

Evidence
Action

Deworm the
World Initiative

School-based Deworming in
Oyo State, Nigeria
Process Monitoring and Coverage
Validation Report
October 2018 Round



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The contribution of all other program stakeholders to the generation of this report, including Infotrak Research and Consulting, are highly appreciated.

Glossary

FLHF. Frontline health facility
FMOH. Federal Ministry of Health
LGA. Local government area
MDA. Mass drug administration
NTD. Neglected tropical disease

PC. Preventive chemotherapy
SAE. Severe adverse event
SPHCB. State Primary Healthcare Board
STH. Soil-transmitted helminths
WHO. World Health Organization

1.0 Executive summary

In October 2018, Oyo state's Neglected Tropical Diseases (NTD) Unit under the State Primary Healthcare Board (SPHCB) within the State Ministry of Health (SMoH) carried out the second round of school-based deworming of children aged 5-14 in 13 of 33 local government areas (LGAs), according to endemicity for soil-transmitted helminths (STH). In total, 4,435 public and private primary and junior secondary schools were targeted for treatment.

To assess the effectiveness of implementation and identify areas for improvement, Evidence Action designed data collection tools and a sampling method to observe and measure the quality of teacher training and deworming activities, and implemented coverage validation to affirm the treatment results reported by head teachers. Through a competitive selection process, Evidence Action recruited an independent firm, Infotrak Research and Consulting, to collect data from a sample of 51 teacher trainings, 67 schools, and 67 communities participating in school-based deworming.

Prior to deworming, teachers were trained to administer safe and effective STH treatment (mebendazole). Infotrak monitors observed 51 teacher training sessions, and found that required training materials were handed out in over 90% of trainings, except for the severe adverse event (SAE) protocol, which was given in 63% of trainings. Eight of the nine topics were completely covered in at least 80% of the trainings. Attendance at trainings stood at 66% of the expected attendees; most of those who did not attend cited late or lacking communication of the event details. Some trainers conducted mop-up trainings in the days leading up to the deworming exercise to ensure that more teachers were trained in preparation for MDA.

On Deworming Day, monitors visited schools and found that teachers adhered to the majority of the key mass drug administration (MDA) procedures; 98% of teachers were seen administering the correct dosage of mebendazole, and use of the treatment registers was noted in 85% of schools.

Overall awareness of Deworming Day was generally high (88%); albeit slightly higher among the parents of enrolled children (91%) than those of non-enrolled children (84%). This, combined with the fact that the majority of parents (90%) indicated that they would send at least one of their children for deworming, attests to the effectiveness of the sensitization messages in reaching and influencing their intended recipients. Parents' key sources of deworming information were the child (51%) and the radio (44%).

Coverage validation was conducted in two randomly selected LGAs, Afijio and Iseyin. Both LGAs were found to have surveyed coverage (children who reported having swallowed the drugs) of 68%, lower than the World Health Organization's (WHO) recommended target of 75%. The reported coverage (Afijio - 82%, Iseyin - 86%) from head teachers was therefore not validated by the surveyed coverage, an indication that the population denominator might need to be revised or that reported treatments may have been inflated. The program reach (children who were offered the drug) in Afijio and Iseyin was 72% and 70% respectively. A

disaggregation by enrollment status revealed a lower program reach for the non-enrolled population (58% in Afijio, 49% in Iseyin) as compared to the enrolled (72% in Afijio, 73% in Iseyin). A large proportion of children who were not offered the drugs cited that a distributor did not come to the deworming venue (56% in Iseyin and 32% in Afijio) or the unavailability of the child on deworming day (18% in Iseyin and 21% in Afijio).

2.0 Introduction

Parasitic worm infections, such as STH and schistosomiasis, interfere with children's nutrient uptake, causing anemia, malnourishment, and impaired mental and physical development. These symptoms pose a serious threat to a child's health, education, and economic potential. Infected children are often too sick or tired to concentrate in school, or to attend at all. Parasitic worms also pose a massive threat to human capital, hindering schooling and economic development in parts of the world that can least afford it. School-age children typically harbor the highest intensity of infection from STH and schistosomiasis, and therefore the WHO and Nigeria's Federal Ministry of Health (FMoH) recommend large-scale school-based deworming to control these diseases. Evidence Action provides technical support to several Nigerian state governments working to eliminate the public health threat of worms through school-based deworming.

In October 2018, the Oyo State NTD Unit, under the SPHCB of the SMOH, conducted the second round of statewide school-based deworming in 13 LGAs in the state according to their endemicity for STH. A mop-up treatment day was scheduled two days after the Deworming Day to treat children who were sick, on medication, or unavailable on Deworming Day to receive treatment. Enrolled and non-enrolled children aged 5-14 received mebendazole in both public and private primary and junior secondary schools. Teachers received a one-day training to properly administer the safe and effective tablets.

Independent monitoring was conducted to identify any challenges arising in the implementation of deworming, as well as to inform the program on areas of improvement in future deworming rounds. Coverage validation was also conducted to validate the treatment data reported by head teachers.

