



Rajasthan

National Deworming Day
February 2017

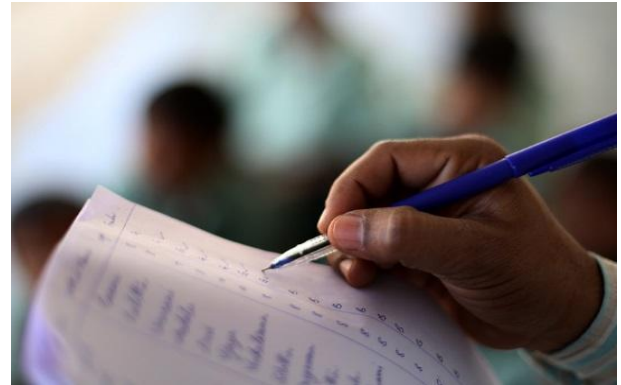
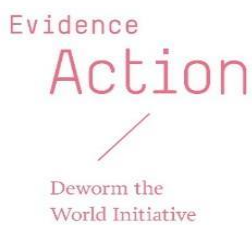


Photo Credit: Evidence Action



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ACRONYMS

ANM:	Auxiliary Nurse Midwife
ASHA:	Accredited Social Health Activist
AWC:	<i>Anganwadi</i> Centre
AWW:	<i>Anganwadi</i> Worker
BCMO:	Block Chief Medical and Health Officer
BEEO:	Block Elementary Education Officer
BPM:	Block Program Manager
BRP:	Block Resource Person
DC:	District Coordinator
DEO:	District Education Officer
DPM:	District Program Manager
DQA:	Data Quality Assessment
GoI:	Government of India
ICDS:	Integrated Child Development Services
IEC:	Information, Education and Communication
LS:	Lady Supervisor
MD:	Mission Director
NHM:	National Health Mission
NDD:	National Deworming Day
WHO:	World Health Organization
UNICEF:	United Nations International Children's Emergency Fund
FAQ:	Frequently Asked Questions
RMSC:	Rajasthan Medical Services Corporation Limited

Executive Summary

Contributing to the Government of India's National Deworming Day (NDD), the state of Rajasthan implemented round five of the school and *anganwadi* based deworming program, now referred as the NDD on February 10, followed by mop-up day on February 15, 2017. In this round, the state dewormed 1, 86, 02, 480 children in the age group of 1-19 years. This achievement is an outcome of exemplary leadership from the Department of Health and Family Welfare in coordination with Department of School Education (DoE) and Department of Women and Child Development (DWCD). United Nations International Children's Emergency Fund (UNICEF), and Evidence Action provided key technical assistance for program planning, implementation and monitoring. End Fund provided financial assistance to Evidence Action for the support to the state of Rajasthan.

Table 1: Key Achievements of National Deworming Day February 2017

Indicators		Census Target	Program Target	Target (as per Coverage report)	Coverage reported
Number of schools reporting coverage		Not Applicable	1,09,151	1,02,697	96,875
Number of <i>anganwadis</i> reporting coverage		Not Applicable	61,119	57,790	56,717
Number of enrolled children (classes 1-12) who were administered albendazole on NDD and mop-up day	Govt. Schools ¹	82,91,174 ²	83,37,945	84,53,768	76,02,028
	Private Schools	80,37,978 ³	80,37,978	77,09,687	63,75,890
Number of registered children dewormed (1 to 5 years) at <i>anganwadis</i> on NDD and mop-up day		72,90,100	40,00,000	43,01,104	33,13,178
Number of unregistered children dewormed (1 to 5 years) at <i>anganwadis</i> on NDD and mop-up day		3,69,942	8,81,940	11,18,841	6,60,354
Number of out-of-school children (6-19 years) dewormed on NDD and mop-up day		80,62,358 ⁴	5,21,525	9,30,622	6,51,030
Total number of children dewormed (1-19 years)		3,20,51,552	2,17,79,388	2,25,14,022	1,86,02,480

*Source: Report submitted by NHM, Rajasthan to Government of India on 26 April, 2017 (Annexure A)

Evidence Action provided comprehensive technical assistance for the effective implementation of NDD in February 2017, at both the state and national-level. At the national-level, 34 States conducted NDD in February 2017, targeting 340 million children. At the state-level in Rajasthan, learnings from the previous rounds were incorporated to

¹ Government schools include all sanskrit schools, kendriya vidhyalayas, navodaya vidhyalayas, kasturba gandhi balika vidhyalayas, madarsas, and maa- badi centers

² Source: UDISE data of (2015-16)

³ Source: UDISE data of (2015-16)

⁴ Includes out-of-school children (6-19 years) and children in other institutes (6-19 years)

guide program implementation including strategies for increased program coverage such as enhanced inclusion and engagement of private schools.

1. Program Background

1.1 Benefits of deworming

A large body of rigorous scientific evidence from around the world provides a strong rationale for mass deworming⁵ for STH control programs. Using existing platforms of schools and pre-schools for mass deworming is a cost-effective way to reach high coverage in children. Worm infections pose a serious threat to children’s health, education, and productivity. Some of the benefits of deworming are shown below in Figure 1.

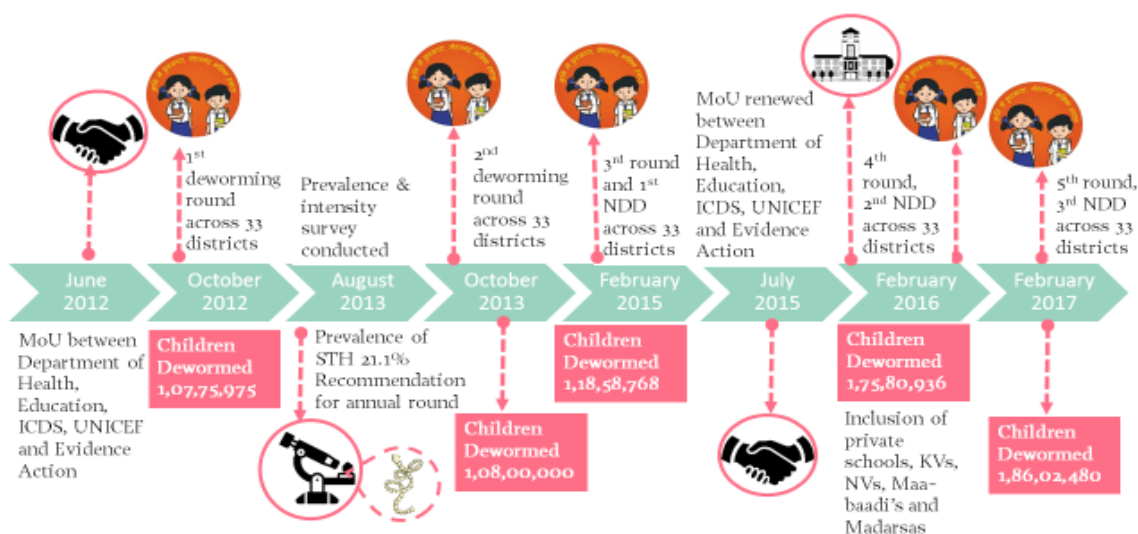
Figure 1: Benefits of deworming



1.2 State Program Background

School and *anganwadi* based deworming program in Rajasthan is being implemented in the State since 2012. In 2015, this was renamed as the NDD and implemented across the country since then. Below find the key milestones achieved under the program in Figure 2.

