Tripura

National Deworming Day

Photo Credit: Evidence Action

August 2017

Evidence Action

Deworm the World Initiative

Contents

List of Acronyms

ASHA:	Accredited Social Health Activist
AWC:	*Anganwadi* Centre
AWW:	*Anganwadi* Worker
BNO:	Block Nodal Officer
CDPO:	Child Development Project Officer
CMO	Chief Medical Officer
CIFF:	Children's Investment Fund Foundation
DNO:	District Nodal Officer
DEO:	District Education Officer
DPM:	District Program Manager
DM:	District Magistrate
DAPM:	District ASHA Program Manager
DFWPM:	Directorate of Family Welfare & Preventive Medicine
DPO:	District Program Officer (Social Welfare & Social Education)
D.O.:	Demi Official
DISE:	District Inspector of Social Education
GoI:	Government of India
ICDS:	Integrated Child Development Services
IEC:	Information, Education and Communication
MD:	Mission Director
MOI/c:	Medical Officer in Charge
MPW:	Multipurpose Worker
MPS:	Multipurpose Supervisor
NHM:	National Health Mission
NDD:	National Deworming Day
NIPI:	National Iron Plus Initiative
PIP:	Program Implementation Plan
PMCV:	Process Monitoring & Coverage Validation
PHC:	Primary Health Centre
RBSK:	*Rashtriya Bal Swasthya Karyakram*
SW&SE:	Social Welfare & Social Education
SAPM:	State ASHA Program Manager
SNO:	State Nodal Officer
STH:	Soil Transmitted Helminths
TTAADC:	Tripura Tribal Area Autonomous District Council
WHO:	World Health Organization
WIFS:	Weekly Iron Folic Supplementation
VC:	Video Conference

Executive Summary

Contributing to the Government of India's National Deworming Day (NDD) efforts, the Government of Tripura conducted the fifth round of NDD in all eight districts on August 10, 2017, followed by mop up day on August 17, 2017, targeting all children in the age group of 1-19 years. In this round, the state dewormed 10,69,319 children in the target age group. This achievement is an outcome of exemplary leadership from the Department of Health in coordination with the Department of School Education and Social Welfare and Social Education. Evidence Action provided technical assistance to the program through funding support received from Children's Investment Fund Foundation (CIFF) and Dubai Cares.

Table 1: Key Achievements of National Deworming Day August 2017

Indicators		Census target	Program target	Target as per coverage report*	Coverage
Total number of districts implemented NDD		8	8	8	8
Total number of blocks implemented NDD		58	59*	59*	59*
Number of schools reporting coverage		4,861	4,861	4,919	4,862
Number of *anganwadis* reporting coverage		9,911	9,911	9,911	9,890
Number of enrolled children (classes 1-12) who were administered albendazole on NDD and Mop-up day (MUD)	Government Schools	6,87,487	6,80,719	6,59,801	6,22,118
	Private Schools	1,01,659	82,292	88,577	80,604
Number of registered children dewormed (1 to 5 years) at *anganwadis* on NDD and MUD		3,07,435	3,15,889	3,28,619	3,11,794
Number of unregistered children dewormed (1 to 5 years) at *anganwadis* on NDD and MUD		36,490	4,226	17,880	15,588
Number of out-of-school children (6-19 years) dewormed on NDD and MUD including children in other category (Industrial Training Institutes, poly techniques, vocational/colleges, informal educations and others)		1,57,111	29,936	43,361	39,215
Total number of children dewormed (1-19 years)		12,90,182	11,13,062	11,38,238	10,69,319

* Source: Report submitted by NHM Tripura to Government of India on September 22, 2017 **(Annexure A)**

Evidence Action provided technical assistance to the Government of Tripura for the successful implementation of NDD in August 2017, incorporating learnings from previous rounds, like steps to strengthen private school's engagement and additional emphasis on following reporting protocol during trainings to guide program planning. The state has continued its strategy to leverage existing platforms of NDD and converged it with Weekly Iron and Folic Acid Supplementation (WIFS) and National Iron Plus Initiative (NIPI) programs for identified areas. In a continued effort to reach out-of-school children, state covered migrant population in all eight districts and arranged temporary NDD booth to

administer deworming drug near brick kilns. Out of 2,320 targeted migrant children, 1,994 were dewormed with the outreach efforts of the government.

1. About National Deworming Day

In early 2016, STH prevalence survey conducted by Evidence Action showed that prevalence of any kind of STH among school-aged children in state of Tripura is approximately 60%. In accordance with the World Health Organization's guidelines and GoI notification the state is since implementing the biannual round of NDD.

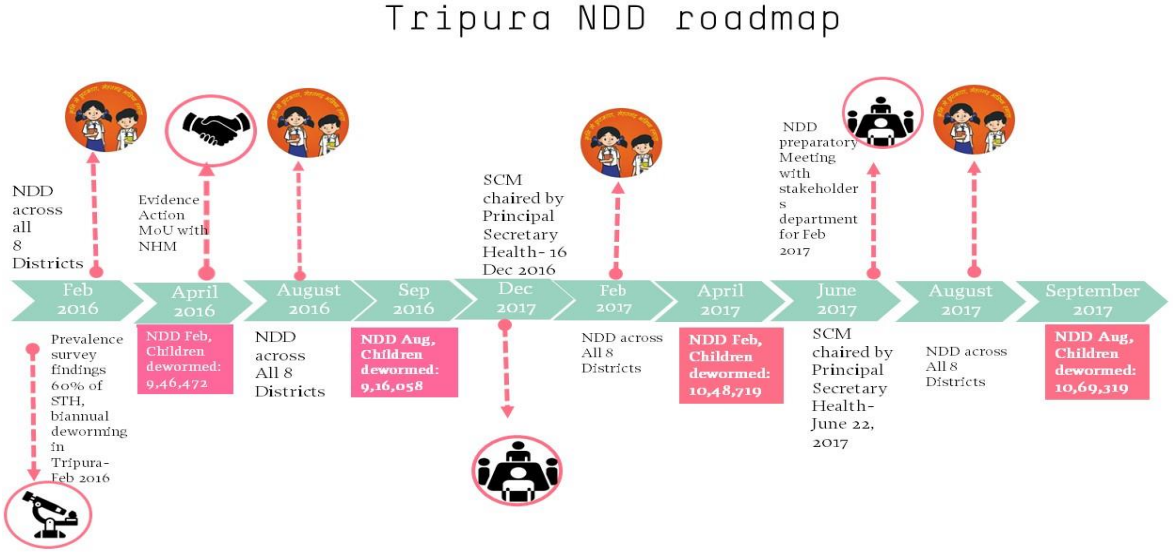
Figure 1: NDD Program Highlights

2. Program Background

2.1. State Program Background: Tripura

The State implements the NDD program in Tripura as per the GoI NDD operational guidelines. Key milestones are shown in Figure 2 below.

