Evidence Action

Deworm the World Initiative

Independent Monitoring of National Deworming Day in Bihar

August 2018 Round

REPORT

October 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 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.

Bihar observed the August 2018 round of NDD on August 2; followed by mop-up day on August 13. Fieldwork for process monitoring was conducted on August 2 and 13, while coverage validation in the state was conducted August 20-25. This extract is a summary of the broad findings from the surveys conducted in the state of Bihar.

Survey Methodology

Using a two-stage probability sampling procedure, across 17 districts, Evidence Action selected 250 schools (179 government schools and 71 private schools) and 250 *anganwadi*s for process monitoring visits during NDD and mop-up days; 625 schools (465 government school and 160 private schools) and 625 *anganwadi*s for coverage. Evidence Action had designed and finalized survey tools with approvals from Bihar's state government. One combined tool for process monitoring was used at schools and *anganwadi*s on NDD and mop-up day, and one each for schools and *anganwadi*s for coverage validation.

Implementation

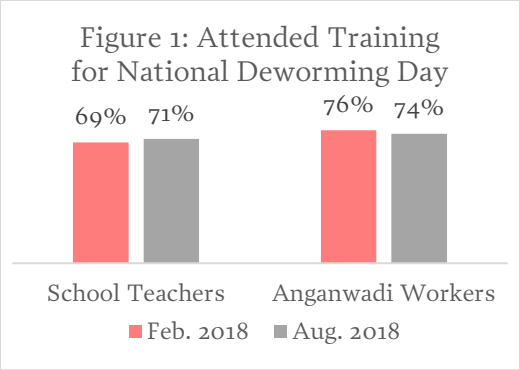
Prior to the survey, Evidence Action conducted a comprehensive training of master trainers who further conducted two separate training days for process monitoring and coverage validation of 125 surveyors and 25 supervisors at Patna. The training included an orientation on NDD, the importance of independent monitoring, and details of the monitoring formats including CAPI 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 *anganwadi*s 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 surveyors one day before the commencement of fieldwork to ensure that surveyors did not contact schools and *anganwadi*s 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 thumb impression of all survey respondents in electronic mode including headmasters, teachers, *anganwadi* workers, 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

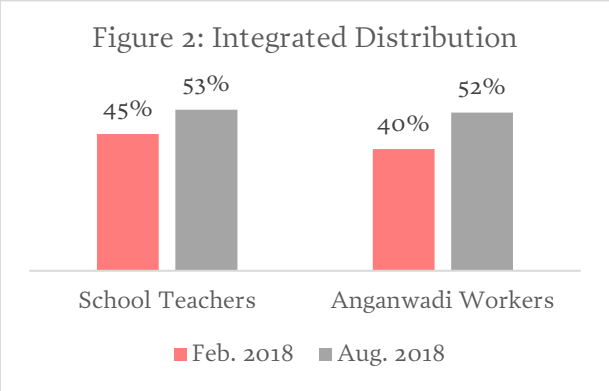
Training



Prior to each NDD round, teachers and *anganwadi* workers are trained on NDD related processes and protocols to facilitate effective implementation of the program. NDD guideline mandates schools and *anganwadis* to attend training for every NDD round, irrespective of whether they attended training in earlier rounds. 71% of teachers and 74% AWWs attended training for the August 2018 NDD round, which remains almost similar to the February 2018 round in both schools and *anganwadis* (Figure 1). The attendance of private schools in trainings improved significantly from 30% in February 2018 to 44% in the August 2018 round.

Among those who did not attend training, 61% of teachers and 52% of AWWs reported lack of information about NDD training as the main reason for not attending. Sixty-two percent of teachers provided training to all other teachers at their school, which remains stagnant from the February 2018 round (60%). Seventy-eight percent of teachers and 60% of AWWs reported to receive SMS about NDD. Among private school teachers, it increased by 13 percentage points from 39% from the previous round to 52% in August 2018.

