Evidence Action

Deworm the World Initiative

Independent Monitoring of National Deworming Day in Telangana February, 2018

Report

May 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 program with an objective of identifying gaps and suggesting recommendations for improvements in future NDD rounds. Process monitoring is conducted to understand government implementers' preparedness for NDD and their adherence to the program's prescribed processes while coverage validation is an ex-post check of the accuracy of the reporting data and coverage estimates to verify government-reported coverage (treatment) figures.

Telangana observed the February 2018 round of NDD on February 9; followed by mop-up day on February 15. Fieldwork for process monitoring was conducted on February 9 and 15, while coverage validation was conducted February 21-27.

Methodology

Using a two-stage probability sampling procedure, across 31 districts, a total of 220 schools (Government schools=153 and Private schools=67) and 220 *anganwadis* were for process monitoring visits during NDD and mop-up days; 655 schools (Government schools=470 and Private schools=185) and 655 *anganwadis were selected* for coverage validation. Through a competitive review process, Evidence Action hired an independent survey agency to conduct process monitoring and coverage validation. Evidence Action designed and finalized survey tools with approvals from Telangana state's Department of Health. 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

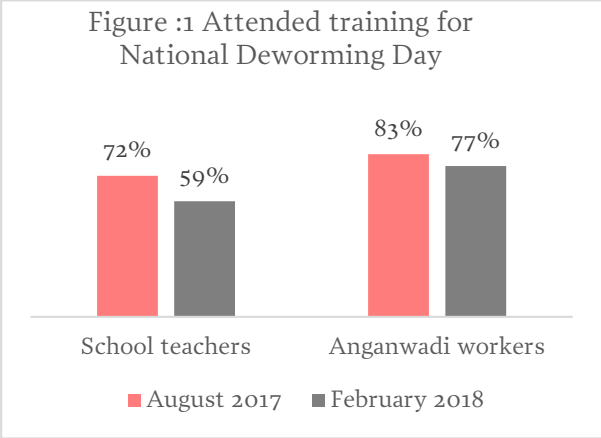
Prior to the survey, Evidence Action conducted a comprehensive training of master trainers, who further conducted three days training of 125 surveyors and 25 supervisors at Hyderabad. The training included an orientation on NDD, the importance of independent monitoring, details of the monitoring formats including CAPI practice, survey protocols, practical sessions as well as presentation and soft skills. 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[1]. 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 surveyors did not contact schools and *anganwadis* in advance.

[1]There were six Lymphatic Filariasis (LF) districts (Nalgonda, Yadadri, Suryapet, Medak, Siddipet, and Sangareddy) in the state where, no mop-up day was conducted. Hence, the sample was readjusted and only one school and one *anganwadi* were covered from each selected block (UDISE block) on NDD, and six schools and six *anganwadi*s were covered during coverage validation.

Appropriate quality assurance measures were taken to ensure that the data collected was accurate, consistent and authenticated. For example, school and *anganwadi* staff were asked to sign a participation form with an official stamp to authenticate surveyor visits to school or *anganwadi*s. Further, surveyors captured the photographs of all schools and *anganwadis* covered during data collection and this was built in to the CAPI software itself to authenticate the location of the interview. Evidence Action reviewed all the data sets, shared feedback with agency for any inconsistencies observed. All analysis was performed on STATA and Microsoft Excel.

Key Findings

Training

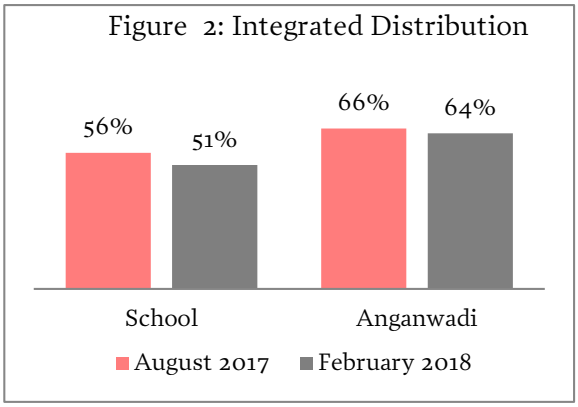


Prior to each NDD round, teachers and *anganwadi* workers (AWWs) are trained on related processes and protocols to facilitate effective program implementation. While all teachers and AWWs are mandated to attend training for every round of NDD, irrespective of whether they had attended training in earlier rounds, Figure 1 reveals a sharp decline in the percentage of schools and *anganwadis* attending training, particularly in schools where it fell from 72% in August 2017 to 59% in February 2018 (Annex-Table PM1). The training attendance among private school teachers has also declined from 73% in August 2017 to 51% in February 2018 (Annex-Table PM7).