Figure 2: Tripura NDD Roadmap

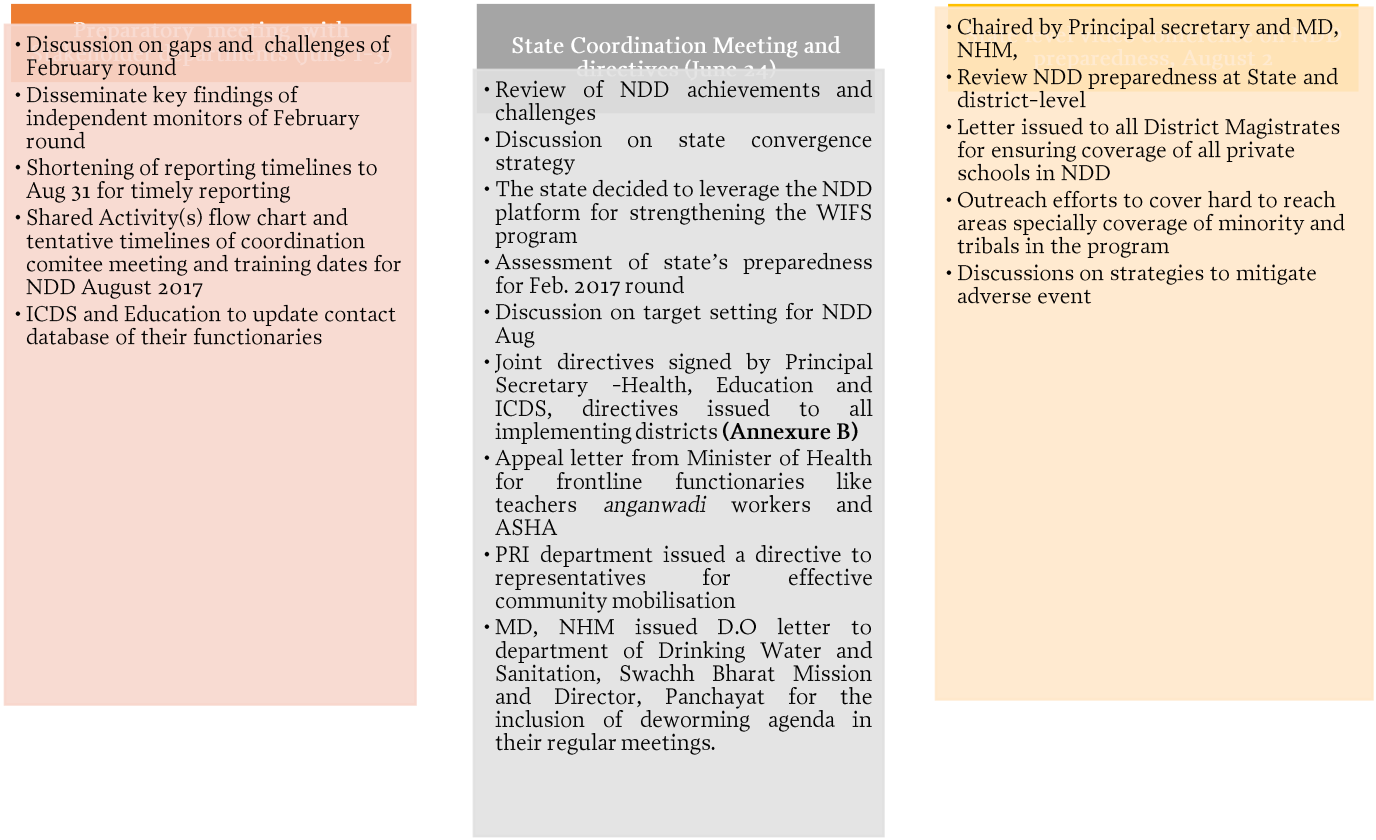


3. State Program Implementation

3.1 Policy and Advocacy

The scale of NDD program mandates for stakeholder collaboration at each administrative and implementation level. The successful implementation of NDD relies on participation and close coordination among stakeholder departments for critical activities like coordination committee meetings, trainings and logistics planning at each level. The key highlights of interdepartmental collaboration are shown in figure 4 below.

Figure 3: Efforts towards Stakeholder Collaboration



The state's convergence strategy for this round was limited to dissemination of key training reinforcement messages intended to create the long-term behavior change required to break the worm infestation cycle by improving sanitation and hygiene practices among children. Leveraging distribution channels of NDD to provide replenishment for WIFS and NIPI program supplies was not utilized in this round as schools and *anganwadi* already had adequate stocks.

