



Process Monitoring and Coverage Validation of
Schools and *Anganwadis*-based National
Deworming Day in Jharkhand

REPORT
August 2016

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EXECUTIVE SUMMARY

India, with an estimated 223 million¹ (almost one quarter of the global burden) children living with soil-transmitted helminths (STH), launched National Deworming Day (NDD) in February 2015 to deworm all children between 1-19 years of age. The program is aimed at the supervised administration of albendazole tablets to all children age 1- 19 in *anganwadis* and schools, including unregistered children (1-5 years) and out-of-school children (6-19 years).

Jharkhand observed the third round of NDD in 19 of 24 districts on August 10, 2016 followed by Mop-Up Day on August 17, 2016. Evidence Action engaged an independent research agency for coverage validation to evaluate the accuracy of the reporting data and coverage estimates post NDD. Approvals for the survey were obtained from Jharkhand's Departments of Health & Family Welfare.

Coverage validation data revealed that of the sampled schools and *anganwadis*, around 80% of schools and 88% of *anganwadis* observed deworming. Approximately 88% of schools and 90% of *anganwadis* reported receiving a sufficient quantity of albendazole tablets. Almost half of the schools and *anganwadis* received program posters and banners, though integrated distribution of NDD kits was found to be very low for both schools (7%) and *anganwadis* (10%). While 52% of schools and 62% of *anganwadis* attended training for the recent NDD round, the most cited reason for not attending the training among school teachers and *anganwadi* workers was the lack of information regarding training dates, times, and locations. A key program indicator, reporting, had low compliance at both schools and *anganwadis* with only 32% of schools and 56% of *anganwadis* following correct reporting protocol. A substantial proportion of *anganwadi* workers did not have a list of unregistered preschool-age children (78%) and out-of-school children (84%).

Coverage validation data for enrolled school children exhibited high inflation (96%; verification factor of 0.51) of treatment figures. Overall, state level verification factors for children dewormed at *anganwadis* was 0.84 with an inflation of 20%. This indicates that the number of dewormed children was over reported in schools and *anganwadis*. Nevertheless, interviews indicated that 95% of all enrolled children were dewormed.

Findings from coverage validation of NDD highlighted opportunities to strengthen future rounds of NDD in the state. The quality and coverage of the program can be improved by ensuring timely communication of training dates to schools and *anganwadis*. Improved attendance of school teachers and *anganwadi* workers would enable effective program implementation in the state. The database of functionaries across all stakeholder departments needs to be regularly updated to ensure timely information dissemination to the program functionaries. Further, efforts are needed to strengthen the integrated distribution of NDD kits during trainings. Integrated distribution would enable more widespread use of IEC materials for community mobilization and awareness, potentially improving the reach of the program. Increased engagement of *Sahiyas* and AWWs is also critical for the success of the program. Moreover, as most of the *anganwadi* centers did not have lists of out-of-school and unregistered preschool-age children, efforts are required to proactively engage *Sahiyas* to prepare lists of these children. Schools and *anganwadis* should be encouraged to retain a copy of school and *anganwadi* reporting forms after submitting to higher levels. High inflation in

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

reporting suggests that a practical session on recording protocol during training would support proper data documentation and management.

MONITORING AND EVALUATION

1.1 Monitoring Background

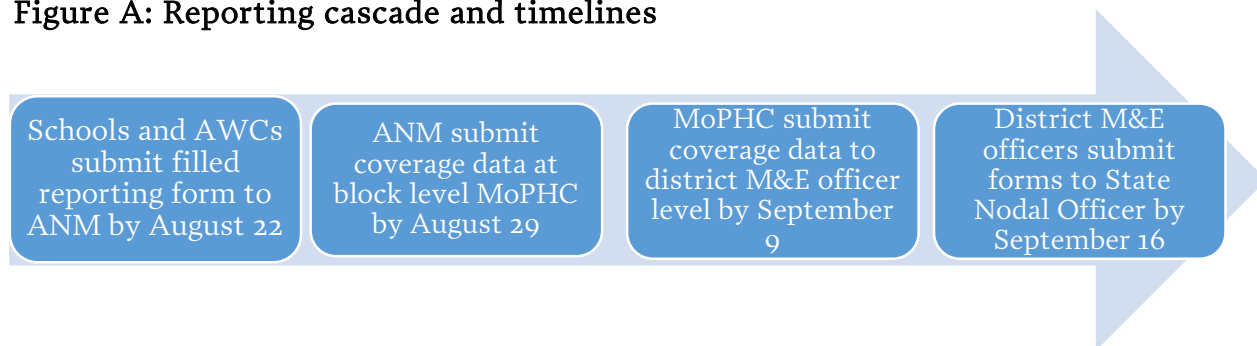
NDD, targeting children in the age group of 1-19 years, was conducted in 19 out of 24 districts in Jharkhand on August 10, 2016. Unregistered and out-of-school children in this age group were dewormed at *anganwadis*. The remaining districts observed mass drug administration for Lymphatic Filariasis during August 2016 under the National Filaria Control Program (NFCP). This decision was made in accordance with the NDD operational guidelines issued by the Government of India.

