

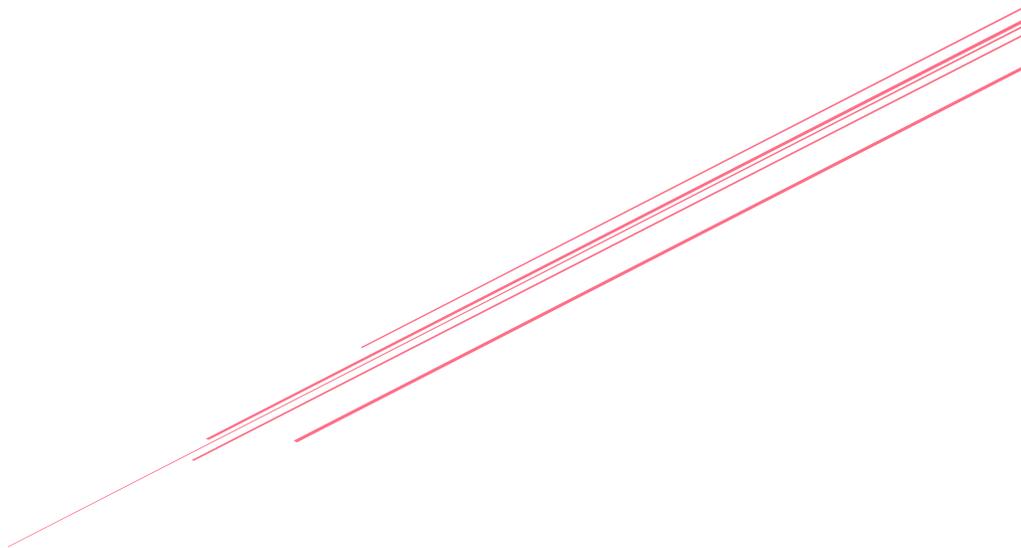
Evidence

Action



Deworm the
World Initiative

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



April 2019

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The contributions 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

STH. Soil-transmitted helminths

WHO. World Health Organization

1.0 Executive Summary

In October 2018, Cross River State carried out the second round of 2018 school-based deworming of enrolled and non-enrolled children, ages 5-14 years, in two of 18 local government areas (LGAs), according to their endemicity for soil-transmitted helminths (STH). The state targeted 557 public and private primary and junior secondary schools.

To assess 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 in the state, and assess the accuracy of treatment data reported by schools. Through a competitive selection process, Evidence Action recruited an independent consultancy firm, Infotrak Research and Consulting, to collect data from a sample of 14 teacher trainings and 29 schools participating in school-based deworming.

Prior to Deworming Day, the program trained teachers to administer the safe and effective deworming drug, mebendazole. Across the sample of 14 teacher-training sessions, key materials were distributed in most trainings, with the teacher's handout distributed in 86% of trainings, and treatment register in 71% of trainings. Across all trainings, the average attendance was 73% of expected participants. Six of eight intended topics were completely covered in at least 75% of the monitored trainings. While there was a notable (17%) increase in participants' test scores before and after training, the average post-test scores remained low at only 65%.

On Deworming Day, most teachers adhered to key procedures in drug administration, administering the correct dosage to all children in all observed schools. Teachers requested children to chew the deworming tablet in 89% of schools; they used the treatment register in 96% of schools; and they completely filled out all register elements in 75% of schools observed by monitors. In one of the 29 monitored schools, the monitor observed mild side effects; however, no severe adverse reactions were reported in any of the schools monitored. In five of the 29 monitored schools, teachers forced children to swallow the drugs against their will; while such incidents were pointed out to monitors, there is a need to re-emphasize in future trainings that teachers only ought to encourage and not force children to swallow drugs.

While the majority (97%) of parents indicated that they would send at least one of their children for deworming, awareness of the deworming date among parents was generally low at only 54%, though higher among parents of enrolled children than those of non-enrolled children (62% vs. 40%). This could explain the low turn of non-enrolled children seen in only 18% of monitored schools, and further collaborated from coverage validation findings where low proportions of children in both states reported being offered the drug (29% in Calabar Municipality, 51% in Odukpani). Low awareness of the correct Deworming Day may have resulted from the change in the treatment date¹ due to an impending teachers' strike action in the state. The key sources of deworming information cited by parents were their children (55%) and posters (44%). These two communication methods should continue to be used in future deworming rounds.