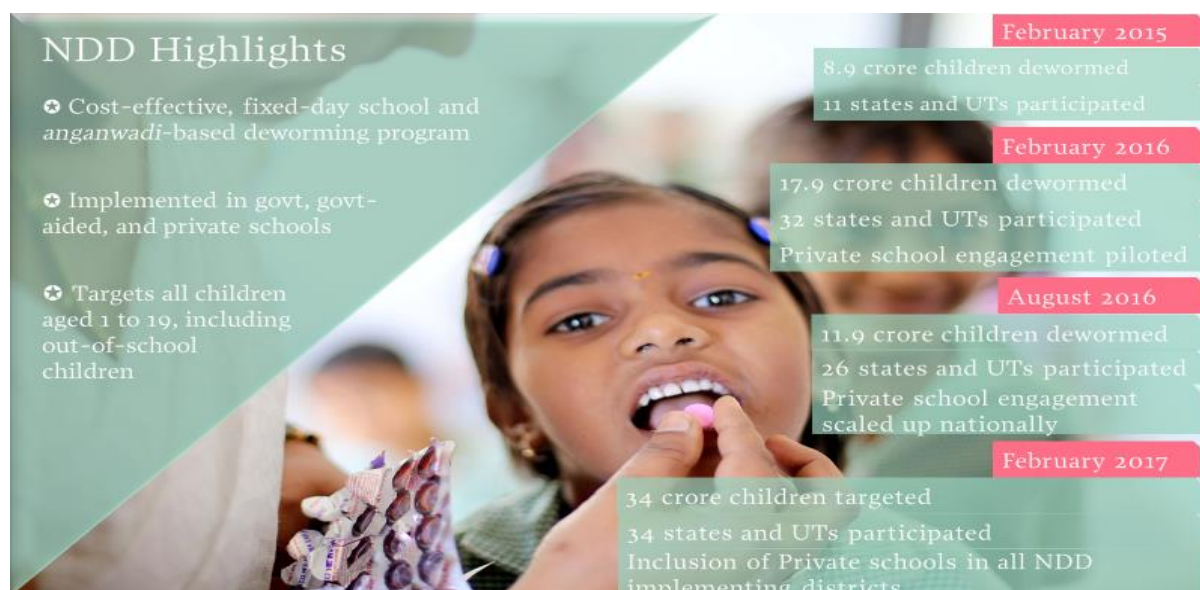
Figure 2: Rajasthan deworming program timelines



⁵ <http://www.povertyactionlab.org/publication/deworming-best-buy-development>

2. About National Deworming Day

Figure 3: NDD program highlights



3. State Program Implementation

3.1 Policy and Advocacy

A program of such scale requires stakeholder convergence and collaborative efforts at each administrative and implementation level, which is imperative for effective implementation. Some of the key highlights of inter-departmental convergence is presented in Figure 4.

Figure 4: Efforts towards Stakeholder collaboration

22 Nov, Private School Meeting	23 Dec, National review meeting, Delhi	5 Dec, State convergence Committee Meeting	6 Jan, State Joint directives	6 Feb, State Video Conference
<ul style="list-style-type: none"> - Conducted under chairmanship of MD, NHM - Consisted of private school unions and schools with high enrollment 	<ul style="list-style-type: none"> - Review of NDD preparations - Assessment of state's preparedness for Feb round - Participated by state NDD nodal officer, NHM 	<ul style="list-style-type: none"> - Conducted under chairpersonship of Principal Secretary, Health - Review of NDD preparations and finalizing strategies 	<ul style="list-style-type: none"> - Signed by Principal Secretary - Health, Secretary-WCD and Education, directives were issued to all districts 	<ul style="list-style-type: none"> - Conducted with all three department at block level to assess overall drug status and mitigate program gaps

Keeping in view the learning from NDD 2016, and scaling up the program across the country, the Ministry of Health & Family Welfare organized a national-level video conference under the chairmanship of joint secretary on February 2, 2017 with participation from all states and union territories. The platform was used for sharing preparations for February NDD 2017.

The State Convergence Committee Meeting (**Annexure B**) was held on December 5, 2016, under the chairmanship of principal secretary, health with participation from key stakeholders to review NDD preparedness and address gaps and concern areas if any. Key decisions were taken on finalization of targets, training and reporting cascade, strategies to reach out-of-school children, drug procurement and recall plans and increase the involvement of private schools. State-level joint directives (**Annexure C**) were signed by the principal secretary-health, secretary-WCD and school education on January 6, 2017 and disseminated to all collectors, CMHOs, DEOs, DD- ICDS, CEO - zila parishad, minority welfare officers at district-level. Steps were suggested to strengthen coordination amongst the stakeholder departments. A state-level video conference was held on February 6, 2017 which was attended by district and block officials. Key discussions were held on the preparedness for NDD, Block and sector-level trainings and integrated distribution of drugs and IEC material.

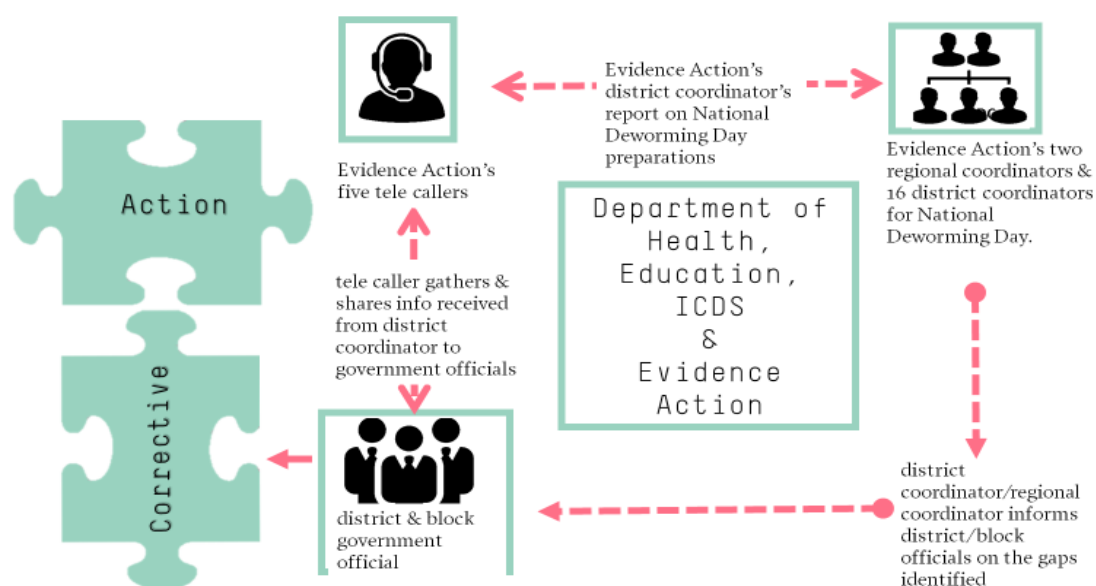
Prior to the NDD round, all 33 districts conducted District Coordination Committee Meetings (DCCM) under the chairmanship of district collector, or represented by district officials during which stakeholders reviewed program preparations and clarified roles and timelines for activities for improved inter-departmental coordination. Key decisions for program implementation were disseminated along with meeting minutes in all districts.