Evidence Action reached out to the Government of Jharkhand in early June 2016 to explore the opportunity of a light technical assistance to assist in kick-starting NDD implementation. In response to our proposal, the Mission Director of the National Health Mission agreed to retain Evidence Action's support for NDD, including coverage validation.

1.2 Coverage Validation

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

Figure A: Reporting cascade and timelines



1.3 Sampling and Sample Size

Through a competitive selection process, Evidence Action hired an experienced independent research agency, Karvy Insights Limited, to implement monitoring across 98 blocks in 18 districts of the state. The district of Deoghar did not confirm the NDD dates and so it was excluded from the coverage validation. A two-stage probability sampling procedure was adopted to select schools and *anganwadis* for coverage validation. Coverage validation was undertaken from September 14-20, 2016 during which 100 monitors were targeted to visit 500 randomly selected government/government-aided schools and 500 *anganwadis* to verify the reported coverage numbers.

During coverage validation, monitors collected information by interviewing school headmasters/teachers, *anganwadi* workers, checking attendance registers, and interviewing

three children from each school. They also checked that the supply of drugs and awareness materials was adequate; assessed whether teachers had received training and tested their knowledge of adverse events management and reporting protocols.

Table A: Target and Coverage of schools and *anganwadis* during Coverage Validation

Indicators	Coverage validation	
	Target	Achieved
Total number of districts	18	18
Total number of blocks	98	98
Total number of schools	500	500
Total number of government/government-aided schools	478	478
Total number of private schools	22	22
Total no. of children interviewed in schools	1500	1203
Total number of <i>anganwadis</i>	500	500

1.4 Coverage Validation Formats

To ensure comprehensive coverage and triangulation of data, two formats were administered—one for each school and *anganwadi*. Evidence Action designed the formats, ensured that the local language was concise and easy to understand, and loaded them onto tablet PCs.

1.5 Authorization from Government

The surveys were conducted with prior approval from the state government. An approval letter was issued by Jharkhand’s Department of Health. Each monitor carried copies of the letter explaining the process of coverage validation and requesting participation from school and *anganwadi* staff.

1.6 Training of Trainers and Independent Monitors

A two-phase training program was organized at the state level. In the first phase, representatives from Evidence Action provided a one-day comprehensive training to five master trainers of Karvy Insights on September 8, 2016. These master trainers conducted a two-day training, supervised by Evidence Action, of 130 monitors during September 9-10, 2016 in two batches of 50-55 monitors. A total of 130 trainees participated, including 20 buffer monitors and 10 supervisors.

The training included discussions on the NDD program, the importance of coverage validation, and sharing of relevant formats. Monitors received a demonstration of the tablet PCs and were briefed on the computer assisted personal interview (CAPI) administration process and troubleshooting. Upon the completion of these modules, each monitor used the tablet to complete at least one practice session in the presence of trainers. During this period, trainers responded to any queries, and a live demonstration was conducted after the practice session. At the end of the training, all participants were tested on comprehension and their ability to work in the field.

1.7 Field Implementation

Each monitor was allotted five schools and five *anganwadis* to survey for coverage validation. Monitors were provided a tablet PC, charger, printed copy of coverage validation formats, and albendazole tablets for demonstration. The details of sample schools were shared with monitors one day before fieldwork commenced to ensure that they did not inform local educational authorities ahead of their visit, thus potentially affecting compliance. If a school was closed or non-traceable during a survey, monitors were asked to cover the next school on their list and return to the first school at another time on a subsequent day. If the school was non-traceable or was closed consistently after attempting three visits, a new school was substituted for the old one. In the absence of reporting forms, the calculation of the verification factor is restricted to the sample where the copy was found for verification

1.8 Data Processing and Analysis

The survey agency provided data to Evidence Action in an agreed upon format. This was reviewed and feedback was shared with the agency for any inconsistencies observed. All analysis was performed using Stata version 13/14 and Excel 2013.

1.9 Quality Control

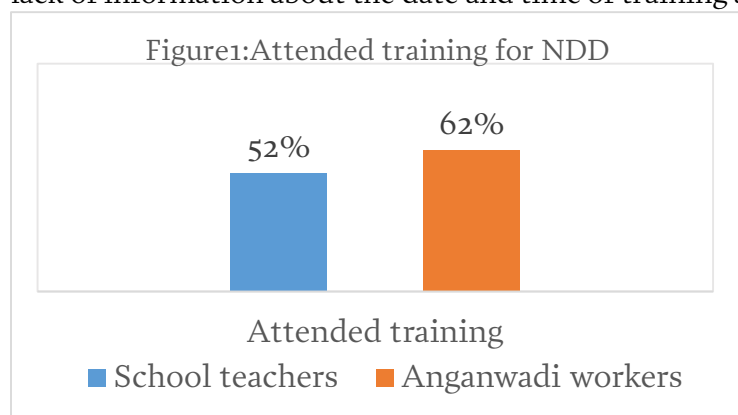
Appropriate quality control measures were taken to ensure data collected was accurate and comprehensive. Approximately 15% of schools and *anganwadis* were contacted over the phone to confirm that they had participated in the validation exercise. In all cases, school and *anganwadi* staff were asked to sign a participation form and provide an official stamp to verify that the school or *anganwadi* was actually visited. Further, monitors also clicked the photographs of schools and *anganwadis* visited during coverage validation. The data synced to tablets was vetted as quickly as possible to ensure comprehensiveness; any errors were subsequently addressed through follow-up visits or calls.

