Evidence Action

Deworm the World Initiative

Independent Monitoring of National Deworming Day in Bihar

February Round, 2018

REPORT

May 2018

Process Monitoring and Coverage Validation

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 independent survey agencies, to assess planning, implementation and quality of NDD program implementation with an objective of identifying gaps and suggesting recommendations for improvements in future NDD rounds. While process monitoring is conducted to understand the individual state government's preparedness for NDD and adherence to the program's prescribed processes; coverage validation is an ex - post check of the accuracy of the reporting data and coverage estimates to verify government-reported treatment figures.

Bihar observed the February 2018 round of NDD on on February 19, 2018; followed by mop-up day on March 7. Fieldwork for process monitoring was conducted on February 19 and March 7, while coverage validation in the state happened over a period of five days from March 13-19.

This extract is a summary of the broad findings from the state of Bihar for the 2018 February round of NDD.

Survey Methodology

Using a two-stage probability sampling procedure, across 36 districts Evidence Action selected 250 schools (government schools=196 and private schools= 54) and 250 *anganwadis* for process monitoring visitsduring NDD and mop-up day; 625 schools (492 government schools, 126 private schools, and 7 Madarsa) and 625 *anganwadis* for coverage validation. Through a competitive review process, Evidence Action hired and independent survey agency to conduct process monitoring and coverage validation. Evidence Action designed and finalized survey tools with approvals from Bihar's government. One combined tool 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

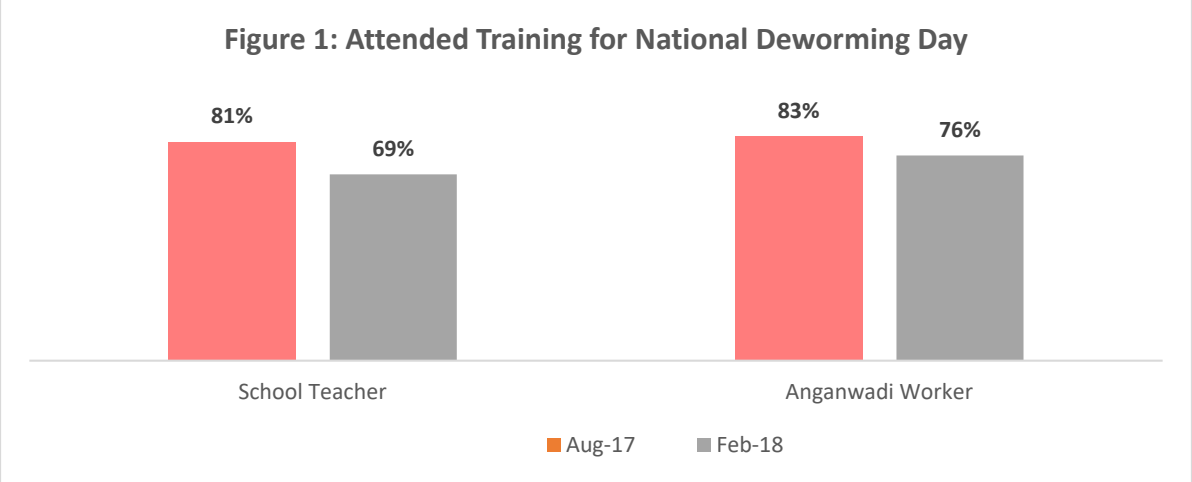
Prior to the survey, Evidence Action conducted a comprehensive training of master trainers who further conducted two-day training of 125 monitors and 25 supervisors in Patna. The training included an orientation on NDD, the importance of independent monitoring, details of the monitoring formats including CAPI practices, survey protocols and practical sessions. Each monitor 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 having latest CAPI version downloaded, battery charger, printed copy of monitoring formats as backup, 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, 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, school and *anganwadi* workers (AWWs) were asked to sign a participation form with an official stamp to verify that the school or *anganwadi* was visited. Further, photographs of schools and *anganwadis* were also collected to authenticate the location of the interview. Evidence Action reviewed all data sets, 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