Among those who did not attend training, 37% of teachers/headmasters and 35% of *anganwadi* workers reported lack of information about NDD training as the main reason for not attending training. Further, 54% of trained teachers provided training to all other teachers in their schools. Sixty-three percent of the teachers and 80% of AWWs reported that they have received an SMS about NDD (Annex-Table PM1). Among private school teachers, it has declined slightly from 59% in previous round to 52% in February 2018 (Annex-Table PM7). This suggests that a significant number of schools and *anganwadis* remain unaware of training programs on NDD and are also not receiving information possibly due to lack of quality contact databases.

Integrated Distribution of NDD Kit including Drugs at Training

In spite of NDD guidelines and a well-defined distribution plan, integrated distribution of NDD kits was moderate for both schools (51%) and *anganwadi* centers (64%). Integrated distribution has declined marginally, from 56% to 51% in schools and remains almost the samein *anganwadis,* from 66% to 64% (Figure- 2).



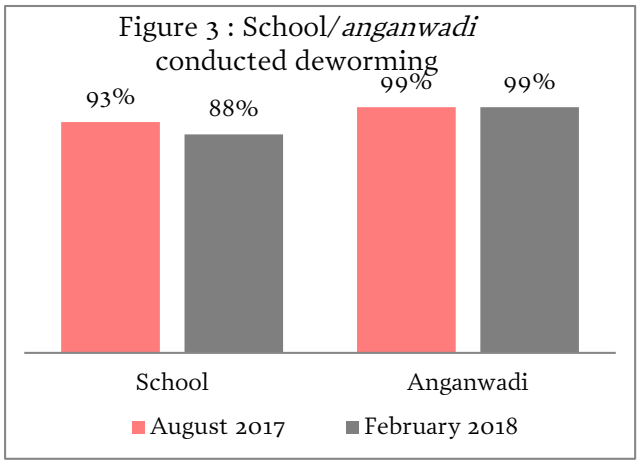
Around 89% of schools and all *anganwadis* received deworming tablets, and more than four-fifths (84% of schools and 93% of *anganwadis*) received posters/banners (Annex-Table PM4). Moreover, 95% of schools and *anganwadis* reported having received sufficient drugs for deworming (Annex-Table PM3). About 81% of schools and 89% of *anganwadis* received handouts/reporting forms (Annex-Table PM4).

Among the sampled private schools, 77% received albendazole tablets for deworming and among those, 96% reported having received a sufficient quantity of tablets. Seventy-two percent of the private schools covered during process monitoring received posters/banners and 70% received handouts/reporting forms (Annex-Table PM7). The corresponding figures for August 2017 round were 79% and 75% respectively, this showing a slight decline.

Source of Information about the Recent Round of NDD

The SMS was the most reported source of information about NDD in schools and *anganwadis;* 57% of schools and 70% of *anganwadis* reported to have information about NDD through SMS. This is followed by 'television' where 49% of schools and 45% of *anganwadis*, and then by 28% of schools and 30% *anganwadis* that reported hearingabout NDD from other school teachers/AWWs. Use of social media as a medium also emerged as a source of information; 22% of schools and 12% of *angawandis* received information from government circulated reinforcement messages via WhatsApp (Annex- Table PM1).

NDD Implementation



The proportion of schools that conducted NDD remained high from the August 2017 to the February 2018 and declined slightly in *anganwadis*. The coverage validation data shows that 88% of schools and 99% of *anganwadis* administered albendazole on NDD or mop-up day suggesting the program was a success. The NDD implementation was relatively low among private schools (75%) compared to government schools (98%). The majority of private schools, who did not conduct deworming reported lack of information (59%) and unavailability of drugs (23%) as a reason for not conducting deworming in the schools.