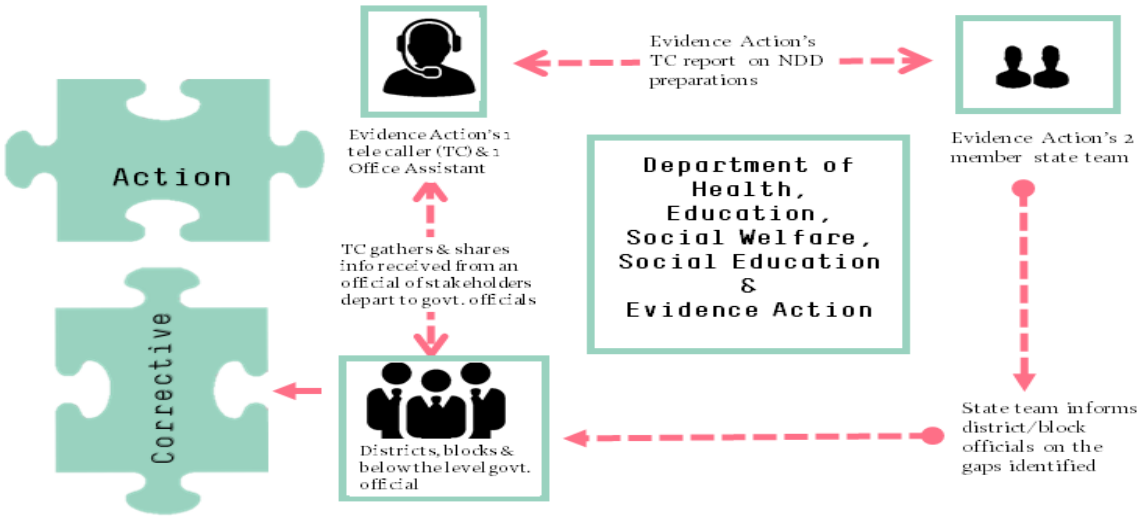
7 out of 8 districts[1] conducted District Coordination Committee Meetings as per the agreed timelines between June 24 to July 11 under the chairmanship of the respective District Magistrates/Civil medical Officers with key agenda items to finalize the training and monitoring plan and strategy to include private schools. The NDD nodal officer participated in National review meeting of NDD on July 31, 2017 organized by the Ministry of Health and Family Welfare to share updates on program preparedness for August round.

[1] West Tripura conducted DCCM on July 18

3.2 Program Management

Evidence Action provided technical assistance through a two membered state based team, one tele-caller with continued field support from its National Office based at Delhi. The state team assisted in program planning and coordinated with stakeholder departments to share real time updates on program implementation and facilitate corrective actions from the respective government departments. Figure 4 gives an overview of the information flow between the Evidence Action team and district and block government officials. Evidence Action drafted an operational plan for NDD August 2017, which was finalized by the State Nodal Officer and shared with the stakeholder departments in first week of July after approvals from NHM. The state government drafted and disseminated NDD financial guidelines with support of Evidence Action to respective stakeholders across all districts in second week of July.

Figure 4: Evidence Action Facilitates Corrective Actions



3.3 Drug Procurement, Distribution, and Management of Adverse Events

a) Drugs Procurement: The state procured 12,00,000 albendazole tablets (400 mg) to cover children of 1-19 years in all eight districts based on the determined targets. The drugs was procured at state and were tested at state-approved lab facilities prior to distribution during block training. The state used additional 25,640 albendazole (400mg) tablets available from NDD Feb round, which was donated by WHO.

b) Drug Logistics and Distribution: Evidence Action developed district and block-wise drug bundling and distribution plan **(Annexure C)** to streamline integrated distribution of NDD kit to schools and *anganwadis*. Evidence Action supported the state in tracking drug availability at district and block through tele-calling and provided timely updates to enable officials to undertake corrective actions. The Department of Health ensured bundling of these NDD kits[2] at district-level, which included drugs and all program materials, such as training handouts, IEC materials, and reporting forms.

[2] NDD kits includes drugs, IEC materials such as posters and handbills and reporting formats.

c) Adverse Event Management: To address any incidence of adverse events, the state adapted adverse event management protocol from NDD operational guidelines. No serious adverse event was reported during NDD August 2017 round in the state.

d) Drug recall status: Evidence Action supported NHM in tracking leftover albendazole tablets from the round. Information available is presented in the below mentioned table

Table 2: Status of Drug Recall

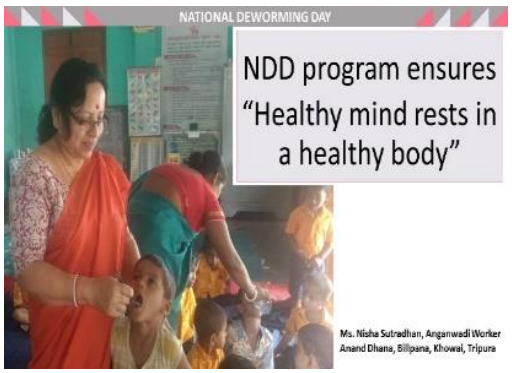
Drug Recall Summary NDD August 2017, Tripura	
Total Sealed Strips	17,935
Total Albendazole tablet inside the sealed strips (17935*10)	1,79,350
Total Albendazole tablets in used strips	782
Total usable Albendazole tablet	1,80,132

The department of health will be directing districts to use the packed seals in the upcoming February 2018 round as per drug safety recommendation.

e) **Independent drug testing: Independent Drug Quality Testing**: Evidence Action with approval from state government prior **(Annexure D)** to the August 2017 round; facilitated independent drug quality testing of locally procured Albendazole 400 mg tablets from Indian Pharmacopoeia Commission, a WHO Pre-qualified laboratory and an autonomous institution of Ministry of Health & Family Welfare, Government of India. The batch samples (140 tablets) were collected from the state and sent to laboratory for test analysis as per WHO guidelines for chewable albendazole tablets. The results were shared with the State Government, WHO and Child Health Division of the MoHFW. All test parameters comply with the specifications barring dissolution test, an indicator for bio-availability of the product. Considering the critical importance of dissolution test, a request for revision of monograph of Albendazole tablets in Indian Pharmacopoeia has been made by WHO. This has already been incorporated in the International Pharmacopoeia. A detailed report is in **Annexure E.**

3.4 Public Awareness and Community Sensitization

The NDD resource kit that Evidence Action developed was uploaded on the NHM website by MoHFW, which was customized by the State's IEC Cell then printed and distributed at the Districts. Printing and customization of IEC and training materials was bit delayed in State as per the agreed timelines. Delay in customization and printing of IEC and training materials because of delay in e tendering resulted in lack of proper review before printing thereby few discrepancies were observed in the final product. Evidence drafted a media plan[3]