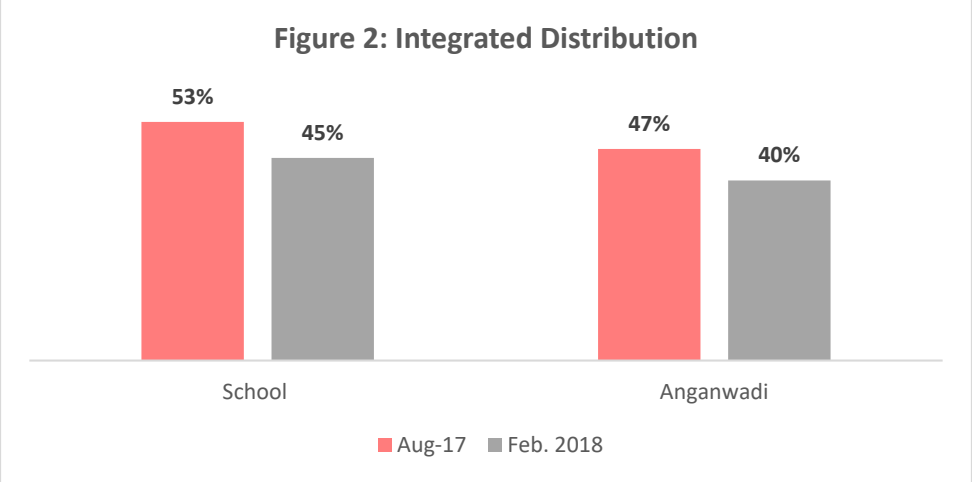
Prior to each NDD round, teachers and AWWs are trained on NDD related processes and protocols to facilitate effective program implementation. Figure 1 reveals that 69% teachers and 76% AWWs visited by the surveyors had attended training for February 2018 NDD round. While all teachers and AWWs are mandated to attend training for every round of NDD irrespective of whether they had attended training in earlier rounds, there has been a sharp decline in the number of both teachers (69%) and AWWs (76%) who attended training in this round. The training attendance among private teachers has also declined from 45% in August 2017 to 30% in February 2018.



Among those who did not attend training, 61% of teachers and 62% of the AWWs reported lack of information about NDD training as the main reason for not attending. This indicator is improved from August 2017 round in *anganwadi,* where 72% of AWWs cited lack of information as the primary reason. Three-fifths (60%) of trained teachers provided training to all other teachers at their school. Thirty-two percent of teachers and 48% of AWWs reported that they did not receive any SMSs about NDD this round. There is a decline in the rate of receipients of SMSs in private schools, where only 39% of schools received an SMS in this round as compared to 64% in the August 2017 round.

Integrated Distribution of NDD Kit Including Drugs

In spite of NDD guidelines and a well-defined distribution plan, integrated distribution of NDD kits has declined in schools from 53% in August 2017 to 45% in the February 2018 round and in *anganwadis* from 47% in August 2017 to 40% in February 2018 (Figure 2). Among the private schools that were part of the sample, 49% of them had received deworming tablets and among those, around 90% had reported having received sufficient quantity. Only 23% of private schools covered during process monitoring had received posters/banners and 38% received handouts/reporting forms. The corresponding figures for the August 2017 round were 36% for both posters/banners and handouts/reporting forms in private schools.



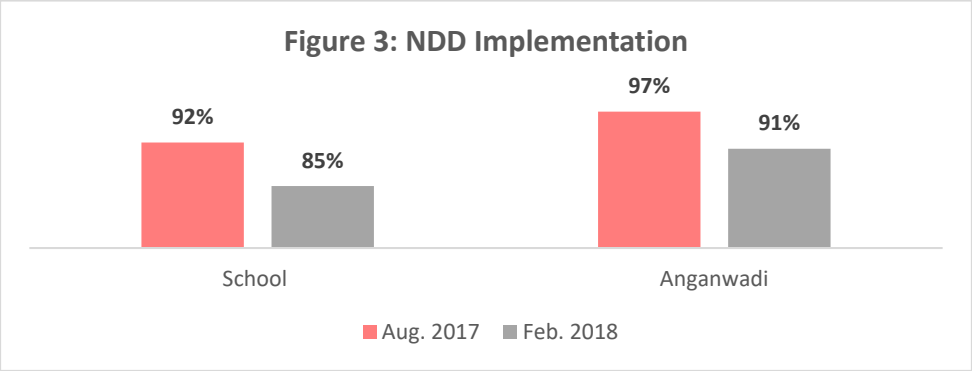
Source of Information about the Recent Round of NDD

SMS was the most reported source of information in schools (53%) and *anganwadis* (34%) reported SMS as a source of information in the February 2018 round. For *anganwadis*, training is the most important source of information (42%) and37% of schools reported training as a source of information. In the August 2017 NDD round, training was the most reported source of information in schools (58%) and *anganwadis* (59%) on NDD.