3.0 Methodology

Infotrak recruited a total of 76 monitors and 10 supervisors, using pre-defined criteria, to monitor a random sample of 51 teacher training sessions and 67 schools where deworming took place. Evidence Action rigorously trained monitors in two batches for three days each from October 8 – 13, 2018. The curriculum covered an overview of the NTD program, with emphasis on school-based deworming, the basics of conducting a survey/administering a questionnaire, paper and electronic survey tools, field logistics, and data collection protocols. All participants took both pre and post-training tests to ensure they fully understood their roles, and to determine the level of knowledge attained during training. Only participants who scored at least 70% in the post-test were selected for the monitoring exercise.

Prior to Deworming Day, teachers from all 4,435 targeted schools received a one-day training on MDA, conducted by the LGA team (education secretaries, frontline health facility (FLHF) staff, NTD coordinators), who had been trained by the state level master trainers. To assess the quality of teacher training, as well as the implementation of deworming, Evidence Action used stratified sampling to randomly select 51 of the 199 teacher training sessions, and 67 of the 4,435-targeted schools for observation by independent monitors. The sample size was determined to ensure a 90% confidence level and a 10% margin of error.¹

Parents residing in areas around the schools selected for pre-Deworming Day monitoring were interviewed one day prior to deworming to gauge their level of awareness of the program. Monitors interviewed 366 parents: 204 parents of enrolled children and 162 parents of non-enrolled children.

On Deworming Day, monitors interviewed teachers regarding their plans for deworming, their treatment knowledge, and any sensitization activities they had carried out in schools and local communities. Monitors then observed the drug administration process to verify that the required deworming procedures were followed. After treatment, monitors randomly selected and interviewed one parent, one teacher, two enrolled children, and one non-enrolled child. In total, the monitors interviewed 67 parents (present during deworming), 67 teachers, and 145 students (14 non-enrolled and 131 enrolled) on Deworming Day.

Table 1: Targeted and actual sample sizes

Monitoring activity	Total population/ number	Target sample size	Actual sample size
Teacher training sessions	199	51	51
Schools targeted for monitoring on Deworming Day	4,435	67	67
Parents interviewed before Deworming Day	-	402	366
Deworming Day Interviews			
Enrolled children interviewed	-	134	131
Non-enrolled children interviewed	-	67	14
Head teachers interviewed	4,435	67	67
Teachers interviewed	-	67	67
Parents interviewed	-	67	43
Coverage Validation			
Children interviewed at school	-	2,688	2,397
Children interviewed in community	-	246	217

¹ A confidence interval of 90% calculates such that if the same population is sampled on several occasions and interval estimates are made on each occasion the resulting intervals would cover the true population parameter in approximately 90% of cases.

A few weeks after the MDA, monitors conducted coverage validation with the aim of determining the program reach and surveyed coverage, and followed WHO guidelines while conducting the survey in schools and communities. For this exercise, 280 schools and 2,397 households from two randomly selected LGAs were sampled.

4.0 Results

4.1 Review of teacher training

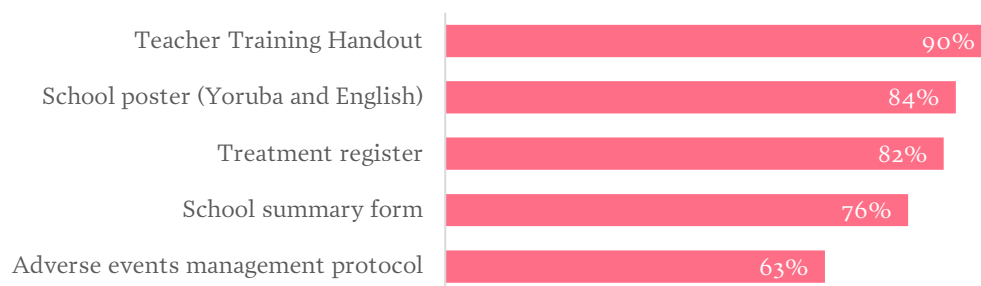
4.1.1. Attendance during trainings

The monitors visited a total of 51 teacher trainings and observed the use of an attendance register across all trainings visited. The average attendance was 66% of expected attendees; heavy rain, delayed communication about the training, and non-communication of changes in date or venue were the standout reasons given by those who did not turn up for the training.

4.1.2 Access to training materials

The teacher-training handout was distributed in the majority (90%) of the trainings, with the school poster and the treatment register all distributed in more than 80% of the trainings (**Figure 1**). The teacher handouts are a critical job aid for deworming. On Deworming Day, 87% of interviewed teachers said they used it as a guide while organizing and conducting treatment. The SAE management protocol was the least distributed material (63%) during the training sessions, but is also an important resource; more care should be taken to increase its availability in the future.