Integrated Distribution of NDD Kit Including Tablets



Integrated distribution of the NDD kit has improved by eight percentage points in schools and 12 percentage points in *anganwadis* in the August 2018 round compared to the previous round (Figure 2). Eighty-nine percent of schools and 96% of *anganwadis* received albendazole tablets and 92%of schools and 95% of *anganwadis* reported to receive sufficient quantities of the tablet (Annex-Table PM3). Further, 72% of schools and 78% of *anganwadis* received posters/banners; and 76% and 81% received

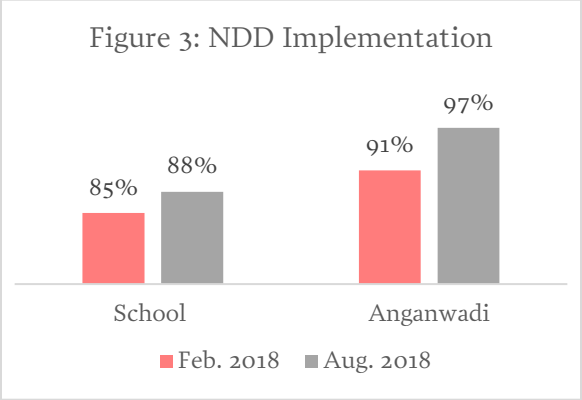
handout/reporting form respectively (Annex-Table PM4). Despite a low level of integrated distribution, tablets and IEC materials reached the majority of schools and *anganwadis,* indicating the state government's commitment to the program.

Among the sampled private schools, 62% received albendazole and among them 85% reported to have received it in sufficient quantity. Forty-one percent of private schools received posters/banners and 36% reported having received handouts/reporting forms (Annex-Table PM7). The corresponding figures for the February 2018 round were 23% received poster/banner and 38% received handouts/reporting forms in private schools.

Source of Information about the Recent Round of NDD

SMS was the major source of information in schools (52%) and training for *anganwadi* (38%) in the August round. Thirty-three percent of schools also obtained information about NDD through training. Eighteen percent of schools and 20% of *anganwadis* reported to receive information through television. Social media was not an effective source of information; 15% of school teachers and five percent of AWWs received information from WhatsApp messages with government circulated reinforcement messages. Information received through the radio remained the least effective source of information for both schools and *anganwadis* (six percent and four percent respectively) (Annex-Table PM1).

NDD Implementation



As evident from Figure-3, while the proportion of schools and *anganwadis* conducting deworming remained high during both the rounds; it remains stagnant in schools and increased in *anganwadis* in the current round. Out of all the schools and *anganwadis* visited during process monitoring, surveyors were able to observe deworming activities in 98% of schools and 97% of *anganwadis* (Annex-Table PM5). Tablet administration to unregistered (77%) and out-of-school children (72%) also improved nominally in the current round from February 2018 round. Further, 50% of AWWs reported that ASHAs were present at the *anganwadi* centre on NDD or mop-up day.

Adverse Events- Knowledge and Management

Interviews with headmasters/teachers and *anganwadi* workers reveals low levels of awareness (46% in schools and 44% *anganwadis*) regarding potential adverse events due to deworming. The majority of school teachers (83%) and AWWs (85%) reported vomiting as a side effect of albendzole administration followed by mild abdominal pain (77% and 71% respectively) and nausea (49% and 40%) respectively. Knowledge about management of adverse events was low in both schools and *anganwadis*. For example, 23% of teachers and 17% of AWWs were aware

to observe a child for at least two hours in school/*anganwadi* in case of mild adverse events. Representatives from 41% of schools and 37% of *anganwadis* had further recalled that during adverse events a child should be given ORS/Water. Representatives from 65% schools and 61% *anganwadis* could also recall that they will need to call a PHC doctor if symptoms persisted (Annex- Table PM6). However, only 42% of private school teachers reported the need to call to a Primary Health Centre (PHC) doctor if a child continues to report the symptoms of an adverse event. Findings necesitate emphasis on adverse event management protocols during training of teachers and AWWs.