Awareness through newspaper has gone down in schools from 41% in August 2017 round to 25% in Februar 2018 round and in *anganwadi* from 30% in August 2017 round to 25% in February 2018 round. Banners have proved to be a more effective source in this round with the scores improving in schools from 17% in the August 2017 round to 22% in the February 2018 round. In *anganwadis,* information about NDD from banners improved from 20% in the August 2017 round to 24% in the February 2018 round. Gram Pradhan/PRI, WhatsApp, TV and radio were less effective sources of information for the most recent NDD round.

NDD Implementation

The proportion of schools and *anganwadis* implementing NDD was lower in the February 2018 NDD round compared to the 2017 two rounds. The coverage validation data revealed that only 85% of schools dewormed children on either NDD or mop-up day, which is a decline of seven percentage points since the August 2017 round. On the other hand, 91% of *anganwadis* dewormed children on either NDD or mop-up day, which is a six percentage points decline since the last round. Among the schools in which deworming was ongoing, surveyors were able to directly witness deworming activities taking place in 91% of schools and 91% of *anganwadis*.



Adverse Events- Knowledge and Management

Interviews with headmasters, teachers, and AWWs reveals moderate awareness regarding potential adverse events due to deworming in schools (56%) and *anganwadis* (64%). There was also a high level of understanding of the appropriate protocols to follow in case of such adverse events. Vomiting was listed as a side effect by 89% of the teachers and 92% of AWWs, followed by mild abdominal pain (as reported by 83% headmasters and 81% AWWs). Knowledge about management of adverse events was high in both schools and *anganwadis*; 82% of teachers as well as *anganwadi* workers knew that they had to make a child lie down in an open and shady place in case of an adverse event. Representatives from 51% of schools and *anganwadis* had further recalled that during adverse events a child should be given ORS/Water. Representatives from 77% of schools and 78% of *anganwadis* could also recall that they will need to call a PHC doctor if symptoms persisted. However, none of the private teachers reported the need to call to a Primary Health Centre (PHC) doctor if a child continues to report the symptoms of adverse event, indicating a further need for training of private school teachers on the topic of adverse events management.

Recording Protocol

As per coverage validation data, 53% of schools and 38% of *anganwadi*s followed the correct recording protocol (single and double ticks) after administering deworming tablets to children. 10% of schools and 17% of *anganwadis* followed partial recording protocol, whereas 37% of schools and 45% of *anganwadis* did not follow any protocol (Annex CV3). Compared to the previous round, there was a decline observed in adherence to correct recording protocols,

where 70% of schools and 65% of *anganwadis* followed the correct recording protocol in the August 2017 round.

As recommended in the NDD guidelines, teachers and AWWs are supposed to retain a copy of reporting forms for data verification. Data suggest that 84% of headmasters and *anganwadi* were aware of this requirement. Further, the reporting form was available in 53% of schools and 42% of *anganwadis* for data verification. There has been a marked decline in the availability of the reporting forms in comparison to the August 2017 round when the form was available in 71% of schools and 67% of *anganwadis* (Annex CV1).

Accredited Social Health Activists (ASHAs) are required to prepare a list of out-of-school children and children unregistered in *anganwadis* and submit it to AWWs. . However, only 31% of *anganwadis* had received a list of unregistered children (1-5 years) and only 29% had received a list of out-of-school children (6-19 years) (Annex CV1).Only 6% of ASHA workers among those who were available in *anganwadis* at the time of visit reported receiving an incentive for the August 2017 round of NDD.

Coverage Validation

Coverage validation provides an opportunity to assess the accuracy of reported data and verify government-reported treatment figures. Verification factors[1] are common indicators to measure the accuracy of reported treatment values for neglected tropical disease control programs.[2] Coverage validation 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 0.64, indicating that on an average, for every 100 dewormed children reported by the school, sixty-four were verified through available documents at the schools. Similarly, the overall state-level verification factor for children dewormed at *anganwadis* was 0.89, indicating that on an average, for every 100 dewormed children reported by the *anganwadi,* eighty nine were verified through available documents. (Annex CV3)

However, category-wise verification factors for registered (1-5 years), unregistered (1-5 years) and out-of-school (6-19 years) children were 0.57, 1.25 and 1.17 respectively. (Annex CV3). The data suggests under reporting of coverage figures particularly for unregistered and out-of-school children in *anganwadis*, therefore, highlighting a need for proper record keeping. Further, the interviews of children suggests that the majority of the children present at schools

[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.

