Chhattisgarh

National Deworming Day Report

Photo Credit: Evidence Action

August 2017

Evidence Action

Deworm the World Initiative

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Acronyms

ANM:	Auxiliary Nurse Midwife
AWC:	*Anganwadi* Centre
AWW:	*Anganwadi* Worker
CGMSCL:	Chhattisgarh Medical Services Corporation Limited
DoE:	Department of Education
GoI:	Government of India
ICDS:	Integrated Child Development Services
IEC:	Information, Education and Communication.
LF-MDA:	Lymphatic Filariasis - Mass Drug Administration.
MD:	Mission Director
NHM:	National Health Mission
NDD:	National Deworming Day
NVBDCP:	National Vector Borne Disease Control Programme
RBSK:	*Rashtriya Bal Swasthya Karyakram*
SMS:	Short Message Service
SHRC:	State Health Resource Centre
SSCM:	State Steering Committee Meeting
VC:	Video Conference
WHO:	World Health Organization
WCD:	Women and Child Development

Executive Summary

Contributing to the Government of India's National Deworming Day (NDD) efforts, the state of Chhattisgarh implemented round five of NDD on August 10, 2017 followed by mop-up day on August 17, 2017. In this round, the state dewormed **92,91,697** children in the target age group of 1-19 years across all 27 districts[1], which includes five lymphatic filariasis (LF) endemic districts. NDD is implemented under the leadership of Chhattisgarh National Health Mission (NHM), with collaboration from department of education (DoE), women and child development (WCD), department of technical education and department of tribal and scheduled caste. Evidence Action provided technical assistance for program planning, implementation and monitoring, through funding support received from the Children's Investment Fund Foundation and Dubai Cares.

Table 1: Key Achievements of National Deworming Day, August 2017, Chhattisgarh

Indicators		Program Target (as per census target)	Targets as Per Coverage Report*	Coverage*
Total number of districts implemented NDD		27**	27**	27**
Total number of blocks implemented NDD		146	146	146
Number of schools reporting coverage (Government school)[2]		48,768	48,768	48,324
Number of schools reporting coverage (Private school)		6,363	6,363	6,098
Number of *anganwadis* reporting coverage		49,661	49,661	49,170
Number of enrolled children (classes 1-12) who were administered albendazole on NDD and mop up day	Government Schools	46,58,707***	46,58,707	44,52,403
	Private Schools	14,75,108***	14,75,108	13,10,877
Number of registered children dewormed (1 to 5 years) at *anganwadis* on NDD and mop up day		21,63,973***	22,44,907	20,47,270
Number of unregistered children dewormed (1 to 5 years) at *anganwadis* on NDD and mop up day		4,41,071***	2,94,942	2,41,891
Number of out of school children (6-19 years) dewormed on NDD and mop up day including children in other category (ITIs, poly techniques, Vocational colleges and others)		23,05,873***	15,58,387	12,39,256
Total number of children dewormed (1-19 years)		1,10,05,656	1,02,32,051	**92,91,697**

*Source: NDD August 2017 coverage report submitted by National Health Mission Chhattisgarh to Government of India (Annexure A)
**Includes five districts under LF-MDA Program: Balod, Bemetara, Durg, Janjhir-Champa and Jashpur
*** Source: NDD August 2017 target as per the Census 2011 data extrapolated for the year 2017

NDD coverage in the state has increased ten folds since the first round of NDD was implemented on February 10, 2015. The state dewormed 92 lakhs children during the recent NDD August 2017 round. Conducting NDD on a fixed day is crucial for high coverage, thus bringing down the high prevalence of Soil Transmitted Helminths (STH) in the state. For the first time, the state was successful in conducting NDD August 2017

[1] NDD was conducted in 22 districts and 5 districts conducted LF-MDA Program

round across all 27 districts on the scheduled NDD date, unlike the last August 2016 round where NDD date was postponed as well as five districts couldn't implement due to unavailability of drugs. Aligning with the national guidelines and the strategy adopted by the state in the August 2016 round, Chhattisgarh conducted the NDD aligned with the LF elimination program[3]. Additional, stakeholders like *Swachh Bharat Mission* also contributed on the preventive strategies for worm infestations. For a first, the program utilised the platform of social media for building awareness for the NDD campaign.

For a high-quality program, setting targets as per the census population and reporting coverage against the targets set prior to the NDD round is important. Learning from the last NDD February 2017 round, when the target was revised by the districts at the time of coverage report submission, the state finalised a target of 1 crore ten lakhs in consultation with the districts and close to the census population. Revision in targets continue to be an area requiring improvements for future NDD rounds.