Recording Protocol

Forty-five percent of schools and 32% of *anganwadis* followed the correct (single and double ticks) recording protocol. Ten percent of schools and 18% of *anganwadis* carried out partial[1] recording. Almost half of the schools (45%) and *anganwadi* (50%) did not follow any protocol to record the information of dewormed children (Annex – Table CV3). Compared to previous round, there is a decline in adherence to correct recording protocols, where 53% of schools and 38% of *anganwadis* followed the correct recording protocol in the February 2018 round. Further, as per NDD guidelines, all schools and *anganwadis* are supposed to retain a copy of reporting forms. Although 82% of headmasters and 88% of AWWs were aware of the need to retain the reporting form, (Annex – Table PM2), during coverage validation it was observed that only 61% of schools and 50% of *anganwadis* had retained the copy of reporting forms (Annex – Table CV1). There has been a slight increase in the availability of the reporting forms in comparison to the February 2018 round, when the former was available in 53% of schools and 42% of *anganwadis.*

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 39% of *anganwadis* reported to have the list of unregistered (1-5 years) children and 33% reported having the list of out-of-school children (6-19 years) (Annex –Table CV1). Nevertheless, 50% of all the ASHAs interviwed during coverage validation (who were available at the *anganwadis* at the time of surveyors visit), reported to prepare the list of unregistered and out-of-school children and 75% of them had shared it with AWWs. Only 16% of ASHA 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 to measure the accuracy of reported treatment values for neglected tropical disease control

[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.

programs[3]. It also gives us an idea about record keeping and data management at the service delivery point. The verification factor is 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 in the August 2018 round is 0.54, indicating that on an average, for every 100 dewormed children reported by the school, 54 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* is .59, indicating that on an average; for every 100 dewormed children reported by the *anganwadi,* 59 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 0.46, .70, and .72 respectively for *anganwadis* (Annex CV3). The data suggests reporting and aggregation errors of coverage figures in *anganwadis* and thus highlights a need for proper record keeping. Despite challenges in reporting and documentation of NDD coverage data, based on children's interviews, all of the children present at schools on NDD or mop-up day received (97%) and consumed (100%) the albendazole tablet under supervised administration (96%) on either NDD or mop-up day.

Against the state government reported 89% coverage in schools and 90% 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 88% of schools conducted deworming on either NDD or mop-up day (Annex-Table CV1), a maximum of 80% of children were in attendance (Annex-Table CV3), 97% of children received deworming tablet, and 96% of children reported to consume the tablet under supervision (Annex-Table CV4). Considering these factors, 66%[4] (0.88*0.80*0.97*0.96) 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 41% (0.46*0.90) 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 total sampled schools (both private and government), 70% of the schools are covered under the Mid-Day Meal program (MDM) and almost 92% of them send daily updates for

[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 (88%), maximum attendance on NDD and mop-up day (80%), children received albendazole (97%) and supervised tablet administration (96%). In absence of children interview in Anganwadis, the government reported coverage was adjusted by implying state level verification factor.

MDM via Integrated Voice Response System (IVRS)/SMS platforms in the state. Also, 83% of the headmasters among the total sampled schools are aware of sharing NDD related information by IVRS/SMS on NDD and mop-up days.

Recommendations

The following are the key recommendations for program improvements that emerged from the process monitoring and coverage validation exercise in the state:

1. Training is crucial for the smooth implementation of the NDD program. It raises awareness among teacher and *anganwadi* workers on NDD protocols and also has an effect on the distribution of tablets, IEC and training material and their subsequent availability at schools and *anganwadis*. Efforts are required to ensure maximum training participation from the schools and *anganwadis* in the next round by effective planning and coordination among the stakeholder departments and avoiding delays/ rescheduling of trainings. Pre-planning of trainings and timely communication of the date and venue to schools and *anganwadis* are vital. Teachers and headmasters who attend training must be mandated to impart adequate training to other teachers in their schools.