To assess the quality of treatment data, coverage validation was conducted within three weeks of the MDA in two LGAs (Calabar Municipality and Odukpani). The findings indicate that Odukpani had a program reach (proportion of children interviewed who were given the opportunity to receive the drug) of 81%, while Calabar Municipality reached 75% of the target population. While only Odukpani had a surveyed coverage (proportion of children interviewed who indicated that they swallowed the drug) of over 75%, thus meeting the WHO threshold² for program success, neither state had its reported coverage findings as provided by the head teachers within the confidence limits of the surveyed coverage. Reinforcing the deworming dates during sensitization campaigns as well as a need for the state to check its treatment targets are some of the key recommendations proposed by Evidence Action to improve the program's quality and impact.

2.0 Introduction

Worm infections interfere with 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

¹ Deworming Day was initially slated for November 6, 2018 but had to be moved forward to October 31, 2018 after news of the impending strike action. Some schools however did not adhere to the new date as they had already informed parents of the initial plan and were able to treat on November 6.

² WHO recommends that the preventive chemotherapy reaches at least 75% of the target population for the MDA to be considered a success

world that can least afford it. School-age children harbor the highest intensity of infection from STH and schistosomiasis, and therefore the World Health Organization (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, school-based deworming took place in two LGAs in Cross River State. This MDA represents a second round deworming treatment in Odukpani LGA due to its high endemicity for STH (50% or higher) and the annual deworming treatment in Calabar Municipal which is moderately endemic for STH³. Enrolled and non-enrolled children ages 5-14 years received deworming drugs in both public and private primary and junior secondary schools. School teachers received training to properly administer safe and effective deworming drugs.

Evidence Action designed data collection tools and a sampling method to observe, review, and measure the quality and success of teacher trainings, community mobilization, sensitization, and Deworming Day activities. Infotrak was chosen through a competitive selection process to collect the data, which Evidence Action then cleaned, entered, and analyzed. The findings are presented in this report.

3.0 Methodology

Infotrak recruited a total of 35 monitors and six supervisors, using pre-defined criteria, to monitor a random sample of 14 teacher training sessions and 29 schools where deworming took place. Evidence Action trained monitors on October 18 and 19, 2018. The curriculum for monitors 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. Only participants who scored at least 80% in the post-test were selected for the monitoring exercise.

Prior to Deworming Day, teachers from the targeted schools received a one-day training on mass drug administration (MDA) conducted by the LGA team

³ LGAs with 20% to less than 50% prevalence for STH are considered moderate endemicity LGAs and require one round of preventive chemotherapy for all children age 5 – 14 years. LGAs with 50% and higher STH prevalence are considered high endemicity LGAs and require twice a year treatment. Calabar Municipal requires only one round of treatment and this treatment round is aligned with the second round treatment for Odukpani LGA for ease of implementation.

(Education Secretaries, FLHF staff, NTD Coordinators) who had been previously trained by state master trainers. Evidence Action used stratified sampling to randomly select 14 of 25 teacher training sessions, and 29 of the 557 schools for observation to assess the quality of training and deworming implementation. The sample size was determined to ensure a 90% confidence level and 15% margin of error.⁴

Parents residing in areas around the selected schools were interviewed one day prior to deworming to gauge their awareness of the program. Monitors interviewed 150 parents: 97 parents of enrolled children and 53 parents of non-enrolled children.

On Deworming Day, monitors interviewed teachers regarding their plans for deworming, their treatment knowledge, and sensitization activities carried out in schools and communities. Monitors then observed the drug administration process to verify that the required procedures were followed. Following the treatment, monitors randomly selected and planned to interview one parent, one teacher from the deworming team⁵, two enrolled children, and one non-enrolled child. However, due to limited presence of some of these groups, the monitors were only able to get responses from eight parents, 28 teachers, and 60 students (four non-enrolled and 56 enrolled) on Deworming Day (see Table 1).

Within three weeks of the MDA, monitors conducted coverage validation with the aim of determining the program reach and surveyed coverage. This was done using the WHO guidelines for coverage validation in schools and communities post-deworming. For this exercise, the sample was generated in two LGAs, with 672 school-age children (SAC) being interviewed in schools, and 385 SAC interviewed in households.

Table 1: Planned and actual sample sizes

Monitoring activity	Planned sample size	Actual sample size
Teacher training sessions	14	14
Total number of schools targeted for deworming	29	28
Parents interviewed before Deworming Day	180	150
Head teachers interviewed	29	28
Teachers interviewed	29	28

⁴ 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.

⁵ The deworming team comprises two or more teachers trained and assigned to oversee the MDA; often a head teacher and a health teacher and any other teachers trained/sensitized within the schools to support MDA activities.