Adverse Events – Knowledge and Management

Interviews with headmasters/teachers, and AWWs revealed a low degree of awareness regarding potential adverse events due to deworming and low level of understanding of the appropriate protocols to follow in the case of such events. Only 34% of schools and 40% of AWWs were of the opinion that any adverse event could happen after consuming the tablet. Mild abdominal pain was listed as a side effect by 82% of headmasters/teachers who thought that adverse events could occur followed by vomiting (70%). Further, 79% of teachers and 77% of *anganwadi* workers knew to make a child lie down in an open, shaded place in the case of any symptoms of adverse events. About 60% of the schools and *anganwadis* knew to manage an adverse event by giving ORS/water to the children and keeping them under observation for at least two hours at schools/*anganwadis*. Further, 80% of schools and 87% of *anganwadis* reported the need to call a Primary Health Centre (PHC) doctor if symptoms persisted.

Recording Protocols

As per coverage validation data, the correct recording protocol (single and double ticks) was followed by 59% of schools and 70% of *anganwadis*. Eighteen percent of the schools and 15% of *anganwadis* followed partial protocol wherein they put different symbols or prepared separate lists to record the information of dewormed children, whereas 23% of schools and 15% of *anganwadis* did not follow any protocol (Annex CV3).

As required in NDD guidelines, teachers and AWWs are supposed to retain a copy of reporting forms; 82% of headmasters and 87% *anganwadi* workers were aware of this requirement (Annex PM2). Further, the reporting form was available in 58% of schools and 54% of *anganwadis* for verification purposes (Annex CV1).

Accredited Social Health Activists (ASHAs) are required to prepare a list of out-of-school children and children not registered in *anganwadis* and submit it to AWWs. However, only 38% of *anganwadi* workers reported to have a list of unregistered children (1-5 years) and 30% of AWWs reported to have a list of out-of-school children (6-19 years) (Annex CV1). About 20% of ASHAs (who were available at the *anganwadis* at the time of surveyors visit) reported receiving incentives for the last 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[2] are common indicators to measure the accuracy of reported treatment values for neglected tropical disease control programs[3]. 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

[2] *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.*

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

of the availability of a copy of reporting forms at schools and *anganwadis*. The state-level verification factor for school-enrolled children was 0.65, indicating that on an average, for every 100 dewormed children reported by the school, sixty-five were verified through single/double tick or through any other available documents at the school. Similarly, the overall state-level verification factor for children dewormed at *anganwadis* was 0.72, indicating that on an average, for every 100 dewormed children reported by the *anganwadi*, seventy-two 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 0.61, 1.10 and 0.72 respectively for *anganwadis* (Annex CV3). Despite challenges in reporting and documentation of NDD coverage data, based on child interviews, the majority of children present at schools on NDD or mop-up day received (98%) and consumed (100%) the albendazole tablet on either NDD or mop-up day.

Against the state government reported 98% coverage in schools and 97% coverage for 1-5 years registered children in *anganwadis*, attempts were made to understand the maximum number of children that could have been dewormed in the 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 92% of children were in attendance (Annex-Table CV3), 98% of children received an albendazole tablet, and 91% of children reported to consume the tablet under supervision (Annex-Table CV4). Considering these four factors, 72%[4] (0.88*0.92*0.98*0.91) of enrolled children could have been dewormed in the 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 59% (0.61*0.97) 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.

Recommendations

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

1. Findings revealed a sharp decline in training participation of school teachers and *anganwadi* workers from August 2017 to February 2018. This could be attributed to delays in the last level of communication via telecalling on trainings. To improve the gap, communication to frontline functionaries should use multiple channels

[4] [4]This was estimated on the basis of NDD implementation status (88%), maximum attendance on NDD and mop-up day (92%), children received albendazole (98%) and supervised drug administration (91%). In absence of children's interview in *anganwadis,* the Government reported coverage was adjusted by implying state-level verification factor.

(Whatsapp, SMSs) and requires timely issuance of joint directives for effective coordination, planning and execution of all program activities in time at all levels.

2. Integrated distribution remains low and decreased from the August 2017 round. This could be attributed to delays in printing and distribution of IEC and training materials in the state. Lower participation of teachers at trainings could have also contributed towards the low integrated distribution of the NDD kit in schools as compared to the *anganwadis.* Adherence to timelines as per operational plan, is crucial for availability of NDD kits prior to trainings and to achieve a high level of integrated distribution.