2. While in this round integrated distribution has increased in both schools and *anganwadis* from the previous round, this needs to be sustained and efforts to improve it further in future rounds. As integrated distribution of the NDD kit is cost-effective, it eases logistical concerns and ensures quality services; efforts should be made to strengthen distribution with timely tablets procurement and printing of IEC. Efforts are also required to strengthen the distribution cascade (NDD kits) and hand over NDD kits to teachers and AWWs at the time of training.

3. Adherence to correct recording protocol in schools and *anganwadis* has increased when compared to the last round, however, greater emphasis on recording protocols during block level trainings will help improve the quality of data management and documentation going forward. Practical sessions on recording protocols for teachers and AWWs can be organized during sector level trainings.

4. As ASHAs play an important role in NDD, efforts are required for their active involvement in the program. During the training, more emphasis should be given in sensitizing ASHAs regarding their role in mobilizing unregistered pre-school age children and out-of-school children and spreading awareness on deworming benefits. Reminder SMSs should be sent to them regarding their wider participation in NDD and information on their incentives. As findings show, a small proportion of ASHAs received incentives for the August 2018 round, and therefore, timely disbursement of their incentives can be a motivating factor for their engagement in the program.

5. Coverage validation findings depict a significant decrease in estimated coverage in both schools and *anganwadis*. This could be attributed to low attendance in schools on NDD and mop day and a decrease in the verification factor (for 1-5 registered children) in

anganwadis. Emphasis should be given to maintain high attendance on NDD days to achieve maximum NDD coverage in schools. Moreover, proper record management can further increase the verification, leading to improved coverage.

ANNEXURE

Table A: Sample Description including Number of Schools and *Anganwadis* Covered during Process Monitoring

Sample Details	Number
Total number of NDD districts in the state	17
Number of districts covered under process monitoring	17
Number of trained surveyors deployed	125
Number of blocks[5] covered	125
Total number of schools covered during process monitoring	250
• Number of government schools covered[6]	179
• Number of private schools covered	71
Total number of *anganwadis* covered[7] during process monitoring	250
Total number of schools covered during coverage validation	625
• Total number of government schools covered[8]	465
• Total number of private schools covered	160
Total number of *anganwadis* covered[9] during coverage validation	625

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

Indicators	School			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Attended training for current round of NDD	250	177	71	250	185	74

[5]These are sampled blocks selected from U-DISE data.
[6]These are the actual schools covered during NDD and mop-up day visits. Numbers given in subsequent tables (numerator and denominator) are weighted
[7]These are the actual *anganwadis* covered during NDD and mop-up day 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. The weights are used in order to generalize the findings at state level.
[9]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.

Indicators	School			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Ever attended training for NDD[10]	250	187	75	250	191	76
Never attended training for NDD	250	63	25	250	59	24
Reasons for not attending current NDD round training (Multiple Response)						
Location was too far away	73	1	1	65	5	8
Did not know the date/timings/venue	73	45	61	65	34	52
Busy in other official/personal work	73	4	6	65	5	8
Attended deworming training in the past	73	11	14	65	6	9
Not necessary	73	6	8	65	8	12
No incentives/no financial support	73	4	5	65	1	2
Trained teacher that provided training to other teachers in their schools						
All other teachers	177	110	62	Not Applicable		
Few teachers	177	35	20	Not Applicable		
No (himself/herself only teacher)	177	17	10	Not Applicable		
No, did not train other teachers	177	15	8	Not Applicable		
Source of information about current NDD round (Multiple Response)						
Television	250	44	18	250	50	20
Radio	250	14	6	250	11	4
Newspaper	250	60	24	250	41	16
Banner	250	25	10	250	31	12