Enrolled children interviewed	58	56
Non-enrolled children interviewed ⁶	29	4
Parents interviewed (present at school on deworming)	29	8
Coverage Validation		
Number of SAC interviewed in school	744	672
Number of SAC interviewed in households	456	385

4.0 Results

4.1 Review of teacher training

4.1.1. Attendance during trainings

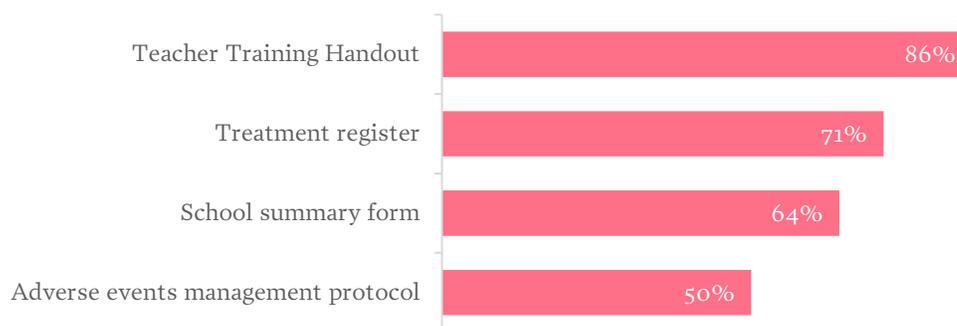
The monitors visited 14 trainings, with the average attendance at 73% of the expected attendees based on register records. The majority (85%) of those who attended were on time for the training. When trainers followed up on teachers (majorly by phone) that did not attend to find out why they did not attend the trainings, all indicated that they were not informed about changes in the training venue.

4.1.2 Access to training materials

Key training materials, such as the teacher training handout and the treatment register, were distributed in 86% and 71% the monitored trainings, respectively. The adverse events management protocol was only distributed in 50% of observed trainings (**figure 1**). This is a key document with critical program guidance; the program team should pay extra attention to ensure it is distributed during training in future rounds.

⁶ Only 5 out of 28 schools were deworming non-enrolled children at the time of monitoring

Figure 1: Materials given to teachers at teacher training sessions (n=14)



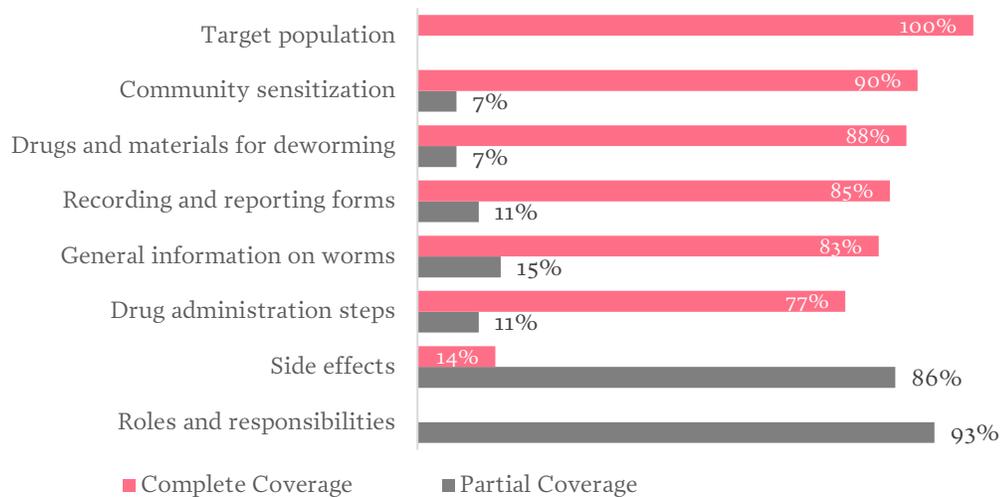
4.1.3 Training topics covered

There were eight topics covered in the trainings, including: general information on worms, the target population, drugs and materials used for deworming, drug administration steps, side effects, recording and reporting forms, roles and responsibilities of the various actors on Deworming Day, and community sensitization.

Six of the eight topics were completely⁷ covered in at least 75% of the trainings. The target population was completely covered in all trainings while none of the trainings completely covered all the roles and responsibilities of the different actors. Further, complete information on side effects was only given in two of the 14 (14%) monitored trainings (**figure 2**). These topics should be given more emphasis in subsequent rounds.