The Department of Health, under the chairmanship of Mission Director, NHM conducted a state-level meeting on November 22, 2016 with 27 private schools of Jaipur (with high enrolment and multiple branches in other regions of the state) and 3 private school unions, to enhance their engagement for the NDD. Evidence Action, worked closely with state NHM towards rigorous follow up with these schools and unions to ensure their attendance at the meeting, and contributed to planning for the content and meeting objectives for this interaction. Key decisions taken during the meeting included an assurance from private schools for participation in NDD trainings at all levels. Schools were guided to share timely information to parents using platforms of parent teacher meetings, share information regarding deworming and its benefits on bulletin boards, in prayer assembly, conduct quiz and drawing competitions on deworming, etc. In addition, a draft diary note, SMS content and Frequently Asked Questions (FAQ) were developed by Evidence Action and shared with the schools to address queries around deworming and its benefits. In addition, WhatsApp group of these selected schools was created to disseminate information quickly and address their queries. A letter from the health minister was shared with private schools to seek their participation through available platforms (**Annexure D**). Another letter was sent from mission director, NHM to director, elementary and director, secondary education for conducting meetings with private schools and private school unions through district education officers (**Annexure E**). In addition, emails were also sent from the state nodal officer, Department of Health to private schools with NDD training video among other materials.

3.2 Program Management :

Evidence Action's technical assistance was extended through a four-membered state team, short-term hires like district coordinators and five tele-callers were hired for a period of three months each, to track the daily progress of the program activities. The state team assisted with program planning and coordinated with stakeholder departments to share real time updates on program preparedness, implementation and facilitate corrective actions. Figure 5 below provides an overview of the information flow between the Evidence Action team with district and block officials.

Figure 5: Evidence Action facilitates corrective action



3.3 Drug Procurement, Storage and Transportation

a) **Drug Procurement:** The state procured 2,41,09,903 albendazole tablets for February 2017 round. This was the first time that state procured drugs for school-age children (earlier donated drugs from WHO were received by the state), although drugs for preschool-age children are being procured since 2012. The drugs were provided through companies empanelled with Rajasthan Medical Services Corporation Limited directly to district drug warehouses. The Department of Health conducted laboratory testing of samples (called from the districts) through state empanelled laboratories prior to drug distribution at the state-level to ensure the quality of drugs (**Annexure F**).

b) **Drug Logistics and Distribution:** The Department of Health managed the entire drug logistics and distribution till block-level. At block-level, these were distributed to the department of education and ICDS during block-level trainings. Evidence Action supported the state to develop district and block wise drug bundling and distribution plans to streamline distribution of tablets to schools and *anganwadis* (**Annexure G**). The Department of Health ensured bundling of NDD kits which included drugs and all training and IEC materials including reporting forms. The kits were distributed during block-level trainings of functionaries from education and ICDS. To align drug distribution with block-level trainings in accordance with the NDD operational guidelines, Evidence Action supported the department by tracking drug availability at district and lower levels, and provided timely updates to officials for corrective actions on the gaps identified.

c) **Adverse Event Management:** The state set up an adverse event management system engaging emergency helpline number 108 (ambulance service) which was put on alert to facilitate appropriate emergency response action by coordinating medical assistance from the nearest primary health centre. Evidence Action conducted training of trainers of 108 call centre for providing better understanding of the program, possible adverse events, and to equip them to effectively handle related calls. Additional fields were added to their software to allow for data recording of any such events received on NDD and mop-up day. To provide guidance on functionaries' roles and responsibilities to handle and report adverse events, the training cascade provided focused and customized information at all administrative-levels. Block-level emergency response teams consisting of one doctor, one ANM and one nurse were formed in each block and were guided to stay on alert. The information of these teams and their members was given to the district and block officials

of the department of school education and ICDS. The Department of Health and family welfare circulated the adverse event protocol in Hindi to all blocks and other stakeholder departments. No severe adverse events were reported in the NDD February 2017 round.

Drug recall is still pending in the state, though according to the coverage report leftover albendazole is 39, 41,998.

3.4 Public Awareness and Community Sensitization

The state adapted the NDD resource kit developed by Evidence Action for the Government of India. The Department of Health displayed all IEC and training material on their website⁶. IEC materials in the kit also included community handbills which were designed to increase community awareness on the benefits of deworming, and were disseminated based on the plan and target audiences specified by the NDD operational guidelines. The Department of Health printed posters for display in schools and *anganwadis*. This was felt essential as sensitization of children and families help in increasing the attendance and turnout of children in schools and *anganwadis* on NDD leading to greater program coverage.

The state government also rolled out varied communication campaigns for February NDD 2017. The details of the campaign are given in Figure 6. Further breakdown of awareness generation activities is annexed (Annexure H.1).

Figure 6: NDD 2017 IEC campaign activities



Additionally, the MoHFW invested in rolling out an intensive communications campaign from the national-level, spending INR 5,65,56,800⁷ on a mass media campaign. It is crucial for all stakeholders to leverage the platforms at their end for enhanced community awareness, improved coverage and greater program impact (Annexure H.2). Furthermore, the Rajasthan government showed enthusiasm in actively using the social media plan that Evidence Action provided. The Department of Health posted 33 times on Facebook between

⁶ <http://nrhmrajasthan.nic.in/National%20Deworming%20Day%202016.asp>

⁷ DD national relayed the NDD 30 second spot eight times a day from February 6, 2017 to February 13, 2017. The 30 second TV spot was aired on DD Raipur, six times a day from February 6, 2017 to February 13, 2017. The 30 sec radio spot was aired on My FM 94.3, a private radio channel, 15 times a day for 10 days. Prasar Bharti also relayed the 30 sec radio spot, 3 times a day, for 8 days from February 6, 2017 to February 13, 2017.