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

Indicators	School			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
SMS	250	130	52	250	91	36
Others school/teacher/*anganwadi* worker	250	35	14	250	58	23
WhatsApp message	250	37	15	250	13	5
Training	250	81	33	250	96	38
Others[11]	250	30	12	250	26	10
Received SMS for current NDD round	250	195	78	250	151	60
Probable reasons for not receiving SMS[12]						
Changed Mobile number	45	5	11	76	15	20
Other family members use this number	45	4	9	76	13	17
Number not registered to receive such messages	45	11	25	76	16	21
Others[13]	45	25	56	76	32	42

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	250	202	81	250	195	78
Different ways a child can get worm infection (Multiple Response)						

[11]Others includes information received from ASHA/ANM, Block Coordinator, Hospital, ICDS Department, Information received by polio team, No information received, Someone else, Through BRC/CRC, Through daughter, Tablet not received

[12]10 Schools and 23 *Anganwadis* reported that they don't know about receiving the SMS and reasons were not asked to them.

[13]Others includes Don't Know, Have no information regarding NDD, Mobile phone is not working, No information about SMS, Network Issue

Not using sanitary latrine	202	122	61	195	108	55
Having unclean surroundings	202	145	72	195	123	63
Consume vegetables and fruits without washing	202	95	47	195	93	48
Having uncovered food and drinking dirty water	202	89	44	195	95	49
Having long and dirty nails	202	93	46	195	91	47
Moving in bare feet	202	82	41	195	83	43
Having food without washing hands	202	105	52	195	99	51
Not washing hands after using toilets	202	57	28	195	54	28
Awareness about all the possible ways a child can get a worm infection[14]	202	15	7	195	13	7
Perceives that health education should be provided to children	250	239	96	250	237	95
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			250	201	80
2-3 years of children (Crush one full tablet between two spoons, and administer with water)	Not Applicable			250	118	47
3-5 years of children (one full tablet and child chewed the tablet properly)	Not Applicable			250	198	79

[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.

6-19 years of children (one full tablet and child chewed the tablet properly)	250	237	95	250	240	96
Awareness about non-administration of albendazole tablet to sick child						
Will administer albendazole tablet to sick child	250	27	11	250	20	8
Will not administer albendazole tablet to sick child	250	223	89	250	230	92
Awareness about consuming albendazole tablet						
Chew the tablet	250	243	97	250	247	99
Swallow the tablet directly	250	7	3	250	3	1
Awareness about consuming albendazole in school/*anganwadi*	250	235	94	250	249	100
Awareness about the last date (August 18, 2018) for submitting the reporting form	250	107	43	250	120	48
Awareness about submission of reporting forms to ANM	250	77	31	250	167	67
Awareness to retain a copy of the reporting form	250	204	82	250	219	88

Table PM3: Deworming activity, tablet 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	250	159	64	250	170	68
Yes, already done	250	24	10	250	41	16
Yes, after sometime	250	29	12	250	18	7
No, will not administer today	250	37	15	250	21	8

Schools/*anganwadis* conducted deworming on either of the day[15]	250	218	87	250	233	93
Schools/*anganwadis* conducted deworming on NDD[16]	124	111	90	125	114	91
Schools/*anganwadis* conducted deworming on Mop-Up Day[17]	126	107	85	125	119	95
Reasons for not conducting deworming						
No information	37	23	62	21	10	48
Albendazole tablet not received	37	3	8	21	3	14
Apprehension of adverse events	37	4	11	21	1	5
Already dewormed	37	4	11	21	4	19
Others[18]	37	3	8	21	3	14
Attendance on NDD[19]	30671	17998	59	Not Applicable		
Attendance on Mop-Up Day[20]	40654	22792	56	Not Applicable		
Anganwadis having list of unregistered/out-of-school children	Not Applicable			250	119	48
Out-of-school children (Age 6-19 years) administered albendazole tablet	Not Applicable			250	179	72
Unregistered children (Age 1-5 years)	Not Applicable			250	192	77

[15]Schools/*anganwadis* administered albendazole tablet to children either on NDD or mop-up day
[16]Based on the samples visited on NDD.
[17]Based on the samples visited on mop-up day only.
[18]Others include Don't Know, Helper not well.
[19]Based on those schools visited on NDD
[20]Based on those schools visited on mop-up day

administered albendazole tablet						
Sufficient quantity of albendazole tablets[21]	221	203	92	240	229	95

