



Uttar Pradesh

Anganwadi and School-Based Mass Deworming Program



National Deworming Day-September 2016

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Acronyms

ANM:	Auxiliary Nurse Midwife
AWC:	<i>Anganwadi</i> Centre
AWW:	<i>Anganwadi</i> Worker
BMO:	Block Medical Officer
BPM:	Block Program Manager
BRP:	Block Resource Person
CMHO:	Chief Medical and Health Officer
CS:	Civil Surgeon
DC:	District Coordinator (<i>Mitanin</i> Program)
DEO:	District Education Officer
DIO:	District Immunization Officer
DPM:	District Program Manager
DPO:	District Program Officer (WCD)
DWCD:	Department of Women and Child Development
SIFPSA:	State Innovations Family Planning Services Project Agency
GoI:	Government of India
ICDS:	Integrated Child Development Services
IEC:	Information, Education and Communication
MD:	Mission Director
NHM:	National Health Mission
NDD:	National Deworming Day
PIP:	Program Implementation Plan
RBSK:	Rashtriya Bal Swasthya Karyakarm
WHO:	World Health Organization

Executive Summary

Contributing to the Government of India's (GoI) National Deworming Day (NDD), the state of Uttar Pradesh implemented the second round of *anganwadi* and school-based mass deworming program in 49 of the scheduled 70 districts¹. The NDD was conducted in two phases, with the first phase conducted on September 10, followed by mop-up day on September 19, 2016. The second phase was held on September 27, followed by mop-up day(s) on October 1 and 3, 2016.

The achievements in the round are an outcome of leadership from the Department of Health/ National Health Mission (NHM), and joint efforts of State Innovations Family Planning Services Project Agency (SIFSPA), of Departments of Basic and *Madhyamik* Education, Women and Child Development (WCD).

Evidence Action provided key technical and program assistance towards planning, program implementation, through funding support received from the Children Investment Fund Foundation (CIFF).

Table 1: Key Achievements of National Deworming Day September 2016

Indicators	Target	Coverage
Districts		49
Blocks		516
No. of children 1-5 years dewormed at <i>anganwadis</i>	77,83,517	32,39,531
No. of children 6-19 years dewormed at govt. and govt. aided schools	1,12,20,256	91,61,424
No. of out of school children (6-19 years) dewormed at <i>anganwadis</i>	11,17,228	4,23,099
Total children (1-19 years)	2,01,21,001	1,28,24,054

*Source: State Coverage Report submitted by National Health Mission (NHM) Uttar Pradesh to Government of India (**Annexure A**)

The GoI implemented its first NDD in February 2015 with the program achieving high coverage at scale since its inception. Based on national level STH mapping², as well as WHO treatment guidelines, the GoI issued a notification to states on treatment frequency for deworming. 27 states and UTs, including Uttar Pradesh, are required to conduct NDD rounds twice a year. Thus, the state prepared for biannual treatment in August 2016, which was delayed to September 2016 due to delay in receipt of drugs. (**Annexure B**).

The September round of NDD, targeted 2,01,21,001 children between 1-19 years of age. The target included pre-school age children in the age group of 1 – 5 years, both registered and unregistered at *anganwadis*, and school-age children in age group of 6 – 19 years, including those enrolled in government and government-aided schools and out-of-school children. Preschool-age children and out-of-school children were treated at *anganwadi* centers (AWCs), while school enrolled children were treated at government and government-aided schools.

Compared to the February 2016 NDD round in which the state dewormed 82,40,046 children against 93,56,894 targeted children across 24 districts, the state dewormed 1,28,240,54 children against 2,01,21,001 targeted children across 49 districts in September. In Uttar Pradesh, private schools have so far not been included in implementation of both the previous rounds of NDD 2016.

1. Program Background

1.1 Benefits of Deworming

¹ 5 out of 75 districts i.e. Bareilly, Faizabad, Allahabad, Barabanki and Sonbhadra were LF-MDA districts. Remaining 21 districts couldn't implement the round due to delay in drug procurement/availability

² Prevalence mapping was led by the National Centre for Disease Control (NCDC) and partners

A large body of rigorous scientific evidence from around the world provides a strong rationale for mass deworming³ in places where prevalence is 20% or higher⁴. 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-Uttar Pradesh