Figure 1: Materials given to teachers during the teacher training sessions (n=51)

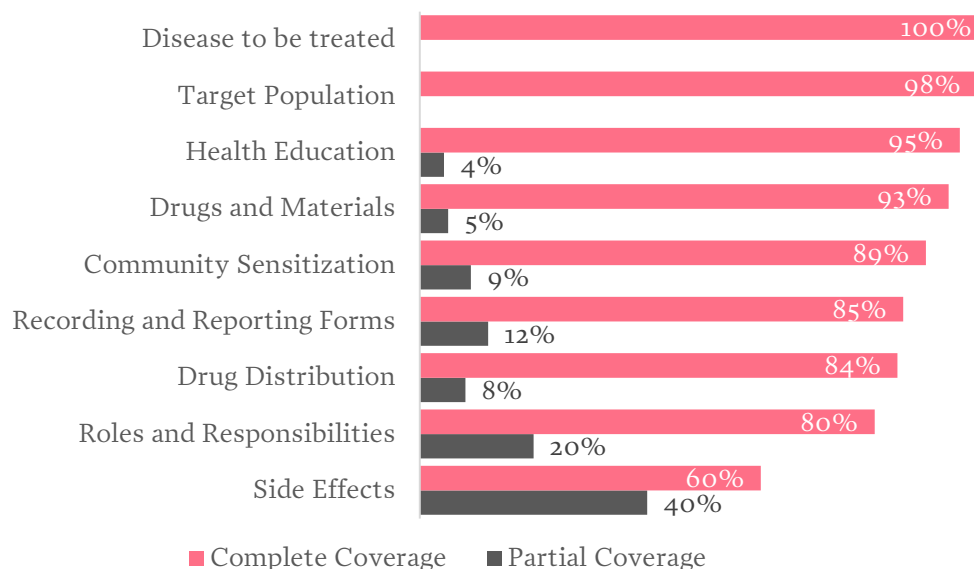


4.1.3 Training topics covered

There were nine topics meant to be covered in the trainings, including: health education, the disease treated, the target population, drugs and materials used for deworming, drug distribution, side effects and management of SAEs, recording and reporting forms, roles and responsibilities of the various actors on Deworming Day, and community sensitization.

Apart from the topic of side effects and management of SAEs, all other topics were completely² covered in at least 80% of the trainings (**Figure 2**). The disease to be treated was completely covered in all (100%) trainings, closely followed by the target population (98%).

Figure 2: Coverage of topics during trainings (n=51)



4.1.3.4 Roles and responsibilities

Trainers explained the roles of different personnel in the deworming process, including NTD coordinators, education secretaries, frontline health facility (FLHF) staff, and teachers. Teachers' roles were covered in the majority of the trainings (96%), but nearly 40% of trainings did not fully cover the roles of NTD coordinators and educational secretaries (**Figure 3**). The organization of drug administration, dissemination of health messages for children and parents, and completion of forms for registration and reporting were the key teacher roles cited in 92%, 80% and 80% of trainings respectively.

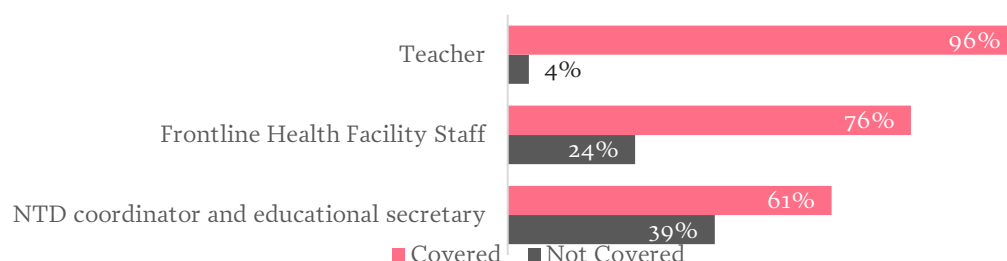
4.1.4 Training methods

Trainers adopted several teaching methods to convey content to the participants. All (100%) trainings incorporated a lecture-based approach, while participatory discussions were seen in 90% of monitored trainings. Demonstrations were observed in 33% of trainings, while group work and role-plays featured in 20% and 18% of monitored trainings respectively. Participatory learning is a powerful way to impart a sense of confidence, so trainers should be strongly encouraged to use role-play as a training method in future rounds.

² The term “completely” means that the trainer covered the prescribed content of the topic according to the training manual and presentations

The monitors reported that 90% of trainers administered a pre-test, with a similar proportion of attendees receiving a post-test to assess knowledge transfer. The participants' pre and post-tests showed an average pre-test score of 64%, and post-test average score of 83%, which indicates a 19% knowledge increase attributable to the training.

Figure 3: Coverage of roles and responsibilities of personnel in the deworming program (n=51)



4.2 Deworming Day assessment

4.2.1 Preparedness for Deworming Day

Monitors visited a total of 67 randomly sampled schools on Deworming Day, all of which indicated that they had plans to deworm. The purpose of the visit was to assess MDA procedures and interview the deworming team (two or more teachers assigned to oversee the MDA; often a head teacher and a health teacher) to assess their knowledge and capability to deliver the MDA. All of the head teachers indicated that either they (67%) or another teacher from their school (33%) had attended a training in preparation for Deworming Day.

From the head teacher interviews in the 67 schools, 33% of head teachers reported having a significant³ number of non-enrolled children in their area, and 45 (67%) schools had made plans to deworm non-enrolled children. The school management position against deworming non-enrolled children as well as insufficiency of drugs were the major reasons cited by the head teachers of schools that did not plan to deworm non-enrolled children (**Table 2**).