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

on NDD or mop-up day received (97%) and consumed (99%) the deworming tablet on either NDD or mop-up day.

Against the state government reported 87% coverage in schools and 88% 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 85% of schools conducted deworming on either NDD or mop-up day (Annex-Table CV1), a maximum of 76% of children were in attendance (Annex-Table CV3), 97% of children received deworming tablet, and 97% of children reported to consume the tablet under supervision (Annex-Table CV4). Considering these factors, 61%[3] (0.85*0.76*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 50% (0.57*0.88) of registered children 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 schools and *anganwadis* based on verification factors needs to be interpreted with caution.

Mid-Day Meal Program

Out of the total sampled schools (both private and government), 76% of the schools are covered through the Mid-Day Meal program (MDM) and almost 93% of them send daily updates for MDM via Integrate Voice Response System (IVRS)/SMS platform in the state. Also, 84% of headmasterssaid schools are aware that it is required to send NDD related information by IVRS/SMS on NDD and mop up days.

Recommendations

Following are the key recommendations for program improvements that emerged from the process monitoring and coverage validation exercise in the State:

1. Training is a crucial opportunity under NDD which affects the distribution of drugs, IEC and training material and their subsequent availability at schools and *anganwadis*. All teachers, from both government and private schools, and *anganwadi* workers should be encouraged to participate in training. Pre-planning of sessions and timely communication of training dates and venues to schools and *anganwadis* are crucial. Teachers and headmasters who attend training must be mandated to impart adequate training to other teachers in their schools. Further, efforts should be made by the state

[3]This was estimated on the basis of NDD implementation status (85%), maximum attendance on NDD and mop-up day (76%), 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.

to ensure that block level trainings are completed at least one week prior to NDD--leaving sufficient time for intensive community mobilization activities as per the NDD plan.

2. A substantial proportion of schools and *anganwadis* did not receive an SMS providing information on NDD for this round. Efforts should be made to have an updated contact database across all stakeholder department, including frontline workers, to ensure the timely sharing of the training reinforcement SMS and information pertaining to NDD. Further, the reach of SMS remains relatively low in private schools. In this context, there is a need to update the current phone numbers of private schools to ensure SMSs reach all required parties.

3. Integrated distribution has declined in both schools and *anganwadis* in comparison to the August 2017 round. Efforts to improve integrated distribution need to be strengthened for better alignment of the distribution cascade (NDD kits) and hand over of NDD kits to teachers and AWWs at the time of training.

4. As evident from the findings, the proportion of schools and *anganwadis* who received deworming tablets declined compared to the August 2017 round. All efforts should be made to improve the distribution of tablets as per the drug distribution plan and to maintain supply chain timelines.

5. Adherence to correct recording protocols in schools and *anganwadis* were low. Greater emphasis on recording protocols can improve the quality of data management and documentation in subsequent rounds. Special attention on recording protocols needs to be given during block level trainings.

6. There continues to be scope for greater involvement of ASHAs in mobilizing out-of-school children and pre-school children not registered in *anganwadis* and spreading awareness on deworming benefits. Efforts are required to increase ASHA participation and engage them in preparing lists of 1-5 years unregistered and out-of-school children in their communities. ASHA participation could be further strengthened by highlighting the role of ASHA in the joint directive, encouraging their participation in training sessions, community mobilization, and sending reminder SMSs to them including information on incentives.

7. The proportion of schools that conducted deworming and had maximum attendance declined in the February 2018 NDD round compared to the August 2017 NDD round. This lead to a decline in NDD coverage among school-enrolled children in the state and requires emphasis on maintaining high attendance on NDD days, including implementation of NDD in all schools, to achieve maximum NDD coverage in the state in future rounds.

ANNEXURE

Table PM 1: Training and source of information about NDD among teachers/headmasters and *anganwadi* workers, February 2018

Indicators	School			*Anganwadi*		
	Denominator	Numerator	%	Denominator	Numerator	%
Attended training for current round of NDD	250	173	69	250	190	76
Ever attended training for NDD[4]	250	186	74	250	196	78
Never attended training for NDD	250	64	26	250	54	22
Reasons for not attending NDD training (Multiple Response)						
Location was too far away	77	-	-	60	-	-
Did not know the date/timings/venue	77	47	61	60	37	62
Busy in other official/personal work	77	6	8	60	5	8
Attended deworming training in the past	77	13	17	60	6	10
Not necessary	77	2	3	60	3	5
No incentives/no financial support	77	4	5	60	2	3
Trained teacher that provided training to other teachers in their schools						
All other teachers	173	103	60	NA	NA	NA
Few teachers	173	44	26	NA	NA	NA
No (himself/herself only teacher)	173	6	4	NA	NA	NA
No, did not train other teachers	173	18	11	NA	NA	NA

[4] Includes those school teachers and *anganwadi* workers who attended training either for NDD February2018 or attended tanning in past.