1. Program Background

1.1 About National Deworming Day

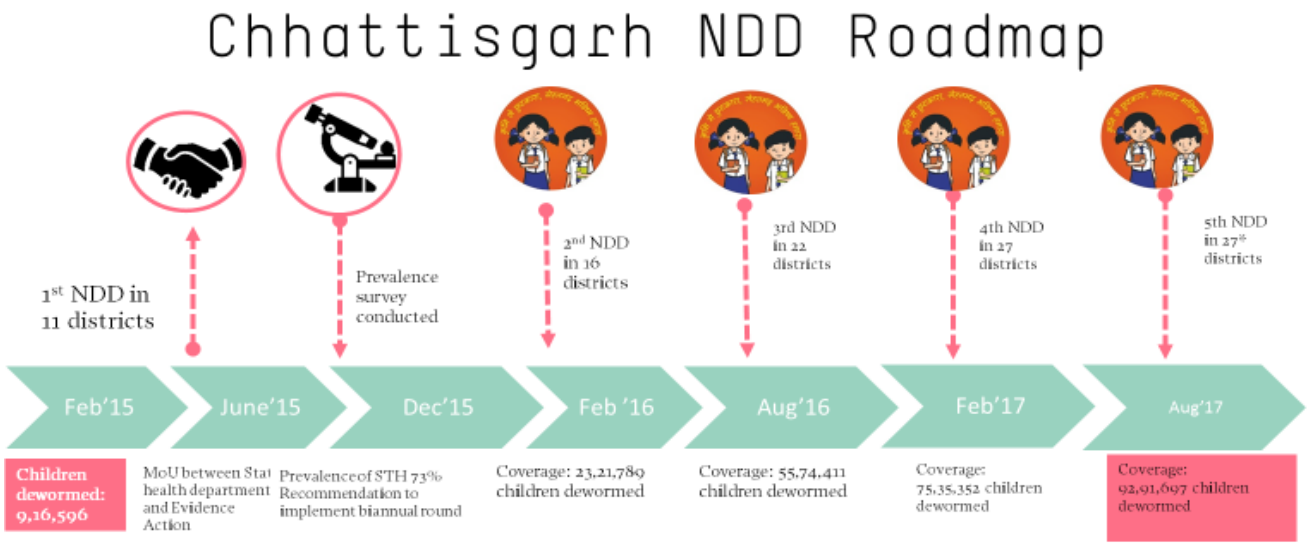
Figure 1: NDD Program Highlights

The Government of India implemented its first NDD in February 2015 and the program has achieved high coverage at scale since its inception. Based on national level STH mapping, and WHO treatment guidelines, the GoI issued a notification to states recommending the appropriate treatment frequency based on prevalence data. Chhattisgarh is required to conduct NDD twice a year due to high prevalence of 73%.

2. State Program Background

NDD program in Chhattisgarh is being implemented since February 2015, with the state following the GoI NDD operational guidelines. Key milestones are shown in figure 2 below.

Figure 2: Chhattisgarh NDD Roadmap



3. State Program Implementation

3.1 Policy and Advocacy

A program of such scale requires intensive stakeholder collaboration at each administrative and implementation level. The Department of Health led coordination with the Departments of Education, WCD, Tribal and Scheduled Caste and Technical Education to achieve program goals through timely planning and implementation. The main points of inter-departmental collaboration are displayed in Figure 3 below.

Figure 3: Key Stakeholder Collaboration in NDD August 2017 round

July 3, NDD State steering committee meeting (SSCM)

- Conducted under the chairmanship of Principal Secretary- Health Department, guidance from Mission Director (MD) NHM, MD-Chhattisgarh Medical Services Corporation Limited (CGMSCL), participation from WCD,Education, Techincal Education, State Health Resource Centre (SHRC), Tribal and Scheduled Caste, Evidence Action, National Vector Borne Disease Control Program officials . A total of 15 officials attended the meeting. (Annexure B)
- Key decisions : 1) alignment with LF elimination program, 2) aligning the program target with census population, 3) enhanced engagement of private schools and Madrasas, 4) quality of program implementation including timely procurements of drugs, timely printing of IEC /training materials.

July 10, Sate Joint Directive signed

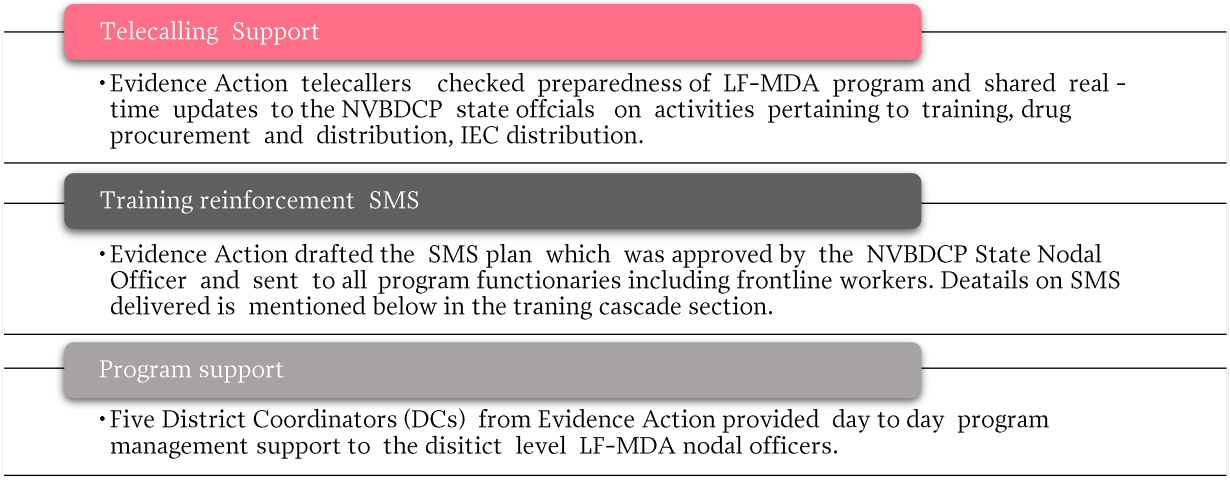
- Signed by Principal Secretaries -Health, Education and WCD ,Technical Education and Tribal and Scheduled Caste and disseminated to all NDD implementing districts.(Annexure C)

August 1 and 14, Video conferences

- Pre NDD Video Conference (VC) with District NDD Nodal Officers for NDD orientation and preparatory review held on August 1.
- Post NDD VC for NDD review and bridging program gaps before mop up day held on August 14

Despite an early intervention to enable a coordinated approach between LF-MDA and NDD program, finalization of the list of LF-MDA implementing districts from state NVBDCP department was delayed and was finalized in the third week of June, 2017. This delay impacted the community mobilization efforts which are to be initiated early in the program to mobilize children to *anganwadis*. Evidence Action's technical assistance to the five LF districts during NDD August 2017 round is summarized below:

Figure 4: Support provided by Evidence Action to LF-districts for NDD August 2017 round



The Hon'ble State Health Minister issued letters to *Mitanins*, Member of Parliaments, and Member of Legislative Assembly to spread awareness on NDD and enhance engagement of the functionaries who play a key role in mobilising community. For enhanced and impactful community mobilisation efforts, it is important that letters and directives such as these are disseminated to the field functionaries a month prior to the NDD round.