3. Low participation of private schools in NDD trainings indicates that efforts must be taken to sensitize these schools and strengthen their participation and program reach in this category of schools. Intensive efforts are required to strengthen private school engagement to improve program implementation and coverage through active involvement of District Magistrates, and participation of private schools/associations in steering committee meetings at state and district-level coordination committee meetings.

4. Evident from coverage validation, there was a significant decline in adherence to protocols in schools, while remaining the same in *anganwadis*. This could be attributed to low training attendance in schools.

5. Findings from coverage validation indicates that the majority of *anganwadis* workers did not receive lists of out-of-school or unregistered children from their ASHA workers. Efforts needs to be made for greater involvement of ASHAs in the community mobilization and listing of unregistered and out-of-school children. Field level activities should be initiated well in advance prior to NDD and provide sufficient time for community mobilization efforts. Moreover, existing platforms like the Village Health, Sanitation and Nutrition Committee (VHSNC), ASHA Day and monthly meetings at PHC level should be capitalized to better sensitize them on community mobilization activities.

6. Maximum attendance at schools was 92%, which is 6% lower than the maximum attendance during the August 2017 NDD round. Emphasis should be given to maintain the level of high attendance on NDD days to achieve high NDD coverage in the state and by making efforts to mobilize children who are not in regular attendance.

ANNEXURE

Table PM1: 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	220	130	59	220	169	77
Ever attended training for NDD[5]	220	141	64	220	178	81
Never attended training for NDD	220	78	35	220	42	19
Reasons for not attending NDD training (Multiple Response)						
Location was too far away	90	7	8	51	7	14
Did not know the date/timings/venue	90	33	37	51	18	35
Busy in other official/personal work	90	11	12	51	7	14
Attended deworming training in the past	90	12	13	51	9	18
Not necessary	90	7	8	51	3	6
No incentives/no financial support	90	9	10	51	4	8
Trained teacher that provided training to other teachers in their schools						
All other teachers	130	70	54	NA	NA	NA
Few teachers	130	35	27	NA	NA	NA
No (himself/herself only teacher)	130	17	13	NA	NA	NA
No, did not train other teachers	130	8	6	NA	NA	NA
Source of information about current NDD round (Multiple Response)						
Television	220	107	49	220	100	45
Radio	220	39	18	220	36	16
Newspaper	220	97	44	220	84	38
Banner	220	87	40	220	81	37
SMS	220	126	57	220	155	70
Other school/teacher/*anganwadi* worker	220	43	20	220	66	30
WhatsApp message	220	49	22	220	27	12
Training	220	45	20	220	72	33
Others	220	35	16	220	25	11
Received SMS for current NDD round	220	138	63	220	176	80
Probable reasons for not receiving SMSs						
Changed Mobile number	82	20	24	44	16	36
Other family members use this number	82	4	5	44	8	18
Number not registered to receive such messages	82	34	41	44	14	32
Others	82	24	29	44	6	14

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

Table PM2: 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	220	184	84	220	201	91
Different ways a child can get worm infection (Multiple Response)						
Not using sanitary latrine	184	139	76	201	147	73
Having unclean surroundings	184	152	83	201	157	78
Consume vegetables and fruits without washing	184	126	68	201	128	64
Having uncovered food and drinking dirty water	184	128	70	201	136	68
Having long and dirty nails	184	133	72	201	129	64
Moving in bare feet	184	88	48	201	116	58
Having food without washing hands	184	113	61	201	132	66
Not washing hands after using toilets	184	82	45	201	108	54
Awareness about all the possible ways a child can get a worm infection[6]	184	31	17	201	46	23
Perceives that health education should be provided to children	220	173	79	220	177	80
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)	NA	NA	NA	220	171	78
2-3 years of children (Crush one full tablet between two spoons, and administer with water)	NA	NA	NA	220	146	66
3-5 years of children (one full tablet and child chewed the tablet properly)	NA	NA	NA	220	159	72
6-19 years of children (one full tablet and child chewed the tablet properly)	220	208	95	220	215	98
Awareness about non-administration of albendazole tablet to sick child						
Will administer albendazole tablet to sick child	220	24	11	220	38	17
Will not administer albendazole tablet to sick child	220	196	89	220	182	83
Awareness about consuming albendazole tablet						
Chew the tablet	220	218	99	220	218	99
Swallow the tablet directly	220	2	1	220	2	1

[6]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.