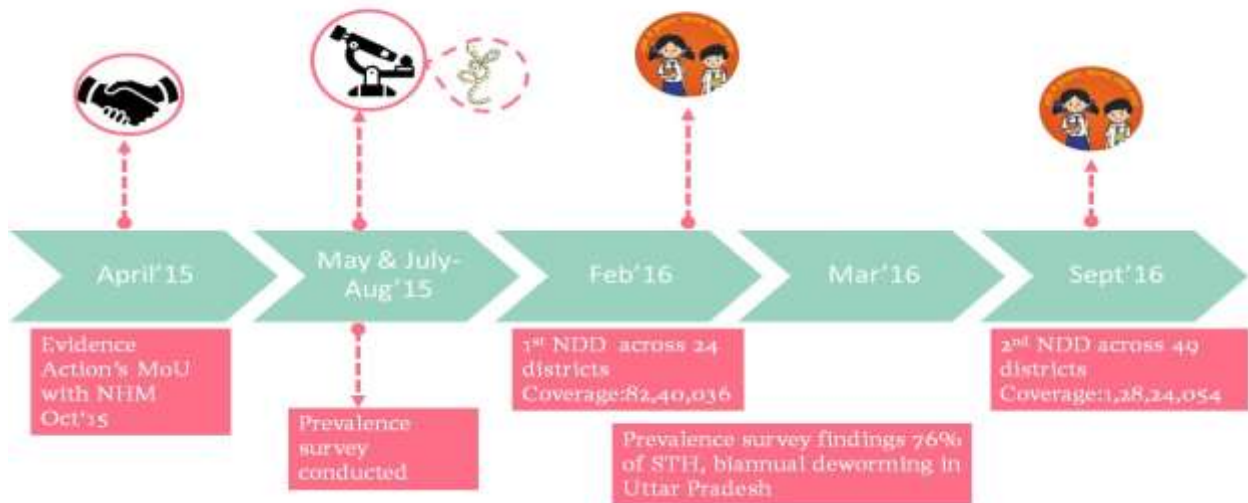
In Uttar Pradesh, a Memorandum of Understanding was signed between the National Health Mission (NHM) UP, State Innovations in Family Planning Services Project Agency (SIFPSA) and Evidence Action-Deworm the World Initiative for duration of April 2015 through September 2018 for Evidence Action to provide technical assistance to the state for implementation of the anganwadi and schools-based deworming program. The deworming program in the state is aligned with two programs – Rashtriya Bal Swasthya Karyakram (RBSK) and Rashtriya Kishore Swasthya Karyakram (RKSK). In addition, in the National Filariasis Control Program, albendazole is also administered along with diethylcarbamazine citrate to all the people in the community older than 2 years. The state has previously administered deworming drugs through the existing programs, but efforts have been disjointed and sporadic resulting in low coverage. In order to reach all at risk preschool-age and school-age children, deworming activities are now implemented under GoI’s NDD program. The program is based on national and global guidelines but is customized to fit the state’s context. Key milestones are shown in Figure 2 below, and more information about NDD is provided in Section 2.

Figure 2: Uttar Pradesh mass school and *anganwadi* based deworming program timelines