The DoE issued a letter to *Madrasa*s Secretariat on July 26, in order to maximize attendance on NDD day and mop-up day in *Madrasas* across all districts. MD NHM released a letter to MD *Swachh Bharat Mission* to include NDD in their field-level trainings, following which a letter was released by *Swachh Bharat Mission* to include NDD messaging in *Swachta Pakhwada* (fortnightly cleanliness drive)[4] conducted between August, 9-15.

State NDD Nodal Officer, participated in the national review meeting held in Delhi on July 31. Two video conferences with districts were conducted on August 1 for program preparedness review, led by NDD State Nodal and Deputy Director, Child Health and another on August 14, led by Director, Health and Family Welfare with the State NDD Nodal Officer to facilitate closure of program gaps prior to mop-up day. All 27 districts conducted NDD District Coordination Committee Meetings (DCCMs) from July 7 to July 27, of which 23 DCCMs were under the chairmanship of the district collector/ Chief Medical Health Officer. Since key program decisions like finalisation of training dates are taken at the DCCMs, these should be planned at least six to eight weeks prior to the round. This need to be included in the program directives, which were lacking specific timelines in the August round.

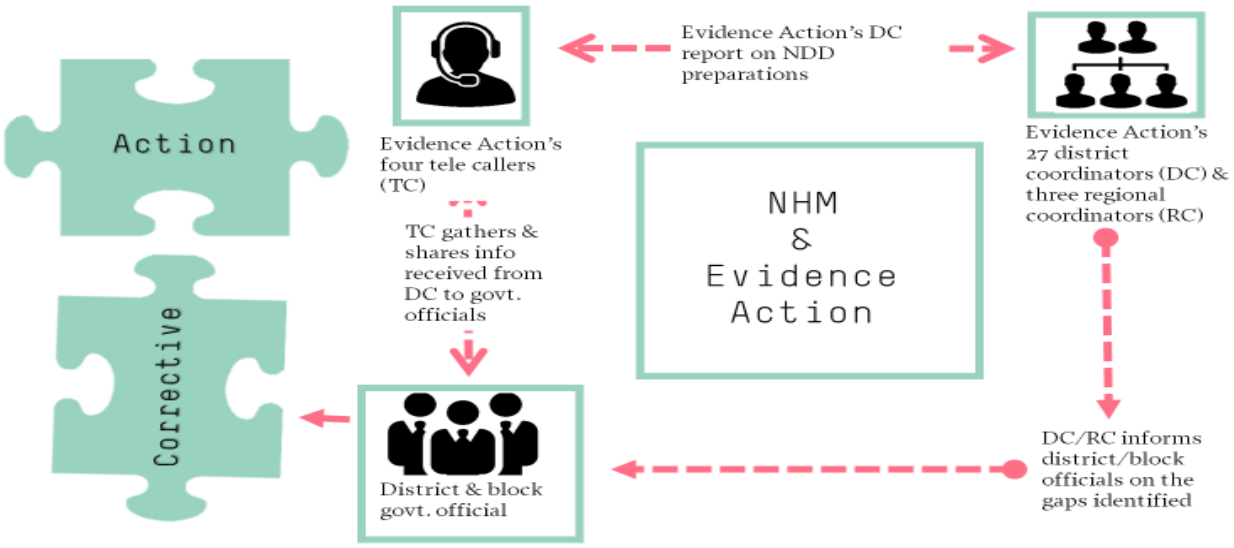
[4] a fortnight long action plans every year to bring into focus, the contribution. of the Ministry towards Swachh Bharat Mission by carrying out substantive work related to *Swachhta* (cleanliness).

In an effort to sensitize the private school on benefits of deworming, a letter from Health department was issued to all district collectors for ensuring participation of private schools in the NDD DCCMs. A private school resource package was enclosed along with the directive to the districts. Dedicated efforts were made at the state-level by sending media-mix electronically, as detailed further in the report. Private school representatives participated in all DCCMs. These initiatives lead to increased coverage in private schools with 13,10,877 children dewormed in August 2017 as compared to 10,08,232 in February 2017 round.

3.2 Program Management

Evidence Action's technical assistance was extended through four-membered state based team, three field-based regional coordinators and short-term staff, consisting of 27 district coordinators (at each district) and four tele-callers (at state-level). Evidence Action drafted a detailed operational plan in discussion with state NDD nodal officer and shared further with key stakeholders on July 28. The dissemination of the operational plan was much delayed. The key program decisions, the roles and responsibilities of the stakeholders were discussed at the SSCM. Evidence Action's state team assisted with program planning and coordinated with stakeholder departments to share real time updates on program implementation and facilitate corrective actions with respective government departments. Figure 5 gives an overview of the information flow between the Evidence Action team and district or block government officials.

Figure 5: Evidence Action Facilitates Corrective Action



3.3 Drug Procurement, Storage, and Transportation

A. **Drug Procurement**: The state procured 1,10,05,650 albendazole tablets (400 mg) based on census population targets for 27 districts. The drugs were tested at state-approved lab facilities prior to integrated distribution at block-level trainings of frontline functionaries. State also released directives to utilise 62,09,715 leftover albendazole tablets from February 2017 round, which was stored at the district

warehouses as per the drug safety recommendation protocol. For the 5 LF -districts 600,000 albendazole tablets were procured by the state NVBDCP department.

B. **Drug Logistics and Distribution:** Evidence Action developed district and block-wise drug bundling and distribution plans (Annexure D) to streamline integrated distribution of NDD kit[5] at block-level trainings. The kits were distributed at the district to health functionaries, who further distributed it to Education and WCD functionaries during block-level trainings. The integrated distribution at trainings is a cost-effective approach and ensures availability of drugs and print materials for a high quality NDD round. Evidence Action supported the state department in tracking drug availability at district and block, and provided timely updates to allow officials to undertake corrective actions. The state NHM initiated the process of drug procurement timely (on June 9); however, there was delay in receipt of the drugs to the regional warehouses by two weeks (by the third week of July, as opposed to first week of July). The delay on drug receipt at regional and further to block level, attributed partly to the delayed trainings and integrated drug distribution at block-level trainings.