Indicators	School			*Anganwadi*		
	Denominator	Numerator	%	Denominator	Numerator	%
Source of information about current NDD round (Multiple Response)						
Television	250	-	-	250	-	-
Radio	250	31	12	250	26	10
Newspaper	250	62	25	250	62	25
Banner	250	56	22	250	59	24
SMS	250	131	53	250	84	34
Other school/teacher/*anganwadi* worker	250	66	27	250	87	35
WhatsApp message	250	40	16	250	20	8
Training	250	92	37	250	106	42
Others	250	22	9	250	22	9
Received SMS for current NDD round	250	170	68	250	129	52
Probable reasons for not receiving SMSs						
Changed Mobile number	80	25	31	121	37	31
Other family members use this number	80	15	19	121	30	25
Number not registered to receive such messages	80	25	31	121	26	21
Others	80	15	19	121	28	23

Table PM 2: Awareness about NDD among teachers/headmasters and *anganwadi* workers, February 2018

Indicators	School			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Awareness about the ways a child can get worm infection	250	208	83	250	207	83
Different ways a child can get worm infection (Multiple Response)						
Not using sanitary latrine	208	-	-	207	-	-
Having unclean surroundings	208	155	74	207	151	73
Consume vegetables and fruits without washing	208	149	72	207	148	71
Having uncovered food and drinking dirty water	208	152	73	207	136	66
Having long and dirty nails	208	134	64	207	134	65
Moving in bare feet	208	126	61	207	124	60
Having food without washing hands	208	135	65	207	119	57
Not washing hands after using toilets	208	104	50	207	99	48
Awareness about all the possible ways a child can get a worm infection[5]	208	-	-	207	-	-
Perceives that health education should be provided to children	250	231	92	250	230	92
Awareness about correct dose and right way of administration of albendazole tablet						

[5]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.

1-2 years of children (Crush the half tablet between two spoons and administer with water)	NA	NA	NA	250	213	85
2-3 years of children (Crush one full tablet between two spoons, and administer with water)	NA	NA	NA	250	121	48
3-5 years of children (one full tablet and child chewed the tablet properly)	NA	NA	NA	250	171	68
6-19 years of children (one full tablet and child chewed the tablet properly)	250	234	94	250	236	94
Awareness about non-administration of albendazole tablet to sick child						
Will administer albendazole tablet to sick child	250	24	10	250	22	9
Will not administer albendazole tablet to sick child	250	226	90	250	228	91
Awareness about consuming albendazole tablet						
Chew the tablet	250	245	98	250	248	99
Swallow the tablet directly	250	5	2	250	2	1
Awareness about consuming albendazole in school/*anganwadi*	250	-	-	250	-	-
Awareness about the last date (March12, 2018) for submitting the reporting form	250	108	43	250	131	52

Awareness about submission of reporting forms to ANM	250	77	31	250	175	70
Awareness to retain a copy of the reporting form	250	209	84	250	211	84

Table PM 3: Deworming activity, drug availability, and list of unregistered and out-of-school children, February 2018

Indicators	School			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Albendazole tablet administered on the day of visit						
Yes, ongoing	250	144	58	250	159	64
Yes, already done	250	37	15	250	33	13
Yes, after sometime	250	31	12	250	24	10
No, will not administer today	250	38	15	250	34	14
Schools/*anganwadis* conducted deworming on either of the day[6]	250	215	86	250	223	89
Schools/*anganwadis* conducted deworming on NDD[7]	125	113	91	125	109	87
Schools/*anganwadis* conducted deworming on Mop-Up Day[8]	125	99	79	125	107	86
Reasons for not conducting deworming						
No information	35	24	69	27	17	63
Albendazole tablet not received	35	8	22	27	7	26
Apprehension of adverse events	35	1	3	27	-	-
Others[9]	35	2	6	27	3	11
Attendance on NDD[10]	38758	20549	53	NA	NA	NA