1-14 February, while the ICDS Department posted 14 times on their Facebook page. This indicates interdepartmental convergence and focused efforts to boost awareness about the program to a larger audience.

Political commitment to the program was demonstrated with the Department of Health organizing a high-profile state launch with the Minister of Health and Family Welfare, Rajasthan and State Minister for Health and Family Welfare as the chief guests, along with Principle Secretary, Health and Family Welfare; Director of National Health Mission; Director RCH; and representatives from UNICEF and Evidence Action. Other senior government officials, development partners, teachers, *anganwadi* workers, school students, and nursing students attended the event. More than 17 media representatives were present at the launch to cover the event (Figure 7).



Figure 7: A snapshot of NDD February 2017 Launch Event in Rajasthan

Prior to NDD, the Department of Health organized a press sensitization meeting attended by 50 media persons representing print and electronic media, this was an opportunity to orient them on the importance of NDD-*anganwadi* and school-based deworming, the benefits of deworming, reasons for adverse events and other key information. Evidence Action provided participants with a media kit including fact sheets, an NDD brief, and a press release. It should be noted that there was minimal negative reportage on the program in the state. Such interactions with the media encourage factual and accurate reportage, that focus on benefits of the program rather than on myths and misconceptions with regards to adverse events.

In addition to the above-mentioned activities, Nehru Yuva Kendra Sangathan (NYKS), Scouts and Guides, National Cadet Corps involved their volunteers in community mobilization activities including – rallies, and mobilization of out-of-school children. The health minister issued letters for involving Panchayati Raj Institution (PRI) members (*Sarpanch, Pradhan, Zila Pramukh*), urban local bodies, members of legislative assembly and members of parliament for community mobilization during NDD. The *gram sabhas* conducted on January 26 (Republic Day) included NDD as an agenda for discussion to increase mass awareness (**Annexure I**).

In order to continue to improve awareness and community mobilization activities in each round, Evidence Action had carried out a NDD communication campaign assessment in Bihar, Telangana and Maharashtra from May to August 2016 with approvals from the Government of India. The assessment was designed to understand how target groups perceived the various components of the campaign.

The findings and recommendations were presented at the NDD National Review Meeting in December 2016 and can be helpful for all NDD participating states in designing their campaign to be robust in future rounds. More details on specific findings and recommendations from the assessment can be found in **Annexure H.3**.

3.5 Training Cascade

Training and Distribution Cascade:

The training cascade for the state was revised from the NDD operational guidelines at the Steering Committee Meeting wherein it was decided to train block-level officials directly at the state. The objective was to prevent dilution of the information given in the trainings. The Department of Health took lead in organizing the state-level training of block officials of Department of Health and Education from January 10–12, 2017 with support from Evidence Action and UNICEF. The Department of Women and Child Development (ICDS) was not part of the state-level orientation as block health officials were tasked to train lady supervisors of the ICDS at block trainings in presence of the supervisors and managers of the ICDS program. Evidence Action designed the training presentations, videos, training material, and conducted follow up with the block level officials through tele-calling to ensure participation in trainings. UNICEF provided support in coordination required at the training venue. Out of expected 1155 participants, 1086 government officials were trained including two block resource persons from each block of Department of Elementary Education, one nodal principal from each block of Department of Secondary Education, and all Block Chief Medical and Health Officers of Department of Health. All training materials and training videos were sent via email to the block level officials. The trained block level trainers further capacitated 66,549 government school teachers, 28,857 private school teachers, 53,794 AWWs, and 46,217 ASHAs on the NDD program. The findings of PMCV indicate low attendance in trainings, and non-adherence in following correct recording protocol. The district officials were not involved in the trainings at the state-level and they were therefore, unaware of directions to be issued. In addition, the batch size of block officials at state-level training was too large and information provided was not well communicated to the next level. Considering the findings, the training cascade should be as per the NDD guidelines with no deviations so that the quality of trainings does not get affected. Further, as part of the guideline is also crucial to ensure that NDD kits along with required number of albendazole tablets are provided to school teachers/principals and AWWs. This is important for effective implementation of the program.

Training Resources: Department of Health printed training resources including 1,20,100 teacher handouts, 67,300 AWW handouts, and 52,000 ASHA leaflets which were distributed as part of integrated distribution during block-level trainings. Evidence Action supported in drafting the block wise bundling plan, enabling materials to be efficiently transported to all districts before trainings commenced.

Training Reinforcement: Evidence Action and stakeholder departments supported the reinforcement of key messages from the training by delivering bulk SMS to the government officials and frontline functionaries as shown in the table 2. The Department of Education, however, could not support sending SMS due to no provision of funds for the same.

Table 2: Details on training reinforcement messages sent by Evidence Action and Stakeholder Departments

Partner/ Stakeholder Department	Total SMS
Evidence Action	29,47,761
Stakeholder Departments (Health and WCD)	19,20,586

Training Support:

With the revised training cascade, no district-level training was undertaken. Evidence Action supported therefore in training monitoring and assessment of 87 out of a total of 551 block-level trainings using standardized checklists to ensure quality and efficacy. The purpose was to ascertain that key messages were covered, as per the NDD guidelines. Following were the key findings and reinforcements undertaken:

- Details on recommended dosage of albendazole for pre-school age children was skipped during trainings held at Gangrar block of Chittorgarh and Jaisalmer block of Jaisalmer district. The district coordinators of Evidence Action ensured dissemination of information on drug dosage and administration as per guidelines.
- Deoli block of Tonk and Ajmer City block in Ajmer did not mention the role of ASHAs in the program. Additionally, trainers from Bhinay block in Ajmer, Malpura in Tonk, and Talera in Bundi did not orient the ASHAs on the need to submit the list of out-of-school children to AWWs.
- With regards to knowledge on adverse events and its management about 13 blocks of districts of Udaipur, Sikar, Bhilwara, Pratapgarh, Chittorgarh, Ajmer and Rajsamand had lower levels of knowledge including standard protocols such as provision of clean water and contact details of ANMs/PHCs on NDD among both teachers and AWWs.

4. Monitoring and Evaluation

Evidence Action places great emphasis on understanding the extent to which the schools, as well as the health system is prepared to implement mass scale deworming through a fixed NDD approach. This includes assessing the extent to which processes are being followed, and the extent to which coverage has happened. As part of our technical assistance, we design, monitor and evaluate NDD round through robust monitoring systems to measure success of intended program objectives.

4.1 Process Monitoring

Evidence Action conducts process monitoring through telephone monitoring and cross verification that includes physical verification through field visits by its staff and trained independent monitors.