Table 2: Reasons cited by head teachers for not deworming non-enrolled children (n=21)

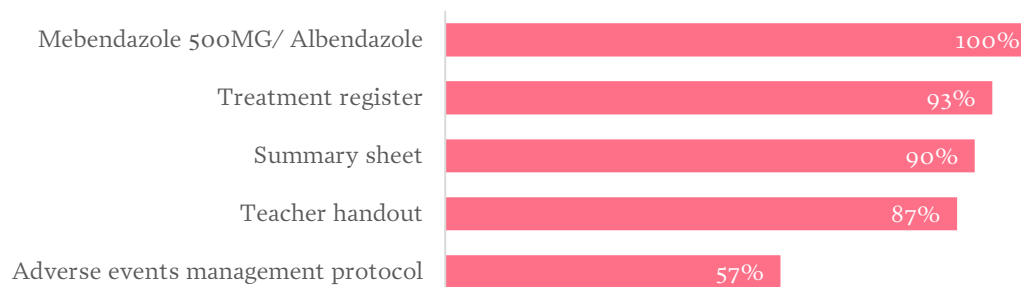
Reason for having no plan to deworm non-enrolled children	Percentage
The management is against it	29%
Not enough drugs to treat non-enrolled children	24%
Non-enrolled SAC will not come to the school	24%
Not told to deworm non-enrolled children	14%
No non-enrolled children in the area	10%

³ Monitors defined 'significant number' to the head teachers to mean more than the number of enrolled children actively coming to school in the area.

4.2.2 Materials observed for deworming

Key deworming materials were observed in the majority of the visited schools, with the deworming tablets available in all schools (**Figure 4**). Of the 67 schools with the treatment register available, 52 (78%) filled out all sections, thus adhering to the recording and reporting practices that were taught in the training. The SAE protocol was available in only 57% of schools, the lowest among the key materials observed.

Figure 4: Materials observed on Deworming Day at schools (n = 67)



4.2.3 Drug administration procedures

Monitors observed whether deworming teams adhered to key drug administration procedures. Knowledge of the correct drug dosage was noted in 99% of schools monitored, with 91% of deworming treatment teams comprising of two teachers.

However, washing hands prior to treatment was only observed in 22% of deworming stations (**Table 3**). This proportion is unsurprising given that only 27% of schools monitored had handwashing facilities. Of the schools that had handwashing facilities, monitors observed children using soap in only 30% of these.

Table 3: MDA procedures observed by monitors during drug administration

MDA procedure	Percentage
Teachers who knew the correct dosage for mebendazole (1 tablet)	99%
Deworming treatment team comprised of two teachers	91%
The treatment register was used to record treatment	87%
Teacher asked if child was sick or under medication before administering medicine	85%
Teacher asked child to chew the mebendazole tablet	82%
The teacher had transferred the names from the class register to treatment register prior to the deworming exercise	81%
All sections of the treatment register were filled out	78%
Health education messages given to children prior to treatment	58%
Teachers ensured children washed their hands prior to treatment	22%

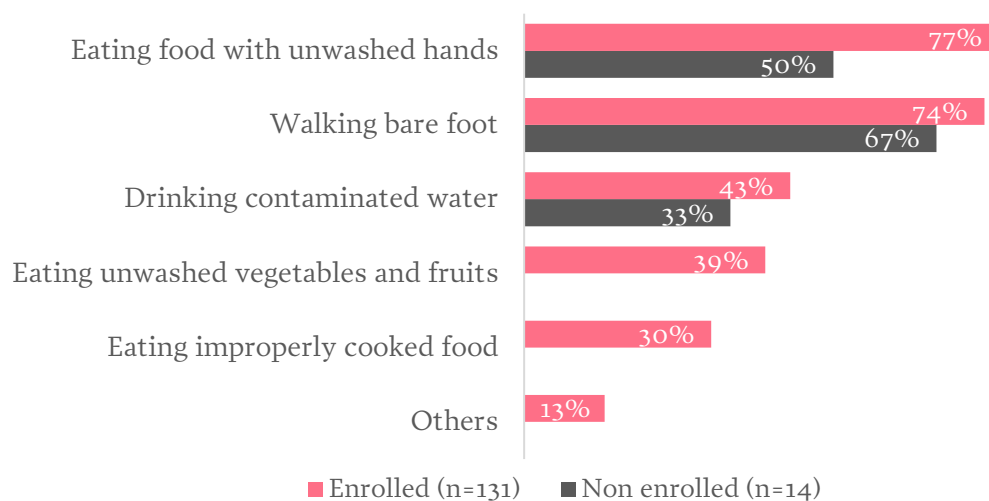
4.2.6 Managing side effects

The monitors observed side effects in only two schools, with cases of vomiting noted in both schools. Both instances were routinely resolved once the children were isolated and requested to lie down and rest, with no need for further referrals.