[6]Schools/*anganwadis* administered albendazole tablet to children either on NDD or Mop-Up Day
[7]Based on the samples visited on NDD.
[8]Based on the samples visited on Mop-Up Day only.
[9]Others include 'Parent pressure' and 'children not present'
[10]Based on those schools conducted deworming on NDD

Attendance on Mop-Up Day[11]	38321	23812	62	NA	NA	NA
Anganwadis having list of unregistered/out-of-school children	NA	NA	NA	250	104	42
Out-of-school children (Age 6-19 years) administered albendazole tablet	NA	NA	NA	250	173	69
Unregistered children (Age 1-5 years) administered albendazole tablet	NA	NA	NA	250	191	76
Sufficient quantity of albendazole tablets[12]	211	193	91	221	215	97

Table PM 4: Integrated distribution of albendazole tablets and IEC materials, February 2018

Indicators	Schools			*Anganwadi*		
	Denominator	Numerator	%	Denominator	Numerator	%
Items received by school teacher and *anganwadi* worker						
Albendazole tablet	250	211	84	250	221	88
Poster/banner	250	156	62	250	169	68
Handouts/ reporting form	250	178	71	250	175	70
Received all materials	250	140	56	250	143	57
Items verified during Independent Monitoring						
Albendazole tablet	211	198	94	221	208	94
Poster/banner	156	149	96	169	162	96
Handouts/ reporting form	178	170	95	175	163	93
Received all materials	140	128	91	143	126	88
No of school teachers/anganwadi worker attended training and received items during training						
Albendazole tablet	165	157	95	181	158	87
Poster/banner	131	129	99	141	124	88

[11] Based on those schools conducted deworming on Mop-Up-Day
[12] This indicator is based on the sample that received albendazole tablet.

Handouts/ reporting form	144	138	96	150	132	88
Received all materials	140	111	79	143	100	70
Integrated Distribution of albendazole tablet IEC and training materials[13]	250	111	45	250	100	40

Table PM 5: Implementation of deworming activity and observation of surveyors, February 2018

Indicators	Schools			*Anganwadi*		
	Denominator	Numerator	%	Denominator	Numerator	%
Deworming activity was taking place	144	131	91	159	144	91
Albendazole tablets were administered by						
Teacher/headmaster	144	141	98	159	11	7
Anganwadi worker	144	1	1	159	144	91
ASHA	144	1	1	159	4	3
ANM	144	1		159	-	-
Student	144	-	-	159	-	-
Teacher/Anganwadi worker asked children to chew the tablet	144	141	98	159	155	97
Followed any recording protocol[14]	181	150	83	192	155	81
Protocol followed						
Putting single/double tick	150	134	89	155	122	79
Put different symbols	150	6	4	155	5	3
Prepare the separate list for dewormed	150	11	7	155	28	18
Visibility of poster/banner during visits	156	125	80	169	135	80

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

[14]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.

Table PM 6: Awareness about Adverse events and Its Management, February 2018

Indicators	Schools			*Anganwadi*		
	Denominator	Numerator	%	Denominator	Numerator	%
Opinion of occurrence of an adverse event after administering albendazole tablet	250	141	56	250	161	64
Awareness about possible adverse events (Multiple Response)						
Mild abdominal pain	141	116	83	161	130	81
Nausea	141	80	57	161	100	62
Vomiting	141	125	89	161	148	92
Diarrhea	141	55	39	161	55	34
Fatigue	141	67	48	161	69	43
All possible adverse event[15]	141	30	21	161	37	23
Awareness about mild adverse event management						
Make the child lie down in open and shade/shaded place	250	204	82	250	206	82
Give ORS/water	250	127	51	250	127	51
Observe the child at least for 2 hours in the school	250	97	39	250	96	38
Don't know/don't remember	250	30	12	250	28	11
Awareness about severe adverse event management						
Call PHC or emergency number	250	192	77	250	195	78
Take the child to the hospital /call doctor to school	250	143	57	250	127	51
Don't know/don't remember	250	25	10	250	20	8
Available contact numbers of the nearest ANM or MO-PHC	250	197	79	250	201	80

[15]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.