[3] *Talk Show - Akash Tripra, News Icon, Headlines Tripura, Hallabol, Sristi Channel, News Vanguard, Prime 24, Awaz, Mrinalin TV, News All India, BTV, NTCN, PB 24, Kok Tripura, Sambad Tripura, Nation Today, Khas Khobor, Khabor 24 Ganta, Din Raat, D Channel, Timelines, Khumpui Tripura
* TV Spot - News Vanguard, Awaj, D Channel, Mrinalin ENN, Focus Tripura, Khowai Cable, B TV, Duranta TV, Khabar TV, Akash Tripura, Sristi Channel, Headlines Tripura, Hallabol, Doordarshan Kendra
*TV Scroll - TV Advertisement - News Vanguard, Awaj, D Channel, Mrinalin ENN, Focus Tripura, Khowai

in consultation with the State Health Department, which was adapted and rolled out via TV, radio, newspaper and social media, in English and Bengali. Evidence Action also supported in translating the social media content from Hindi to Bengali, Facebook posts were also used reach out online audiences. Additionally, a TV Talk Show was conducted with Public Relation Officer, District Nodal Officer, State Program Officer (NHM), a renowned pediatrician, SNO and CMO, West Tripura on every local channel to boost public awareness on the program. In addition, the state department used 13 WhatsApp messages on key program information (designed by Evidence Action), which were widely circulated by government in their respective official groups to create awareness.

Platform	Timelines	Frequency
TV Spot	August 3 – 17	162 times (on 14 Local Channels)*
TV Scroll	August 3 – 17	196 times (on 14 Channels)*
Radio Jingle	August 3 – 17	90 times (All India Radio, 92.7 Big FM)
Newspaper Advertisement	August 8, 9, 10 and 16	12 times (in 12 Bangla and English leading publications)
Miking	August 4 – 16	All PHC and CHC's
Talk Show	August 3 – 16	26 times (on 22 Channels)*
Social Media	August 1 – 22	44 posts (on Facebook) 485 Likes

Snapshot of Mass Media and Social Media Efforts in Tripura – NDD August 2017

Health Minister issued an appeal letter to *anganwadis* workers, ASHAs, Head Masters'/Principals' *Zilla Sabadipati*, Panchayat Secretaries, Pradhans, and Gram Panchayat Members for their active participation in NDD. 24,000 copies of the appeal were printed at districts and delivered at all administrative-levels, and published in local newspapers.

The department of health organized two press events for sensitizing media on NDD. The Health Minister chaired a press briefing with 25 media personnel on August 4 in Agartala demonstrating government's support to the program. The Department of Health further organized a detailed press sensitization workshop on August 7 chaired by the Mission Director, NHM, the event was meant to inform media on specifics and the implementation plan of the program. Evidence Action provided media kits to all participants and 32 media personnel attended the meeting from leading print, electronic, and digital media houses.

The state launch was organized at South Tripura district on August 9 in which the Tribal Welfare Minister Minister was the chief guest. Evidence Action supported with participant kits. Launch events were held at remaining 7 districts in the presence of district-level officials on the same day to increase coverage and enhance public branding of NDD.

Engaging private schools in the state has been a challenge in the past and to mitigate it with a strategy to sensitize them Evidence Action developed a media mix package, which was shared with district education officers by state in order to create more awareness and enlist private school's support for the program.

3.5 Training Cascade

a) Training and Distribution Cascade: A state-level orientation meeting cum training of master trainers was held on July 6. A total of 56 district and state officials from stakeholder departments were trained on NDD implementation. Evidence Action supported the training with presentations, kits for participants and other logistical arrangements. As per the NDD operational guidelines, a training cascade was implemented from July 12 to August 5 across all eight districts and 59 blocks. As per the state coverage report a total of 4830 government, private school's teachers and headmasters, 7315 ASHAs, 1738 multi-purpose workers and

Cable, B TV, Duranta TV, Khabar TV, Akash Tripura, Sristi Channel, Headlines Tripura, Hallabol, Doordarshan Kendra

290 multi-purpose supervisors, 9889 *anganwadis* workers were trained prior to the round. The state health department printed and facilitated, bundling of NDD kits for distribution to teachers and *anganwadi* workers during block-level trainings.

b) Training Resources: Department of Health and Family Welfare printed training resources including 690 flipcharts, 6000 handouts for schools, 11000 handouts for *anganwadis* and 8,000 leaflets for ASHAs. Evidence Action assisted in drafting the training and IEC material bundling plan as per block requirement, enabling materials to be efficiently transported in adequate quantities to all districts before commencement of training.

c) Training Reinforcement: Evidence Action supported the state in sending the training reinforcement messages as per national guidelines and as approved by NHM. State has planned to use NIC portal like February 2017 round to send approved training reinforcement SMS to functionaries. However, after sending approximately 2,00,000 (approx.) SMS its limits were exhausted so the remaining SMS were sent to functionaries with support from Evidence Action. State reached out to private telecom operators to send out SMS on awareness to community. Evidence Action supported state in its outreach effort with facilitating coordination with private service providers and drafting the content of SMS. Details are captured in table below:

Table 3: Details of SMS Training Reinforcement Messages Sent

Sl.No	Activity	Timelines	Sent by	No. of SMS sent	Functionaries	Total SMS sent
1	SMS	10 July – 23 Aug	NIC	200,000 (approx.)	CMO, DNO, DISE, DEO, IS, CDPO, BNO, ASHA, ASHA Facilitator, MPW/MPS, Headmaster/Principal/Teacher and *anganwadis*	2,00,000 (approx.)
2.			Evidence Action	7,36,229	CMO, DNO, DISE, DEO, IS, CDPO, BNO, ASHA, ASHA Facilitator, MPW/MPS, Headmaster/Principal/Teacher and *anganwadis*	7,36,229
3.			Telecom operators	2,83,5,054	Subscribers in community	2,83,5,054
					Total	**37,71,283**

Updated database and stringent filtering of contact list prior to sending SMS resulted in 99 % of messages delivered to the functionaries, which is high and same as in the last round.