2. KEY FINDINGS

Key results from coverage validation are provided below, with further details shared in annexures.

2.1 Training

For effective implementation of the program, teachers and *anganwadi* workers are trained prior to the NDD. Coverage validation data demonstrated that teachers/headmasters from 52% of schools and 62% of *anganwadis* attended training for the NDD round (Figure 1). Among those who did not attend training, the majority of teachers (79%) and *anganwadi* workers (76%) cited lack of information about the date and time of training as the main reason. Around five percent



of schools and 11% of *anganwadi* workers did not attend training because they had attended a deworming training in the past round (Table: CV₁). All school teachers and *anganwadi* workers are expected to attend the training regardless of training in previous rounds. Additionally, even in schools where a headmaster/teacher attended training, only 86% provided training

to other teachers in the school (**Table: CV1**). Only 19% of schools and 24% of *anganwadis* reported that they received an SMS about the current round of NDD (**Table: CV1**).

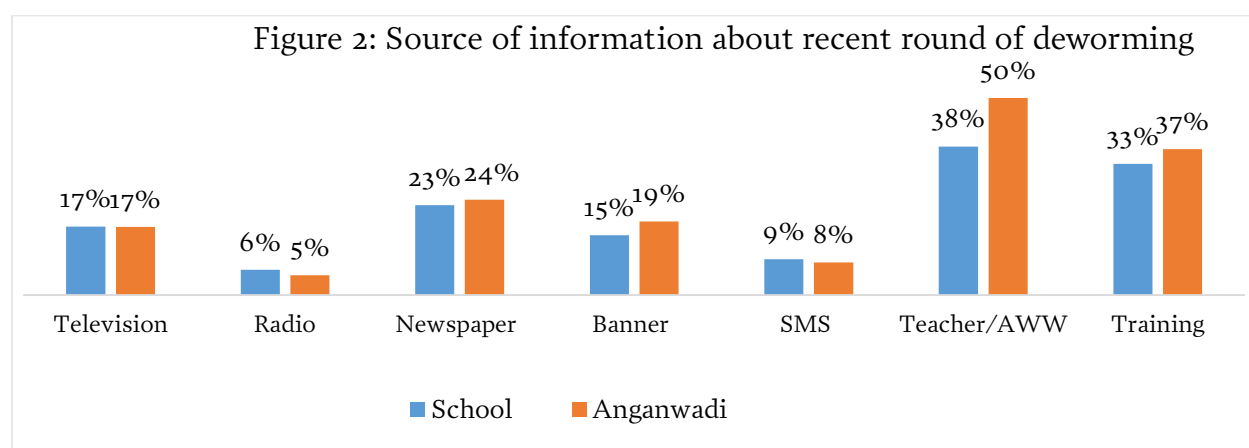
2.2 Integrated Distribution of Deworming Materials Including Drugs

As per the NDD guidelines, there should be an integrated distribution process that provides NDD kits (all necessary IEC materials, training materials, and deworming tablets) to schools and *anganwadi* centers at the block level training.² It is important to integrate distribution of all NDD materials to ensure timely and cost effective delivery of materials as separate integration would increase time and cost. Despite the well-defined NDD kit and integrated distribution cascade, findings from coverage validation demonstrate that only seven percent of schools and 10% of *anganwadis* in the state had integrated distribution of deworming materials, highlighting a large distribution of deworming materials individually (**Table: CV2**).

Around 80% of schools and 89% of *anganwadis* received tablets for deworming; of which, 91% of schools and 92% of *anganwadis* had received these tablets during training (**Table: CV2**). Moreover, 88% of schools and 90% of *anganwadis* reported having received sufficient drug quantities for deworming (**Table: CV1**). Posters/banners were received by 51% of schools and 50% of *anganwadis*, of these, around 90% of schools and 95% of *anganwadis* received banners/posters in training (**Table: CV2**). About 40% of schools and 44% of *anganwadis* received handouts/reporting forms, of which 84% of schools and 92% of *anganwadis* received the forms in training sessions (**Table: CV2**).

2.3 Source of Information about Recent Round of Deworming

School teachers or *anganwadi* workers were the major source³ of information about deworming for schools (50%) and *anganwadis* (38%) (**Figure 2 Annexure 1 – Table CV1**). This was followed by training 37% of schools and 33% of *anganwadis*. Newspapers were sources of information for approximately 24% and 23% of schools and *anganwadis* respectively. Moreover 19% of schools and 15% of *anganwadis* came to know about NDD through banners/posters (**Figure 2**).

