



Independent Monitoring of  
National Deworming Day in Karnataka  
August 2017

REPORT  
November 2017

## **Process Monitoring and Coverage Validation**

During each round of National Deworming Day (NDD), Evidence Action conducts process monitoring on NDD and mop-up day and post-NDD coverage validation through an independent survey agency to assess the planning, implementation, and quality of the program and to identify gaps and suggest recommendations for improvements in future NDD rounds. Process monitoring is conducted to understand government implementers' preparedness for NDD and their adherence to the program's prescribed processes, while coverage validation is an ex-post check of the accuracy of the reporting data and coverage estimates to verify government-reported treatment figures.

## **Methodology**

Using a two-stage probability sampling procedure, a total of 250 schools and 250 *anganwadis* were selected for monitoring visits during process monitoring on NDD and mop-up day, and 625 schools and 625 *anganwadis* in 25 districts were selected for coverage validation. Through a competitive review process, Evidence Action hired a survey agency to conduct monitoring activities approved for by the government. Evidence Action designed and finalized survey tools with approvals from Karnataka's Department of Health. One combined tool for process monitoring was used at schools and *anganwadis* on NDD and mop-up day, and one each for schools and *anganwadis* for coverage validation.

## **Implementation**

Prior to the survey, Evidence Action conducted a one-day comprehensive training of master trainers of the agency, who further conducted a two-day training of 120 monitors (including buffer monitors) that included a brief orientation on NDD, the importance of independent monitoring, details of the monitoring formats including CAPI practices, survey protocols, and practical sessions. Each monitor was allotted one school and one *anganwadi* for process monitoring on NDD and mop-up day and subsequently, five schools and five *anganwadis* for coverage validation. Monitors were provided with a tablet computer, charger, printed copy of monitoring formats as backup, and albendazole tablets for demonstration during data collection. The details of sample schools were shared with monitors one day before the commencement of fieldwork to ensure that they did not contact schools and *anganwadis* in advance. Appropriate quality assurance measures were taken to ensure the data collected was accurate, consistent and authenticated including that school and *anganwadi* workers (AWWs) were asked to sign a participation form with an official stamp to verify the visit. Further, monitors verified the photographs of schools and *anganwadis* collected during IM data collection and the CAPI process included authentication of the location of the interview. Evidence Action reviewed all the data sets and shared the feedback to the agency for any inconsistencies observed. All analysis was performed using Stata version 13/14 and Microsoft Excel 2013.

## Key Findings

### Training

Prior to each NDD round, teachers and *anganwadi* workers are trained on program processes and protocols to ensure effective implementation of NDD, including integrated distribution of drugs and IEC materials. Findings show that 57% of school teachers and 72% *anganwadi* workers attended training for the August 2017 NDD round. Private school attendance, however, was only 43% (Annex-Table PM7). Among those who did not attend training, 61% of school representatives (government and private schools) and 46% of *anganwadi* workers reported no information about NDD training as the main reason for not attending (Annex-Table PM1). Further, 50% of trained teachers provided training to other teachers in their schools and 32% of school teachers and *anganwadi* workers reported that they received a SMS about NDD (Annex-Table PM1).

### Integrated Distribution of NDD Kit Including Drugs

Despite the mandate from the NDD guidelines and a well-defined distribution plan, integrated distribution of the NDD kit was low for both schools (35%) and *anganwadis* (38%). Around 72% of schools and 80% of *anganwadis* received tablets for deworming, while 52% of schools and 62% of *anganwadis* received posters/banners (Annex-Table PM4). Moreover, 86% of schools and 84% of *anganwadis* reported having received a sufficient quantity of tablets (Annex-Table PM3). Half of the schools and *anganwadis* received handouts/reporting forms (Annex-Table PM4). Around 74% of government schools received albendazole tablets and 85% of them reported to have tablets in sufficient quantity. Among private schools, around 52% received tablets for deworming and 91% of these schools reported having received sufficient quantities. Forty-three percent of private schools attended training, which is crucial for receiving an integrated distribution of necessary information and materials. Thirty percent of private schools covered during process monitoring received posters/banners and 40% of private schools received handouts/reporting forms for NDD (Annex- Table PM7).

