

# Evidence Action

Deworm the  
World Initiative

## Deworm the World Initiative, Kenya

Remote Coverage Validation Methods  
August, 2020

### 1.0 Background

Evidence Action's Deworm the World Initiative (DtWI) provides technical support to the Government of Kenya's National School-Based Deworming program, and provides monitoring and evaluation support to identify opportunities for program improvement and course correction. This M&E support includes Process Monitoring and Coverage Validation (CV). CV has the goal of validating the treatment coverage collected on Deworming Day at schools. This normally takes place 2-4 weeks after Deworming Day, and the MLE implements a coverage evaluation survey (CES) based on WHO standards<sup>1</sup> that includes in-person interviews with children at school and in the community surrounding sampled schools.

Due to the COVID-19 pandemic, the Kenyan Ministry of Education closed schools on March 15th, 2020, less than a week after Wave 1 deworming took place on March 11th. Given the closure of schools, restrictions on movement, and in the effort to collect data in a socially-distanced manner, Evidence Action opted to develop and implement a phone-based CES with the goal of validating treatment coverage. It is possible to conduct a phone-based survey in the Kenyan context due to the continued penetration of mobile phones in the country, whereas this may not be the case in all low- and middle-income countries. Since there have been delays in aggregation and analysis of government treatment coverage data due to the COVID-19 response, this report also

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<sup>1</sup> [Preventive Chemotherapy: Tools for improving the quality of reported data and information - WHO](#)

seeks to gain insight into coverage success.<sup>2</sup> In addition, this phone-based CES served a secondary goal to act as a pilot for phone-based methods of evaluating coverage and to inform program learning on remote data collection and evaluation opportunities.

Siaya county was treating both STH and schistosomiasis, while Narok county was only treating STH. Due to drug shortages and supply chain issues, many of the targeted schools in Siaya county did not receive drugs to deworm for schistosomiasis. This CES methodology was designed and finalized by Evidence Action's DtWI and Monitoring, Learning, and Evaluation (MLE) team. Data collection training took place during the first week of May 2020, and data collection took place over the course of 4 weeks during the month of May 2020.

## 1.1 Key Considerations

While this survey and methodology were adapted from the standard community-based CES due to COVID-19, it is important to clarify that this phone-based parent survey differs in key ways and results should not be interpreted in the same manner. First, the intention of coverage validation as an activity is to validate the treatment coverage rates reported by the government from data collected on deworming day. However, due to the differences in design, including speaking with parents rather than children, potential recall bias, potential selection bias, and overreporting over the phone, this phone-based survey does not have the same validation confidence compared to previous CES results. This effort seeks to provide an estimate of coverage and coverage validation results for Narok and Siaya counties, but it is also a pilot that will provide lessons and context to phone-based surveys for coverage evaluation.

Second, given the schools closures due to COVID-19, this survey was developed and piloted between 1.5 and 2.5 months after deworming (as compared to within one month of deworming, as normal). The WHO recommends that CES take place within 3-6 months of MDA, however DtWI prefers to conduct CES within 4-6 weeks of MDA. Timing is an important factor for coverage evaluation, as recall bias of the events on Deworming Day is always a concern. This is further clouded by the context of the pandemic, and the lifestyle changes and anxieties being experienced by communities in Kenya. These are important differences in context between this survey and previous rounds of CES.

Third, the respondents targeted by this survey were parents of school age children (SAC) and preschool age children (PSAC) who may have taken part in Deworming Day

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<sup>2</sup> Government treatment data will be appended to this report when available.

at the community schools. Given that the children themselves are normally the target of CES, measures were taken to increase confidence in parent responses (see methodology). Further, parent contact information was collected through school teachers and BoGs/PTAs, which could lead to selection bias in characteristics of parents who were contacted, such as increased involvement with schools or socio-economic biases. These are key considerations when interpreting the results of this survey and making comparisons.

Last, the results of coverage validation are normally used to evaluate the confidence in government reported treatment coverage. Due to the COVID-19 pandemic, these government coverage rates are not yet available, but will be analyzed when fully compiled.

## 2.0 Methodology

Due to COVID-19, coverage evaluation surveys were conducted between 1.5 and 2.5 months after the implementation of school-based deworming. Phone surveys were conducted with parents in the communities surrounding the most attended school in 30 randomly selected subunits each from two counties, Narok and Siaya, for a total of 60 communities, with the purpose of validating coverage within each of the counties.

Based on WHO coverage evaluation guidelines, 30 subunits<sup>3</sup> were randomly selected in each of the two counties. Based on population and average household size, phone surveys were conducted with a goal of 32 households per subunit in Narok and 43 households per subunit in Siaya, with an overall goal of surveying parents from 2,250 households.

In order to reach parents of children in selected communities (both enrolled and non-enrolled), the data collection team adhered to the following process:

1. The MLE team collected contact information for Curriculum Support Officers (CSOs) from the DtWI Kenya team for each of the sub-counties from which sampled subunits were located.
2. CSOs were contacted to determine the school in each subunit to which all or most children attend, and collected contact information for the head teacher of each school.