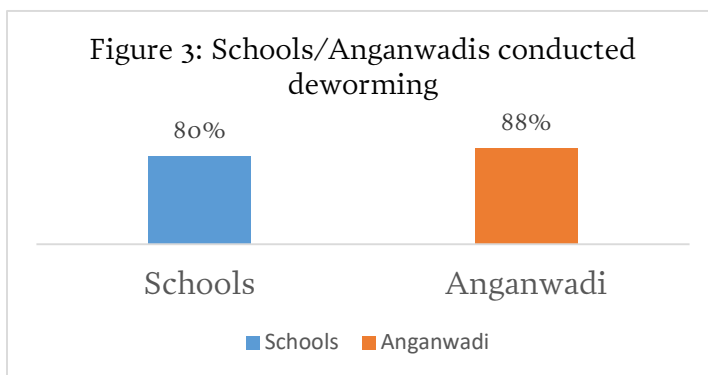


² 'National Deworming Day, operational Guidelines 2016, Ministry of Health and Family Welfare, government of India http://nrhm.gov.in/images/pdf/NDD-2016/Guidelines/Draft_NDD_2016_Operational_Guidelines.pdf.

³ Major source of information is the medium most reported by school teachers/headmaster and *anganwadi* workers.

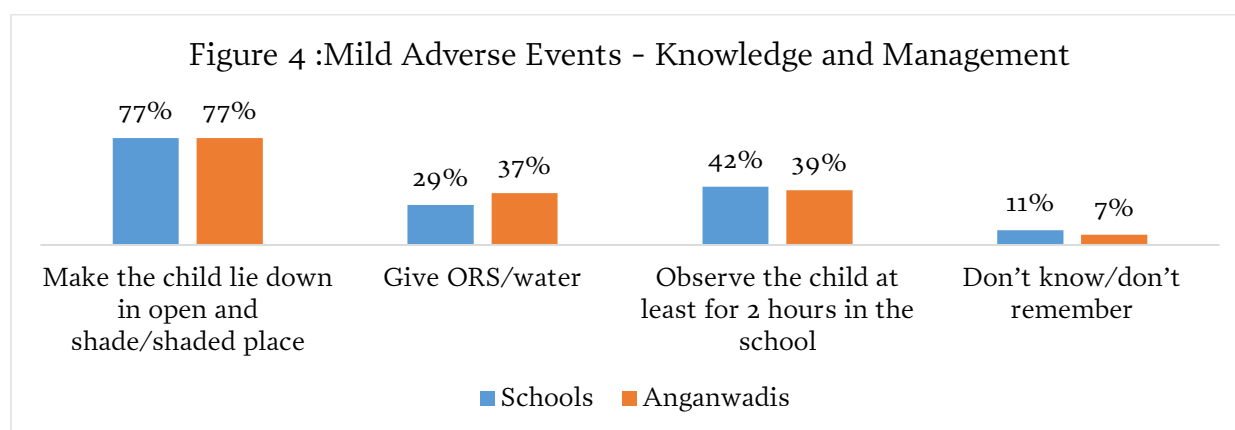
2.4 Implementation of Deworming

Around 80% of schools and 88% of *anganwadis* reported conducting deworming either on NDD or Mop-Up Day. Of those who conducted deworming, 83% of schools and 86% of *anganwadis* conducted drug administration on NDD, followed by 69% of schools and 62% of *anganwadis* on Mop-Up Day. Around 17% of schools and 14% of *anganwadis* also conducted deworming between NDD and Mop-Up Day (Table CV4).



2.5 Adverse Events - Knowledge and Management

Interviews with headmasters and teachers revealed substantial awareness regarding potential adverse events due to deworming and a high level of understanding of the appropriate protocols to follow in the case of such events. However, 29% of schools and 89% of *anganwadis* were able to report all symptoms of an adverse event. Mild abdominal pain was listed as a symptom by 89% of principals/headmasters and *anganwadi* workers, followed by vomiting, which was listed by 86% of principals and 84% of *anganwadi* workers. Less than 50% of school staff and *anganwadi* workers recognized fatigue as a symptom (Table: CV3). Further, 77% of school teachers and *anganwadi* workers knew to make a child lie down in an open, shady place in the case of any symptoms. Further, 63% of schools and 65% of *anganwadis* reported the need to call a PHC doctor if symptoms persisted (Table: CV3). Around two percent of schools and a similar percentage of *anganwadis* reported any cases of adverse events (Table: CV3).