Tele-calling and follow up actions: Program preparedness was assessed prior to NDD through five tele-callers who tracked the status of training, delivery and availability of drugs and IEC materials at the district, block, school and *anganwadi* levels through tele-calls. The tele-callers used pre-designed and standardized electronic tracking sheets to outline program gaps. The compiled tracking sheets were shared with the state government on daily basis to enable them to take rapid corrective actions as necessary, such as issuing departmental directives, holding a video conference to coordinate with officials, or sending reinforcement messages through SMS. Evidence Action's district coordinators made field visits to facilitate some of these corrective actions at the district and block-level. Post NDD, the tele-callers and district coordinators were engaged in collecting information regarding progress with coverage reporting and reiterating the timelines and cascade to the officials.

Monitoring by independent agency: Evidence Action with approvals from Government of Rajasthan assessed the processes and performance of the program by hiring an independent survey agency whose trained monitors observed implementation on NDD and mop-up day.

Process monitoring assessed the preparedness of schools, *anganwadis*, and health systems to implement NDD and the extent to which they have followed recommended protocols to ensure a high-quality program. Real time findings were shared with state government on the day of visits to enable immediate corrective actions.

Monitoring visits by Evidence Action: In total, 706 visits were made in Rajasthan by Government officials and Evidence Action national, state and field team at government, private school and *anganwadis* on NDD and mop-up day. Details in (Annexure A).

Monitoring visits by ICDS: The findings from Open Data Kit (ODK) Collect App used by ICDS for their regular program monitoring is shared in Table 3.

Table 3: Summary of monitoring visits by ICDS officials on NDD and MUD as per ODK App

Total monitoring visits on Feb 10 (data of Dungarpur district not included as NDD observed on Feb 8)	1975
AWCs found open on Feb 10 (98.9%)	1954
AWW present on Feb 10 (91.13%)	1800
Total monitoring visits on Feb 15 (includes data of Jalore districts NDD observed on Feb 16)	1571
AWCs found open on Feb 15 (98.4%)	1547
AWW present on Feb 15 (88.1%)	1384

Snapshot of M&E activities
I. Telephone Monitoring and Cross Verification
<ul style="list-style-type: none"> • Tele-calling conducted across 249 blocks in 33 districts of the state • 20,146 successful calls made during December, 2016-March, 2017 • 7,097 calls to health functionaries including district and block-level officials and ANMs • 2,647 calls to WD&CW department (district, block-level officials, Lady Supervisor, and AWW) • 9,389 calls to education department (district, block-level officials, government and private schools)
II. Training Quality Assessment
<ul style="list-style-type: none"> • A total of 87 block-level trainings were monitored in Rajasthan.
III. Field Monitoring Visits
<ul style="list-style-type: none"> • Total 318 monitoring visits by Evidence Action staff and 388 visits by government officials were made in selected schools and <i>anganwadis</i> • NDD monitoring checklist given in NDD implementation guideline was administered • Real time findings on key indicators were shared with the stakeholders on NDD and mop-up day
IV. Process Monitoring by Independent Monitors
<ul style="list-style-type: none"> • Process monitoring was conducted in all 33 districts on NDD & mop-up day • 125 trained independent monitors from an independent agency, visited 250 schools and 250 <i>anganwadis</i> • Data was collected electronically using Tablet PC (CAPI) as per the tools developed by Evidence Action • Real time findings on key indicators were shared with the stakeholders on NDD and mop-up day
V. Coverage Validation by Independent Monitors
<ul style="list-style-type: none"> • Coverage Validation was conducted in all 33 districts post mop-up day during February 21-28, 2017 • 125 trained independent monitors from an independent agency, visited 625 schools and 625 <i>anganwadis</i>

Coverage Reporting: The coverage reporting for NDD was done using the NDD mobile/web application. Government of India provided the state with 249 user IDs and passwords to all blocks and districts for entering data in the NDD app and webpage. The NDD App IDs were created as per blocks of health department (249) and education

department (302) were expected to be clubbed in blocks of health department which created difficulty for block officials to figure out the list of schools covered under particular block of health department. The reporting cascade of the state was followed, but there was deviation in reporting of department of secondary education (at block-level) to elementary education department. It was observed that in many cases block health officials had to coordinate with nodal principals of department of secondary education to get the report of secondary and senior secondary schools while as per directions issued, nodal principals of secondary education were expected to submit their report to block resource persons of elementary education and then they to further submit the compiled report to BCMHOs for reporting in NDD App. The alignment of state reporting cascade with the NDD guideline, getting reports through the Department of Health was also part of the recommendation of the Data Quality Assessment (DQA) exercise conducted prior to NDD Feb. 2017 round, the recommendations were however not implemented by the state in the round and the challenges persisted.

Lack of coordination among the department of education (Elementary and Secondary) and Department of Health of different blocks was observed which resulted in delay of block-level reporting. Further, due to blocks not reporting targets as stated in the joint directives, the districts reinforced the blocks to fill the targets as specified which resulted in delayed approvals at the district-level.

As per the coverage report 1,86,02,480 children were dewormed against a target of 2.2 crore. While reporting coverage, the state revised its target from 2.1 crore to 2.2 crore post NDD based on the data received from the districts. The districts changed the targets in all categories with increased target of 4,09,097 children belonging to out-of-school category and 2,36,901 unregistered children. The nodal officer, Department of Health had instructed the districts to use the targets as mentioned in the joint directives or as reported by the blocks whichever was higher. Moving forward, it is imperative for the state to set targets equal to the census population that will allow clarity in understanding the actual coverage in the target population.

4.2 Assessing treatment coverage

Further, the monitoring and evaluation activities carried out during February 2017 round of NDD in Rajasthan, included coverage validation in each NDD district to gauge the accuracy of reported treatment coverage.

Coverage Validation: This is an ex-post check of the accuracy of the reporting data and coverage estimates. Coverage validation data was gathered through interviews with *anganwadi* workers, headmasters/teachers, and a sample of three students from three randomly selected classes in each of the 625 sampled schools visited. Additional data was gathered by checking registers and reporting forms in the schools and *anganwadis*. This activity provided a framework to validate coverage reported by schools and *anganwadis* and to estimate the level of accuracy in data by comparing the recounted numbers (based on the documentation available in schools and *anganwadis*) with numbers in reporting forms.

4.3 Key Findings

Process monitoring findings highlight that 80% of schools and 82% of *anganwadis* attended training for the recent round of NDD and around 86% of schools and 94% of *anganwadis* conducted deworming either on NDD or mop-up day. Findings from coverage validation also reflected that 95% of schools and 98% of *anganwadis* administered albendazole tablets on NDD or mop-up day.