d) Training Support and Quality Assurance: Evidence Action developed a presentation to be used at all the levels of training and made regular follow up calls to facilitate scheduled trainings to be conducted as per the agreed timelines. Further support was extended through training monitoring and quality assessment of 24 randomly sampled block trainings across all eight districts. Real time findings of which were included in daily trackers for mid-course corrections. Some of the key findings of Block training are listed below and a detailed report is in **Annexure F**:

The trainer did not discuss/explain:

- about the NIPI and WIFS program.
- about the role of ASHA in community mobilization.
- participants about the doses of IFA tablet and syrup.
- training flipchart/NDD Kit **(Albendazole+ Teacher/Anganwadi Handout/Reporting form+ Adverse event reporting form + IEC material(Banner/Poster)** during the training
- *anganwadi* reporting form/school reporting form should be filled by headmaster/*anganwadi* worker on the basis of single ticks & double ticks marked in register.
- participants that the Inspector of Schools/CDPO/ should submit the all *anganwadi*/school reporting forms should be given to block nodal officer (Health) by August 26, 2017

4. Monitoring and Evaluation

Monitoring, learning and evaluation is a key component of Evidence Action's technical assistance to the government. It enables an understanding of the extent to which schools, *anganwadis* and the health system are prepared for implementing the NDD performance.

4.1 Process Monitoring

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

Tele-calling and Follow up Actions: Evidence Action assessed program preparedness prior to NDD through tele-calling to track status of training, delivery and availability of drugs and IEC materials at district, block, school and *anganwadi*-levels. Tele-calling used pre-designed and standardized tracking sheets to capture gaps in field implementation, as gathered from the telephonic follow ups. These tracking sheets were shared daily with the state government to enable to take rapid corrective actions as necessary, such as issuing departmental directives, organize a video conference to coordinate with officials, or sending reinforcement SMS messages.

Out of 10,400 phone calls including follow up calls, 9,586 calls (92%) were successful from June to September 2017. The rate of successful calls increased to 92% from 90% for this round. The insights from SMS delivery report and tele calling shows that more than 99% SMS were delivered and overall 92% calls were successful. Whereas process monitoring data shows only 59% and 38% of teachers and *anganwadi* workers received SMS. The difference in success rate of tele calling and SMS in comparison to process monitoring findings is owed to; use of filtered database before sending SMS and tele calling, which led to efficient use of resources though it limited the outreach of these efforts because of quality of contact database.

Monitoring by Independent Agency: Evidence Action supported the government in assessing the processes and performance of the NDD program by hiring an independent survey agency, Market Xcel Data Matrix Private Limited, whose 80 trained monitors observed implementation on NDD and mop-up day. The findings were shared in real-time with state government officials on the day of visits to enable immediate corrective actions.

Monitoring Visits by Evidence Action: In total, 33 visits were made by the Evidence Action team to government and private schools, and *anganwadi*s on NDD and mop-up day. State Government officials from department of health also visited to 17 government

schools, 4 private schools, and 16 *anganwadis* to monitor implementation of NDD and mop-up day. The detail note from visits is annexed as **Annexure G.**

4.2 Assessing Treatment Coverage

Activities carried out during August 2017 round of NDD in Tripura, included coverage validation to gauge the accuracy of reported treatment coverage.

Coverage Validation: Coverage validation is an ex-post check of the accuracy of the reporting data and coverage estimates. In this exercise conducted during NDD August 2017 round, a total of 400 randomly selected schools and 400 *anganwadis* were visited. 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 school. 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.

Snapshot of M&E activities
I. Telephone Monitoring and Cross Verification
• Telecalling conducted across 59 blocks in 8 districts of the state • 9586 successful calls made during June 19 - September 15, 2017 • 2705 calls to health functionaries incluidng district and block-level officals and ASHAs • 2,767 calls to Social Welfare & Social Education (District, block-level offcials, ICDS Supervisor, and AWW)
II. . Training Quality Assesment
• A total of 24 block-level training quality assesment was done using standard format.
III. Field Monitoring Visits
• Total 33 monitoring visits by Evidence Action staff were made in selected schools and *anganwadis* • NDD monitoring checklist given in NDD operation 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
• Process monitoring was conducted in all 08 districts on NDD & mop-up day • 80 trained independent monitors from athe survey agency visited 160 schools and 160 *anganwadis* • 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
• Coverage validation was conducted in all eight districts post mop-up day during August 23-31, 2017 • 80 trained independent monitors from a third party agency, hired by Evidence Action, visited 400 schools and 400 *anganwadis*

Community Evaluation Survey (CES): The CES is a WHO tool[4], which was implemented in state with approvals from NHM in month of September 2017. A total of 1800 children were targeted to be interviewed by monitors of *independent survey agency,* Market Xcel Data Matrix Pvt. Ltd, in 30 villages of five districts. Detailed analysis and findings would be shared by end November 2017.

[4] WHO recommended tool for assessing the performance of the NDD round while measuring coverage in specific populations (sex, rural vs. urban) and identify reasons for non-compliance to drug consumption and gaps in drug administration

Coverage Reporting: Government of India provided the state with 68 user IDs and passwords for NDD mobile/ web application to be used at all Blocks and Districts for the purpose of coverage reporting. All blocks submitted coverage report to districts. The state has a pre-decided target of 11,13,062 children and while reporting coverage it deviated to a higher side of 11,38,238 because later on state decided to cover pre-primary children of private schools, inclusion of brick kilns migrants and refugee population in their target, which increased the overall target while coverage reporting.