C. **Adverse Event Management:** In line with the last NDD round, state followed the adverse event management protocol from national guidelines. For both NDD and mop-up day, the state set up an adverse event management system engaging RBSK[6] teams to effectively respond to any adverse events in the field. Emergency helpline numbers, 104 (medical health service), 108 and 102 (ambulance service) used in NDD February 2017 round were put on alert to facilitate appropriate emergency response action in coordination with the nearest primary health centre in this NDD round as well. 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. As per the coverage report submitted by NHM to GOI, a total of 77 severe adverse events were reported during NDD August 2017 round, (Annexure A). From 22 NDD districts, 25 were mild adverse events reported by 104 helpline number to state NHM and were managed at the schools/*anganwadi.* Correct reporting on adverse events need to be improved in future rounds through focusing more on correct understanding of the mild or severe adverse events at the school/*anganwadi.*

D. **Drug recall:** As per the drug bundling plan, tablets were dispensed as 10*10 strips to respective districts. NHM directed all 22 NDD implementing districts to recall the left-over drugs from schools and *anganwadis* to the nearest block health centre. Evidence Action supported in tracking leftover albendazole tablets following completion of NDD (Annexure E).

Fig 6: Information on Leftover Drugs After NDD and Mop-up Day August 2017

Drug Recall Summary NDD August 2017, Chhattisgarh	
Total Sealed –Strips	123,430
Total Albendazole tablet inside the sealed strips (123430*10)	12,34,300
Total Albendazole tablets in used strips	18,592
Total usable albendazole tablet	12,52,892

*NHM will be directing districts to use the packed strips in the upcoming February 2018 round as per drug safety recommendation protocol.

3.4 Public Awareness and Community Sensitization

The NDD resource kit developed by Evidence Action was uploaded on the NHM website, which was customized by the state's IEC cell and printed for distribution at the districts. As per the state operational plan, the print materials were to be made available to the district-level by mid-July. This was delayed by a week which impacted integrated distribution. The state department rolled out a mass media plan via TV spots, radio spots, and newspaper advertisements. Department of Health, Chhattisgarh undertook social media activities for the first time, customizing content that Evidence Action developed in Hindi and English. Both Facebook and Twitter were used for NDD social media campaign. The Health Minister's official Twitter account also tweeted about the launch event.

The state department organized a press sensitization meeting on August 8 in Raipur, convened by Deputy Director - Child Health (state NDD nodal officer) with the purpose of informing media about the upcoming NDD round and to enhance their understanding on benefits of deworming children. 60 media personnel attended the meeting from leading print, electronic, and digital media houses.

Snapshot of Mass Media and Social Media Efforts

Platform	Timelines	Frequency
TV Spots	August 8 to 10	6 (once daily on IBC24 and ETV)
TV Scroll	August 8 to 17	24X7 (on 6 leading news channels)
Radio Spot	August 8 to 10	170 (on 6 radio channels)
Newspaper Advertisement	August 10	2 (in Deshbandhu and Time Nation)
Newspaper Appeal	August 10	7 (in 7 leading publications)
Miking (Public Service Announcement)	August 8 to 16	224 (in 26 districts)
Wall Writing	August 3 to 17	1760 (in 26 districts)
Prabhat Pheris	August 10 to 17	415 (in 26 districts)
Social Media	July 31 to August 17	110 posts (on Facebook and Twitter) 448 Likes 618 Shares

Evidence Action supported the state NHM in conducting state level NDD launch held in Raipur district on August 9 under the leadership of Hon'ble Health Minister, Mr. Ajay Chandrakar, and with participation from 200 officials from stakeholder departments, media representative, children and teachers from Government and private schools. Rest

all districts conducted the launch on August 10, as per state program guidelines, under the chairmanship of District Collectors, Mayor and Zila Panchayat CEOs.

To boost private school engagement, Evidence Action developed a mixed media[7] package which was circulated to private schools in the state via an email by the Commissioner of Health. This package consisted of WhatsApp'messages, *prabhat pheri* banners, posters, and social media content to support school-level awareness generation efforts.

3.5 Training Cascade

On July 11, the state-level training of trainers (ToT) was conducted wherein 29 district-level health officials from 26 districts (except Bijapur) participated. District-level trainings and block-level trainings were held from July 13 to August 5. As per the state operational plan, all trainings were to complete by July 31. However, due to lack of availability of print materials at the state and delayed bundling of NDD kits at blocks, the trainings were postponed and were completed by August 5. It is crucial that all block level trainings are completed as per the pre-determined schedules and complete at a minimum of a week in advance to the NDD date leaving 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.

As per the state coverage report, **47,603** teachers from government / government-aided schools, **6,219** from private schools, **46,114** *anganwadi* workers and **62,015** *mitanin* were trained. This is 98% of total government schools, 98% of private schools' teachers and 93% of *anganwadi* centres. There is a definite scope of timely completion of trainings and ensuring robust planning for integrated distribution of drugs, print materials for a cost-effective program. Evidence Action supported through training monitoring and quality assessments of block-level trainings (refer M&E section for detailed analysis).

Training Resources: NHM printed training material resources for 22 NDD implementing districts consisting of teacher handouts, *anganwadi* handouts, and *mitanin leaflets*. Evidence Action supported in drafting the bundling plan and quantifying block requirements, enabling materials to be efficiently transported to all districts before trainings commenced.

Training Reinforcement:

Evidence Action supported the information of training dates and reinforcement of key messages from the training sessions by delivering bulk SMS to the program functionaries, as shown in table 3. The SMS plan was adapted as per national guidelines and approved by state health department. It is important that government stakeholders leverage their existing platforms for sending SMS as it assures greater program impact. In five LF-districts, Evidence Action sent **20, 68,338** SMS to districts, block and frontline functionaries (which includes district and block medical officers, *mitanins*,

Table 3: Details of NDD SMS sent to 22 NDD districts

Department	Number of SMS sent by Evidence Action
Health	727,766
Education	23,60,712
WCD	731,554
Total text messages	38,20,032

teachers and AWWs) to reinforce the importance of following correct reporting protocol in LF-MDA program.