Of the total schools and *anganwadis* visited, around 82% schools and 76% *anganwadis* received NDD posters/banners. However, integrated distribution of NDD kits⁸ was found in 74% of schools and 56% of *anganwadis* which indicates that low proportion of total *anganwadis* has received all NDD materials in trainings as compared to schools. This difference in schools and *anganwadis* could be partly attributed to the difference in training cascade followed for the training of school headmaster/teachers and *anganwadi* workers. The trainings of school headmasters/teachers were conducted at block-level, however, *anganwadi* workers were trained at sector-level (below block level) by concern lady supervisors.

Around 71% of schools and 82% of *anganwadis* received training reinforcement messages through SMS. Awareness on the causes of worm infection (**Annexure J-Table 1**), possible adverse events, and adverse event management practices (**Annexure J-Table 5**) were high among teachers and *anganwadi* workers. Nevertheless, only 34% of teachers and 40% of *anganwadi* workers reported the possibility of any adverse event among children after administration of albendazole tablets. Out of total sample, more than 80% of the teachers and *anganwadi* workers were aware about processes for management of adverse events like laying down the child in open/shaded place.

Around 62% of sampled private schools (N=82) attended training for NDD. Out of total private schools visited, 77% received albendazole tablets, 68% received banner/poster, and 69% received handouts/reporting forms. As evident that higher percentage of schools have received NDD materials as compared to the percentage of schools attended NDD training, indicates that few schools collected these materials apart from NDD trainings. This could have been possible due to reinforcement SMS sent to private schools and follow ups by Evidence action tele-callers, regional coordinators and district coordinators. SMS related to NDD were received by 64% of total private schools covered.

Table 4: Key Findings from Process Monitoring and Coverage Validation

Indicator	School		Anganwadi	
	%	N	%	N
Received SMS for current NDD round	71	250	82	250
Attended training for NDD	80	250	82	250
Integrated Distribution of albendazole tablets and IEC materials ⁸	74	250	56	250
Schools/ <i>anganwadis</i> conducted deworming	95	625	98	625
Children consumed tablet	100	1730	Not Applicable	Not Applicable
Followed correct recording protocol ⁹	62	593	47	611
Copy of reporting form was available for verification	83	593	55	611
State-Level verification factor ¹⁰	81	492	76	336
State-Level inflation rate ¹¹	24	492	32	336
Estimated NDD coverage based on verification factor	70	-	55	-
Estimated NDD coverage based on school attendance	85	-	Not Applicable	Not Applicable

⁸Integrated distribution of NDD kits includes albendazole, banner/poster and handout/reporting forms and provided to schools and AWC during the trainings.

⁹ 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.

¹⁰ Ratio of recounted value of the dewormed children to the reported value. This calculation is based on only those schools (n=286) and *anganwadis* (n=267) where deworming was conducted and copy of reporting form was available for verification.

¹¹ Proportion of over reported dewormed children against total verified children in schools and *anganwadis*.

Findings from coverage validation: The data reveals that 62% of schools and 47% of *anganwadis* followed correct protocols for recording the number of children dewormed on NDD and mop-up day. However, around 26% of schools and 28% of *anganwadis* did not adhere to any recording protocol. Further, a substantial proportion of *anganwadi* workers did not have a list of unregistered preschool-age children (67%) and out-of-school children (62%). Despite instructions to retain a copy of reporting form during training, the reporting form was not available in 17% of schools and 45% of *anganwadis*. In addition, the findings indicate state-level inflation rate of 24% (state-level verification factor = 0.81) for enrolled children against the verified treatment figures in schools. Similarly, the state-level inflation rate was 27% (state-level verification factor =0.79) for registered children in *anganwadis* and 81% (verification factor =0.55) for out-of-school children. The estimated inflation rate for schools indicates aggregation errors in reporting of children dewormed in schools and lack of proper documentation and aggregation error in reporting of children dewormed in *anganwadi* centres. An inflation rate of 6% (VF=0.95) was observed for unregistered children dewormed at *anganwadi* centres indicating quality reporting of coverage data in this group.

Further, interviews of children (N=1,780) at schools indicate that 97% of them received albendazole tablet and all these children who received the tablet reported to consume the tablets under supervision of teachers. This indicates that despite challenges in reporting and documentation of NDD coverage data, majority of the children present on NDD or mop-up day consumed the albendazole tablet on either NDD or mop-up day.

The state government reported 86% coverage in schools and 73% in *anganwadis*. Through coverage validation, attempts were made to understand the maximum number of children that could have been dewormed in the schools and *anganwadis*. Coverage validation findings suggest that on an average, 81% of treatment figures reported by schools and 76% of *anganwadis* were verified by the monitors. Applying these verification factors to respective government reported NDD coverage, it is estimated that 70% (81% of 86) children could have been dewormed in the schools and 55% children (76% of 73) in *anganwadis*.

Further, we have also estimated NDD treatment coverage in schools considering maximum attendance of children on NDD dates. Coverage validation data showed that 95% of schools administered albendazole tablets on either NDD or mop-up day, maximum of 94% of children were in attendance, 97% of children received albendazole tablet and 98% of them reported to consume albendazole tablet under supervision of a teacher. Taking these factors into account, approximately 85% ($0.95 \times 0.94 \times 0.97 \times 0.98$) of total enrolled children could have been dewormed in the schools.

The detailed tables with process monitoring results and coverage validations are attached herewith (Annexure J).

4.4 Trend of key indicators over the NDD rounds

To understand the changes from NDD Feb, 2016 to NDD Feb, 2017 round, selected indicators are presented in graphical form below. Data in Figure 8 shows that attendance of headmaster/principal and *anganwadi* workers in NDD trainings declined by 10 percentage points from NDD February 2016 to NDD February 2017 round. This decline could be attributed due to less involvement of district officials in trainings and therefore, training related instructions were not separately issued from district-level. As a result, this may have led to reduction in ownership of district officials which contributed to limited follow ups on training related instructions. To some extent, decline in the percentage of training attended for both schools and *anganwadis* could also be attributed to the percentage of teachers and *anganwadi* workers reporting that they already attended NDD training in the

past rounds. In many cases, scheduled NDD training dates were not followed and this led to confusion among training participants. It is crucial that all trainings should be completed as per the pre-determined schedules. If delayed, it should be planned to be completed a minimum of a week in advance to the NDD date which will provide sufficient time for the teachers to train other teachers in the schools and also for teachers and *anganwadi* workers to mobilise community and spread awareness on the program in the community. Also, any change in the training dates must be communicated to the participants through SMS. Though training reinforcement SMS were sent for alerting training dates to district and block-level officials and frontline functionaries, however, quality of contact database continues to be challenge impacting the overall delivery of the SMS to the teachers and *anganwadis* workers. A total of 25,89,891 SMS was delivered out of 29,47,761 SMS indicating message delivery to be at 88%. This is also evident from declining trend of SMS received (Figure 9 and 10). The data suggest that percentage of schools and *anganwadis* that received NDD related SMS decreased from NDD Feb. 2016 to NDD Feb. 2017 round. This clearly implies that the stakeholder departments need to update the contact database on periodic basis in future rounds so that reinforcement messages and information about training schedules can be sent to the concerned functionaries timely.