4.3 Key Findings of Process Monitoring and Coverage Validation

Process Monitoring findings highlight that 94% schools and 100% *anganwadis* attended training for the recent round of NDD and around 94% of schools and 98% *anganwadis* conducted deworming either on NDD or mop-up day (Annexure H). Coverage validation findings also reflected that 99% of schools and 100% of *anganwadis* dewormed children during NDD or mop-up day (Annexure I). Around 97% of schools and 98% of *anganwadis* received NDD posters and banners. However, integrated distribution of NDD

kits[5] increased by around 20 percentage points for both schools and *anganwadis*. This shows that only a minor percent of the schools and *anganwadis* who participated in the trainings, did not receive all materials (albendazole, banner/poster and handout/reporting forms) in the trainings, which clearly indicates for further improvement in integrated distribution for Block-level trainings. Around 59% of schools and 38% of *anganwadis* received training reinforcement messages through SMS. Awareness on the possible adverse events, and adverse event management practices was fair among teachers and *anganwadi* workers. Around 44% of teachers and 54% of *anganwadi* workers reported the possibility of any adverse event among children after administration of albendazole tablets, which has declined substantially by 19 percent point for teachers and marginally declined by 3 percent point for *anganwadi* workers in comparison to the February 2017 round. Most of the teachers and anganwadi workers were aware about processes for management of adverse events like laying down the child in open/shaded place or giving ORS/water. 100% of sampled private schools (N=136) reported being trained for NDD. All private schools (100%) received sufficient drugs for deworming, 100% had received a banner/poster, handouts and reporting forms. SMS related to NDD were received by only 60% of private schools teachers/headmaster in comparison to 27% in the February 2017 round, which reflects urgent need to update contact database. Out of 100% schools who received albendazole only 48% of them administered it to children, which clearly shows need of more efforts to sensitize private schools on need of deworming.

[5]Integrated distribution of NDD kits includes albendazole, banner/poster and handout/reporting forms and provided to schools and AWC during the trainings.
[6] These indicators are based on small samples, therefore, precautions should be taken while interpreting the results as these are not representative of all private schools in the state

Table 4: Key Findings from Process Monitoring and Coverage Validation

Indicator	School (%)	*N*	*Anganwadi* (%)	*N*
Received SMS for current NDD round	59	160	38	160
Attended training for NDD	94	160	100	160
Integrated distribution of albendazole tablets and IEC materials	82	160	84	160
Schools/*anganwadis* conducting deworming	99	400	100	400
Children consumed tablet[7]	99	1190	NA	NA
Followed correct recording[8] protocol	68	397	73	400
Copy of reporting form was available for verification	78	397	80	400
State-level verification[9] factor	0.91	53,940	92	10,916
Estimated NDD coverage	76	NA	92	NA

Convergence Strategy: The state continued its strategy to leverage the NDD platform for strengthening the WIFS program. As a strategy the state decided to run a dedicated campaign to promote sanitation and hygiene practices among children during NDD. The related component were included during block trainings.

As guided by the NHM, Evidence Action designed monitoring tools to gauge success of state's convergence strategy to leverage NDD platform in delivering services and information for ongoing program, which was approved by the MD, NHM. Key findings reveal that 66% of schools and 65% of *anganwadis,* out of total sampled, were orientated during training on IFA tablet administration. Out of total sample, more than 85% of school and 91% *anganwadi* children washed their hands and cut their nails before albendazole administration on NDD and mop-up day, which is constant in comparison to NDD February 2017 round. The possible reasons for high indicators are proper dissemination of correct messages during block trainings and dedicated printing of IEC materials to converge with NDD program efforts.

Coverage validation data revealed that 68% of schools and 73% *anganwadis* followed correct recording protocols for the number of children dewormed in comparison of 61% of schools and 62% of *anganwadis* for February 2017 round. 85% of *anganwadi* workers did not have a list of unregistered preschool-age children and out-of-school children (66%) during August 2017 round in comparison to 87% of unregistered preschool-age children and out-of-school children (62%) for the February 2017 round. It shows a scope of improvement in involvement of ASHA as per the NDD guidelines and a possible reason for this could be gap in orientation of ASHA on their expected role in NDD during block

[7] Based on child interview conducted during coverage validation in schools

[8] 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

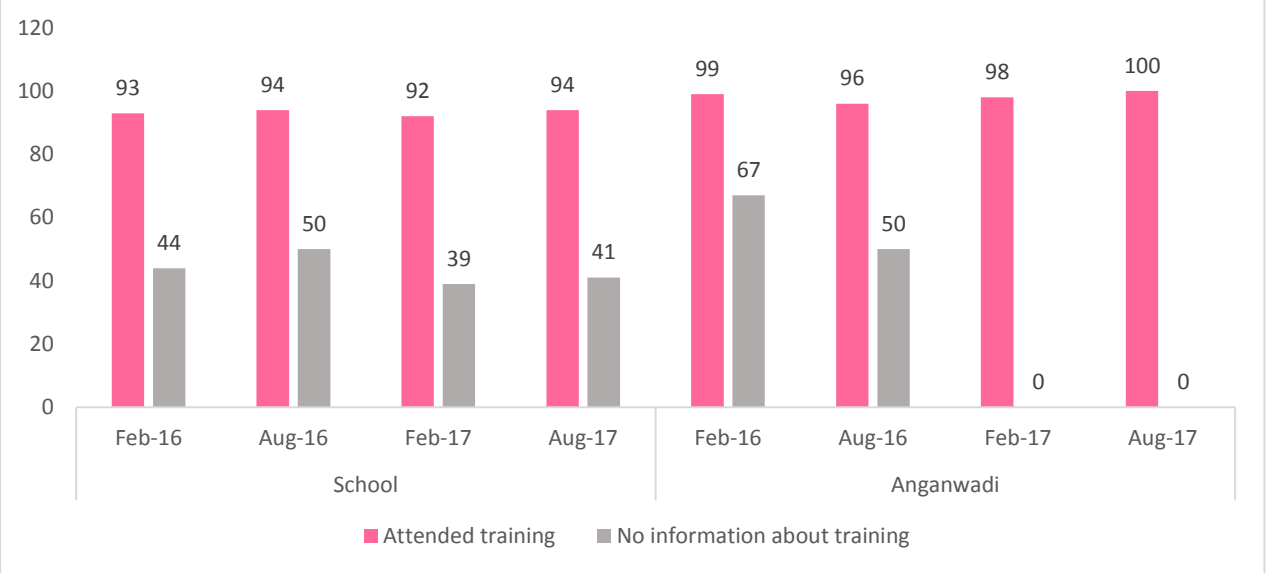
[9] Ratio of recounted value of the dewormed children to the reported value. This calculation is based on only those schools (n=293) and *anganwadis* (n=322) where deworming was conducted and copy of reporting form was available for verification.

training. Out of total schools and *anganwadis* conducted NDD, copy of reporting form was available in 78% of schools and 80% of *anganwadis* in comparison to 74% of schools and 81% of *anganwadis* during February 2017 round.