³ <http://www.povertyactionlab.org/publication/deworming-best-buy-development>

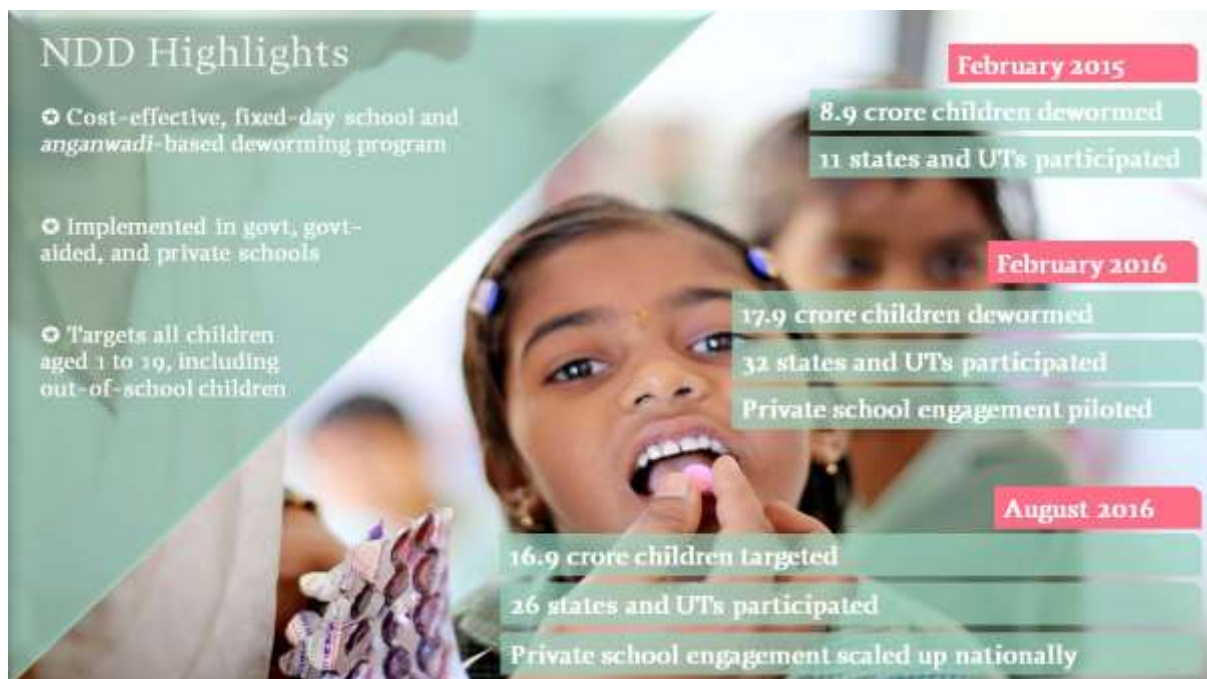
⁴ Helminth control in school-age children-A guide for managers of control programmes :WHO, 2011; Miguel, Edward and Michael Kremer. “Worms: Identifying Impacts on Education And Health In the Presence of Treatment Externalities”; Ozier, Owen. “Externalities to Estimate the Long-Term Effects of Early Childhood Deworming.”

Uttar Pradesh State Timeline



2. About National Deworming Day

Figure 3: NDD program highlights



3. Program Implementation

3.1 Policy and Advocacy

Successfully implementing a program of such scale required stakeholder collaboration at each administrative and implementation level. The Department of Health led coordination with the Departments of Education and Women & Child Development to achieve coordinated program planning and implementation. The main points of inter-departmental collaboration are displayed in Figure 4 below:

Figure 4: Efforts towards Stakeholder collaboration

July 5, National Review Meeting, New Delhi	July 22, State Steering Committee Meeting	July 22, State Level Directives	Aug 3, State Video Conference
<ul style="list-style-type: none">• Review of NDD preparations• Assessment of state's preparedness for August round• Decision on NDD dates	<ul style="list-style-type: none">• Conducted for the first time at state level for NDD• Under the Chair of MD-NHM in teh presense of Health, WCD, Education• Review of NDD preparations	<ul style="list-style-type: none">• Signed by MD-NHM were issued to all implementing districts	<ul style="list-style-type: none">• Conducted with the Ministry of Health and Family Welfare to assess the overall drug status to mitigate program gaps• Other preparations included adverse event management

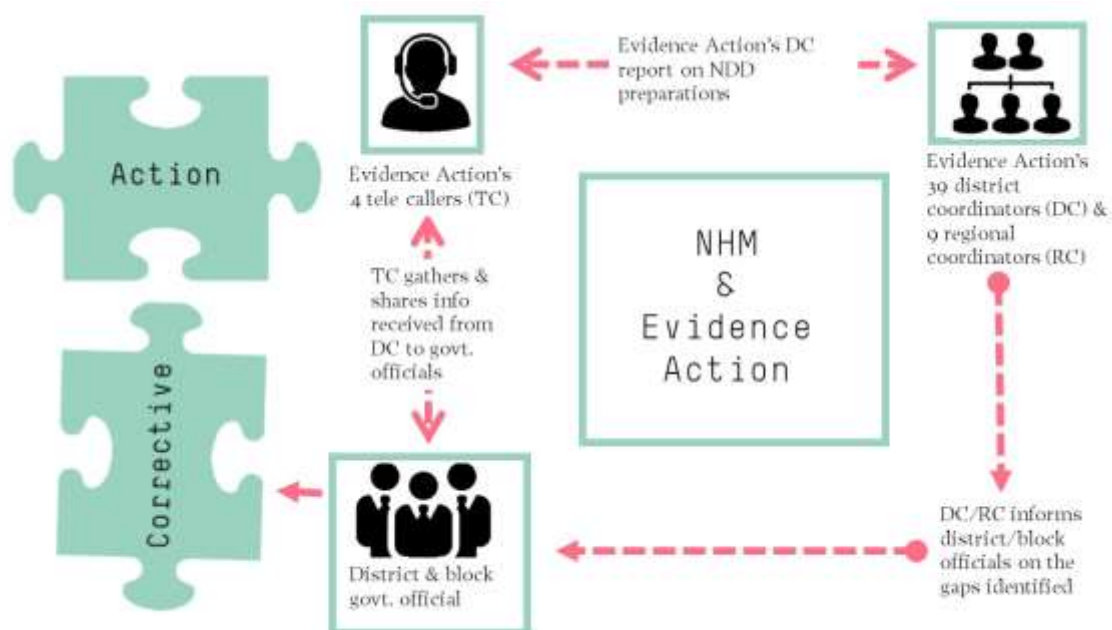
Although preparatory meetings were conducted between July-August, the round in the state got delayed due to delays in drug procurement. The situation was exacerbated by the *anganwadi worker* strike in the state. The decision to implement NDD in a phased manner on September 10 and September, 27 was taken by the Steering Committee after detailed analysis of the drug procurement status. Also, when it was clear that drugs would not be available in all the 70 districts (excluding the 5 LF-MDA districts) planned to do NDD initially, the Department of Health identified 40 districts to implement NDD in first phase followed by 9 in the second phase.