Asha present in Anganwadi center	NA	NA	NA	250	123	49

Table PM 7: Selected Indicators of Process Monitoring in Private Schools, February 2018

Indicators[16]	Denominator	Numerator	%
Attended training for current round of NDD	48	14	30
Received albendazole tablets	48	24	49
Sufficient quantity of albendazole tablets	24	22	90
Received poster/banner	48	11	23
Received handouts/ reporting form	48	19	38
Received SMS for current NDD round	48	19	39
Albendazole administered to children	48	26	53
Reasons for not conducting deworming			
No information	22	15	66
Albendazole tablets not received	22	5	25
Others[17]	22	2	9
Albendazole tablet administered to children by teacher/headmaster[18]	14	13.58	94
Perceive that health education should be provided to children	48	40	82
Awareness about correct dose and right way of albendazole administration	48	41	84
Awareness about non-administration of albendazole tablet to sick child	48	45	94
Opinion of occurrence of an adverse event after taking albendazole tablet	48	22	45
Awareness about occurrence of possible adverse events			
Mild abdominal pain	22	-	-
Nausea	22	10	48
Vomiting	22	18	82
Diarrhea	22	4	20
Fatigue	22	10	46
Awareness about mild adverse event management			
Let the child rest in an open and shaded place	48	48	100
Provide clean water to drink/ORS	48	48	100
Contact the ANM/nearby PHC	-	-	-

[16]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
[17]Others include 'No comments'
[18]This indicator is based on samples where deworming was ongoing.

Available contact numbers of the nearest ANM or MO-PHC	48	36	75
Followed correct[19] recording protocol	14	10	75

Table PM 8: Indicators on MDM

Indicators	Schools		
	Denominator	Numerator	%
Covered under MDM	250	190	76
Send daily update from MDM	190	177	93
Aware to send NDD updates through MDM platform	190	159	84
Source of information for NDD updates through MDM platform			
Training	159	-	-
SMS	159	58	37
IVRS	159	23	14
Departmental communication	159	38	24
Others	159	1	1

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

Sr. No.	Indicators	Schools			*Anganwadis*		
		Denominator	Numerator	%	Denominator	Numerator	%
1	Percentage of schools/*anganwadis* conducted deworming[20]	625	528	85	625	570	91
	Percentage of conducted deworming in Government schools	503	471	94	Not Applicable		
	Percentage of conducted deworming in Private schools	122	57	47	Not Applicable		

[19]Correct recording protocol implies putting single tick (✓) on NDD and double tick (✓✓) for all those children administered albendazole tablets.
[20]Schools and *anganwadis* that conducted deworming on NDD or mop-up day.

1a	Percentage of school and *anganwadis* administered albendazole on day of - **(Multiple Response)**						
	a. National Deworming Day	528	500	95	570	522	92
	b. Mop-up day	528	450	85	570	472	83
	c. Between NDD and mop-up day	528	32	6	570	66	12
	d. Both days (NDD and mop-up day)	528	443	84	570	468	82
1b	Reasons for not conducting deworming						
	a. No information	97	71	74	55	30	55
	b. Drugs not received	97	21	22	55	15	28
	c. Apprehension of adverse events	97	3	3	55	1	2
	d. Others[21]	97	2	2	55	8	15
2	Percentage of schools and *anganwadis* left over with albendazole tablet after deworming	528	201	38	570	342	60
2a	Number of albendazole tablets left after deworming						
	a. Less than 50 tablets	201	106	53	342	247	72
	b. 50-100 tablets	201	46	23	342	54	16
	c. More than 100 tablets	201	49	24	342	41	12
3	Copy of filled-in reporting form was	528	296	53	570	241	42

[21] Other includes Emergency work, don't know.

	available for verification						
	Copy of filled-in reporting form was available for verification in Government schools	471	272	58	Not Applicable		
	Copy of filled-in reporting form was available for verification in Private schools	57	24	43	Not Applicable		
3a	Reasons for non-availability of copy of reporting form[22]						
	a. Did not received	154	49	32	224	92	41
	b. Submitted to ANM	154	50	33	224	75	34
	c. Unable to locate	154	44	29	224	47	21
	d. Others[23]	154	10	7	224	10	4
4	Percentage of *Anganwadi* center where ASHA administered albendazole	Not Applicable			570	254	45
5	*Anganwadis* having list of unregistered children (aged 1-5 years)	Not Applicable			570	179	31
6	*Anganwadis* having list of out-of-school children (aged 6-19 years)	Not Applicable			570	168	29

[22] In 78 schools and 105 *anganwadis* blank reporting form was available.
[23] Other includes mainly misplaced