Awareness about consuming albendazole in school/*anganwadi*	220	220	100	220	220	100
Awareness about the last date (February 20, 2018) for submitting the reporting form	220	86	39	220	103	47
Awareness about submission of reporting forms to ANM	220	172	78	220	177	80
Awareness to retain a copy of the reporting form	220	181	82	220	191	87

Table PM3: 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	220	95	43	220	95	43
Yes, already done	220	46	21	220	79	36
Yes, after sometime	220	52	24	220	40	18
No, will not administer today	220	27	12	220	6	3
Schools/*anganwadis* conducted deworming on either of the day[7]	220	196	89	220	219	100
Schools/*anganwadis* conducted deworming on NDD[8]	128	107	84	125	124	99
Schools/*anganwadis* conducted deworming on Mop-Up Day[9]	91	86	95	95	90	95
Reasons for not conducting deworming						
No information	24	13	54	1	1	100
Albendazole tablet not received	24	6	25	1	0	0
Apprehension of adverse events	24	2	8	1	0	0
Others[10]	24	3	13	1	0	0
Attendance on NDD[11]	22973	18469	80	NA	NA	NA
Attendance on Mop-Up Day[12]	24045	20199	84	NA	NA	NA
***Anganwadis* having list of unregistered/out-of-school children**	NA	NA	NA	220	141	64
Out-of-school children (Age 6-19 years) administered albendazole tablet	NA	NA	NA	220	177	80

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

Unregistered children (Age 1-5 years) administered albendazole tablet	NA	NA	NA	220	180	82
Sufficient quantity of albendazole tablets[13]	196	187	95	219	208	95

Table PM4: 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	220	196	89	220	219	100
Poster/banner	220	184	84	220	204	93
Handouts/ reporting form	220	178	81	220	195	89
Received all materials	220	170	77	220	187	85
Items verified during Independent Monitoring						
Albendazole tablet	196	191	97	219	210	96
Poster/banner	184	182	99	204	200	98
Handouts/ reporting form	178	172	97	195	187	96
Received all materials	170	162	95	187	178	95
No of school teachers/anganwadi worker attended training and received items during training						
Albendazole tablet	129	121	94	169	157	93
Poster/banner	123	119	97	162	151	93
Handouts/ reporting form	122	120	98	155	143	92
Received all materials	170	113	66	187	140	75
Integrated Distribution of albendazole tablet IEC and training materials[14]	220	113	51	220	140	64

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

Indicators	Schools			*Anganwadi*		
	Denominator	Numerator	%	Denominator	Numerator	%
Deworming activity wa s taking place	95	88	93	95	90	95
Albendazole tablets were administered by						
Teacher/headmaster	95	69	73	95	12	13
Anganwadi worker / Helper	95	2	2	95	65	68

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

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

ASHA	95	14	15	95	14	15
ANM	95	11	12	95	4	4
Student	-	-	-	-	-	-
Teacher/Anganwadi worker asked children to chew the tablet	95	92	97	95	92	97
Followed any recordin g protocol[15]	141	128	91	174	156	90
Protocol followed						
Putting single/double tick	128	105	82	156	120	77
Put different symbols	128	9	7	156	15	10
Prepare the separate list for dewormed	128	12	9	156	21	13
Visibility of poster/banner during visits	184	171	93	204	187	92

Table PM6: 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	220	74	34	220	89	40
Awareness about possible adverse events (Multiple Response)						
Mild abdominal pain	74	61	82	89	67	75
Nausea	74	42	57	89	46	52
Vomiting	74	52	70	89	68	76
Diarrhea	74	27	36	89	21	24
Fatigue	74	28	38	89	27	30
All possible adverse event[16]	74	15	20	89	10	11
Awareness about mild adverse event management						
Make the child lie down in open and shade/shaded place	220	174	79	220	170	77
Give ORS/water	220	135	61	220	131	60
Observe the child at least for 2 hours in the school	220	106	48	220	114	52
Don't know/don't remember	220	30	14	220	12	5
Awareness about severe adverse event management						
Call PHC or emergency number	220	176	80	220	192	87

[15]Any recording protocol implies putting single tick (✓), double tick (✓✓), any other symbol or preparing separate list for all those children administered albendazole tablets on NDD or Mop-Up Day.
[16]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	220	130	59	220	125	57
Don't know/don't remember	220	19	9	220	8	4
Available contact numbers of the nearest ANM or MO-PHC	220	186	85	220	209	95
Asha present in Anganwadi center	NA	NA	NA	220	176	80