All 49 districts conducted District Coordination Committee Meetings (DCCM) under the chairmanship of District Collector/district level officials during which stakeholders reviewed preparations for the program and clarified roles for improved inter-departmental coordination. Key decisions for program implementation were disseminated along with meeting minutes circulated in 49 districts. The state referred to the NDD 2016 financial guidelines for implementation of activities and planning for budgets for NDD rounds. (**Annexure C**)

3.2 Program Management

Evidence Action provided technical assistance through a state based team, field-based regional coordinators and short-term hires such as district coordinators and tele-callers. The state team assisted with program planning and also coordinated with stakeholder departments to share real time updates on program preparations, implementation and facilitated corrective actions as required. Figure 5 gives an overview of the information flow between the Evidence Action team and district or block officials.

Figure 5: Evidence Action's corrective action mechanism



3.3 Drug Procurement, Storage and Transportation

a) Drug Procurement: Initially, the state planned to procure 3.5 crore albendazole⁵ tablets to cover children aged 1-19 years in *anganwadis*, government and government aided schools across 70 districts of the state planned to implement NDD. To this effect, the districts were directed to place orders for procurement in July 2016 based on the finalized rate contract with the vendor/ supplier. Despite efforts from state and districts for timely procurement, the supplies of required stock could not be met, leading NHM to postponing the round by a month. By September, since only 2.11 crore drugs were received, hence only 49 districts out of 70 could implement the round. Though the overall requirement of the 49 districts was approximately 2.76 crore drugs, the government went ahead in implementing the NDD in these 49 districts.

b) Drug Logistics and Distribution: Department of Health managed the entire drug logistics and distribution at all levels. With support from Evidence Action, the state had developed district and block wise drug bundling and distribution plans to streamline distribution of drugs to schools and *anganwadis* through a cascade (**Annexure D.1**). Department of Health ensured bundling of NDD kits that included drugs and all program materials at the district, block level for onward distribution to Education and WCD functionaries at the block level training. The kits included drugs, IEC materials, training handouts, and reporting forms. To align drug distribution with block-level training in accordance with NDD operational guidelines, Evidence Action supported the department in timely updating the information gathered from tracking of drug availability at district and below, which allowed officials to accordingly follow ups with drug companies and districts officials for timely availability of the drugs and materials in trainings

c) Adverse Event Management: The state set up an adverse event management system engaging *Rashtriya Bal Swasthya Karyakarm*⁶ teams, to effectively manage any adverse events in the field. In addition, emergency helpline number such as 108 (ambulance service) was put on alert to facilitate appropriate emergency response action by coordinating medical assistance from the nearest primary health centre (**Annexure D.2**). 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. No severe adverse events were reported in the NDD September 2016 round.

⁵ This doesn't include private schools children

⁶ Rashtriya Bal Swasthya Karyakram (RBSK) is an important initiative aiming at early identification and early intervention for children from birth to 18 years to cover 4 'D's viz. Defects at birth, Deficiencies, Diseases, Development delays including disability.

3.4 Public Awareness and Community Sensitization

The state contextualised the NDD resource kit shared by GoI and uploaded the resource kit on the UP NHM website along with program guidelines. IEC materials included in the kit were designed to increase community awareness on the benefits of deworming, and were disseminated based on the timelines and target audiences specified by the NDD operational guidelines. For instance, the Department of Health printed materials such as posters, banners, that were displayed at schools and AWCs and handbills were distributed to community. This was essential as sensitization of the community, including children and families, help build their trust on deworming, alleviate worries related to adverse events, and leads to greater program acceptance and coverage.