### Source of Information about the Recent Round of NDD

Training was the most reported mode of information in schools (28%) and *anganwadis* (40%) on NDD. Twenty-seven percent of the schools and 28% of the *anganwadis* reported hearing about NDD from other school teachers/AWWs (Annex-Table PM1). Only 22% of schools and 16% of *anganwadis* reported receiving information about NDD through the newspaper. WhatsApp messages were the least effective source of information about NDD for this round.

### NDD Implementation

The proportion of schools and *anganwadis* that conducted NDD was high in the August 2017 NDD round. Coverage validation data shows that around 80% of schools and 91% of *anganwadis* dewormed children during the August 2017 round of NDD (Annex-Table CV1). Of the 68 schools and 74 *anganwadis* that reported implementing NDD during the visit, monitors observed deworming activities in 92% of schools and 91% of *anganwadis* (Annex-Table PM5).

## Adverse Events - Knowledge and Management

A high level of awareness regarding potential adverse events due to deworming was observed among all the headmasters/teachers and AWWs interviewed, as well as a high level of understanding of the appropriate protocols to follow in the case of such events. Mild abdominal pain was listed as a side effect by 75% of headmasters followed by vomiting (67%), while 78% of *anganwadi* workers listed vomiting followed by nausea (67%) as a symptom of an adverse event. Around 40% of teachers and *anganwadi* workers recognized fatigue as a side effect (Annex-Table PM6). Further, 71% of teachers and 73% of *anganwadi* workers knew to make a child lie down in an open and shaded place in the case of any symptoms of adverse events. Around three-fourths of schools and *anganwadis* reported the need to call a PHC doctor if symptoms persisted (Annex-Table PM6).

## Recording Protocol

Coverage validation data revealed that 60% of schools and 74% of *anganwadis* that conducted deworming followed the correct recording protocols. Additionally, around 26% of schools and 11% of *anganwadis* followed partial protocols (marking down different symbols or making a list of dewormed children), however, 14% of schools and 15% of *anganwadis* did not follow any protocol to record the information of dewormed children (Annex-Table CV3). As recommended in the NDD guidelines, teachers and *anganwadi* workers were supposed to retain a copy of reporting form; however, 36% of headmasters and 37% of *anganwadi* workers were not aware of this requirement (Annex-Table PM2). Further, it was observed during coverage validation that reporting forms were available in only 54% of schools and 55% of *anganwadis* (Annex-Table CV1).

ASHAs were required to prepare a list of the children not attending schools and *anganwadis* and submit it to *anganwadi* workers, as recommended in the NDD guidelines. However, findings suggest that lists of out-of-school (6-19 years) and unregistered (1-5 years) children were not available at 68% schools and 57% of *anganwadis* respectively (Annex-Table CV1). These figures do not corroborate with information shared by ASHAs, as 59% of 545 ASHAs present at *anganwadis* at the time of survey reported to prepare the list of unregistered and out of school children and 96% of the 59% of ASHAs who prepared the list reported to share the list with the *anganwadi* workers (Annex-Table CV2 & CV1). Moreover, 67% of ASHAs reported to conduct meetings with parents to inform them about NDD, and 80% reported to administer albendazole to children during NDD (Annex-Table CV3).

## Coverage Validation

Verification factors<sup>1</sup> are common indicators to measure the accuracy of reported treatment values for Neglected Tropical Disease control programs.<sup>2</sup> These factors also give an idea about record keeping and data management at the service delivery point. The verification factor was estimated on the basis of the availability of a copy of reporting forms at schools and

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<sup>1</sup>A verification factor of 1 means the schools reported the exact same figures that they recorded on deworming day. A verification factor less than 1 indicates over-reporting, while a verification factor greater than 1 indicates under-reporting.

<sup>2</sup>WHO (2013), Data Quality Assessment tool for Neglected Tropical Diseases: Guidelines for Implementation December 2013.