2.6 Recording Protocol

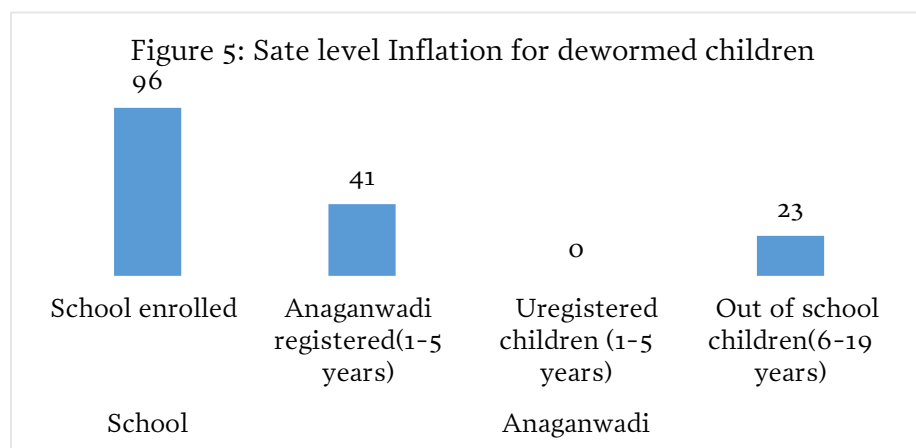
Coverage validation data demonstrated that 32% of schools and 56% of *anganwadis* followed correct recording protocols. For the analysis, information on recording protocol was gathered from each school and *anganwadi* regardless of the availability of reporting forms at the site. Around seven percent of schools and 12% of *anganwadis* followed partial protocols (marking down different symbols or making a list of dewormed children), however, 62% of schools and 32% of *anganwadis* did not follow any protocol to keep a record of dewormed children (Table:

CV5). During training, teachers and *anganwadi* workers were instructed to retain a copy of school/*anganwadi* reporting forms; however, a copy of the reporting form was available in only 28% of schools and 22% of *anganwadis* (Table: CV4).

Sahiya workers (*Sahiyas*) have a critical role to play in the success of the NDD program. As part of the community mobilization and awareness campaign, *Sahiyas* mobilize out-of-school children, conduct village meetings with parents, and disseminate information through local platforms to ensure greater coverage. After NDD, AWWs prepare a list of children who have missed the dose due to absence or sickness and share the list with *Sahiyas*. *Sahiyas* then work to inform parents to have their children be present to take the missed albendazole dose on Mop-Up Day. Further, as per NDD guidelines, *Sahiyas* were required to prepare a list of out-of-school children and unregistered children and submit it to *anganwadi* workers to assist in increasing the coverage of these children in *anganwadi* centers. However, findings suggest that only 22% of schools and 16% of *anganwadis* had lists of out-of-school children (age 6-19 years) and unregistered (age 1-5 years) children respectively (Table: CV4).

2.7 Inflation and Verification Factor

Verification factors⁴ are common indicators for Neglected Tropical Disease control programs around the world. It compares the aggregated number of ticks in school/*anganwadi* registers (indicating that children were dewormed) to the coverage reported by schools/*anganwadis* in reporting forms submitted to the state. Thus, the verification factor was estimated on the basis of the availability of a copy of reporting forms at schools and *anganwadis*.



The state level verification factor for enrolled children was 0.51, indicating that on an average for every 100 dewormed children reported by the school, fifty-one were verified through available documents. This corresponds to an overall 96% inflation of reporting in the

schools, meaning that reported numbers appear to be approximately 96% higher than the numbers recorded in school attendance registers. Similarly, overall state level verification factors for children dewormed at *anganwadis* was 0.84 with an inflation of 20%. However, category wise verification factors for registered (age 1-5 years), unregistered (age 1-5 years), and out-of-school (age 6-19 years) children were 0.71, 1.17, and 0.81 and with a corresponding inflation of 41%, -15%, and 23% respectively (Figure 5).

Further, attempts were also made to understand NDD coverage in schools and *anganwadis*. As per the state government coverage report, 89% of enrolled school-age children and 87% of *anganwadis* targeting preschool-age children were dewormed in the current round of NDD.

⁴A 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.

Findings from school coverage validation data suggests that on average, we could verify 51% of the total numbers dewormed as reported by schools. Applying this verification factor on government reported school coverage, we found that 45% of children could have been dewormed in the schools. The verification factors are based on only those schools and *anganwadis* where a copy of reporting forms was available for verification. Therefore, adjusted coverage in schools and *anganwadis* based on verification factors needs to be interpreted with caution.

Since school coverage validation covers information on attendance during NDD and Mop-Up Day, common attendance on both these days, and child interviews, an alternate method was also used to estimate the coverage in schools. We also estimated NDD treatment coverage in schools considering the potential maximum attendance of children on NDD dates. The coverage estimate based on attendance data provides a more robust estimate as compared to an adjusted coverage based on verification factors, as maximum attendance is calculated from all the schools covered during coverage validation.

Coverage validation data showed that 80% of schools conducted deworming on either NDD or Mop-Up Day and a maximum of 83% of the total enrolled school children were in attendance. Moreover, 95% of children interviewed reported to have received the albendazole and 93% of them reported having consumed it under supervision. Based on these factors, a total of 59% of children could have been dewormed in the schools. This indicates that NDD coverage in the schools lies somewhere between 45-59 percent, below the WHO threshold of 75% coverage (**Table: CV5**). In the case of *anganwadis*, data suggests that on average, we could verify 84% of total dewormed numbers reported by *anganwadi* workers. Applying this verification factor on government reported coverage (87%) in *anganwadis*, we estimate that approximately 75% of children could have been dewormed in the *anganwadis*. Further, unlike schools, as child interviews were not conducted during coverage validation in *anganwadis*, we could not imply the alternate method of estimating the coverage at *anganwadis* (**Table: CV5**).