3.6 Coverage Reporting:

Government of India provided the state with 146 user IDs and passwords for NDD mobile/ web application to all blocks and districts for the purpose of coverage reporting. While reporting coverage, it was found that districts reduced the targets from a total of **1,10,05,656 children to 1,02,32,051** children. This issue has continued from the previous NDD round when the targets were revised. Though to mitigate this gap, the draft targets for the NDD August 2017 round were shared with the districts for confirmation prior to the round, revisions in the targets at the time of coverage reporting reflects that it is important to continue strengthening the program around target setting and coverage reporting. Further, some of the demonstrated best practices like NDD coverage reporting through Mid-Day Meal platform needs to be explored in upcoming NDD round for real-time reporting and mid-course programmatic corrections.

4. Monitoring and Evaluation

Monitoring, learning, and evaluation is a key component of Evidence Action's technical assistance to the government and enables an understanding of the extent to which schools, *anganwadis* and the health system are prepared to implement the NDD effectively. This includes assessing the extent to which deworming processes are being followed, the extent to which coverage has occurred as planned and to make mid-course correction to improve program performance.

4.1 Process Monitoring

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

Tele-calling and Follow up Actions: Evidence Action's telecalling team assessed NDD program preparedness daily through tracking status of training, availability of drugs and IEC materials at the district, block, school and *anganwadi*-levels. The tele-callers used pre-designed and standardized electronic tracking sheets to capture the gaps in field implementation, as gathered from the telephonic follow ups. These tracking sheets were shared with the state government on a daily basis to enable them to take rapid corrective actions as necessary, such as issuing directives from state to districts, or sending reinforcement SMS. Evidence Action's district and regional coordinators visited field to facilitate these corrective actions at the district and block-level.

Out of 16,258 phone calls, 32,927 calls (49%) were successful from June 14 to September 29, 2017. The rate of successful calls reduced to 49 % for this round in comparison to 65.5% for February 2017 round. The existing contact database was a drawback while following up on NDD implementation, particularly with field functionaries such as teachers and *anganwadi* workers, which resulted in unsuccessful calls. The insights from SMS delivery reports show that 97 % SMS were delivered. Even though this is in stark contrast with the process monitoring findings, it is possible that the SMS were not being delivered to the intended audience. Regular updation of contact database by respective stakeholders is important for the impact of these interventions viz. telecalling and SMS.

Training Quality Assessment: For quality assurance, Evidence Action administered pre and post-tests to participants at state-level master trainers training to measure knowledge retention of key messages. Training monitoring of 27 districts and 91 blocks was conducted using a standardized training monitoring checklist by regional coordinators and district coordinators. Real-time recommendations based on these assessments were shared with stakeholders to improve remaining scheduled district and block-level trainings. Some of the key findings have been shared in the table below:

State Pre-Post	District training monitoring	Block training monitoring
There was substantial gain in the correct way of consuming albendazole for 2-3 years old children which was 85%(n=23) after the post test.	Out of all, about 91% of district trainings (n = 20) had participation from Education Department (BEOs). BEO of one block in Dantewada and one block in Sukma did not participate in NDD training. Approximately 95% of district trainings (n =21) have participation from WCD department. ICDS officials of three blocks in Korban district (Karthala, Podia, and Pali) did not attend the trainings.	Role of *mitanin* was discussed in all the training session monitored. Information on benefits of deworming was given in all training sessions monitored.
Prior to training, 70% (n=19) of participants were aware that albendazole tablet should not be administered to sick children, which has improved up to a 96% ((n=26) score in the post-test. 46% (n=16) of the participants were aware of the correct date of submitting the school/*anaganwadi* reporting forms to ANM during Pre-test. After post-test, it increased to 81% (n=22)	Overall, the training kits were distributed to 85% of the participants. 95% of the trainers did not discuss role of *mtanin* and dates of reporting timeline in districts Bijapur and Kanker, respectively.	All participants were aware about NDD and MUD dates. Flipchart was not used and facilitator did not mention correct reporting protocol (single tick mark for NDD and double tick mark for Mop-Up day) in 1 blocks i.e. Ashirwad Bhawan, Raipur (Education department training)

Monitoring by Independent Agency: Evidence Action with approvals from the Government of Chhattisgarh assessed the processes and performance of the program by hiring an independent survey agency, Karvy Insights Private Limited whose 100 trained monitors observed implementation on NDD and mop-up day across the 27 districts. The findings were shared in real time with state government on the day of visits to enable immediate corrective actions.

Monitoring Visits by Evidence Action: In total, 475 visits[8] were made by Evidence Action team to government and private schools and anganwadis on NDD and mop-up day. Monitoring visits were also conducted by the Department of Health, Education and WCD across all 27 districts. The detail note from visits is annexed as Annexure G.

4.2 Assessing Treatment Coverage

Coverage Validation: Coverage validation is an ex-post check of the accuracy of the reporting data and coverage estimates. During NDD August 2017 round, a total of 395 randomly selected schools and 395 *anganwadis* were visited for this exercise. Coverage validation data was gathered through interviews with *anganwadi* workers, headmasters/teachers, and a sample of 1,121 students from 374 randomly selected schools. Additional data was gathered by checking registers and reporting forms in the schools and *anganwadis*. These activities provided a framework to validate coverage reported by schools and *anganwadis* and to estimate the level of accuracy in the data by comparing the recounted numbers (based on the documentation available in schools and *anganwadis*) with numbers in reporting forms.

[8] Evidence Action visited 81 and 140 schools and 121 and 133 anganwadis respectively during NDD and mop-up day .