*anganwadis*. The state-level verification factor for school enrolled children was 0.56, indicating that on average, for every 100 dewormed children reported by the school, 56 were verified through available documents. The overall state-level verification factor for children dewormed at *anganwadis* was 1.15, indicating under-reporting of children dewormed by *anganwadis*. The category-wise verification factors for registered (1-5 years), unregistered (1-5 years) and out-of-school (6-19 years) children are 1.06, 1.11 and 1.57 respectively (Annex-Table CV3). Findings clearly indicate a lack of proper record management at schools and consequently over reporting of dewormed children at school level. Although, the overall *anganwadi* verification factor shows better reporting of all target groups, however, proper record keeping and reporting is a challenge for unregistered and out-of-school children. Despite challenges in reporting and documentation of NDD coverage data, the majority of the children present at schools on NDD or mop-up day received (98%) and consumed (91%) the albendazole tablet on either on NDD or mop-up day.

Against the state government reported 93% coverage in schools and 90% for 1-5 years registered children in *anganwadis*, attempts were made to understand the maximum number of children that could have been dewormed in the schools and *anganwadis* through coverage validation data. The NDD treatment coverage in schools was estimated considering the maximum attendance of children on NDD dates. Coverage validation data showed that 80% of schools conducted deworming on either NDD or mop-up day (Annex-Table CV1), a maximum of 94% of children were in attendance (Annex-Table CV3), 98% of children received an albendazole tablet, and 91% of children reported to consume the tablet under supervision (Annex-Table CV4). Taking these factors into account, 68% ( $0.81 \times 0.94 \times 0.98 \times 0.91$ ) of enrolled children could have been dewormed in the schools. Since interviews of children are not conducted in *anganwadis*, the verification factor of 1-5 years registered children from coverage validation data is applied to government reported coverage data. It was estimated that around 95% ( $1.06 \times 0.90$ ) of registered children in *anganwadis* could have been dewormed. The calculation of verification factors is based on only those schools and *anganwadis* where a copy of the reporting form was available for verification. Therefore, adjusted coverage in schools and *anganwadis* based on verification factors needs to be interpreted with caution.

## Recommendations

The following are the key recommendations for program improvements that emerged from the process monitoring and coverage validation exercise.

1. In coordination with all stakeholder departments, consensus on fixing target populations will help to assess program coverage and expand reach to children not attending schools and *anganwadis*.
2. Training is crucial to NDD, impacting distribution of drugs, IEC and training material in the NDD kit and their subsequent availability at school and *anganwadis*, as well as being the key source of NDD information. Teachers and *anganwadi* workers should be encouraged to participate in training. Pre-planning of sessions and timely communication of training dates and venues are crucial steps in this direction. School teachers and

headmasters who attend training must be mandated to further impart adequate training to other teachers in their schools. Further, efforts should be made to ensure that block level trainings are completed at least 10 days prior to NDD leaving sufficient time for intensive community mobilization activities. The state is recommended to make stringent review and follow up of districts for ensuring the same.

3. As a substantial proportion of schools and *anganwadis* did not receive SMS for this round, efforts should be made to have an updated contact database across all stakeholder departments, including frontline workers, to ensure timely sharing of the training reinforcement SMS and information pertaining to NDD.
4. Low rates of integrated distribution require efforts to strengthen and align the distribution cascade whereby teachers/headmasters and *anganwadi* workers receive NDD kits at the time of training.
5. There is scope for greater involvement of ASHAs in mobilizing out-of-school children and spreading awareness on deworming benefits. Efforts are required to increase ASHA participation and engage them to prepare lists of 1-5 years unregistered and out-of-school children in their communities and community mobilization. ASHA participation could be further strengthened by highlighting the role of ASHA in the joint directive, encouraging their participation in training sessions, and sending reminder SMSs to them with information on incentives.
6. As findings reveal, low performance of private schools on monitoring indicators, efforts should encourage the participation of private schools in training, facilitating drug logistics, sharing IEC materials, and managing adverse events.
7. Coverage validation findings revealed unavailability of a copy of reporting forms in a substantial proportion of schools and *anganwadis*, which restricts the comparison of verified coverage numbers with reported coverage data as in reporting forms. Along with providing two copies of reporting forms during training, trainers should ensure that teachers/headmasters and *anganwadi* workers understand how reporting forms need to be maintained at their level.