4.2.7 Enrolled and non-enrolled children interview

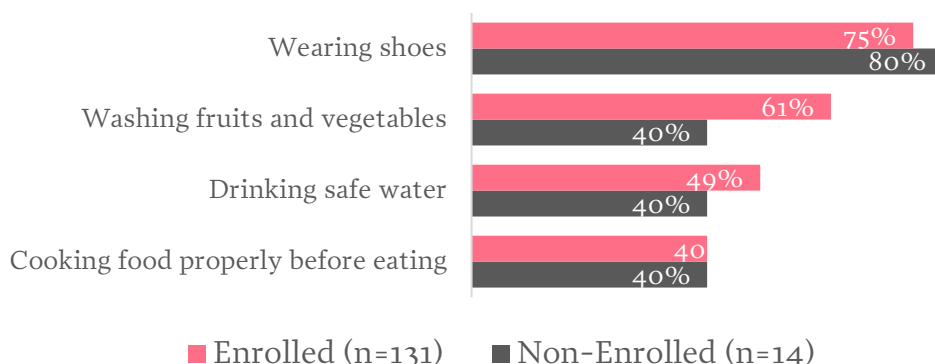
One hundred and thirty-one (131) enrolled and 14 non-enrolled children were interviewed on Deworming Day regarding their understanding of how one is infected by worms, and the preventive steps needed to avoid worm infection. Both enrolled and non-enrolled children mentioned eating food with unwashed hands and walking with bare feet as the principal ways through which one is infected by worms (**Figure 5**). Others included playing in dirt, picking up things from the ground, eating food picked from the floor, playing on sand that is infected, and eating beside someone that that is defecating.

Figure 5: Worm infection routes cited by children



Both groups of children knew that wearing shoes and washing fruit and vegetables were behaviors that can prevent worm infection (**Figure 6**).

Figure 6: Worm prevention behaviors cited by children



4.2.8 Head teacher post-deworming interview

Upon completion of deworming, an interview with the head teachers revealed that a vast majority (99%) perceived the exercise as a resounding success. Only three out of the 67 monitored schools reported a drug shortage, with all cases duly managed once the head teachers got in touch with the LGA Coordinator or LGA Educational Secretary.

Further, 91% of schools also reported having had excess drugs at the conclusion of the deworming exercise. Seventy-two percent (72%) of the schools planned to keep the drugs for a mop-up exercise that would cover any absentees, while the remaining schools (26%) planned to immediately return drugs to the LGA. ⁴

4.3 Community sensitization

One day prior to deworming, monitors visited 65 schools for interviews with head teachers to gauge the measures taken towards sensitizing the community on the upcoming deworming exercise. Sampled schools visited for pre-deworming were different from the deworming day schools sampled, during the 2018 process monitoring. At the end of these interviews, they visited the community and spoke with 366 parents (both non-enrolled and enrolled) for interviews on their knowledge and preparedness for Deworming Day.

4.3.1 Sensitization reported by head teachers

Seventy-seven percent (77%) of the 65 head teachers interviewed indicated that a member of the school had reached out to sensitize community members about Deworming Day. A majority of head teachers indicated that this person was either a student (62%) or a teacher (54%). Eighteen percent (18%) of head teachers cited the use of parent-teacher association (PTA) meetings and SMS (6%) for outreach to parents.

⁴ Program strategy is to return drugs 5 days after mop-up.

4.3.2 Parents' knowledge on deworming

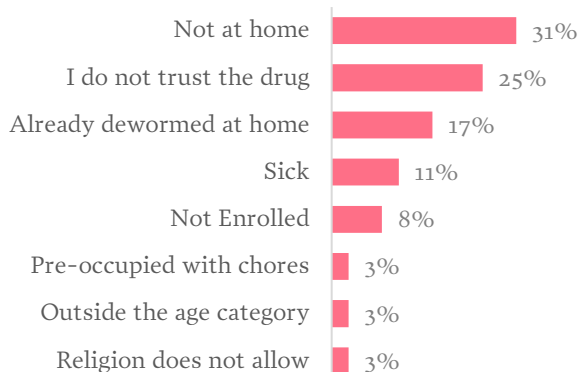
Three hundred and sixty-six (366) parents were interviewed by the monitors, including 204 (56%) parents of enrolled children and 162 (44%) parents of non-enrolled children, on aspects such as the date of deworming, target age group, and the type of worms being treated.

Across both sets of parents, knowledge of the correct deworming date was high (88%) with no significant differences between the groups. Knowledge of the type of worm and target group were lower, at 62% and 69% respectively. It should, however, be noted that parents of enrolled children were generally more knowledgeable regarding both the worm type (68% vs. 51%) and correct age group (77% vs. 55%).

4.3.3 Parents' reasons for not sending children for deworming

The majority of parents (90%) interviewed by monitors indicated that they would send at least one of their children for deworming, with a higher proportion noted among the parents of the enrolled children (98%) compared to those of the non-enrolled children (74%). Most parents who did not plan to send a child for treatment indicated that their children were not at home (31%) or that they did not trust the drug (25%). **Figure 7**, below, provides the breakdown of these reasons with no disaggregation provided by parent type, given relatively small number of enrolled parents (3) that indicated they would not send their children.