3. RECOMMENDATIONS

The monitoring exercise conducted during Jharkhand's third round of NDD also highlights opportunities to strengthen future rounds. NDD is a fixed-day approach and engages multiple stakeholders; it is critical that all program components are aligned with each other for successful program implementation and to prevent gaps and delays. The following are the key recommendations for program improvements that emerged out of the coverage validation exercise:

- 1) As we saw, close to half of the teachers/headmasters and three in five *anganwadis* attended teacher trainings, efforts are required to increase the attendance of school teachers and *anganwadi* workers in training by pre-planning sessions and ensuring proper communication of training dates/venues to teachers and *anganwadi* workers.
- 2) Furthermore, school teachers and *anganwadi* workers who attended trainings should be encouraged to impart training to other teachers in their schools and *anganwadis* prior to NDD to ensure the quality of the program. As findings suggest that a large proportion of school headmasters and *anganwadi* workers did not receive NDD related SMSs, and as schools and *anganwadis* reported this was an effective mode of receiving information, the contact database of functionaries across all stakeholder department needs to be regularly updated to ensure comprehensive information dissemination. This would help ameliorate the problems of training reinforcement messages, increase

training participation, and promote awareness on NDD through *Sahiyas*, drug administration protocol, and adverse event management. Emphasis should be placed on improving training quality by administering quality assurance tools like training monitoring, reinforcement messages, and organizing practical sessions.

- 3) Findings suggest the need to strengthen integrated distribution at the trainings so that all the materials including IEC, drugs (albendazole), reporting formats, posters and other program materials reach the schools and *anganwadis* by the time of their training. At the state level, it would be important to ensure that bundling exercises are completed on time and followed effectively. Since districts in Jharkhand procure IEC at their end, it was found that deworming drugs had already been sent for distribution to blocks, whereas IEC materials were yet to be received from the vendor.
- 4) Intensive efforts towards generating community awareness and mobilizing children is critical to achieve high coverage. For instance, parents and siblings of school-age children may be targeted with specific community awareness/mobilization activities to increase the coverage of out-of-school children. In addition, deeper engagement of *Sahiyas* and AWWs need to be ensured. It is also imperative to provide *Sahiyas* with incentives to motivate them to prepare lists of out-of-school and unregistered children and conduct activities for community engagement. *Sahiyas* should be engaged in the community processes earlier and included in community awareness activities.
- 5) The inflated reporting from the findings suggests that additional efforts are required during training to ensure compliance with the correct reporting protocol and to further ensure quality program coverage. Further, timely and accurate reporting can be emphasized through a reinforcement of messages and the issuance of official directives.

4. WAY FORWARD

The coverage validation exercise conducted during the August 2016 round in Jharkhand provided data through which the NDD program can be further strengthened for quality and coverage. The lessons learned from this round will be leveraged and applied to future rounds of the NDD program in Jharkhand. Experiences from other states can be used to improve the quality and coverage of the program through regular coordination with concerned government departments, setting operational guidelines, and ensuring timely follow-ups. Evidence Action looks forward to working with the Government of Jharkhand's Departments of Health, Women and Child Development, and Education to strengthen the deworming program in terms of training attendance and integrated distribution of drug and IEC materials.

Annexure

Table CV1: Training, awareness and source of information about National Deworming Day

among respondents (teacher/headmaster/*anganwadi* worker), August, 2016

Indicators ⁵	School			<i>Anganwadi</i>		
	D ⁶	N ⁷	%	D	N	%
Attended training for current round of NDD	500	261	52.2	500	310	62.1
Reasons for not attending official training						
Location was too far away	242	15	6.1	200	36	18.1
Did not know the date/timings/venue	242	190	78.5	200	151	75.6
Busy in other official/personal work	242	17	7.1	200	11	5.7
Attended deworming training in the past	242	13	5.4	200	21	10.5
Not necessary	242	14	6.2	200	6	2.9
No incentives/no financial support	242	19	8.6	200	10	5.1
Trained teacher provided training to						
All other teachers	258	177	68.4	NA	NA	NA
Few teachers	258	45	17.3	NA	NA	NA
No (himself/herself only teacher)	258	21	8.3	NA	NA	NA
No, did not train other teachers	258	15	5.9	NA	NA	NA
Awareness about the ways a child can get worm infection	500	373	74.5	500	372	74.4
Different ways a child can get worm infection						
Not using sanitary latrine	370	203	55.0	361	182	50.3
Having unclean surroundings	370	298	80.4	361	266	73.6
Consume vegetables and fruits without washing	370	288	77.7	361	239	66.3
Having uncovered food and drinking dirty water	370	248	67.0	361	223	61.7
Having long and dirty nails	370	259	69.9	361	246	68.1
Moving in bare feet	370	186	50.2	361	169	46.9
Having food without washing hands	370	243	65.7	361	248	68.7
Not washing hands after using toilets	370	179	48.5	361	168	46.6
Awareness about all the possible ways a child can get worm infection⁸	370	47	12.8	361	28	7.7
Knowledge about correct dose of albendazole tablet						
1-2 years of children	NA	NA	NA	500	419	83.7
6-19 years of children	500	483	96.6	500	466	93.2
Awareness about non-administration of albendazole tablet to sick child						

⁵ Weighted percentages and numbers are presented against each indicator in all the coverage validation tables. In some indicators denominators may vary because of this.

