202	60	30	197	29	15
Training	202	71	35	197	85	43
Others[11]	202	24	12	197	37	19
Received SMS for current NDD round	202	158	78	197	144	73
Probable reasons for not receiving SMS[12]						
Changed Mobile number	39	8	20	44	5	11
Other family members use this number	39	0	0	44	4	9
Number not registered to receive such messages	39	8	20	44	10	23
Don't Know	39	17	44	44	21	48
Others[13]	39	6	16	44	4	9

Table PM2: Awareness about NDD among teachers/headmasters and *anganwadi* workers, August 2018

Indicators	School			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Awareness about the ways a child can get worm infection	202	186	92	197	175	89
Different ways a child can get worm infection (Multiple Response)						
Not using sanitary latrine	186	120	65	175	108	62
Having unclean surroundings	186	129	69	175	131	75

[11]Others include ANM, *Anganwadi* sister, School Meeting, Supervisor, ICDS office, Mitanin, Other School, etc.
[12]5 Schools and 9 *Anganwadis* reported that they don't know about receiving the SMS and reasons were not asked to them.
[13]Others include do not use mobile, No information, Not in Group, etc.

Consume vegetables and fruits without washing	186	112	60	175	92	53
Having uncovered food and drinking dirty water	186	96	52	175	82	47
Having long and dirty nails	186	102	55	175	90	51
Moving in bare feet	186	80	43	175	72	41
Having food without washing hands	186	100	54	175	89	51
Not washing hands after using toilets	186	61	33	175	56	32
Awareness about all the possible ways a child can get a worm infection[14]	186	19	10	175	17	10
Perceives that health education should be provided to children	202	198	98	197	190	96
Awareness about correct dose and right way of administration of albendazole tablet						
1-2 years of children (Crush the half tablet between two spoons and administer with water)	Not Applicable			197	189	96
2-3 years of children (Crush one full tablet between two spoons, and administer with water)	Not Applicable			197	121	61
3-5 years of children (one full tablet and child chewed the tablet properly)	Not Applicable			197	155	79
6-19 years of children (one full tablet and child chewed the tablet properly)	202	191	95	197	190	96
Awareness about non-administration of albendazole tablet to sick child						

[14]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.

Will administer albendazole tablet to sick child	202	26	13	197	20	10
Will not administer albendazole tablet to sick child	202	176	87	197	177	90
Awareness about consuming albendazole tablet						
Chew the tablet	202	199	99	197	196	99
Swallow the tablet directly	202	3	1	197	1	1
Awareness about consuming albendazole in school/*anganwadi*	202	198	98	197	195	99
Awareness about the last date (September 20, 2018) for submitting the reporting form	202	88	44	197	74	38
Awareness about submission of reporting forms to ANM	202	113	56	197	117	59
Awareness to retain a copy of the reporting form	202	187	93	197	179	91

Table PM3: Deworming activity, drug availability, and list of unregistered and out-of-school children, August 2018

Indicators	School			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Albendazole tablet administered on the day of visit						
Yes, ongoing	202	126	62	197	119	60
Yes, already done	202	29	14	197	39	20
Yes, after sometime	202	33	16	197	20	10
No, will not administer today	202	14	7	197	19	10
Schools/*anganwadis* conducted deworming on either of the day[15]	202	189	94	197	184	93
Schools/*anganwadis* conducted deworming on NDD[16]	103	93	90	100	92	92

[15]Schools/*anganwadis* administered albendazole tablet to children either on NDD or mop-up day
[16]Based on the samples visited on NDD.

Schools/*anganwadis* conducted deworming on Mop-Up Day[17]	99	96	97	97	86	89
Reasons for not conducting deworming						
No information	14	4	29	19	6	32
Albendazole tablet not received	14	6	43	19	4	21
Apprehension of adverse events	14	0	0	19	0	0
Already dewormed	14	0	0	19	6	32
Others[18]	14	4	29	19	3	16
Attendance on NDD[19]	12125	8833	73	Not Applicable		
Attendance on Mop-Up Day[20]	13400	8541	64	Not Applicable		
Anganwadis having list of unregistered/out-of-school children	Not Applicable			197	101	51
Out-of-school children (Age 6-19 years) administered albendazole tablet	Not Applicable			197	119	60
Unregistered children (Age 1-5 years) administered albendazole tablet	Not Applicable			197	121	61
Sufficient quantity of albendazole tablets[21]	192	186	97	185	180	97

Table PM4: Integrated distribution of albendazole tablets and IEC materials, August2018

Indicators	Schools			*Anganwadi*		
	Denominator	Numerator	%	Denominator	Numerator	%
Items received by school teacher and *anganwadi* worker						
Albendazole tablet	202	192	95	197	185	94
Poster/banner	202	152	75	197	141	72
Handouts/ reporting form	202	161	80	197	147	75
Received all materials	202	140	69	197	127	64
Items verified during Independent Monitoring						
Albendazole tablet	192	183	95	185	177	96

[17]Based on the samples visited on mop-up day only.
[18]Others include All Teacher Busy, Students absent in schools due to Strike, etc.
[19]Based on those schools visited on NDD
[20]Based on those schools visited on mop-up day
[21] This indicator is based on the sample that received albendazole tablet.