Figure 7: Reasons for not sending children for deworming (n=36)

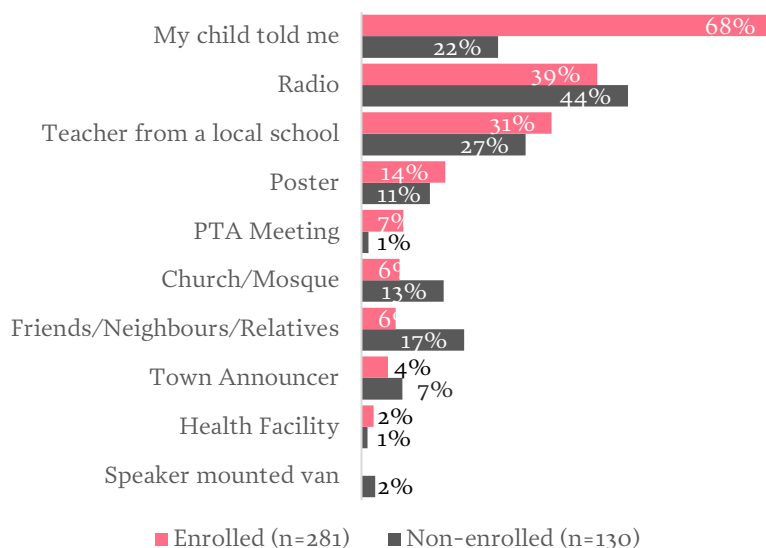


4.3.4 Medium used for community sensitization as reported by parents

Most parents of enrolled children heard about deworming from their children (68%), while most parents of non-enrolled children received their information via radio (44%) (**Figure 8**). Analysis across both sets of parents showed the child to be the most effective means of reaching parents (51%), followed by the radio (44%), with the teacher from the local school

(30%) a distant third. Subsequent sensitization plans should follow these findings, as they are in line with the parents' preferred means of receiving health messages.⁵

Figure 8: Medium used for sensitization as cited by both parents of enrolled and non-enrolled children



4.4 School hygiene facilities

Sanitation plays a major role in preventing intestinal worms. Monitors, therefore, observed the presence of toilets and handwashing facilities within the schools.

Forty-nine (49) of 62 schools visited had a toilet structure with the improved pit latrine the most common (47%) latrine type. Only 23 (37%) schools had handwashing facilities. Considering the importance of handwashing and hygiene in preventing worm infection/re-infection, relevant ministry bodies should work with schools to have these installed.

4.5 Coverage Validation

Coverage validation was carried out in two randomly selected LGAs (Afijio and Iseyin) within Oyo State. The coverage validation was conducted with the aim of achieving two main goals:

- Determine if the surveyed coverage (proportion of interviewed children who report to have ingested the drug) exceeded the WHO-defined threshold of 75%.
- To validate the reported coverage figures as provided by the head teachers.

⁵ Monitors asked parents how they received health messages as regards upcoming health campaigns within their community. Most of the parents cited word of mouth (69%) or the radio (63%).

4.5.1 Methodology

Both enrolled and non-enrolled children were included in the sample for the coverage validation exercise; responses were gathered using both school and household surveys. The number of children to be sampled was determined as per WHO guidelines using a probability proportionate to estimated size (PPES) sampling approach.

The sampling units in this approach are the subunits with a maximum of 400 households. Subunits are further divided into smaller divisions with a maximum of 50 households known as ‘segments’. A sample of 30 subunits was selected from each LGA and in each, a segment was randomly selected. In each of the selected segments, a household survey was administered by the independent monitors to all targeted children (ages 5-14) within the visited households. It was expected that the household survey would give a representative proportion of the non-enrolled population.

At the end of the household survey administration, the field officer with the guidance of a parent of an enrolled child or village leader would request for information of the school that most children in the selected segment attend and then go to that school to administer a school survey. The proportion of household to school surveys was determined using state enrollment rates. In this case, the Oyo state enrollment rate of 74% was distributed among the 90 schools to be interviewed, and in each school, the sample was then further distributed equally per class level to select the pupils that would participate in the survey.

4.5.2 Results

Both household and school surveys were designed to determine if the drug was extended to the beneficiary and if it was, whether it was swallowed. If the child did not swallow the drug or the drug was not offered, monitors asked why, in order to understand any compliance issues that can help improve the program design.

The “surveyed coverage” refers to the proportion of children interviewed who indicated that they swallowed the drug. The “program reach” refers to the proportion of children interviewed who were given the opportunity to receive the drug, regardless of whether the drug was ingested. The “reported coverage” is the proportion of children within the program area whom head teachers reported as having taken the drug.

Based on the results (**Table 4**), the program reach in Afijio and Iseyin was 70% and 72% respectively. A surveyed coverage of 68% was registered in both LGAs, which indeed falls below the recommended WHO threshold of 75%. Further, neither of the reported coverage figures for the LGAs are within the intervals of the surveyed coverage, an indication that the surveyed coverage cannot validate the reported coverage values. This suggests a need for greater emphasis on treatment reporting and data management practices during future trainings.