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

Indicators[17]	Denominator	Numerator	%
Attended training for current round of NDD	93	48	51
Received albendazole tablets	93	72	77
Sufficient quantity of albendazole tablets	72	69	96
Received poster/banner	93	67	72
Received handouts/ reporting form	93	65	70
Received SMS for current NDD round	93	48	52
Albendazole administered to children	93	73	78
Reasons for not conducting deworming			
No information	21	12	59
Albendazole tablets not received	21	5	23
Apprehension of adverse events[18]	21	2	8
Others[19]	21	2	10
Albendazole tablet administered to children by teacher/headmaster[20]	25	20	80
Perceive that health education should be provide d to children	93	68	72
Awareness about correct dose and right way of albendazole administration	93	86	92
Awareness about non-administration of albendazole tablet to sick child	93	83	89
Opinion of occurrence of an adverse event after taking albendazole tablet	93	32	34
Awareness about occurrence of possible adverse events			
Mild abdominal pain	32	26	81
Nausea	32	19	59
Vomiting	32	25	78
Diarrhea	32	10	31
Fatigue	32	6	19
Awareness about mild adverse event management			
Let the child rest in an open and shaded place	93	71	76
Provide clean water to drink/ORS	93	50	54

[17]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
[18]Based on the samples that did not conduct deworming on Mop-Up Day.
[19]Others include Parents pressure and absence of students.
[20]This indicator is based on samples where deworming was ongoing.

Contact the ANM/nearby PHC	-	-	-
Available contact numbers of the nearest ANM or MO-PHC	93	74	80
Followed correct[21] recording protocol	33	30	91

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[22]**	655	578	88	655	648	99
	Percentage of government schools conducted deworming	*375*	*368*	*98*	*Not Applicable*		
	Percentage of private schools conducted deworming	*280*	*209*	*75*	*Not Applicable*		
1a	Percentage of school and *anganwadis* administered albendazole on day of - **(Multiple Response)**						
	a. National Deworming Day	578	565	98	648	629	97
	b. Mop-up day	578	309	53	648	369	57
	c. Between NDD and mop-up Day	578	50	9	648	68	11
	d. Both days (NDD and mop-up day)	578	308	53	648	365	56
1b	**Reasons for not conducting deworming**						
	a. No information	77	49	64	7	1	14
	b. Drugs not received	77	14	18	7	1	17
	c. Apprehension of adverse events	77	0	0	7	0	0
	d. Others[23]	77	14	18	7	5	69
2	**Percentage of schools and *anganwadis* left over with albendazole tablet after deworming**	578	272	47	648	256	40
2a	**Number of albendazole tablets left after deworming**						
	a. Less than 50 tablets	272	177	65	256	207	81
	b. 50-100 tablets	272	52	19	256	29	11
	c. More than 100 tablets	272	43	16	256	20	8
3	**Copy of filled-in reporting form was available for verification**	578	337	58	648	348	54
	Copy of filled-in reporting form was available for verification in Government school	*368*	*234*	*64*	*Not Applicable*		
	Copy of filled-in reporting form was available for verification in Private school	*209*	*102*	*49*	*Not Applicable*		
3a	**Reasons for non-availability of copy of reporting form[24]**						

[21]Correct recording protocol implies putting single tick (✓) on NDD and double tick (✓✓) for all those children administered albendazole tablets.
[22]Schools and *anganwadis* that conducted deworming on NDD or mop-up day.
[23]Other includes Don't know, ANM did not give drugs, Parents not interested, ANM not available etc.
[24] In 20 schools and 25 *anganwadis* blank reporting form was available.

	a. Did not receive	221	37	16	275	26	10
	b. Submitted to ANM	221	163	74	275	232	84
	c. Unable to locate	221	20	9	275	14	5
	d. Others[25]	221	1	1	275	3	1
	Percentage of *Anganwadi* center where ASHA administered albendazole	Not Applicable			648	381	59
4	***Anganwadis* having list of unregistered children (aged 1-5 years)**	Not Applicable			648	245	38
5	***Anganwadis* having list of out-of-school children (aged 6-19 years)**	Not Applicable			648	194	30