Poster/banner	152	140	92	141	133	94
Handouts/ reporting form	161	155	96	147	135	92
Received all materials	140	127	91	127	117	92
No of school teachers/*anganwadi* worker attended training and received items during training						
Albendazole tablet	136	124	91	141	124	88
Poster/banner	110	102	93	113	101	89
Handouts/ reporting form	115	105	91	115	105	91
Received all materials	140	89	64	127	91	72
Integrated Distribution of albendazole tablet IEC and training materials[22]	202	89	44	197	91	46

Table PM5: Implementation of deworming activity and observation of monitors, August2018

Indicators	Schools			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Deworming activity was taking place	126	124	98	119	117	98
Albendazole tablets were administered by						
Teacher/headmaster	124	123	99	117	4	3
Anganwadi worker	124	0	0	117	110	94
ASHA/Mitanin	124	0	0	117	3	3
ANM	124	1	1	117	0	0
Student	124	0	0	117	0	0
Teacher/*Anganwadi* worker asked children to chew the tablet	126	123	98	119	119	100
Followed any recording protocol[23]	155	138	89	158	134	85
Protocol followed						
Putting single/double tick	138	125	91	134	103	77
Put different symbols	138	2	1	134	1	1
Prepare the separate list for dewormed	138	11	8	134	30	22

[22]Integrated distribution of NDD kits includes albendazole, banner/poster and handout/reporting forms and provided to schools and AWC during the trainings.

[23]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.

Visibility of poster/banner during visits	152	122	80	141	116	82

Table PM6: Awareness about Adverse events and Its Management, August 2018

Indicators	Schools			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Opinion of occurrence of an adverse event after administering albendazole tablet	202	101	50	197	99	50
Awareness about possible adverse events (Multiple Response)						
Mild abdominal pain	101	86	85	99	81	82
Nausea	101	52	51	99	50	51
Vomiting	101	86	85	99	87	88
Diarrhea	101	34	34	99	39	39
Fatigue	101	31	31	99	30	30
All possible adverse event[24]	101	9	9	99	10	10
Awareness about mild adverse event management						
Make the child lie down in open and shade/shaded place	202	174	86	197	155	79
Give ORS/water	202	100	50	197	98	50
Observe the child at least for 2 hours in the school	202	64	32	197	48	24
Don't know/don't remember	202	16	8	197	20	10
Awareness about severe adverse event management						
Call PHC or emergency number	202	159	79	197	150	76

[24]Includes those who are aware that a mild abdominal pain and nausea and vomiting and diarrhea and fatigue can be reported by a child after taking albendazole tablet.

Take the child to the hospital /call doctor to school	202	108	53	197	107	54
Don't know/don't remember	202	6	3	197	5	3
Available contact numbers of the nearest ANM or MO-PHC	202	179	89	197	168	85
Mitanin present in *Anganwadi* center	Not Applicable			197	132	67

Table PM7: Selected Indicators of Process Monitoring in Private Schools, August 2018

Indicators[25]	Denominator	Numerator	%
Attended training for current round of NDD	41	24	59
Received albendazole tablets	41	34	83
Sufficient quantity of albendazole tablets	34	30	88
Received poster/banner	41	22	54
Received handouts/ reporting form	41	25	61
Received SMS for current NDD round	41	23	56
Albendazole administered to children	41	32	78
Reasons for not conducting deworming			
No information	9	4	44
Albendazole tablets not received	9	4	44
Apprehension of adverse events	9	0	0
Others[26]	9	2	22
Albendazole tablet administered to children by teacher/headmaster[27]	24	24	100
Perceive that health education should be provided to children	41	39	95
Awareness about correct dose and right way of albendazole administration	41	39	95
Awareness about non-administration of albendazole tablet to sick child	41	35	85
Opinion of occurrence of an adverse event after taking albendazole tablet	41	18	44
Awareness about occurrence of possible adverse events			
Mild abdominal pain	18	13	72
Nausea	18	7	39

[25]These 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
[26]Others include will administer other day, Teachers busy in other works etc.
[27]This indicator is based on samples where deworming was ongoing.