Figure 6: NDD 2016 IEC campaign activities



3.5 Training Cascade

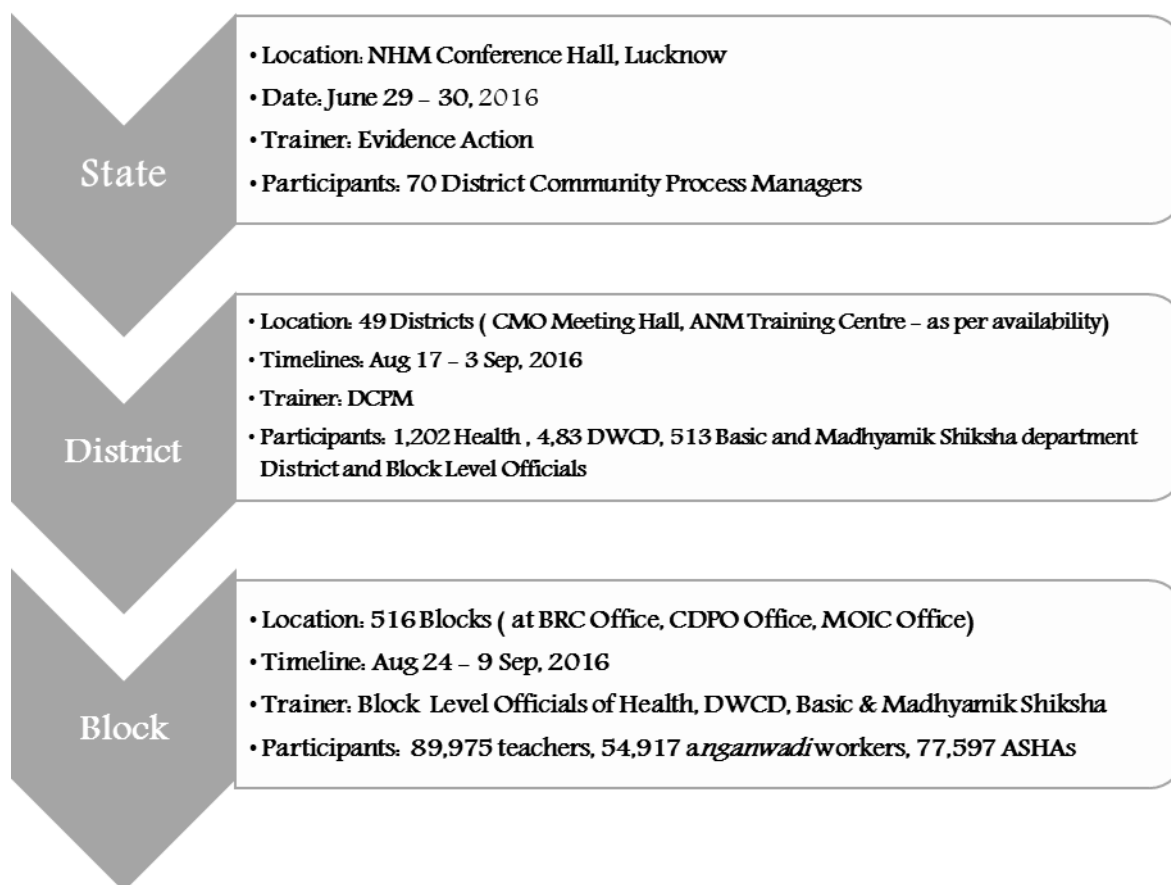
As per NDD Operational Guidelines, a training cascade was implemented from the state level to all participating 49 districts and 836 batches of block level trainings between August 19 and September 3, 2016. While NHM led the training cascade, Evidence Action supported the state-level training in which District Community Process Managers (DCPM) were trained as Master Trainers to lead the district level trainings.

Training Cascade: Through the cascade, the state trained 89,975 teachers from government and government-aided schools, 54,917 AWWs, and 77,597 ASHAs.⁷ District and block level officials from all nodal departments were also trained.

Training Resources: Department of Health printed training resources including handouts for schools, 99,024 handouts for *anganwadi* and 84,850 leaflets for ASHAs. Working towards integrated distribution of these resources during trainings, Evidence Action supported in drafting the bundling plan as per block requirements, enabling materials to be available in all block level trainings before trainings commenced.