Figure 2: Coverage of topics during trainings (n=14)

⁷ The term “completely” means that the trainer covered the prescribed content of the topic according to the training manual and presentations



4.1.4 Training methods used

Trainers adopted several methods to convey content to the participants. Lecture-based presentations were observed in all (100%) trainings, followed by instructor-guided discussions (79%). Role-play was the least common approach, seen in only 29% of trainings. Participatory learning is a powerful way to impart a sense of confidence and build skills, so trainers should be strongly encouraged to use role-play as a training method in future rounds.

Monitors reported that all (100%) trainers administered a pre-test, and 93% gave a post-test to assess knowledge transfer. The participants' earned an average pre-test score of 48%, and average post-test score of 65%. While this indicates a 17% knowledge increase attributable to the training, the post-test scores are still notably low, strengthening the case for trainers to consider using more effective facilitation methods.

4.2 Deworming Day assessment

4.2.1 Preparedness for Deworming Day

Monitors visited 28 randomly sampled schools on Deworming Day to assess MDA procedures and interview the deworming team (i.e. 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 (100%) head teachers interviewed on Deworming Day indicated that either they (57%) or another teacher (43%) had attended a training.

Across the 28 schools, 36% of head teachers reported having a significant⁸ number of non-enrolled children in their area, and 18 (64%) schools had plans to deworm non-enrolled children. Two of the head teachers that had no plans to deworm non-enrolled children reported that they had not been instructed to do so. On Deworming Day, monitors observed deworming of non-enrolled children in five (18%) of the 28 monitored schools.

Table 2: Head teachers’ reasons for not deworming non-enrolled children (n=6)

Reason for having no plan to deworm non-enrolled children	Percentage
Not told to deworm non-enrolled	67%
No non-enrolled children in the area	33%

4.2.2 Materials observed for deworming

Several key deworming materials were observed in most schools, with deworming tablets available in all monitored schools (**figure 3**). Of the 28 schools, 27 (96%) had a treatment register and 75% were filling out all sections. The adverse events management protocol was present in only 36% of schools.

Figure 3: Materials observed on Deworming Day at schools (n = 28)



4.2.3 Drug administration procedures

Monitors observed whether deworming teams adhered to drug administration procedures, and found that all (100%) teachers knew the correct mebendazole dosage, and 89% asked the children to chew the drug before swallowing. A treatment register was used to record treatments in 96% of schools monitored, with 75% of teachers filling out all sections. However, washing hands prior to treatment was only observed in 39% of deworming stations.

⁸ Monitors defined ‘significant number’ to the head teachers to mean more than the number of enrolled children actively coming to school in the area.

Table 3: MDA procedures observed by monitors during drug administration

MDA procedure	Percentage
Teachers who knew the correct dosage for mebendazole (1 tablet)	100%
Teachers recorded treatment in the register	96%
Teachers asked child to chew the mebendazole tablet	89%
Teachers filled out all sections of the treatment register	75%
Teachers had transferred names from the class register to treatment register prior to deworming	71%
Teachers gave health education messages to children prior to treatment	64%
Teachers asked if child was sick or under medication before treating	61%
Teachers ensured children washed their hands prior to treatment	39%

While many of the key procedures were adhered to, monitors reported that in five (18%) schools, children were forced to swallow the mebendazole tablet against their will. This should be addressed in future trainings, as teachers are meant to encourage—but not force—children to take the tablets.

4.2.6 Managing side effects

On Deworming Day, monitors observed mild side effects in only one of the 28 schools. This was a single case of a child having headache and abdominal discomfort. The monitors did not report any occurrence of severe adverse events (SAE).

4.2.7 Enrolled and non-enrolled children interview

The monitors interviewed 56 enrolled and four non-enrolled children after deworming. Overall, more enrolled children (45%) could cite at least one way a person is infected with worms, as compared to none of the non-enrolled children. Similarly, 54% of enrolled children could cite at least one means of preventing worm infections, compared to none of the non-enrolled children. However, no meaningful comparisons between the two groups' knowledge should be made given the small sample of non-enrolled children.

4.2.8 Head teacher post-deworming interview

Upon completion of deworming, all interviewed head teachers described the Deworming Day as having been a success. Eighty-six percent (86%) reported having extra tablets left over. Of the schools with leftover drugs, 96% planned to keep these tablets for mop-up day, and 4% planned to immediately return balances to the LGA⁹.