Table PM4: Integrated distribution of albendazole tablets and IEC materials, August 2018

Indicators	Schools			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Items received by school teacher and *anganwadi* worker						
Albendazole tablet	250	221	89	250	240	96
Poster/banner	250	180	72	250	195	78
Handouts/ reporting form	250	190	76	250	202	81
Received all materials	250	165	66	250	170	68
Items verified during Independent Monitoring						
Albendazole tablet	221	211	95	240	219	91
Poster/banner	180	162	90	195	174	89
Handouts/ reporting form	190	183	97	202	189	94
Received all materials	165	149	90	170	148	87
No of school teachers/*anganwadi* worker attended training and received items during training						
Albendazole tablet	174	164	94	184	176	96
Poster/banner	149	142	95	153	147	96
Handouts/ reporting form	155	149	96	151	154	96
Received all materials	165	133	81	170	129	76

[21]This indicator is based on the sample that received albendazole tablet.

Integrated Distribution albendazole tablet IEC training materials[22]	250	133	53	250	129	52

Table PM5: Implementation of deworming activity and observation of surveyors, August 2018

Indicators	Schools			Anganwadi		
	Denominator	Numerator	%	Denominator	Numerator	%
Deworming activity was taking place	159	155	97	170	165	97
Albendazole tablets were administered by						
Teacher/headmaster	155	151	97	165	12	7
Anganwadi worker	155	4	3	165	150	91
ASHA	155	0	0	165	2	1
ANM	155	0	0	165	1	1
Student	155	0	0	165	0	0
Teacher/*Anganwadi* worker asked children to chew the tablet	159	151	95	170	157	92
Followed any recording protocol[23]	184	158	86	211	149	71
Protocol followed						
Putting single/double tick	158	123	78	149	93	62
Put different symbols	158	19	12	149	11	8
Prepare the separate list for dewormed	158	16	10	149	45	30

[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	180	136	76	195	152	78

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	250	116	46	250	110	44
Awareness about possible adverse events (Multiple Response)						
Mild abdominal pain	116	89	77	110	78	71
Nausea	116	57	49	110	44	40
Vomiting	116	96	83	110	93	85
Diarrhea	116	20	17	110	13	12
Fatigue	116	19	17	110	20	18
All possible adverse event[24]	116	6	5	110	3	3
Awareness about mild adverse event management						
Take the child lie down in open and shade/shaded place	250	184	74	250	181	72
Give ORS/water	250	102	41	250	92	37
Observe the child at least for 2 hours in the school	250	57	23	250	42	17
Don't know/don't remember	250	38	15	250	41	16
Awareness about severe adverse event management						

[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.

Call PHC or emergency number	250	162	65	250	152	61
Take the child to the hospital /call doctor to school	250	126	51	250	128	51
Don't know/don't remember	250	29	12	250	24	10
Available contact numbers of the nearest ANM or MO-PHC	250	171	68	250	200	80
Asha present in *Anganwadi* center	Not Applicable			250	126	50

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

Indicators[25]	Denominator	Numerator	%
Attended training for current round of NDD	52	23	44
Received albendazole tablets	52	33	62
Sufficient quantity of albendazole tablets	33	28	85
Received poster/banner	52	22	41
Received handouts/ reporting form	52	19	36
Received SMS for current NDD round	52	27	52
Albendazole administered to children	52	26	49
Reasons for not conducting deworming			
No information	26	16	60
Albendazole tablets not received	26	3	12
Apprehension of adverse events	26	3	12
Already dewormed	26	1	4
Others[26]	26	3	12

[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 Busy, Due to Bihar band, Kanwar yatra, Lack of information.