4.3 Key Findings

Process Monitoring findings for 22 NDD implementing districts highlight that 63 % schools and *anganwadis* received training for the August round of NDD and around 91 % of schools and 93 % of *anganwadis* conducted deworming either on NDD or mop-up day. Findings from coverage validation also reflected that 94% of schools and 99% of *anganwadis* dewormed children during NDD or mop-up day. However, integrated distribution on NDD kits was very low for both schools (31 %) and *anganwadis* (37%), meaning that less than half of the schools and *anganwadis*, received all materials (albendazole, banner/poster and handout/reporting forms) at the trainings which clearly indicates lack of integrated distribution at the trainings. The materials were distributed individually to remaining schools and *anganwadis,* thus increasing the costs incurred on logistics, while posing a risk on the availability of materials prior to the round. Around 62% of schools and 44% of *anganwadis* received training reinforcement messages through SMS. Awareness on the causes of worm infection, possible adverse events, and adverse event management practices (Annexure H) was moderate with 75 % of teachers and 86 % of *anganwadi* workers being aware of one or more ways by which children could get infected with worms and less than 10% teachers and *anganwadi* workers aware about all possible ways a child can get worm infection. Only 19% of teachers and 15% of *anganwadi* workers reported the possibility of any adverse event after administration of albendazole tablets. It was also observed that only 18% of the *anganwadi* workers were aware about the age-specific dosage (2-3 years). One reason for the low percentage of awareness may be because the age-specific drug dosage bifurcation as per WHO guidelines[9] was illustrated in the IEC material and reiterated at trainings for the first time in this round. Another reason may be that only 26% of the teachers 27% of the *anganwadi* workers have never attended training.

Only 26% of sampled private schools visited (N=18) were trained. Among private schools, 71% had sufficient drugs for deworming, 27% received a banner/poster, and 30% received handouts/reporting forms. SMS related to NDD were received by 25% of private school teachers/headmaster. Although drugs were made available at all private schools, only 26% of schools attended training, which is a crucial aspect of program for receiving necessary information and materials through integrated distribution.

Process Monitoring in the LF-MDA districts highlights that 63% of teachers and 61% of the *anganwadi* workers attended training. While 31% of schools and 95% of the *anganwadi* workers received albendazole tablet, 75% of schools and 86% received DEC tablet. 75% of the schools and 77% of *anganwadi* workers received DEC during training and 21% of schools and 18% of *anganwadis* received albendazole during training. Although the LF guidelines did not mandate integrated distribution, this is a best practise which should be replicated in future rounds as well. This will help ensure availability of drugs and IEC to all schools and *anganwadis* while making the program cost effective.

[9] According to the WHO guidelines, children between the ages of 1-2 years should be administered ½ crushed albendazole tablet, children between the ages of 2-3 should be administered 1 full crushed tablet and children between3-19 should be given one full tablet

Table 4: Key Findings from Process Monitoring and Coverage Validation for 22 NDD districts

Indicator	School (%)	*N*	*Anganwadi* (%)	*N*
Received SMS for current NDD round	62	153	44	163
Attended training for NDD	63	153	63	163
Integrated Distribution of albendazole tablets and IEC materials	31	153	37	163
Schools/*anganwadis* conducting deworming	94	397	99	408
Children consumed tablet	99	1103	NA	NA
Followed correct recording protocol	57	374	58	402
Copy of reporting form was available for verification	71	374	64	402
State level verification factor[10]	58	25,224	106	1,0372
Estimated NDD coverage[11][12]	81		93	

*Total number of children reported in school and *anganwadis* reporting form respectively.

Coverage Validation data reveals that 57% of schools and 58 % of *anganwadis* followed correct protocols for recording the number of children dewormed. However, around 33% of schools and 28 % of *anganwadis* did not adhere to any recording protocol. Around 22% *anganwadi* workers did not have list of unregistered preschool-age children and 42% didn't have list of out-of-school children. Out of total schools and *anganwadis* that conducted NDD, copy of reporting form was available in 71% of schools and 64% of *anganwadis* post submission. This is a 30-percentage point increase from the NDD February 2017 round. This substantial increase can be attributed to State's decision to print the new handout under the NDD resource kit which had an additional copy of reporting format attached which ensured retention of counterfoils of school/*anganwadi* reporting format.

The state government reported 94 % coverage in school and 93 % in *anganwadis*. Through coverage validation, attempts were made to understand the maximum number of children that could have been dewormed at schools and *anganwadis*. Coverage validation findings suggest that on an average, 61 % of treatment figures reported by schools and 100 % for 1-5 years children registered in *anganwadis* could be verified. Applying these verification factors to government reported coverage, it is estimated that 57% (0.61*0.94) children could have been dewormed at schools and 93 % (0.100 *0.93) at *anganwadis*.

Further estimations of NDD treatment coverage in schools considering maximum attendance of children on NDD dates were also made. Coverage validation data showed that 94% of schools conducted deworming on either NDD or mop-up day, maximum of 93% of children were in attendance, 98% of children received albendazole tablet and 87% of them reported consuming the albendazole tablet under supervision. Taking these

[10] Ratio of recounted value of the dewormed children to the reported value. This calculation is based on only those schools (n=23) and *anganwadis* (n=23) where deworming w3as conducted and a copy of the reporting form was available for verification.
[11] 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.
[12] This was estimated by implying state-level verification factor on government reported coverage for schools and AWC.

factors into account, 81% (0.94*0.93*0.98*0.94) of enrolled children could have been dewormed at schools.

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

5 Trends of Key Indicators over Rounds:

To understand the changes in selected indicators over NDD rounds trends are shared below.

Fig 8: Comparison of Training Indicators for School/*Anganwadi* February 2016, August 2016, February 2017 and August 2017 Rounds.