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

Sr. No.	Indicators	*Anganwadis*		
		Denominator	Numerator	%
1	ASHA[26] conducted meetings with parents to inform about NDD	310	281	91
2	ASHA prepared list of unregistered and out-of-school children	310	207	67
3	ASHA shared the list of unregistered and out-of-school children with *angnawadis* teacher[27]	207	158	76
4	ASHA administered albendazole to children	310	289	93
5	ASHA received incentive for NDD Aug 2017 round	310	62	20

Table CV3: Recording protocol, verification factor and school's attendance

Sr.No.	Indicators	Schools/Children			*Anganwadis/Children*		
		Denominator	Numerator	%	Denominator	Numerator	%
1	**Followed correct[28] recording protocol**	406	241	59	648	452	70
2	**Followed partial[29] recording protocol**	406	72	18	648	98	15

[25] Other includes Don't know, submitted to hospital and given to ASHA.
[26] 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.
[27]Based on sub-sample who reported to prepare the said list.
[28]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.
[29]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[30] recording protocol**	406	93	23	648	98	15
	Followed correct recording protocol in government school	*277*	*163*	*59*	*Not Applicable*		
	Followed correct recording protocol in private school	*129*	*78*	*61*	*Not Applicable*		
4	**State-level verification factor[31] (children enrolled/registered)**	49137	32028	65	27,147	19,456	72
	a. Children registered with *anganwadis*	Not Applicable			17,077	10,352	61
	b. Children unregistered with *anganwadis* (Aged 1-5)	Not Applicable			4,829	5,326	110
	c. Out-of-school children (Aged 6-19)	Not Applicable			5,242	3,778	72
5	**Attendance on previous day of NDD (children enrolled)**	146598	127975	87	Not Applicable		
6	**Attendance on NDD (children enrolled)**	146598	125838	86	Not Applicable		
7	**Attendance on mop-up day (children enrolled)**	146598	103162	70	Not Applicable		
8	**Children who attended on both NDD and mop-up day (Children enrolled)**	146598	93713	64	Not Applicable		
9	**Maximum attendance of children on NDD and mop-up day[32] (Children enrolled)**	146598	135287	92	Not Applicable		
10	**Estimated NDD coverage[33][34]**	72			59		

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

[31]Ratio of recounted value of the dewormed children to the reported value. This calculation is based on only those schools (n=337) and *anganwadis* (n=348) where deworming was conducted and copy of reporting form was available for verification.

[12]Rest 173 cases are missing for 'school following protocol'

[32]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.

[33] 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.*

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

11	***Estimated NDD coverage in government school***	*77*	*Not Applicable*
12	***Estimated NDD coverage in private school***	*64*	*Not Applicable*

Table CV4: Description on children (6-19 years) interviewed in the schools (n=578) during coverage validation

Sr.No.	Indicators	Denominator	Numerator	%
1	**Children received albendazole tablets**	1213	1188	98
2	**Children aware about the albendazole tablets**	1188	1088	91
	Source of information about deworming among children (Multiple response)			
3	a. Teacher/school	1088	1062	98
	b. Television	1088	186	17
	c. Radio	1088	80	7
	d. Newspaper	1088	202	19
	e. Poster/Banner	1088	301	28
	f. Parents/siblings	1088	136	13
	g. Friends/neighbors	1088	90	8
4	**Children aware about the worm infection**	1188	865	73
5	**Children awareness about different ways a child can get worm infection (Multiple response)**			
	a. Not using sanitary latrine	865	621	72
	b. Having unclean surroundings	865	439	51
	c. Consume vegetables and fruits without washing	865	437	51
	d. Having uncovered food and drinking dirty water	865	399	46
	e. Having long and dirty nails	865	457	53
	f. Moving in bare feet	865	358	41
	g. Having food without washing hands	865	410	47
	h. Not washing hands after using toilets	865	264	31
6	**Children consumed albendazole tablet**	1190	1184	100
7	**Way children consumed the tablet**			
	a. Chew the tablet	1184	1147	97
	b. Swallow tablet directly	1184	37	3
8	**Supervised administration of tablets**	1184	1072	91
9	**Reasons for not consuming albendazole tablet**			
	a. Feeling sick	5	3	60
	b. Afraid of taking the tablet	5	2	40
	c. Parents told me not to have it	5	0	0
	d. Do not have worms so don't need it	5	0	0
	e. Did not like the taste	5	0	0