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<sup>3</sup> The WHO recommends using a small administrative unit such as census enumeration area of village as subunits for CES; in Kenya, sublocations are selected, which are the smallest census enumeration unit.

3. Head teachers were contacted to collect contact information for members of the school’s Board of Governors (BoG) and Parent-Teacher Associations (PTA).
4. Members of the BoGs and PTAs were contacted to ask for contact information of parents of enrolled and non-enrolled children in the community.
5. Using the list of parent contacts, the phone survey was conducted with each parent (including BoG and PTA), which collected information on each school-age child in the household.
6. After the survey, each survey respondent was asked for contact information of additional parents and used snowball sampling<sup>4</sup> until the sample size in each subunit was achieved.

In line with commonly accepted practices for phone surveys, teachers and parents were given an airtime incentive to complete the survey. **Table 1** below shows the targeted and achieved sample sizes for the CV activity, with the results discussed in the following sections.

**Table 1: Coverage Validation targeted and actual sample sizes**

Coverage Validation	Target sample size	Actual sample size
Number of subunits	60	60
Number of parent interviews	2,250	2,234
Number of children	3,483	6,525 <sup>5</sup>

Given the necessity of phone surveys and the sensitivity of speaking directly to children, DtWI consulted with the National School-Based Deworming governance structure and decided that this activity was likely to face major challenges by interviewing children over the phone, and therefore opted to speak with parents. The DtWI program also sought and received approval from the Kenyan Ministry of Education to contact teachers and parents through the school networks. Given this change and the expected challenge that parents may not know all details of their children’s experience on Deworming Day, the survey was designed to encourage parents to ask their children for confirmation on their responses, and parents were encouraged to respond that they did not know if they were unsure of any responses.

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<sup>4</sup> A sampling technique in which existing study subjects help to recruit future subjects among their acquaintances.

<sup>5</sup> Parent interview samples size was selected based on expected household size, with data collected on all SAC and PSAC in each household. The child sample was larger than expected due to a larger average household size than expected.

The survey used for data collection was an adapted version of the CES that would have been utilized in the event of an in-person coverage validation activity for interviews with children. This survey was based on the household CES, but was modified to be administered to parents, asking about their children. Given the challenges of administering the survey over the phone and to parents rather than children, the survey was also streamlined to reduce call time, with some questions dropped. However, the key indicators that are crucial to coverage validation were included in the survey, including **household demographic information, treatment type, program reach, surveyed coverage, and unprogrammed deworming**. After collecting information on the household, the child-specific questions were looped in order to collect data on each child in the household separately.

## 2.2 Robustness Checks

In order to analyze the expected biases in the results, certain checks were conducted to better understand the confidence in results. It should be noted that these checks are not conclusive. First, recall bias was an expected challenge to accuracy in results, both because of the additional time that elapsed between MDA and CV and because parents, rather than children were the survey respondents. Certain measures were implemented to reduce this bias, such as encouraging parents to check with children, and data collectors who were trained to probe respondents for uncertainty. In the event that parents were unsure or did not know if their child was offered deworming drugs or swallowed them, data collectors encouraged them to ask their children, if they were present in the household. This method was anecdotally well received by parents, and the data shows that 95% of households reported all children were present at the time of interview. Even with these measures, recall was checked by analyzing the rate at which parents responded, “I don’t know” to key questions. These questions included if their children were given the deworming drug on deworming day, and if their children ingested the drug after receiving it.

Second, bias in the selection of a sample representative of the overall community is a concern due to the method of sampling. Selection of parents was necessarily conducted through snowball sampling, where teachers provided contacts to BoG/PTA members, and BoG/PTA members provided contacts to further parents. This is likely to have biased the sample toward parents who have more contact with the school and with teachers. The effect of this bias is that this sample may not be representative of the overall communities that were surveyed; the average parent in our sample may be more closely tied to schools and teachers than the average parent in the community. The rate at which data was collected about non-enrolled children was used as a proxy to

understand the extent to which this was the case, because parents with non-enrolled children may be less likely to know or be involved with the school. The survey was designed to encourage BoG/PTA members and other parents to provide contacts to *any* parents in the community and not restrict them to those with children enrolled at the school.

Third, overreporting of normative behavior is a source of bias in phone surveys such as this, called social desirability bias. This is the case when respondents overreport 'socially desired' behaviors, in this case that their children were dewormed. Unfortunately, it is difficult to account for the effects of this source of bias without more data, such as from another round of survey implementation with a different reporting method such as a self-completed survey without an enumerator conducting the interview.

Last, to check the overall robustness of the results, historical data from CV and treatment coverage in Narok and Siaya counties were employed for comparison to these results. Normally, the same year's treatment coverage data would also be employed, but as mentioned it is not yet available.