⁶ Denominator for the indicator.

⁷ Numerator for the indicator.

⁸ Includes those who were aware that a child can get worm infection if she/he does not use sanitary latrine, have unclean surroundings, consume vegetable and fruits without washing, have uncovered food and drinking dirty water, have long and dirty nails, moves in bare fee, have food without washing hands and not washing hands after using toilets.

Will give albendazole tablet to the child	500	81	16.1	500	71	14.1
Will not give the albendazole tablet to the child	500	419	83.9	500	429	85.9
Awareness about consuming albendazole tablet						
Chew before swallowing	500	460	92.0	500	463	92.6
Swallow it directly	500	40	8.0	500	37	7.4
Awareness about place where child should consume albendazole tablet						
At School/Anganwadi	500	456	91.3	500	463	92.7
At home	500	18	3.7	500	31	6.3
Anywhere	500	25	5.1	500	5	1.1
Source of information about current NDD round						
Television	500	87	17.4	500	86	17.3
Radio	500	32	6.4	500	25	5.0
Newspaper	500	114	22.8	500	121	24.2
Banner	500	76	15.2	500	93	18.7
SMS	500	46	9.1	500	41	8.3
Other school/teacher/ <i>anganwadi</i> worker	500	188	37.7	500	250	50.0
Training	500	167	33.3	500	185	37.0
Receive SMS for current NDD round	500	96	19.1	500	119	23.9
Received sufficient quantity of albendazole tablet ⁹	401	354	88.4	441	320	89.5

Table CV2: Integrated distribution of albendazole tablets and IEC materials, August, 2016

Items	Schools (N=500)			<i>Anganwadi</i> (N=500)		
	Received	D	Received in training	Received	D	Received in training
Albendazole tablet	80.4 (401)	401	90.9 (365)	88.7 (443)	443	92.0 (408)
Poster/banner	51.2 (253)	253	89.8 (227)	50.2 (241)	241	95.1 (229)
Handouts/ reporting form	40.4 (199)	199	83.7 (167)	44.1 (211)	211	92.0 (194)
Adverse event reporting form	16.9 (83)	83	46.4 (38)	21.2 (92)	92	51.8 (48)
Received all material	14.7 (73)	73	44.2 (32)	17.2 (76)	76	55.3 (42)
Integrated distribution¹⁰	6.5 (32)			9.5 (47)		

Note: The denominator for item “Received” is 500 for schools and *anganwadis*. Numerators for “Received” and “Received in training” are given in parentheses.

⁹ This indicator is based on the sample that received albendazole tablet.

¹⁰ Integrated distribution of NDD kits includes albendazole tablet, banner/poster and handout-reporting forms and provided to schools and AWC during the trainings at block or PHC level.

Table CV3: Adverse event knowledge and management among respondents, August, 2016

Indicators	Schools			<i>Anganwadi</i>		
	D	N	%	D	N	%
Opinion of occurrence of an adverse event after taking albendazole tablet	500	214	42.9	500	205	41.0
Opinion of occurrence of possible adverse events						
Mild abdominal pain	216	191	88.5	221	196	88.6
Nausea	216	143	66.4	221	147	66.7
Vomiting	216	186	85.9	221	187	84.4
Diarrhea	216	109	50.3	221	82	37.2
Fatigue	216	96	44.6	221	82	37.3
All possible adverse event ¹¹	216	44	29.3	221	44	88.6
Awareness about mild adverse event management						
Make the child lie down in open and shade/shaded place	500	386	77.1	500	385	77.0
Give ORS/water	500	144	28.8	500	187	37.4
Observe the child at least for 2 hours in the school	500	210	42.0	500	197	39.3
Don't know/don't remember	500	53	10.6	500	37	7.3
Awareness about sever adverse event management						
Call PHC or emergency number	500	315	63.0	500	324	64.9
Take the child to the hospital /call doctor to school	500	304	60.7	500	295	59.0
Don't know/don't remember	500	47	9.4	500	39	7.8
Reported cases of adverse event	401	8	2.0	441	10	2.2

Table CV4: Findings from School and *Anganwadi* Coverage Validation Data

Indicators	School			<i>Anganwadi</i>		
	D	N	%	D	N	%
Conducted deworming ¹²	500	402	80.4	500	442	88.4
Day of albendazole administration¹³						
National Deworming Day	401	334	83.2	441	380	86.2
Mop-Up Day	401	277	69.0	441	272	61.8
Between NDD and Mop-Up Day	401	68	16.9	441	61	13.9
Reasons for not conducting deworming						
No information	99	72	72.7	59	24	40.8
Drugs not received	99	27	27.3	59	33	56.6
Apprehension of adverse events	99	0	0.0	59	2	2.6
Albendazole left after deworming	356	82	23.1	321	139	43.4
Number of albendazole left						
Less than 50	86	58	67.9	149	136	91.1

¹¹Includes those who have knowledge that a mild abdominal pain and nausea and vomiting and diarrhea and fatigue can be reported by a child after taking albendazole tablet.