The state government reported 94% coverage in schools and 95% for 1-5 years registered children in *anganwadis*. Through coverage validation, attempt was made to understand the maximum number of children that could have been dewormed in the schools and *anganwadis*. NDD treatment coverage in schools considering maximum attendance of children on NDD and mop-up day was estimated. Coverage validation data showed that 99% of schools conducted deworming on either NDD or mop-up day, maximum of 80% of children were in attendance, 99% of children received albendazole tablet and 97% of them reported to consume albendazole tablet under supervision. Taking these factors into account, 76% (0.99*0.80*0.99*0.97) of enrolled children could have been dewormed at schools. Since no child interview is conducted in *anganwadis* verification factor was applied for1-5 years registered children from coverage validation data on government reported coverage of 1-5 years. It was estimated that around 92% (0.97*0.95) of registered children in *anganwadis* could have been dewormed. Findings from coverage validation revealed that only 33% ASHA responded to prepare the list of unregistered and out-of-school children, which indicates the scope of further improvement. 70% of ASHA responded that they conducted meetings with parents to inform about NDD, efforts should be made to enhance and monitor their mobilization activities. The detailed tables with process monitoring results and coverage validations are attached herewith **(Annexure H & I)**.

4.4 Trend of Key Indicators over the Rounds

Fig 5: Comparison of Training Indicators for School/*Anganwadi* over rounds



To understand the changes in selected indicators over NDD rounds, selected key indicators are presented in graphical form in fig. 5, 6 and 7. Data in figure 5 shows constant and high percentage of training participation from school and *anganwadi* from February 2016 to February 2017 round. All *anganwadi* workers have received information on training dates and venue during February and August round of 2017.

In figure 6, most of the indicators have remained high and constant over the rounds. Integrated distribution for schools has increased continuously from February 2016 round to August 2017 round. Indicator on integrated distribution has drastically improved by 19 and 16 percentage points for the schools and *anganwadis* respectively during the August 2017 round in comparison to the February round as the state could not do integrated distribution because of repackaging of drugs during February 2017 round. Indicator on received training reinforcement SMS has increased by 14 percentage points from February 2016 to August 2017 round. During August 2017 round, the percentage of SMS received has slightly decreased by two percentage points for schools and substantially decreased by 12 percent points for *anganwadis* in comparison to the February 2017 round. Though, there is an overall improvement in the SMS delivery indicators over the rounds but they are still low and shows that contact database continues to be challenge impacting overall delivery of the SMS to the teachers and *anganwadi* workers.

Fig 6: Comparison of Key Indicators in Schools over round

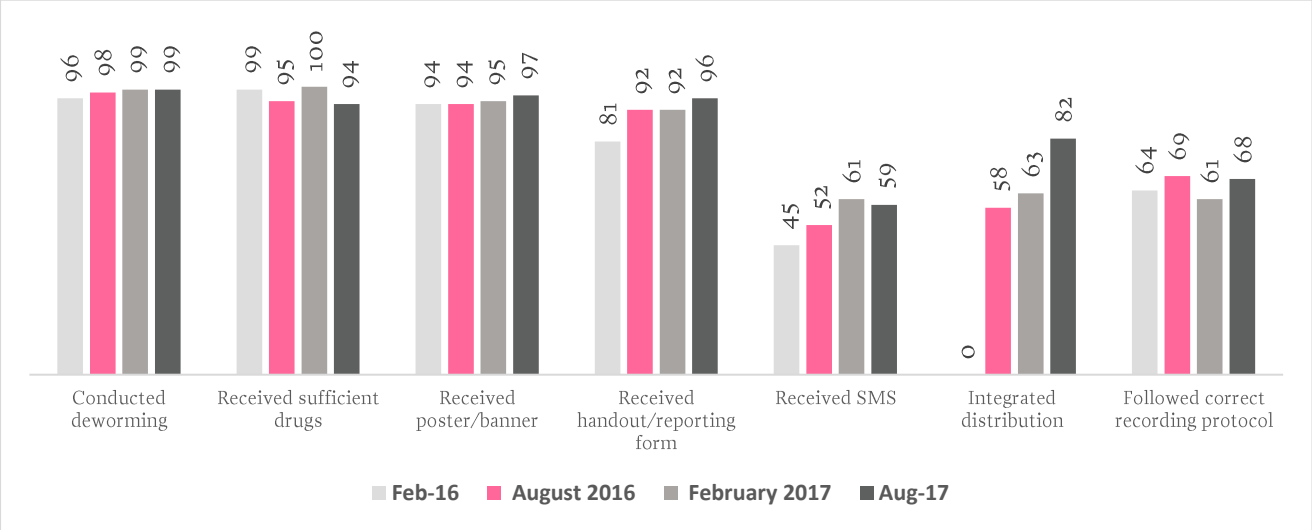
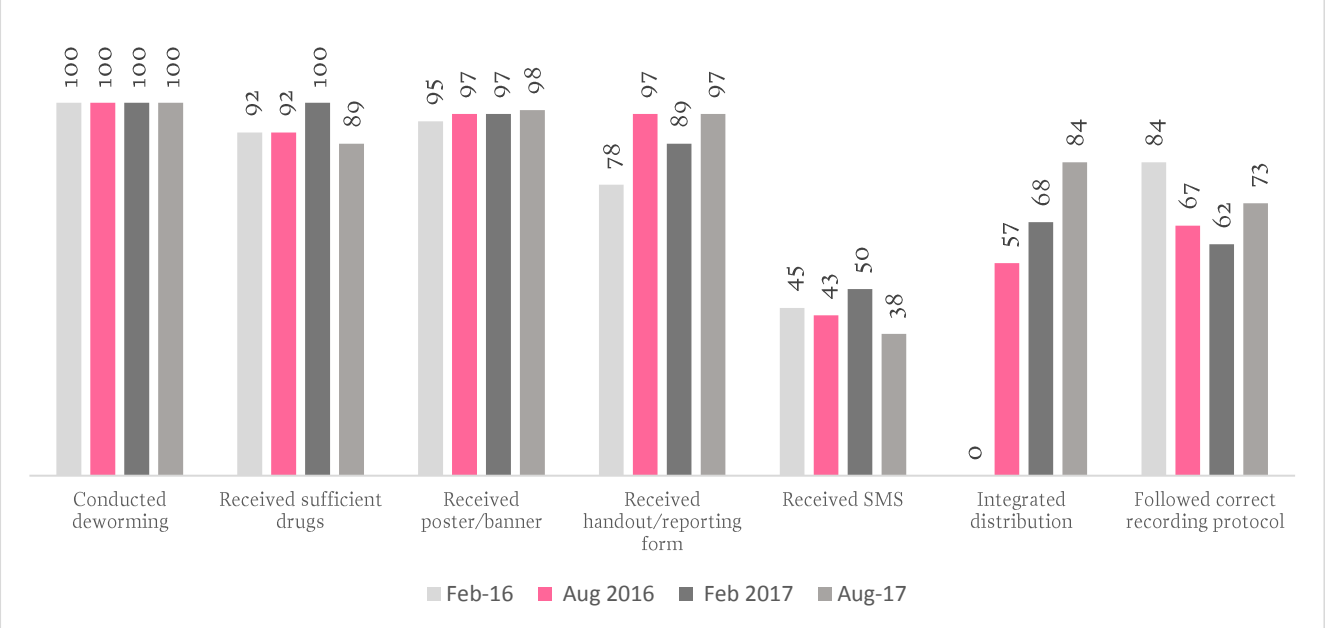