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

Sr. No.	Indicators	*Anganwadis*		
		Denominator	Numerator	%
1	ASHA[24] conducted meetings with parents to inform about NDD	228	201	88
2	ASHA prepared list of unregistered and out-of-school children	228	109	48
3	ASHA shared the list of unregistered and out-of-school children with *angnawadis* teacher[25]	109	67	61
4	ASHA administered albendazole to children	228	203	89
5	ASHA received incentive for NDD Aug 2017 round	228	14	6

Table CV3: Recording protocol, verification factor and school attendance

Sr.No.	Indicators	Schools/Children			*Anganwadis/Children*		
		Denominator	Numerator	%	Denominator	Numerator	%
1	Followed correct[26] recording protocol	528	279	53	570	215	38
2	Followed partial[27] recording protocol	528	52	10	570	98	17

[24] 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.
[25] Based on sub-sample who reported to prepare the said list
[26]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.
[27]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.

3	Followed no[28] recording protocol	528	197	37	570	258	45
	Followed correct recording protocol in Government schools	471	251	53	Not Applicable		
	Followed correct recording protocol in Private schools	57	28	49	Not Applicable		
4	State-level verification factor[29] (children enrolled/registered)	69,262	44,089	64	37,550	33,252	89
	a. Children registered with *anganwadis*	Not Applicable			19,198	10,974	57
	b. Children unregistered with *anganwadis* (Aged 1-5)	Not Applicable			10,710	13,335	125
	c. Out-of-school children (Aged 6-19)	Not Applicable			7,643	8,943	117
5	Attendance on previous day of NDD (children enrolled)	1,90,126	1,21,571	64	Not Applicable		
6	Attendance on NDD (children enrolled)	1,90,126	1,20,603	63	Not Applicable		

[28]No protocol includes all those schools/*anganwadis* where none of the classes/registers followed any protocol to record the information of dewormed children

[29]Ratio of recounted value of the dewormed children to the reported value. This calculation is based on only those schools (n=296) and *anganwadis* (n=241) where deworming was conducted and copy of reporting form was available for verification.

7	Attendance on mop-up day (children enrolled)	1,90,126	1,15,082	61	Not Applicable
8	Children who attended on both NDD and mop-up day (children enrolled)	1,90,126	90,367	48	Not Applicable
9	Maximum attendance of children on NDD and mop-up day[30] (Children enrolled)	1,90,126	1,45,318	76	Not Applicable
10	Estimated/Adjusted NDD coverage[31], [32]	61			50
11	Estimated NDD coverage in Government schools	67			Not Applicable
12	Estimated NDD coverage in Private schools	35			Not Applicable

[30]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.

[31] This was estimated on the basis of NDD implementation status, maximum 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.*

[32]This was adjusted by implying state-level verification factor on government reported coverage for 1-5 years registered children in AWC.

Table CV4: Description on children (6-19 years) interviewed in the schools (n=528) during coverage validation

Sr.No.	Indicators	Denominator	Numerator	%
1	Children received albendazole tablets	1,585	1,531	97
2	Children aware about the albendazole tablets	1,531	1,355	88
	Source of information about deworming among children (Multiple response)			
3	a. Teacher/school	1,355	1,313	97
	b. Television	1,355	195	14
	c. Radio	1,355	99	7
	d. Newspaper	1,355	144	11
	e. Poster/Banner	1,355	266	20
	f. Parents/siblings	1,355	146	11
	g. Friends/neighbours	1,355	82	6
4	Children aware about the worm infection	1,355	1,089	80
5	Children awareness about different ways a child can get worm infection (Multiple response)			
	a. Not using sanitary latrine	1,089	570	52
	b. Having unclean surroundings	1,089	722	66
	c. Consume vegetables and fruits without washing	1,089	652	60
	d. Having uncovered food and drinking dirty water	1,089	594	55
	e. Having long and dirty nails	1,089	603	55
	f. Moving in bare feet	1,089	495	45
	g. Having food without washing hands	1,089	483	44
	h. Not washing hands after using toilets	1,089	313	29
6	Children consumed albendazole tablet	1,531	1,515	99
7	Way children consumed the tablet			

	a. Chew the tablet	1,515	1,465	97
	b. Swallow tablet directly	1,515	49	3
8	Supervised administration of tablets	1,515	1,473	97
9	Reasons for not consuming albendazole tablet			
	a. Feeling sick	17	5	32
	b. Afraid of taking the tablet	17	9	56
	c. Parents told me not to have it	17	1	6
	d. Do not have worms so don't need it	17	0	0
	e. Did not like the taste	17	1	6