Albendazole tablet administered to children by teacher/headmaster[27]	15	15	100
Perceive that health education should be provided to children	52	48	92
Awareness about correct dose and right way of albendazole administration	52	47	90
Awareness about non-administration of albendazole tablet to sick child	52	6	11
Opinion of occurrence of an adverse event after taking albendazole tablet	52	20	39
Awareness about occurrence of possible adverse events			
Mild abdominal pain	20	17	82
Nausea	20	6	30
Vomiting	20	17	81
Diarrhea	20	5	24
Fatigue	20	2	12
Awareness about mild adverse event management			
Let the child rest in an open and shaded place	52	26	50
Provide clean water to drink/ORS	53	17	32
Contact the ANM/nearby PHC	53	22	42
Available contact numbers of the nearest ANM or MO-PHC	52	30	57
Followed correct[28] recording protocol	46	19	42

Table PM8: Indicators on Mid-Day Meal, August 2018

Indicators	Schools		
	Denominator	Numerator	%
Covered under MDM	250	176	70
Send daily update from MDM	176	161	92

[27]This indicator is based on samples where deworming was ongoing.
[28]Correct recording protocol implies putting single tick (✓) on NDD and double tick (✓✓) for all those children administered albendazole tablets.

Aware to send NDD updates through MDM platform	176	145	83
Source of information for NDD updates through MDM platform			
Training	145	92	63
SMS	145	68	46
IVRS	145	21	14
Departmental communication	145	14	10
Others[29]	145	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[30]	625	552	88	625	603	97
	Percentage of conducted deworming in Government schools	482	462	96	Not Applicable		
	Percentage of conducted deworming in Private schools	143	89	63	Not Applicable		
1a	Percentage of school and *anganwadis* administered albendazole on day of - (Multiple Response)						
	a. National Deworming Day	552	522	95	603	560	93
	b. Mop-up day	552	493	89	603	521	86

[29] Others include Newspaper.
[30]Schools and *anganwadis* that conducted deworming on NDD or mop-up day.

	c. Between NDD and mop-up day	552	29	5	603	53	9
	d. Both days (NDD and mop-up day)	552	484	88	603	513	85
1b	Reasons for not conducting deworming						
	a. No information	73	53	72	22	16	72
	b. Tablets not received	73	13	18	22	4	20
	c. Apprehension of adverse events	73	4	6	22	1	5
	d. Others[31]	73	4	5	22	1	3
2	Percentage of schools and *anganwadis* left over with albendazole tablet after deworming	552	263	48	603	441	73
2a	Number of albendazole tablets left after deworming						
	a. Less than 50 tablets	263	188	71	441	244	55
	b. 50-100 tablets	263	50	19	441	131	30
	c. More than 100 tablets	263	26	10	441	66	15
3	Copy of filled-in reporting form was available for verification	552	335	61	603	301	50
	Copy of filled-in reporting form was available for verification in Government schools	462	292	63	Not Applicable		
	Copy of filled-in reporting form was	89	43	48	Not Applicable		

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

	available for verification in Private schools						
3a	Reasons for non-availability of copy of reporting form[32]						
	a. Did not received	179	65	36	227	84	37
	b. Submitted to ANM	179	33	19	227	74	32
	c. Unable to locate	179	34	19	227	52	23
	d. Others[33]	179	47	26	227	18	8
4	Percentage of *Anganwadi* center where ASHA administered albendazole	Not Applicable			603	333	55
5	*Anganwadis* having list of unregistered children (aged 1-5 years)	Not Applicable			603	232	39
6	*Anganwadis* having list of out-of-school children (aged 6-19 years)	Not Applicable			603	201	33

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

Sr. No.	Indicators	Anganwadis		
		Denominator	Numerator	%
1	ASHA[34] conducted meetings with parents to inform about NDD	245	208	85
2	ASHA prepared list of unregistered and out-of-school children	245	122	50

[32] In 78 schools and 105 anganwadis blank reporting form was available.
[33]Other includes schools closed and administer tablet on other day and Principal or teacher absent in the school
[34]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.