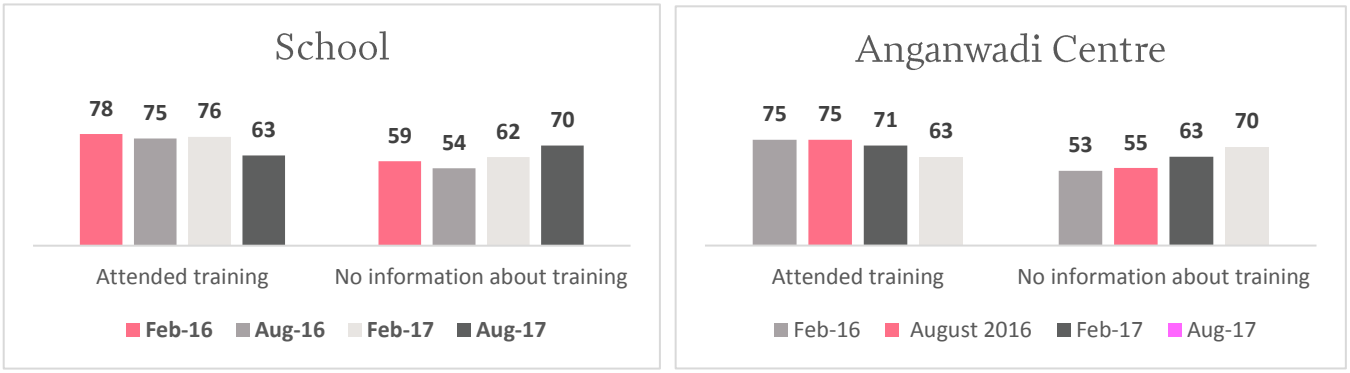


Figure 8, shows that training attendance has decline 13 percentage points for school and 8 percentage points for *anganwadi* from February 2017 to August 2017 round. One of the prime reason in decline of training attendance is lack of information about NDD training schedules. This can be corroborated with the decrease in the training SMS received by school teachers and *anganwadi* workers in August 2017 round (Figure 9 and 10). Delay in drug receipt at regional warehouse resulted in delayed training schedules and thus reduced participation by teachers and *anganwadi* workers as the last level of communication could not be assured. Lack of availability of print materials at the state and delayed bundling of NDD kits at blocks contributed to the delays and training attendance.

It is crucial that all block-level trainings are completed as per pre-determined schedules and complete at a minimum of a week in advance to the NDD date (if delayed from training schedule) leaving sufficient time for the teachers to train other teachers in the schools and for ample time to mobilise community and spread awareness on the program. Lack of updated contact database continues to be a challenge impacting overall delivery of program related SMS to teachers, *anganwadis*, as evident from declining trend of SMS received (Figure 9 and 10), significant efforts is needed to update contact databases for improvement.

Fig 9: Comparison of Key Indicators in Schools during February 2016, August 2016 and August 2017 rounds

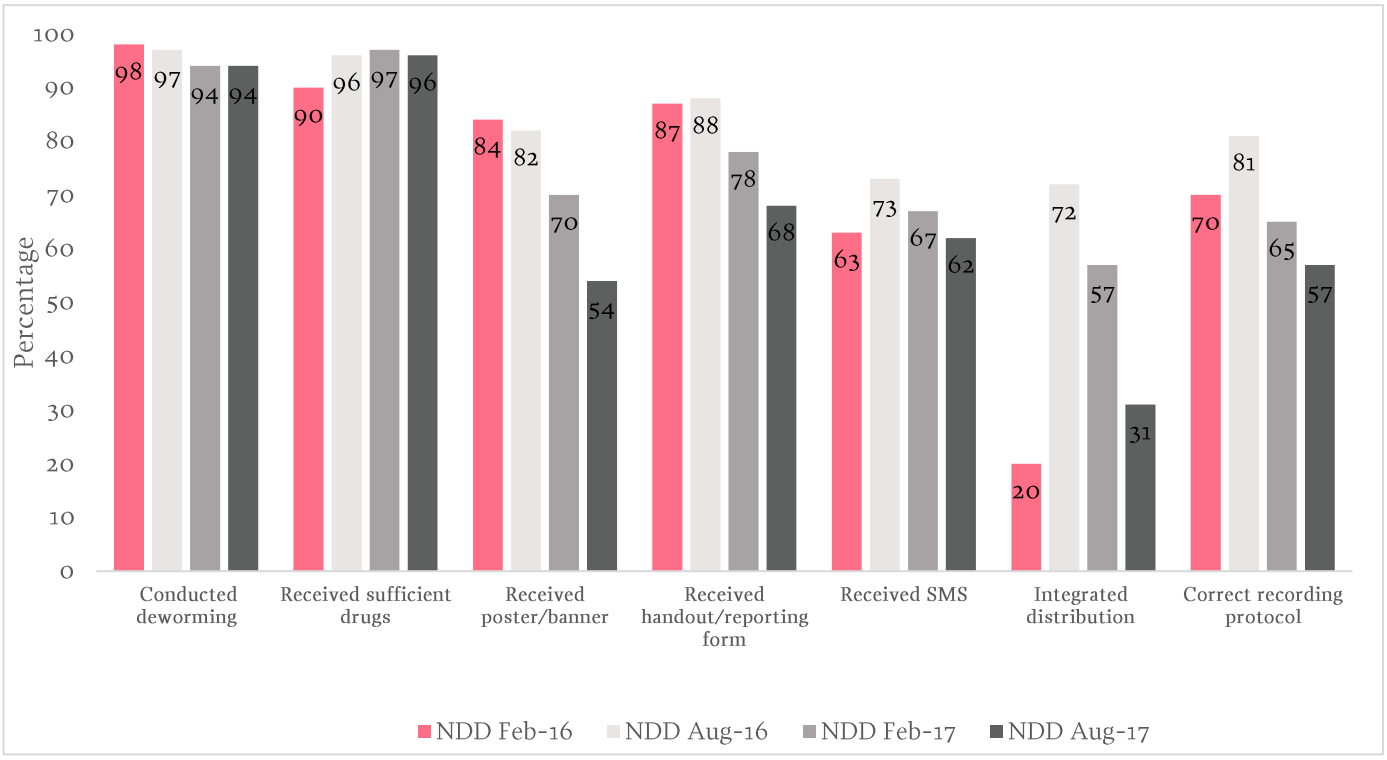


Fig 10: Trend of Key Indicators in *Anganwadis* during February 2016, August 2016, February 2017 and August 2017 round