Figure 8: Comparison of training indicators for school/*anganwadi* in February 2016 and February 2017 round

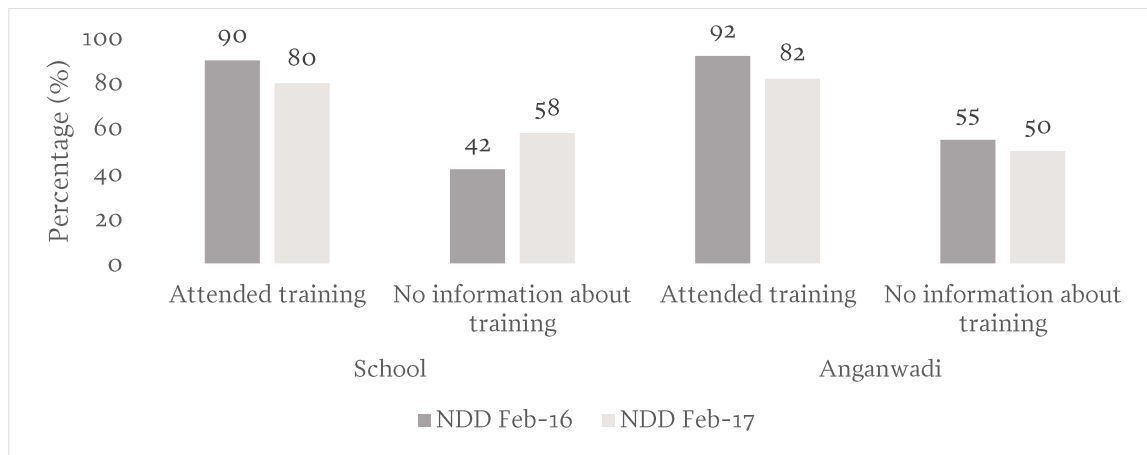


Figure 9: Comparison of key indicators in Schools during February 2016 and February 2017 round

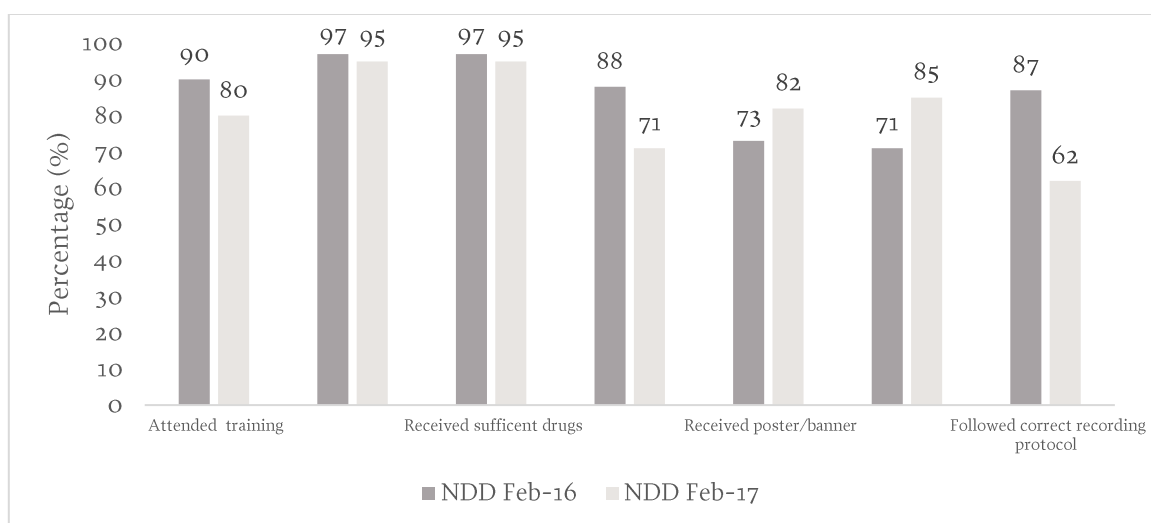


Figure 10: Trend of key indicators in *anganwadis* during February 2016 and February 2017 round