4.3 Community sensitization

One day prior to deworming, monitors visited 30 schools, separate to those visited on Deworming Day, for interviews with head teachers to gauge their preparedness for Deworming Day and understand measures taken towards sensitizing the community. Only 24 schools were prepared for deworming: five head teachers were not aware of the deworming exercise and one did not attend the training. At the end of these interviews, monitors visited the community and spoke with 150 parents about their own knowledge and preparedness for Deworming Day.

4.3.1 Sensitization reported by head teachers

Seventy-nine percent (79%) of the 24 head teachers indicated that a member of the school had reached out to sensitize community members about Deworming Day. A majority indicated that this person was a teacher (71%) or a student (50%).

4.3.2 Parents' knowledge on deworming

One hundred and fifty (150) parents were interviewed by the monitors, including 97 parents of enrolled children and 53 parents of non-enrolled children, on aspects such as the date of deworming, target age group, and the type of worms being treated.

The majority (65%) of parents correctly reported the target age group, though knowledge was higher among parents of enrolled (72%) compared to non-enrolled children (48%). Knowledge of the correct deworming date and the type of worm being treated were generally low at 54% and 48% respectively. While a higher proportion of

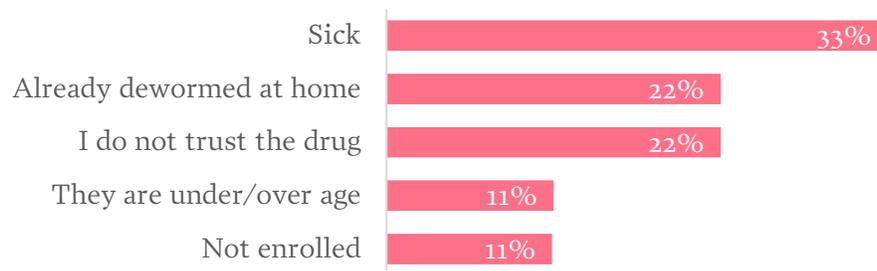
⁹ The prescribed strategy is to first retain tablets for mop-up, and return drugs 5 days later.

parents of enrolled children (62% vs. 40% for non-enrolled) were knowledgeable about the deworming date, more parents of non-enrolled children (57% vs. 45% for enrolled) could specify the type of worm being treated.

4.3.3 Parents' reasons for not sending children for deworming

Most (97%) parents planned to send at least one child for deworming, including all parents of enrolled children (100%) and 89% of parents of non-enrolled children. Only nine parents indicated that they would not send any children for deworming, with most citing illness (33%) as the reason (**figure 4**).

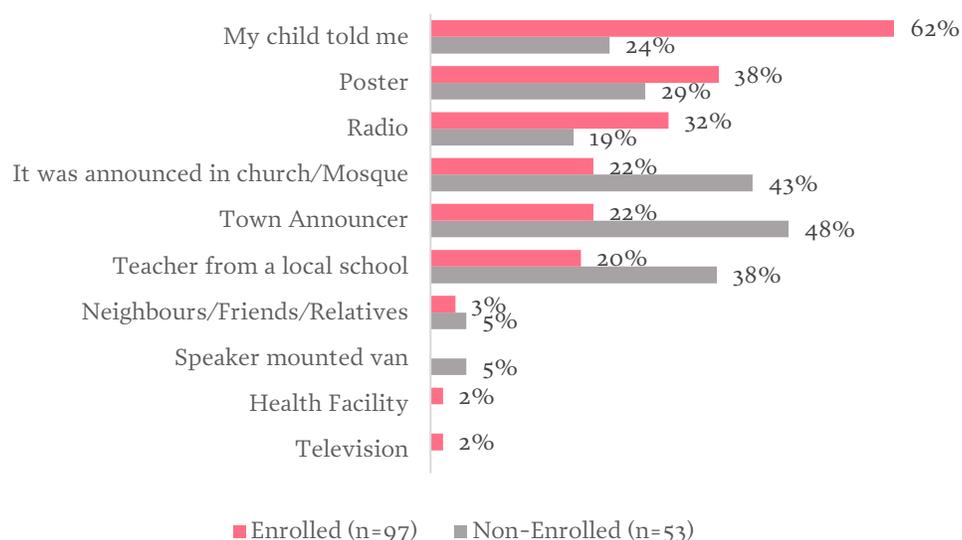
Figure 4: Reasons for not sending children for deworming (n=9)



4.3.4 Medium of receiving information, as reported by parents

The combined analysis for sets of parents showed the child to be the most effective means of reaching parents (52%), followed by the poster (36%). However, when parents' response is split by enrollment status of their child, the result changes meaningfully to reveal that most parents of enrolled children heard about deworming from their children (62%), while the greatest proportion of parents of non-enrolled children (48%) received their information from the town announcer (**figure 5**).