¹²Schools and *anganwadis* that conducted deworming on during NDD or Mop-Up Day.

¹³Total percentage may add to more than 100 as multiple responses are allowed.

50-100	86	17	19.4	149	8	5.7
More than 100	86	11	12.7	149	5	3.2
Copy of reporting form was available for verification	401	111	27.6	441	97	22.1
Reasons for non-availability of copy of reporting form						
Did not received	291	102	35.3	347	77	22.1
Submitted to ANM	291	158	54.6	347	261	75.2
Unable to locate	291	27	9.4	347	9	2.5
Others ¹⁴	291	2	0.7	347	1	0.2
<i>Anganwadis</i> having list of unregistered children	NA	NA	NA	441	95	21.6
<i>Anganwadis</i> having list of out-of-school children	NA	NA	NA	441	69	15.7

Table CV5: Recording protocol, verification, inflation and attendance in schools and *anganwadis*

Indicators	School			<i>Anganwadis</i>		
	D	N	%	D	N	%
Followed correct ¹⁵ recording protocol	401	128	31.9	441	245	55.6
Followed partial ¹⁶ recording protocol	401	27	6.7	441	54	12.3
Followed no ¹⁷ recording protocol	401	247	61.6	441	142	32.2
State level verification factor ¹⁸	14,485	7,386	0.51	9,123	7,621	0.84
<i>Anganwadi</i> registered children	NA	NA	NA	5,068	3,595	0.71
<i>Anganwadi</i> unregistered children	NA	NA	NA	2,028	2,374	1.17
Out-of-school children	NA	NA	NA	2,027	1,651	0.81
State inflation rate ¹⁹	7,386	7,099	96.1	7,621	1,502	19.7
<i>Anganwadi</i> registered children	NA	NA	NA	3,595	1,473	41.0
<i>Anganwadi</i> unregistered children	NA	NA	NA	2,374	-346	-14.6
Out-of-school children	NA	NA	NA	1,651	376	22.8
Attendance on pre-NDD ²⁰	72,901	49,054	67.3	NA	NA	NA
Attendance on NDD	72,901	49,407	67.8	NA	NA	NA
Attendance on Mop-Up Day	72,901	48,729	51.6	NA	NA	NA
Children who attended on both NDD and Mop-Up Day	72,901	37,615	83.0	NA	NA	NA

¹⁴ It includes teacher and *anganwadi* worker had no idea how to fill form.

¹⁵ Correct recording protocol includes schools where all the classes put single tick(✓) on NDD and double tick (✓✓) on mop-up day to record the information of dewormed children.

¹⁶ Partial recording protocol includes schools where all the classes did not follow correct protocol, put different symbols and prepared separate list to record the information of dewormed children.

¹⁷ No protocol includes all those schools where none of the classes followed any protocol to record the information of dewormed children.

¹⁸ Ratio of recounted value of the dewormed children to the reported value. This calculation is based on only those schools (n=110) and *anganwadis* (n=94) where copy of reporting forms were available for verification.

¹⁹ Proportion of over reported dewormed children against total verified children in schools and *anganwadis*.

²⁰ This is attendance of previous day of NDD.

Maximum attendance of children on Deworming Day and Mop-Up Day	72,901	60,522	83.0	NA	NA	NA
School level inflation rate for schools and <i>anganwadis</i> that followed the correct recording protocol	5,423	365	6.7	NA	NA	NA
Estimated NDD coverage²¹	45%-59%			75%		

Table CV6: Indicators based on interview of children during coverage validation

Indicators	D	N	%
Children received deworming tablets	1,203	1,138	94.6
Children consumed tablet	1,131	1,124	99.4
Children aware about the deworming tablets	1,131	970	85.7
Source of information for deworming			
Teacher / school	968	941	97.2
Television	968	38	4.0
Radio	968	34	3.5
Newspaper	968	57	5.9
Poster/Banner	968	61	6.3
Parents/siblings	968	87	9.0
Friends / neighbors	968	43	4.4
Way children consumed the tablet			
-Chewed tablet before swallowing	1,125	1,041	92.6
-Swallowed tablet directly	1,125	84	7.4
Supervised administration of tablets	1,125	1,056	93.8

Note: Three children were interviewed from all those schools (401) who reported to observe deworming during NDD and Mop-Up Day out of total 500 schools visited during coverage validation.

²¹ Coverage was estimated by implying state level verification factor on government reported coverage for schools and AWC. To provide additional insight, school coverage was also estimated on the basis of NDD implementation status, attendance and supervised administration in the school. We assume that same level of documentation and accuracy in coverage data reporting is prevalent in the schools and AWCs where copy of reporting form was not available for verification. Further, estimated coverage based on attendance data in schools include attendance on NDD and Mop-Up-Day.