Fig 7: Trend of Key Indicators in *Anganwadis* during August 2016 - August 2017 Round



In figure 7 the indicators like conducted deworming and received sufficient drug have remained high from February 2016 to August 2017 round. However, the indicator for received sufficient drug marginally dipped marginally by 11 percentage points for *anganwadis* during August 2017 round in comparison to NDD February 2017 round. Trend in figure 7 depicts gradual decline in following correct reporting protocols and has dipped marginally by 9 percentage points from February 2016 to August 2017 round. However, indicator on following reporting protocol improved by 11 percentage points during August round possibly because of emphasis during block trainings. The indicator on received SMS has been uneven over the rounds and has declined by 7 percentage points during August 2017 round in comparison to February 2016 round. Same indicator shows a marginal increase by 12 percentage points during August 2017 round in comparison to February 2017 round.

The low indicator of following correct reporting protocols in figure 6 and7 should be a reason of concern for the state and possible reason behind it could be limited reinforcement of information on criticality of following reporting protocol during block trainings. However, this indicator has improved marginally for both schools and *anaganwadi* during August 2017 round but still requires significant improvement.

5. Recommendations

It is critical to conduct consistent high coverage program every six months across the state to bring down 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. Below are few recommendations to be implemented in forthcoming rounds:

- There was delay in printing of IEC and training materials, which led to insufficient review of the prototypes before printing leading to minor discrepancies in the product. State must initiate timely customization and printing of IEC and training materials as per the timelines of NDD guidelines.
- State commitment towards improving hygiene practices with more extensive campaign should be continued in collaboration with *Swachh Bharat Abhiyan* for creating synergies on NDD program and to bring a sustainable impact in schools and community.
- Findings from coverage validation indicates increase in the indicator of following correct reporting protocol as per the NDD guidelines from 61% of schools and 62% of *anganwadis* for February 2017 round to 68% for schools and 73% for *anganwadis* respectively for August 2017 round. While, the indicator has gone up but it still requires improvement. Functionaries should be orientated on criticality of the reporting protocols during block trainings and availability of reporting forms should be ensured at schools and *anganwadis*. Additionally, the number of SMS on criticality of reporting protocol can be increased in existing SMS plan.
- Promote strengthening of private school engagement through participation of their representatives at district-level coordination committee meetings, and special meetings called by district and block education officers. The state should continue communicating to the district magistrates at least two months in advance intimating them about their role in private school engagement.
- As PMCV findings for August 2017 round shows only 59% of teachers and 38% of *anganwadi* workers received training reinforcement SMS in comparison to 60% of teachers and 50% of *anganwadi* workers during February 2017 round. The low indicators reflects there is urgent need by Education and Social Welfare & Social

Education department to update the contact database so that key program information reaches teachers and *anganwadi* workers.

- During coverage validation, it was found that a substantial number of *anganwadis* did not have a list of unregistered preschool-age children (85%) and out-of-school children (66%). This indicator has marginally improved by 2 and 4 percent points for unregistered preschool-age children and out-of-school children respectively during August 2017 round in comparison to February 2017 round. To extend deworming benefits to unregistered children of community, regular orientation of ASHA workers on their specific role in community mobilization through existing platforms like Village Health, Sanitation and Nutrition Committee, ASHA Vharosa Divas and their monthly meetings at Cluster and Blocks should be capitalized and it would be vital for implementing future rounds.
- State ASHA cell's representative should be invited in Steering Committee Meeting and post discussions, a letter to District ASHA cells should be sent detailing the expected role of ASHAs during NDD implementation. Additionally, state needs to update contact database of ASHAs so that training reinforcement messages are being successfully delivered to them. Further, ASHA cells representative should attend training and coordination committee meetings at districts and closely monitor ASHA's mobilization efforts.

6. List of Annexures

Annexure A	Report Submitted by National Health Mission, Tripura to Government of India
Annexure B	Joint Directives
Annexure C	Drug bundling plan
Annexure D	Drugs testing approval by NHM
Annexure E	Drugs testing report of WHO accredited Lab
Annexure F	Findings of block-level training
Annexure G	Monitoring visit report
Annexure H	Process Monitoring findings
Annexure I	Coverage Validation findings

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A Memorandum of Understanding with the State National Health Mission and Evidence Action represented through its in country technical assistance partner Pramanit Karya India Private Limited was signed in December 2016 to guide the technical assistance efforts