Vomiting	18	15	83
Diarrhea	18	6	33
Fatigue	18	2	11
Awareness about mild adverse event management			
Let the child rest in an open and shaded place	41	29	71
Provide clean water to drink/ORS	41	18	44
Contact the ANM/nearby PHC	41	8	20
Available contact numbers of the nearest ANM or MO-PHC	41	31	76
Followed correct[28] recording protocol	23	22	96

Table B: Sample Description including Number of Schools and *Anganwadis* Covered during Coverage Validation[29]

Sample/Sites Detail	Number
Total number of districts in the state	27
• Total number of NDD districts in the state	27
• Number of districts covered under coverage validation	27
Number of trained surveyors deployed during coverage validation	100
Number of blocks in the state	146
• Number of blocks in NDD districts	146
• Number of blocks[30] covered through coverage validation	100
Total number of schools covered	500
• Total number of government schools covered[31]	379
• Total number of private schools covered	121
Total number of *anganwadis* covered[32]	501

Table CV1: Findings from School and *Anganwadi* Coverage Validation Data

	Indicators	Schools	Anganwadis

[28]Correct recording protocol implies putting single tick (✓) on NDD and double tick (✓✓) for all those children administered albendazole tablets.
[29]Coverage validation in the state was conducted during September 21-28, 2018.
[30]These are sampled blocks selected from U-DISE data, 2017-18.
[31]These are the actual schools covered during Coverage Validation visits. Numbers given in subsequent tables (numerator and denominator) are weighted. The weights are used in order to generalize the findings at state level.
[32]These are the actual *anganwadis* covered during Coverage Validation visits. Numbers given in subsequent tables (numerator and denominator) are weighted. The weights are used in order to generalize the findings at state level.

No.		Denominator	Numerator	%	Denominator	Numerator	%
1	Percentage of schools/*anganwadis* conducted deworming[33]	500	467	93	501	493	98
	Percentage of conducted deworming in Government schools	373	369	99	Not Applicable		
	Percentage of conducted deworming in Private schools	127	98	77	Not Applicable		
1a	Percentage of school and *anganwadis* administered albendazole on day of - **(Multiple Response)**						
	a. National Deworming Day	467	448	96	493	479	97
	b. Mop-up day	467	404	87	493	392	80
	c. Between NDD and mop-up day	467	28	6	493	17	3
	d. Both days (NDD and mop-up day)	467	390	84	493	383	78
1b	Reasons for not conducting deworming						
	a. No information	33	15	45	8	4	50
	b. Drugs not received	33	16	48	8	2	25
	c. Apprehension of adverse events	33	0	0	8	0	0

[33]Schools and *anganwadis* that conducted deworming on NDD or mop-up day.

	d. Others[34]	33	2	6	8	2	25
2	Percentage of schools and *anganwadis* left over with albendazole tablet after deworming	467	268	57	493	230	47
2a	Number of albendazole tablets left after deworming						
	a. Less than 50 tablets	268	222	83	230	214	93
	b. 50-100 tablets	268	29	11	230	15	7
	c. More than 100 tablets	268	17	6	230	1	0
3	Copy of filled-in reporting form was available for verification	467	263	56	493	214	43
	Copy of filled-in reporting form was available for verification in Government schools	369	221	60	Not Applicable		
	Copy of filled-in reporting form was available for verification in Private schools	98	42	43	Not Applicable		
3a	Reasons for non-availability of copy of reporting form[35]						
	a. Did not received	194	75	38	270	91	34
	b. Submitted to ANM	194	81	42	270	136	50
	c. Unable to locate	194	13	7	270	16	6
	d. Others[36]	194	26	13	270	26	10

[34] Other includes School closed because of regional festival, Parents not allowed, *Anganwadi* worker is on holiday.
[35] In4 schools and 10 anganwadis blank reporting form was available.
[36]Other includes at home, teacher on holiday, misplaced, not received, Form Submitted to ICDS Supervisor/Doctor/Mitanin/MPW worker/ANM, etc

4	Percentage of *Anganwadi* center where MITANIN administered albendazole	Not Applicable	493	379	77
5	*Anganwadis* having list of unregistered children (aged 1-5 years)	Not Applicable	493	106	22
6	*Anganwadis* having list of out-of-school children (aged 6-19 years)	Not Applicable	493	183	37

Table CV2: Selected indicators based on Mitanin's (ASHA) interview at *Anganwadi* Centre, Coverage Validation Data

Sr. No.	Indicators	Anganwadis		
		Denominator	Numerator	%
1	*Mitanin*[37] conducted meetings with parents to inform about NDD	290	255	88
2	*Mitanin* prepared list of unregistered and out-of-school children	290	151	52
3	*Mitanin* shared the list of unregistered and out-of-school children with *angnawadis* worker[38]	151	116	77
4	*MITANIN* administered albendazole to children	290	223	77
5	*Mitanin* received incentive for NDD February 2018 round	290	55	19

Table CV3: Recording protocol, verification factor and school attendance

Sr.No.	Indicators	Schools/Children	Anganwadis/Children

[37]Surveyors were instructed to call ASHA at *anganwadi* centers during coverage validation and collect relevant information. Surveyors could only cover those ASHA's who were able to join for interview because it was not mandatory for ASHA's to attend.