⁷ NDD coverage report submitted by state to GOI.

Figure 7: Training Cascade and Participation



As the round was initially planned in 70 districts on August 10, the trainings at state and district level were proposed to be held in the month of June – July, 2016. However, trainings were shifted at district and block level as per the decision to postpone the round from August 10, 2016. Also with the *anganwadi* workers being on strike from August 31, to October 3, hence training participation at the block level was impacted. The distribution of NDD kits was affected to a large extent due to the delay and randomness in the availability of albendazole drugs for the round with some districts receiving drugs at the last moment while some receiving insufficient quantities.

Training Reinforcement: Evidence Action supported the reinforcement of key messages from the training sessions by delivering bulk SMS to program functionaries of 39 districts, as shown in the table below.

Table 2: Details on training reinforcement messages NDD Aug 2016

SMS sent by	Department	Total SMS Sent
Government - NHM	Health (ASHA, ANM)	2,35,125
Evidence Action	Teachers	17,62,624
	<i>Anganwadi</i> workers	11,74,815
	District and Block Officials	22,588
Total Text Messages		31,95,152

State NHM took the ownership of sending reinforcement messages to health workers (ASHA and ANM) reiterating crucial messages on NDD.

Training Support: For training quality assurance, Evidence Action administered pre-post-tests to participants at state level training to measure knowledge improvements of key messages. The key

findings from the pre-post tests were shared with Department of Health. Thereafter, using the standardized checklist, Evidence Action’s district coordinators attended and provided supportive supervision to all 49 district trainings and 42 sample block level trainings to ascertain key messages are covered as per NDD guidelines.

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 and able to implement the deworming activities effectively. This includes assessing the program and providing feedback during its preparation stage, while activities are ongoing, and after completion of program processes to guide mid-course corrections and to improve future performance based on the learnings.

Figure 8: Monitoring activities before, during, and after NDD

* Coverage validation was planned during Sept 23-27, but it was extended due to local festivals in the state.

4.1 Process Monitoring

The aim of process monitoring is to assess the preparedness of schools, *anganwadis*, and health systems to implement mass deworming and the extent to which they have followed correct processes.



Being prepared and adhering to best practices can ensure a high-quality deworming program. *Evidence Action conducts process monitoring through telephone monitoring and cross verification, as well as physical verification through field visits. (Process monitoring was not done in the districts doing NDD in second phase as districts were decided by the state at the last moment and hence sampling could not done in these districts)*

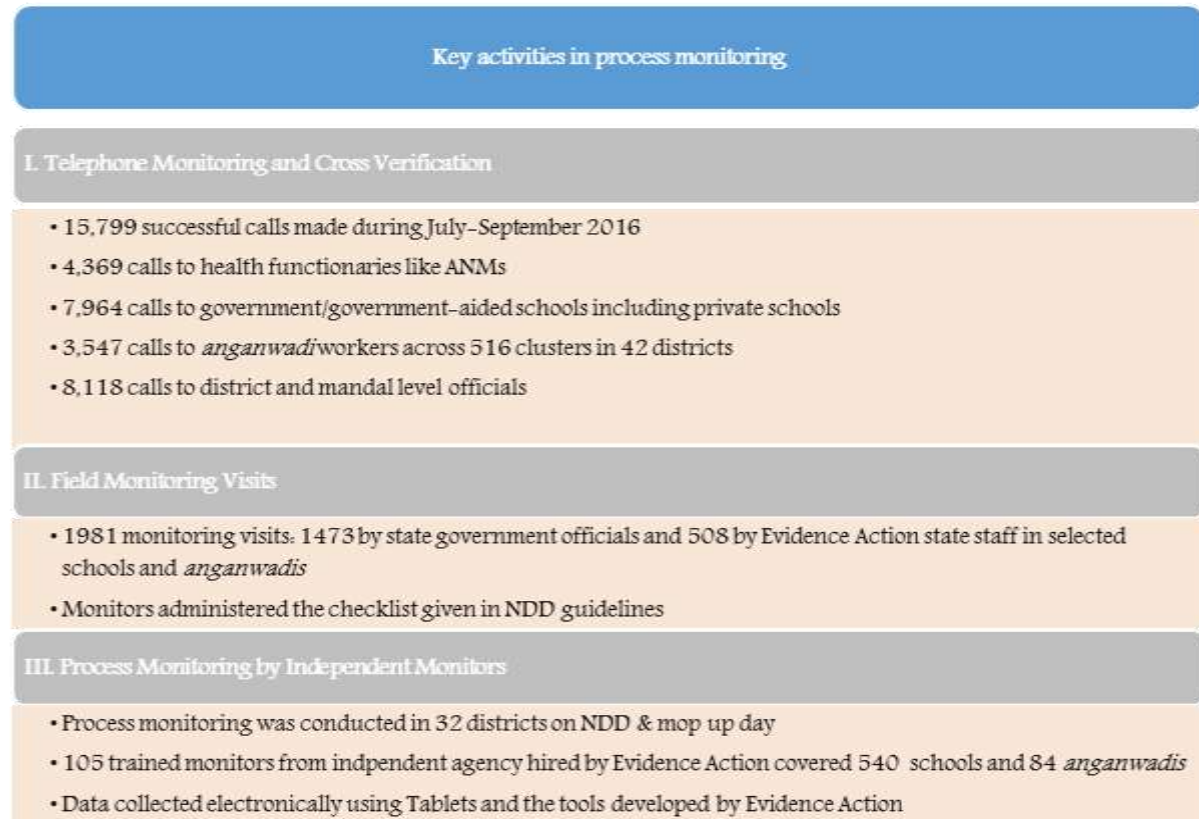
Tele-calling and follow-up actions: Evidence Action assessed program preparedness prior to NDD through four tele-callers who tracked the status of training, delivery and availability of drugs, and IEC materials at the district, block, and school and *anganwadi* level.