Figure 5: Medium of receiving information, 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 and functionality of toilets and handwashing facilities within the schools.

Only 12 of the 28 schools visited had a toilet structure. Among these, the ‘pour-flush’ structure was most common (73%), and 59% of the toilet structures were functional¹⁰. Over half of the schools (54%) lacked handwashing facilities based on monitors’ observations. Considering that only 39% of children were observed to be washing hands prior to deworming, there is a clear need for the state to strongly encourage installation of handwashing facilities in schools and promote a culture of handwashing among students.

¹⁰ Functional: Clean/somewhat clean, fresh stool in the pit, footpath, and door/some kind of privacy

4.5 Coverage validation

Coverage validation was carried out in two LGAs (Calabar Municipality and Odukpani) within Cross River State. The coverage validation had two main goals:

1. Determine if the surveyed coverage (proportion of interviewed children who ingested the drug) exceeded the WHO-defined threshold of 75%.
2. Validate the reported coverage figures as provided by the head teachers.

4.5.1 Methodology

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

The sampling units in this approach are 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 15 subunits was selected from each LGA and in each, a segment randomly selected. In each of the selected segments, a household survey was administered to all at-risk persons within the visited households. It was expected that the household survey would give a representative proportion of the non-enrolled population.

After administering the household survey, the monitor would liaise with a village leader to request information about the schools (primary and junior secondary) where most children in the selected segment attend. The proportion of household to school surveys was determined using state enrollment rates. Cross River State data shows an enrollment rate of 62%, and therefore 62%% of the sample was distributed among the 60 schools (1 primary, 1 junior secondary in each of the 30 segments) interviewed, with the rest of the surveys administered in the community. In each of the selected schools, the sample was equally distributed among class levels.

4.5.2 Results

Both household and school surveys were designed to determine if the drug was extended to eligible children and if so, whether it was swallowed. If the child did not swallow the drug or the drug was not offered, monitors probed for underlying reasons which may inform 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 targeted children whom head teachers reported to have received the drug.

The findings in **table 4** below show that only Odukpani reached at least 80% of its target population. Odukpani further surpassed the WHO threshold of 75% for its surveyed coverage, confirming a successful deworming intervention in that LGA. While the surveyed coverage in Calabar Municipality is only 2% off this threshold, the upper bound of the surveyed coverage (77%) raises the possibility that the true value may be above the 75% threshold. Neither LGA’s reported coverage fell within the confidence interval of the respective surveyed coverage. To this end, the state should review its reporting mechanisms, as there may be instances of over/under reporting of actual treatment figures by head teachers. Concurrently, the state should review the target number of children.

Table 4: Coverage Validation Survey Results

LGA		Program Reach			Surveyed Coverage			Reported Coverage	Denominator
		Mean (%)	% Lower bound CI	% Upper bound CI	Mean (%)	% Lower bound CI	% Upper bound CI		
Calabar Municipality		75%	71%	78%	73%	68%	77%	89%	494
Odukpani		81%	77%	84%	80%	76%	83%	71%	563
Disaggregation by enrolment status									

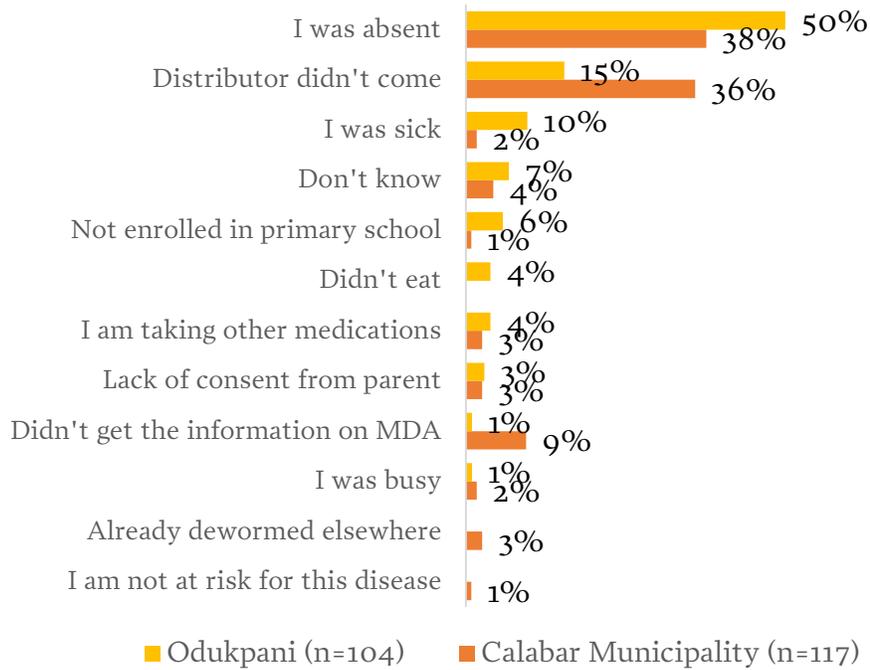
Calabar Municipality	Enrolled	77%	73%	81%	75%	71%	79%		470
	Non-Enrolled	29%	13%	51%	29%	13%	51%		24
Odukpani	Enrolled	84%	80%	87%	83%	79%	86%		512
	Non-Enrolled	51%	37%	65%	51%	37%	65%		51
Disaggregation by gender									
Calabar Municipality	Male	74%	68%	79%	71%	65%	77%		246
	Female	76%	70%	81%	74%	68%	79%		248
Odukpani	Male	82%	78%	87%	80%	75%	85%		290
	Female	79%	74%	84%	79%	73%	84%		273