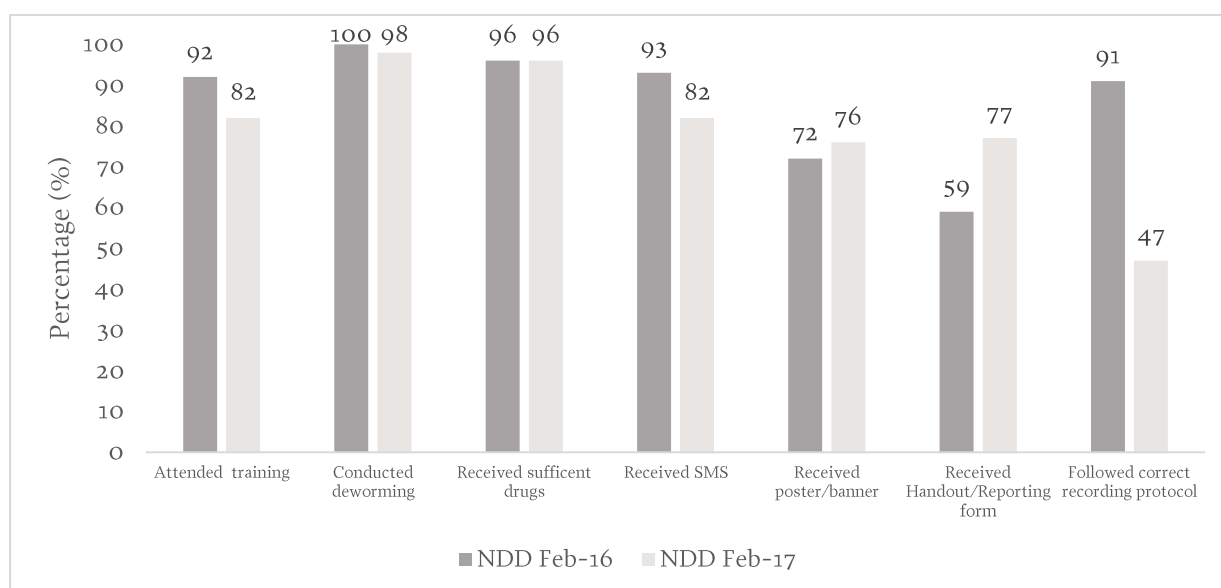


Figure 9 and 10 shows that while percentage of *anganwadis* that received, sufficient drugs remains high during both NDD rounds, however, schools and *anganwadis* that received poster/banner and handout/reporting forms has increased to nine percentage point in schools and slightly by four percentage point in *anganwadis*. The correct recording protocol has shown substantial decline in both schools (25 percentage points) and *anganwadis* (44 percentage points) as compared to the previous NDD round. The substantial decline in percentage of following correct recording protocol at school and *anganwadi*-level both demonstrates that focus of frontline workers is more on albendazole administration rather than recording the numbers as per recommended guideline. The decline in following correct recording protocols partially could be attributed to decline in percentage of training attended by both teachers and *anganwadi* workers. The significant decline in adherence to follow correct recording protocol at *anganwadi* centres could also be attributed to the training of *anganwadi* workers conducted at sector-levels and not at block-levels. The quality session on reporting protocol during NDD trainings must be organized and all teachers and *anganwadi* workers must be sensitized at trainings and through SMSs regarding the importance of adherence to recording protocol including the listing of out-of-school children with the help of ASHAs.

4.5 Data Quality Assessment:

Process monitoring and coverage validation are conducted at service delivery points (SDPs), and there's limited understanding of challenges on aspects such as data management, data aggregation, reporting and quality assurance at higher aggregation levels i.e. sub-centre/nodal, block and district. Evidence Action with approvals from state government implemented the WHO Data Quality Assessment Tool to verify reported data and assess data management and reporting system for NDD program in the state in September-October 2016 jointly with Government stakeholders.

The recommendations from the exercise reiterated the importance of following correct recording protocol; keeping a copy of reporting form for verification purposes; importance of back-up documentation across all levels of reporting cascade; emphasis on the reporting cascade in training sessions; clarifying the role of ASHA for community mobilization and engagement; deworming efforts for out-of-school children as per NDD guidelines. These recommendations, must be adhered to in future rounds to enhance program quality.

5. Recommendation

It is critical to conduct consistent high coverage program in all 33 districts through continued efforts. Reaching out to the last child will be crucial to bring impact.

1. For a high-quality program, setting targets as per census and reporting coverage against the targets set prior to the NDD round is important. The observations of February 2017 NDD round (and also observed in previous rounds) highlights that the actual targets reported from the field (districts) were higher than the targets set by the state. For future rounds, it is therefore essential that the Department of Health in coordination with education department and ICDS should arrive at a consensus in setting NDD program targets as per the census population. Further, joint exercise with districts and blocks is essential in determining the targets and further orienting them on importance of adhering to pre-decided NDD program targets while reporting coverage from block and district-level respectively.
2. Promote strengthening of private school engagement through participation of their representatives in Steering Committee Meeting at state and district-level coordination committee meetings, and special meetings called by district and block education officers. The state should continue to reach out to the district magistrates in advance intimating them about the program and the key support areas required from their end for the program to have better reach to all children. Engagement of education department to write and engage with private schools and their associations at district and state-level in a timely manner will be essential.
3. Training is a critical component of the program. Improving attendance at trainings is likely to benefit the integrated distribution, since drugs and materials are planned for distribution at that level of training. Findings from training attendance suggest that quality and coverage can be improved in future rounds by ensuring that there is no deviation in the training cascade, sessions are planned timely and greater emphasis is placed on communicating training dates to participants. Findings also suggest that reinforcement SMS should be sent to inform participants about the training dates to maximize participation. Finally, better attendance at trainings may also be used to capture contact details, improving the ability of the program to reach out to the ultimate implementers of the program.
4. The database of functionaries by all stakeholder department internally needs to be regularly updated and strengthened to ensure information dissemination on the NDD program is reaching the key audience in a timely manner to allow for action as needed. The updated contact database should be shared three months prior to the upcoming NDD round so that all dissemination is managed with a common database.
5. A high-quality program needs to also ensure timely submission of coverage reporting to Government of India. Timeliness helps in understanding actual program coverage and identification of gaps in reporting. While block-level data entry in the NDD app was completed fairly timely, approval at districts were delayed. This could be corrected with rigorous follow up from state-level through written and telephonic communication in future rounds.
6. To encourage intensive engagement of ASHAs in community mobilisation for reaching out to out-of-school and unregistered preschool age children, it is essential to ensure greater engagement of ASHA cells at state/district and block health supervisors level for providing support in the trainings of ASHAs on NDD in their regular meetings and ASHA Diwas. In case of slums and other urban settings engagement of urban ASHAs and Mahila Aarogya Samiti should be used. Ensure letter on their engagement and roles

as well as incentive is sent out atleast 2 months in advance. Their orientation on the NDD program and its benefits are to be initiated atleast 2- 3 months in advance so that there is message recall and time to include appropriate messaging at home visits, mother's meetings and other health education efforts.

7. It has been observed in NDD Feb round that there lies an impending need to strengthen NDD recording and reporting protocol in order to improve the performance and quality of NDD program. Training and reinforcement messages shared through SMS need to increase focus on the importance of correct reporting protocols and maintaining correct and complete documentation. Additionally, trainers should ensure that teachers/headmasters and AWWs understand the directive to maintain a copy of reporting forms in schools and *anganwadis* so that the data available for coverage validation is more robust and thereby enhanced program verification and validation.
8. As the program continues to be strengthened and systems of financing, procurement, trainings, community mobilization are streamlined, it is important to increase focus on prevention strategies for future NDD rounds. Active collaboration with other key stakeholder's departments like *Swachh Bharat Abhiyan*, and efforts on sanitation and hygiene practices must be pursued. In addition, letter/directives may be issued from the NHM about NDD, benefits of deworming, importance of integration/synergies between deworming with sanitation. This can result in wider impact collaboration with other key stakeholders.

6. List of Annexures

Annexure A	Report submitted by National Health Mission (NHM) Rajasthan to Government of India on April 26, 2017
Annexure B	Minutes of State Convergence Committee Meeting
Annexure C	Joint Directives
Annexure D	Letter issued from Health Minister to private schools for participation in NDD
Annexure E	Letter issued from MD, NHM to Director Elementary and Secondary Education for issuing directions to DEO for conducting district-level private school meeting
Annexure F	Sample drug testing report
Annexure G	Drug bundling plan for block-wise requirement of albendazole
Annexure H.1	State-level Communications Campaign for National Deworming Day February 2017
Annexure H.2	National-level Communications Campaign for National Deworming Day February 2017
Annexure H.3	Findings from Communications Campaign Assessment
Annexure I	Letter issued from MD, NHM to PRI Department for inclusion of NDD agenda in <i>Gram sabha</i> , letter issued to <i>Nehru Yuva Kendra Sangathan</i> for involvement in NDD 2017
Annexure J	Process monitoring and coverage validation findings and tables