The tele-callers used pre-designed and standardized electronic tracking sheets to outline issues identified and addressed during calls. These tracking sheets were shared with the state government on a daily basis to enable them to take rapid corrective actions as necessary. This corrective actions include issuing departmental directives, video conferencing including reinforcement messages through SMSs. Further, district and regional coordinators made field visits to facilitate the corrective actions at district and below district levels.

Monitoring by an independent agency: Evidence Action assessed the process and performance of the program by hiring an independent research agency whose trained monitors observed deworming processes on NDD and mop-up day. The real time findings were shared with state government on the day of visits to enable immediate corrective actions.

Sample size: For process monitoring, a total of 540 randomly government schools and 84 nearby *anganwadis* (required sample of *anganwadis* were not covered because of ongoing strike during NDD and mop-up days) were covered on NDD and mop-up day. For coverage validation, a total of 1,680 randomly selected schools were covered.

Figure 9: Key process monitoring activities



4.2 Assessing Treatment Coverage

Two activities carried out during the September 2016 round of NDD in Uttar Pradesh were aimed at assessing treatment coverage. These included a rapid coverage assessment to estimate whether coverage was sufficient in potential problem areas, and a coverage validation exercise to gauge the accuracy of reported treatment figures.

Rapid Monitoring of Treatment Coverage: In partnership with the state government, Evidence Action conducted a rapid treatment coverage exercise using the “Coverage Supervision Tool” developed by the World Health Organization (WHO), which is a simple to use, easy to administer and effective concurrent monitoring tool. The rapid monitoring exercise was carried out during the September round of NDD to understand performance in areas with a history of poor coverage during the previous round in February, with the aim to develop an immediate action plan to improve coverage on mop-up day. The areas of focus included three districts of the state: Agra, Bulandshahr and Hathras. In each district, total 20 children aged 1-19 years from 20 villages/enumeration areas were interviewed as per WHO guideline⁸. The results revealed that only Agra had good coverage in terms of drugs received and compliance with treatment, which implies the coverage is above the WHO target threshold of 75%. Districts of Bulandshahr and Hathras did not provide enough evidences to conclude good coverage and it was recommended to state government to ensure to cover the left over children on mop-up day who had not received albendazole during NDD through appropriate departmental coordination. These recommendations were shared with the state government prior to mop-up day for the necessary corrective actions before MUD.

⁸Rapid Monitoring of Treatment Coverage in Neglected Tropical Disease Programmes, Coverage Supervision Tool, World Health Organization Working Draft, February 2016.

Coverage Validation: Coverage validation is an ex-post check of the accuracy of the reporting data and coverage estimates. Coverage validation data was gathered through interviews with *anganwadi* workers, headmasters/teachers, and a sample of three students (in three randomly selected classes) in each school, and by checking registers and reporting forms in the sampled schools. These activities provided a framework to validate coverage reported by schools and *anganwadis* and to calculate the level of accuracy in the data by comparing the recounted numbers (based on the documentation available in schools and *anganwadis*) with numbers reported in schools and *anganwadi* reporting forms that are aggregated at the block and district levels.