3	ASHA shared the list of unregistered and out-of-school children with *angnawadis* teacher[35]	122	91	75
4	ASHA administered albendazole to children	245	207	84
5	ASHA received incentive for NDD Aug 2017 round	245	39	16

Table CV3: Recording protocol, verification factor and school attendance

Sr. No.	Indicators	Schools/Children			Anganwadis/Children		
		Denominator	Numerator	%	Denominator	Numerator	%
1	Followed correct[36] recording protocol	552	245	45	603	192	32
2	Followed partial[37] recording protocol	552	56	10	603	111	18
3	Followed no[38] recording protocol	552	251	45	603	300	50
	Followed correct recording protocol in Government schools	462	223	48	Not Applicable		
	Followed correct recording protocol in Private schools	89	22	25	Not Applicable		
4	State-level verification	59109	31653	54	36831	21555	59

[35]Based on sub-sample who reported to prepare the said list
[36]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.
[37]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.
[38]No protocol includes all those schools/*anganwadis* where none of the classes/registers followed any protocol to record the information of dewormed children

	factor[39] (children enrolled/registered)						
	a. Children registered with *anganwadis*	Not Applicable			18327	8468	46
	b. Children unregistered with *anganwadis* (Aged 1-5)	Not Applicable			10692	7456	70
	c. Out-of-school children (Aged 6-19)	Not Applicable			7812	5631	72
5	Attendance on previous day of NDD (children enrolled)	154705	103864	67	Not Applicable		
6	Attendance on NDD (children enrolled)	154705	100930	65	Not Applicable		
7	Attendance on mop-up day (children enrolled)	154705	97604	63	Not Applicable		
8	Children who attended on both NDD and mop-up day (children enrolled)	154705	74480	48	Not Applicable		
9	Maximum attendance of children on NDD	154705	124054	80	Not Applicable		

[39]Ratio of recounted value of the dewormed children to the reported value. This calculation is based on only those schools (n=335) and *anganwadis* (n=301) where deworming was conducted and copy of reporting form was available for verification.

	and mop-up day[40] (Children enrolled)				
10	Estimated NDD coverage[41][42]	66			41
11	Estimated NDD coverage in Government schools	69			Not Applicable
12	Estimated NDD coverage in Private schools	51			Not Applicable

Table CV4: Description on children (6-19 years) interviewed in the schools (n=552) during coverage validation

Sr. No	Indicators	Denominator	Numerator	%
1	Children received albendazole tablets	1655	1598	97
2	Children aware about the albendazole tablets	1598	1388	87
	Source of information about deworming among children (Multiple response)			
3	a. Teacher/school	1388	1361	98
	b. Television	1388	68	5
	c. Radio	1388	40	3
	d. Newspaper	1388	59	4
	e. Poster/Banner	1388	120	9
	f. Parents/siblings	1388	95	7
	g. Friends/neighbors	1388	53	4

[40]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.

[41] 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.*

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

4	Children aware about the worm infection	1598	883	55
5	Children awareness about different ways a child can get worm infection (Multiple response)			
	a. Not using sanitary latrine	883	313	35
	b. Having unclean surroundings	883	563	64
	c. Consume vegetables and fruits without washing	883	407	46
	d. Having uncovered food and drinking dirty water	883	306	35
	e. Having long and dirty nails	883	351	40
	f. Moving in bare feet	883	338	38
	g. Having food without washing hands	883	351	40
	h. Not washing hands after using toilets	883	203	23
6	Children consumed albendazole tablet	1598	1591	100
7	Way children consumed the tablet			
	a. Chew the tablet	1591	1479	93
	b. Swallow tablet directly	1591	112	7
8	Supervised administration of tablets	1591	1530	96
9	Reasons for not consuming albendazole tablet			
	a. Feeling sick	7	4	59
	b. Afraid of taking the tablet	7	2	29
	c. Parents told me not to have it	7	1	13
	d. Do not have worms so don't need it	7	0	0
	e. Did not like the taste	7	0	0