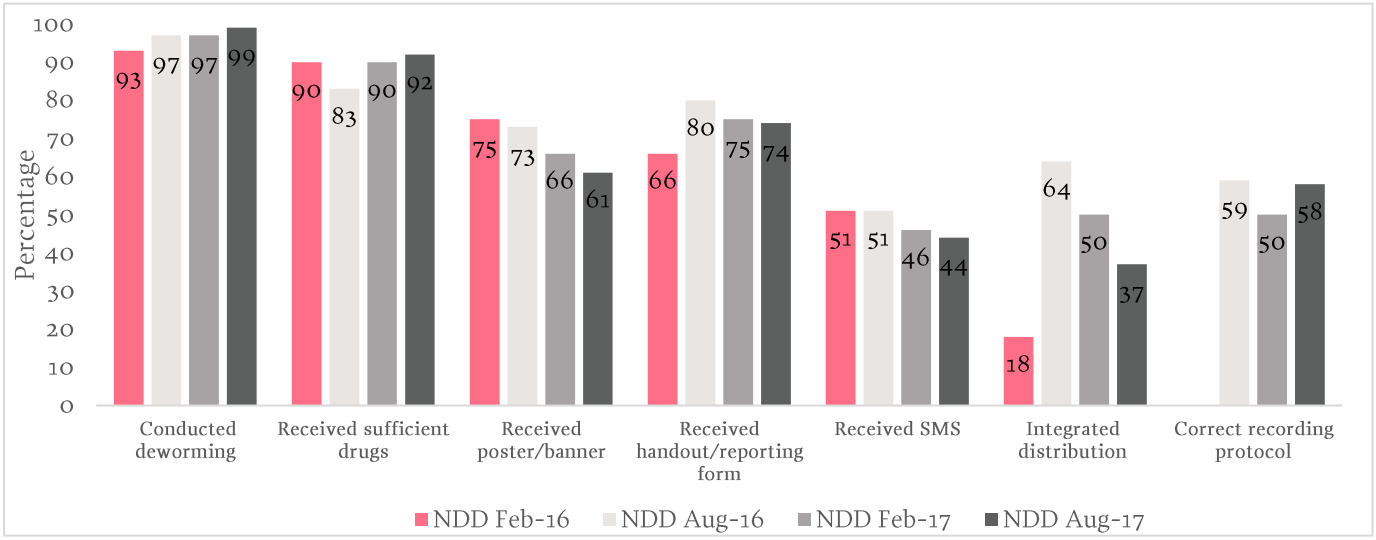


Figure 10, shows that while percentage of *anganwadis* that received sufficient drugs increased from last NDD round, however, for schools, there has been a marginal drop in the August round. Key indicators for schools and *anganwadis* that received poster/banner and handout/reporting forms has decreased. This can be attributed to the delay in

printing at the state which in turn affected integrated distribution and availability of material at schools and *anganwadis.*

6. Recommendations:

It is critical to conduct consistent high coverage program every six months in all 27 districts of the state to bring down worm prevalence and to slow the reinfection rates. Therefore, continued efforts need to be made towards high quality program twice a year. Reaching out to the last child will be crucial to bring impact.

There needs to be clarity in coordination between LF and NDD implementation, State decision on LF implementation came in the month of July 2017, which affected implementation planning of NDD, although this has been addressed with the guidance and support from State NHM.

For a high quality program, setting targets as per census and reporting coverage against the targets set prior to the NDD round is important. Undermining (or reducing the targets) shows a false picture of the coverage, as the program coverage reflects higher percentage with reduced targets. Eventually, the program needs to reach all children and appropriate target setting is important to ensure the same.

Reaching to out-of-school and unregistered children still has operational bottlenecks for the program, although efforts have been made to increase participation through engagement efforts with *Mitanin*, PRI member and concerned stakeholders.

Department of Health should continue its initiatives like; communication with stakeholder Departments like *Swachh Bharat Mission* and engage with the Panchayati Raj Institution, Drinking water and Sanitation for all forthcoming rounds as it will contribute to increasing awareness about the problem of worm infestation and impacts on health and nutrition status, and program awareness on deworming.

The schedule for trainings needs to be planned in advance and districts need to ensure there are no rescheduling or delays. Communication on date and venue of the training needs to be facilitated through all channels well in time to ensure maximum participation.

As per the state operational plan, all trainings were to complete by July 31. However, due to lack of availability of print materials at state and therefore delayed bundling of NDD kits at blocks, the trainings were postponed and were completed on August 5. It is important to ensure timely availability of all materials for the NDD kit for a high-quality program.

As per findings 62% of schools and 44% of *anganwadis* received SMS for this round. The state needs to have an updated contact database across all stakeholder department including frontline workers latest by November 2017 to ensure timely sharing of the training reinforcement SMS and information pertaining to NDD to all functionaries.

Real time coverage on NDD can be leveraged for corrective actions on mop-up day. Considering the availability of such opportunity in the form of Mid-Day Meal reporting platform, there need to be efforts to integrate the same.

A substantial number of *anganwadi* workers did not have a list of unregistered preschool-age children (8%) and out-of-school children (17%). To extend deworming benefits to unregistered children regular orientation of *mitanins* on their specific role in community mobilization through existing platforms would be vital for implementing future rounds. Although the Hon'ble State Health Minister issued letters to *mitanins* to

spread awareness on NDD, this was done only in the last week of July. For enhanced participation, these activities should be initiated at least a month in advance.

As the state will initiate the process of procurement for NDD February 2018 round, the district–wise availability of drugs must be ensured by mid-December 2017 to ensure that drug availability is aligned for integrated distribution. The operational plans finalized prior to NDD round should be constantly referred for specific program timelines for better program quality.

6. List of Annexures

Annexure A	Chhattisgarh coverage report – August 2017
Annexure B	Letter for State Steering Committee for NDD August 2017
Annexure C	Chhattisgarh August 2017 Joint Directive
Annexure D	District-wise drug bundling plan
Annexure E	District-wise drug recall status
Annexure F	Pre-post test report, Block-level report and District-level report
Annexure G	NDD monitoring visit report
Annexure H	Adverse event management protocol letter
Annexure I	Process monitoring and coverage validation data tables

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A memorandum of understanding with the state national health mission and Evidence Action represented through it's in country technical consultant Pramanit Karya India Private Limited was extended in September 2017 for the period ending on September 2020 to guide the technical assistance efforts in the state.