Table 4: STH Coverage Validation Survey Results

LGA		Program Reach			Surveyed Coverage			Reported Coverage	Denominator ⁶
		Mean (%)	% Lower bound CI	% Upper bound CI	Mean (%)	% Lower bound CI	% Upper bound CI		
Overall Findings									
Afijio		70%	68%	73%	68%	65%	71%	82%	1,381
Iseyin		72%	69%	74%	68%	65%	71%	86%	1,233
Disaggregation by enrollment status									
Afijio	Enrolled	72%	69%	74%	71%	69%	74%		1,234
	Non-Enrolled	58%	49%	66%	44%	35%	52%		147
Iseyin	Enrolled	73%	71%	76%	70%	67%	73%		1,163
	Non-Enrolled	49%	36%	61%	39%	27%	51%		70
Disaggregation by gender									
Afijio	Male	70%	66%	73%	67%	63%	71%		700
	Female	70%	67%	74%	69%	65%	73%		681
Iseyin	Male	70%	66%	74%	67%	63%	71%		603
	Female	74%	70%	77%	69%	65%	73%		630

A breakdown of the program reach and surveyed coverage by gender revealed no significant differences from the overall program reach and surveyed coverage findings. On the other hand, the analysis by enrollment type revealed a low program reach for the non-enrolled and a consequently lower surveyed coverage for this population.

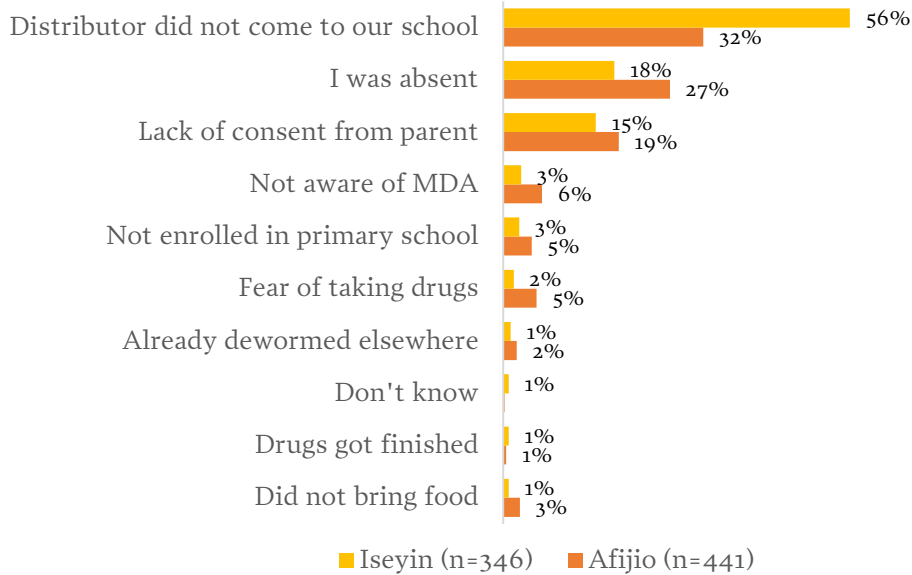
Figure 9 indicates that the principal reasons in both LGAs for the low program reach were that a drug distributor did not come (56% in Iseyin and 32% in Afijio) or unavailability of the child on Deworming Day (18% in Iseyin and 27% in Afijio). Across the sampled wards in both LGAs, Koso 1, Oke-Ola and Koso 2 had the highest mentions of the distributor not coming. To address this, program should consider checking for possible drug supply chain bottlenecks. Lack of parental consent and unavailability on Deworming Day can both be addressed by using emphasizing deworming benefits in all sensitization media in the next round of deworming.

⁶ Number of children interviewed

Lack of consent from the parents (52%) and lack of information on the MDA (43%) were the two main reasons cited by the enrolled and non-enrolled children respectively for not swallowing the drugs (Figure 10). To this end, the program should focus on emphasizing the benefits of the deworming as well as channeling deworming information through the teachers, students and radio; the parents' preferred means of getting deworming information.