The analysis by gender revealed no significant differences in both program reach and surveyed coverage across both gender categories. The analysis by the gender categories also indicated similar findings with those for the overall program reach and surveyed coverage.

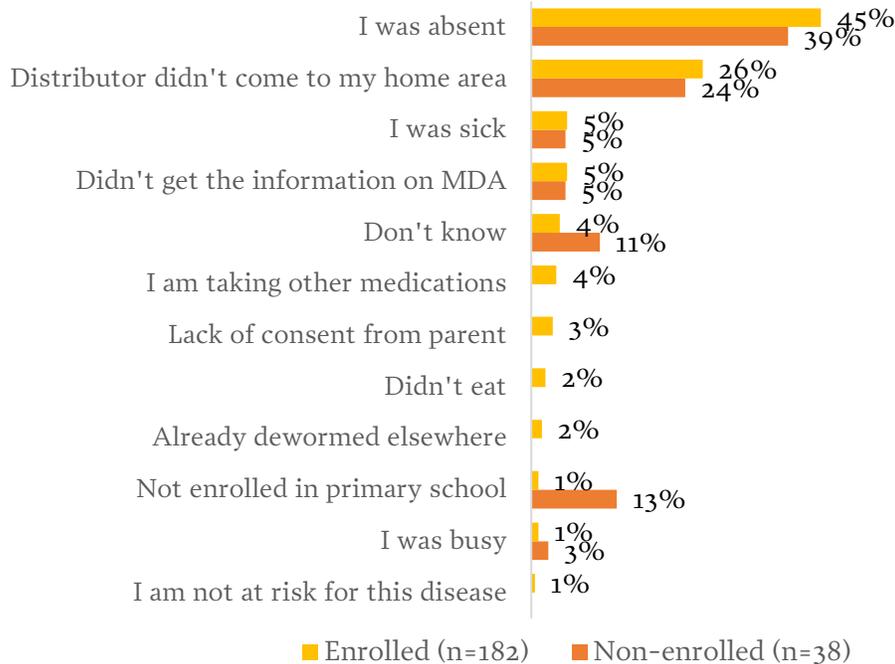
The disaggregation by enrolment type revealed a higher reach for the enrolled as compared to the non-enrolled population. Most children in both LGAs that were not reached with the MDA reported that they were unavailable during the period of deworming (**Figure 6**); this response was more common in Odukpani (50%) and the enrolled (38%). Another relatively common response was that a drug distributor did not come to the school or home. Emphasizing the deworming date in subsequent rounds is a suggested step towards enhancing availability of children, given that only 54% of parents in pre-Deworming Day interviews were knowledgeable about the actual deworming date, with this proportion lower for the parents of the non-enrolled children (40%).