4.3 Key Findings

Process monitoring findings suggest 58% of schools and 75% of *anganwadis* received training for the recent round of NDD and around 86% of schools and 81% of *anganwadis* reported to conduct deworming on the day of visit. However, coverage validation demonstrated that 90% of schools had dewormed children during NDD or mop-up day. Around 75% of schools and 73% of *anganwadis* received NDD posters and banners. However, integrated distribution of NDD kits⁹ was low for both schools (28%) and *anganwadis* (25%). Around 45% of schools and 49% of *anganwadis* received training reinforcement messages through SMS. Awareness of the causes of worm infection (Annexure E - Table 1), possible adverse events was low among teachers and *anganwadi* workers.

Table 3: Key findings

Key Findings from Process Monitoring and Coverage Validation		
Indicator	School (%)	Anganwadi (%)
Attended training for NDD	79	71
Schools/ <i>anganwadis</i> conducted deworming*	90	81
Received training reinforcement SMS for current NDD round	45	49
Integrated distribution of albendazole tablets & IEC materials	28	25
Reported any adverse events*	3	11
Copy of reporting form was available for verification	52	NA
Followed correct recording protocol	50	NA
State level verification factor ¹⁰	1	NA
State level inflation rate ¹¹	77	NA
Children consumed tablet	99	NA
Estimated NDD coverage	47-67	NA

*For schools these indicators are based on coverage validation. For *anganwadis*, these are based on process monitoring as no coverage validation was conducted in *anganwadis*.

Coverage validation data suggest that only half of the sampled schools (50%) followed correct protocols for recording the number of children dewormed, however, while around 40% of schools did not adhere to any recording protocol. Only 51% of schools had a copy of their reporting form post submission, though they were instructed to retain a copy as per NDD guidelines. Coverage validation data for enrolled children exhibited high inflation (77%; verification factor of 0.57) of treatment figures. Nevertheless, interviews with children in schools indicated that 96% of them received a deworming tablet that indicates that though challenges in reporting and documentation of coverage data exist, however, almost all the children present on NDD or MUD received albendazole tablets.

Attempts were also made to understand the maximum number of enrolled children that could have been dewormed in the schools. School data suggests that on an average, we could verify 57% of total coverage numbers reported by schools. Applying this verification factor on government reported coverage, it is estimated that 47% children could have been dewormed in the schools. Further, coverage validation data showed that 90% of schools did deworming on either NDD or mop-up day

⁹Integrated distribution of NDD kits includes albendazole, banner/poster and handout/reporting forms and provided to schools and AWC during the trainings.

¹⁰Ratio of recounted value of the dewormed children to the reported value.

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

and a maximum of 82% of the total school enrolled children were in attendance. Moreover, 96% of children interviewed reported to have received the albendazole and 95% of them reported to consume it under supervision. Based on these factors, 67% of children could have been dewormed in the schools. This indicates that NDD coverage most likely lies between 47-67% in the state of Uttar Pradesh. This range falls below the WHO target of treating 75% of the target population.

The detailed tables of results on process monitoring and coverage validations are attached herewith (**Annexure F**).

5. Recommendations from Sep 2016 NDD

1. While children in 49 districts were dewormed during the September round of NDD, challenges with timely drug procurement resulted in rest of districts being deprived of the deworming benefits. For all future rounds, timely drug procurement is crucial for the success of the program. Additionally, given the significant number of children enrolled in private schools, it is imperative to include private school children in the deworming treatment strategy of the state.
2. Efforts are required to improve training attendance of teachers and *anganwadi* workers in future rounds through clear and timely communication on training dates and venues to frontline functionaries. This will involve with updating the contact database of functionaries so that they can receive timely alerts on training schedules.
3. Strengthen integrated distribution of drugs, IEC, training materials and reporting forms at the block level trainings through robust and timely planning for availability of drugs and print materials. Improved and integrated distribution of drug, IEC, training materials needs to be ensured down to the implementer levels with clear responsibilities being assigned for bundling at all levels through state released directives. Necessary supervision at all levels is required to ensure that adequate quantities get bundled and distributed in a timely manner.
4. Coverage validation data suggest that a greater emphasis on recording protocols during the training is likely to improve the quality of coverage data in the next round. 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 and headmasters understand the directive to maintain a copy of reporting forms in schools so that the data available for coverage validation is more robust.