[38]Based on sub-sample who reported to prepare the said list

		Denominator	Numerator	%	Denominator	Numerator	%
1	Followed correct[39] recording protocol	467	265	57	493	195	40
2	Followed partial[40] recording protocol	467	31	6	493	71	14
3	Followed no[41] recording protocol	467	171	37	493	228	46
	Followed correct recording protocol in Government schools	369	231	63	Not Applicable		
	Followed correct recording protocol in Private schools	98	34	35	Not Applicable		
4	State-level verification factor[42](children enrolled/registered)	28521	12416	44	9886	5850	59
	a. Children registered with *anganwadis*	Not Applicable			8096	4225	52
	b. Children unregistered with *anganwadis* (Aged 1-5)	Not Applicable			636	793	125
	c. Out-of-school children (Aged 6-19)	Not Applicable			1154	832	72
5	Attendance on previous day of	67365	55412	82	Not Applicable		

[39]Correct recording protocol includes schools/*anganwadis* where all the classes/registers put single tick (✓) on NDD and double tick (✓✓) on mop-up day to record the information of dewormed children.
[40]Partial recording protocol includes schools/*anganwadis* where all the classes/registers did not follow correct protocol, put different symbols and prepared separate list to record the information of dewormed children.
[41]No protocol includes all those schools/*anganwadis* where none of the classes/registers followed any protocol to record the information of dewormed children
[42]Ratio of recounted value of the dewormed children to the reported value. This calculation is based on only those schools (n=263) and *anganwadis* (n=214) where deworming was conducted and copy of reporting form was available for verification.

	NDD (children enrolled)				
6	Attendance on NDD (children enrolled)	67365	49638	74	Not Applicable
7	Attendance on mop-up day (children enrolled)	67365	48964	73	Not Applicable
8	Children who attended on both NDD and mop-up day (children enrolled)	67365	40517	60	Not Applicable
9	Maximum attendance of children on NDD and mop-up day[43] (Children enrolled)	67365	58085	86	Not Applicable
10	Estimated NDD coverage[44][45]	75			46
11	Estimated NDD coverage in Government schools	85			Not Applicable
12	Estimated NDD coverage in Private schools	60			Not Applicable

Table CV4: Description on children (6-19 years) interviewed in the schools (n=467) during coverage validation

Sr.No.	Indicators	Denominator	Numerator	%
1	Children received albendazole tablets	1401	1361	97
2	Children aware about the albendazole tablets	1361	1205	89
	Source of information about deworming among children (Multiple response)			

[43]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.
[44]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.*
[45]This was estimated by implying state-level verification factor on government reported coverage for 1-5 years registered children in AWC.

3	a. Teacher/school	1205	1198	99
	b. Television	1205	59	5
	c. Radio	1205	14	1
	d. Newspaper	1205	51	4
	e. Poster/Banner	1205	150	12
	f. Parents/siblings	1205	114	9
	g. Friends/neighbors	1205	20	2
4	Children aware about the worm infection	1361	914	67
5	Children awareness about different ways a child can get worm infection (Multiple response)[46]			
	a. Not using sanitary latrine	912	322	35
	b. Having unclean surroundings	912	531	58
	c. Consume vegetables and fruits without washing	912	453	50
	d. Having uncovered food and drinking dirty water	912	346	38
	e. Having long and dirty nails	912	386	42
	f. Moving in bare feet	912	273	30
	g. Having food without washing hands	912	357	39
	h. Not washing hands after using toilets	912	201	22
6	Children consumed albendazole tablet	1361	1358	100
7	Way children consumed the tablet			
	a. Chew the tablet	1358	1291	95
	b. Swallow tablet directly	1358	67	5
8	Supervised administration of tablets	1358	1314	97
9	Reasons for not consuming albendazole tablet			
	a. Feeling sick	4	1	25
	b. Afraid of taking the tablet	4	2	50
	c. Parents told me not to have it	4	0	0
	d. Do not have worms so don't need it	4	0	0

[46] Two cases are missing

	e. Did not like the taste	4	1	25