Figure 6: Reasons given by children for not receiving drug

Reasons drug not given, disaggregated by LGA

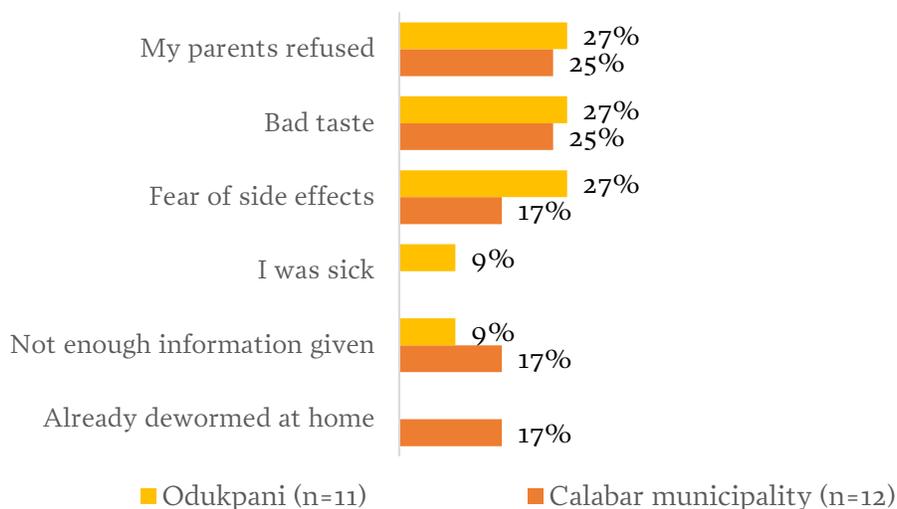


Reasons drug not given, disaggregated by enrolment status



Across both LGAs, most children who did not swallow the drugs cited a lack of parental consent or the bad taste of the drug (**Figure 7**). There was also a relatively common response of fearing side effects. This calls for sensitization of both parents and children on the benefits of deworming in future rounds.

Figure 7: Reasons as reported by children for not swallowing drugs



4.5.3 Discussion

Odukpani reached at least 80% of its target population, while the reach in Calabar Municipality was equally noteworthy (75%). One step towards achieving an even higher program reach, is emphasizing the deworming date as only 54% of parents were aware of the actual date and majority of those who did not get the drug indicated that they were unavailable during Deworming Day.

Based on the surveyed coverage, several recommendations are suggested. Sensitization messages for both parents and children need to emphasize the benefits of deworming and the rarity of side effects. The fact that the reported coverage rates from both LGAs were not validated by the surveyed coverage confidence limits underlines a need for the state to review its reporting mechanisms, as head teachers may be under/over

reporting the actual treatment figures. It is also possible that the targeted numbers of children (i.e., denominator) need to be updated or revised.

5.0 Lessons Learned

There were many lessons learned in the second round of 2018 deworming in Cross River State, as outlined below.

What worked well

1. The overall execution of the training was commendable with correct delivery of key messages in at least 81% of the trainings monitored. Content coverage was strong since seven out of the eight topics were completely covered in at least 75% of the trainings monitored. Participants showed an eagerness to attend the trainings, with timely attendance noted in 85% of monitored trainings.
2. Adherence to MDA procedures was high across the 28 schools monitored, aside from handwashing, which was seen in only 39% of observed schools. Teachers knew the correct dosage for mebendazole (100%), used the register to record treatment (95%), and gave health education messages to children prior to treatment (85%).
3. Community sensitization efforts were effective, with 97% of all parents indicating that they would send a child for deworming. Children and program posters were the most effective methods in reaching parents.

What needs to improve

1. Monitors' observations indicated that less than one in five (18%) of schools dewormed non-enrolled children, reports that are collaborated by the fact that a small proportion of non-enrolled children reported being offered the drug in both LGAs. In future rounds, the state team should dedicate more energy towards appealing to parents of non-enrolled children through sensitization campaigns as well as re-enforcing communication to schools that non-enrolled children are part of their target group.

2. In some schools, monitors noted that children were forced to swallow drugs against their will; this contradicts program protocol and should be addressed in future trainings.
3. The adverse events management protocol was missing from about half of the trainings, but is meant to be available to all deworming teams. The state and Evidence Action teams will need to collaborate to find a solution to fill this gap.
4. Neither LGA had the reported coverage figures within the confidence intervals of its surveyed coverage findings. To remedy this, the state should consider confirming whether their target treatment figures are accurate. As a means of further boosting the program's reach, emphasizing the deworming date in future rounds is greatly encouraged in the drive towards a worm-free state.

6.0 Conclusion

The monitoring exercise set out to assess the effectiveness and quality of the activities during the deworming exercise, as well as assess quality of reporting data and thus propose areas for improvement. The overall findings point to good adherence to deworming protocols across key areas of implementation with material distribution, topic delivery, and sensitization, all noted for the good performance. The exercise also revealed areas that could improve in coming deworming rounds, such as a need for the state to check the treatment targets, improve communication and the inclusion of non-enrolled children. The state team may use these findings to plan for enhanced performance in future treatment rounds.