Figure 9: Reasons for the low program reach

Reasons drug not given, disaggregated by LGA



Reasons drug not given, disaggregated by enrolment status

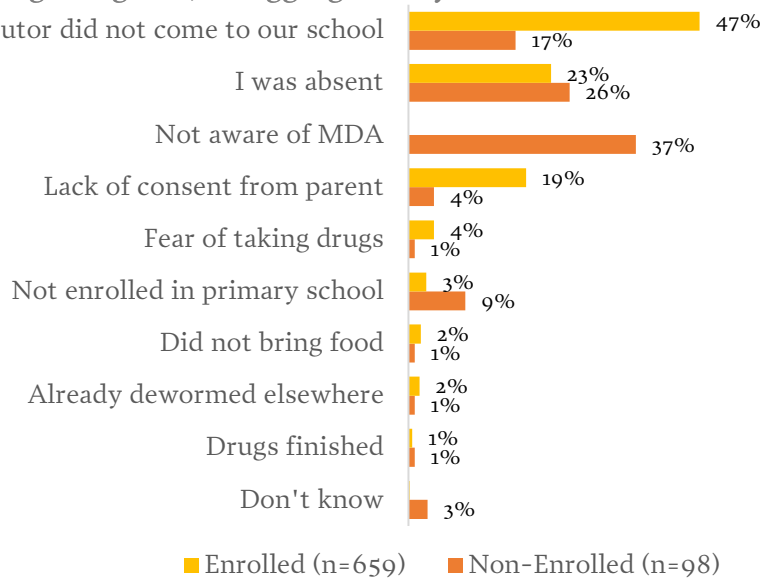
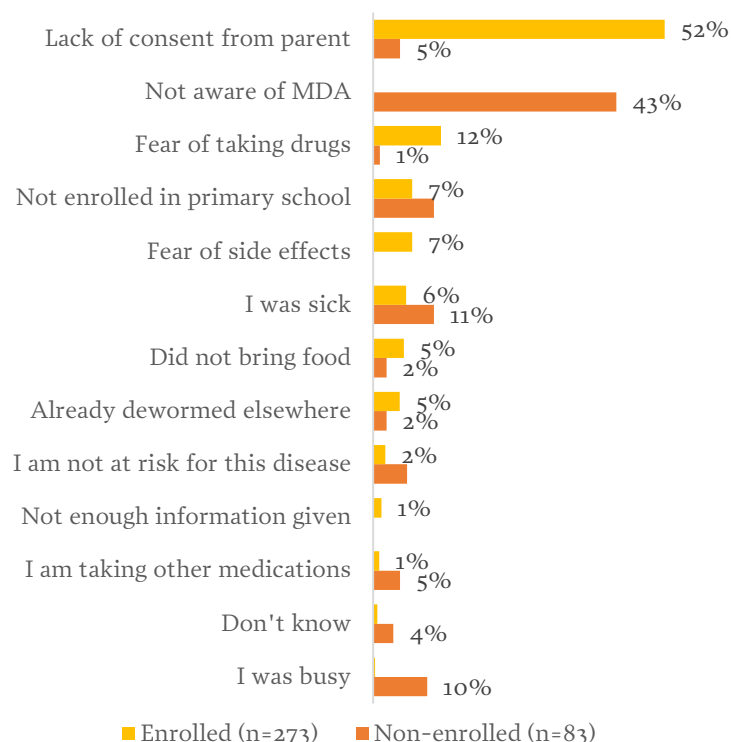


Figure 10: Reasons for the low surveyed coverage



4.5.3 Conclusion

The reported coverage based on head teacher reports is much higher (at least 12%) than the surveyed coverage findings, suggesting that drug distributors may be incorrectly reporting on the ingestion of the drug. Conducting a data quality assessment into where the reporting may be breaking down as well as improving the data management skills of capacity of teachers in reporting are some suggestions. In addition to this, the program should re-examine the population denominator against which the treatment figures generated for possible underestimation.

To boost the program reach and surveyed coverage, especially for the non-enrolled population, the program should consider checking for drug supply bottlenecks as well as emphasizing the benefits of deworming to encourage increased uptake of the MDA.

5.0 Lessons Learned

This round of deworming in Oyo State drew up a number of lessons for consideration in terms of planning for future treatment rounds, as outlined below:

5.1 What worked well

1. The overall execution of the training went well. Eight of the nine topics were covered in at least 80% of trainings. Key training materials including the teacher handouts, poster, and treatment register were distributed in over 80% of trainings.
2. Adherence to MDA procedures was high across the schools monitored on Deworming Day. Aside from handwashing, which was noted in only 23% of observed schools, adherence to all other key procedures ranged from 60% to 100%. Teachers knew the correct dosage for mebendazole (98%), used the register to record treatment (85%), and gave health education messages to children prior to treatment (60%).
3. Community sensitization efforts were strong, with at least 90% of parents (both of enrolled and non-enrolled children) indicating that they would send a child for deworming. Messages were most effectively spread via word of mouth and radio.
4. Side effects were well managed in the two schools where they were observed, without the need for a referral.

5.2 What needs to improve

1. The trainings drew only 66% of expected participants. Delayed or non-communication of the training details were the principal drivers for poor performance in this area. Improved communication by organizers can go a long way in addressing this.
2. While up to 74% of parents of non-enrolled children interviewed indicated that they would send a child for deworming, the findings indicate that only 68% of head teachers reported plans to deworm non-enrolled children. While a number of reasons were provided by head teachers, the state should continue engaging and appealing to them to enable the inclusion of this population as well.
3. Findings from coverage validation indicate a need to boost the program reach and surveyed coverage especially for the non-enrolled population. Checking the drug supply chain for possible bottlenecks in delivering drugs, emphasizing benefits of deworming in sensitization messages are some suggestions in this line.
4. To address the reported coverage noted to be at least 12% higher than the surveyed coverage, a data quality assessment check into where the reporting may be breaking down as well as capacity building trainings for teachers should be conducted.

5.3 Conclusion

The monitoring exercise set out to assess the effectiveness and quality of the activities during the deworming exercise, as well as propose areas for remedy. The overall findings point to several high quality processes in areas such as material distribution, topic coverage in trainings, adherence to key MDA practices, and community sensitization. The independent monitoring exercise also revealed areas that could improve in coming rounds such as better communication to participants regarding training details as well as any emerging changes, the need to include more non-enrolled children in deworming, and a need to review reporting practices as well as increase the MDA coverage by providing targeted messages on deworming

benefits. Together with the state, Evidence Action is committed to providing both technical and logistical support toward these areas in the drive for a worm free school-age population.