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Evidence  
Action

Deworm the  
World Initiative

Kenya National School-Based  
Deworming Programme  
CIFF End-of-Project Report

September 2017



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## Executive Summary

Kenya's National School-Based Deworming Program (NSBDP) allows millions of Kenyan children to live and learn without the scourge of parasitic worms. Early research in Kenya revealed both the short-term educational benefits and the long-lasting impacts on well-being of dewormed children. This body of evidence convinced the Ministry of Education and Ministry of Health to jointly establish a school-based deworming initiative, launched as a national program in 2012. CIFF's support was instrumental in establishing the program, and with additional support from The END Fund, by the end of Year 3 the NSBDP dewormed every region in the country where soil-transmitted helminths (STH) and schistosomiasis are known to be a public health problem for children. The NSBDP serves school-age and preschool-age children aged 2-14, both enrolled and non-enrolled. It has surpassed its targets every year, reaching between 5.9 million and 6.4 million children annually with preventive chemotherapy.

The NSBDP is government-owned and jointly implemented by the Ministry of Health (MoH) and Ministry of Education (MoE); Evidence Action serves as the program secretariat, provides technical assistance, monitors program execution, and serves as the fiscal manager. The Kenya Medical Research Institute (KEMRI) monitors program impact. The NSBDP is one of the first programs in Kenya to be successfully implemented in the context of devolved government structures, as stipulated in the 2010 constitution and rolled out in 2013. MoH and MoE personnel at the national level coordinate the effort, while officials at the county and sub-county levels implement the program in all 27 counties where STH and/or schistosomiasis are public health problems and require mass treatment in accordance with World Health Organization (WHO) guidelines. Drugs are provided free of charge through the WHO's global drug donation program, through generous contributions from GlaxoSmithKline and Merck.

Six million children in Kenya are at risk of STH infection and 600,000 are at risk of schistosomiasis<sup>1</sup>. These worms are detrimental to children's health, education, and economic potential. They disproportionately affect children and the poor, and are easily transmitted in areas with poor sanitation. However, regular treatment in the form of a simple pill is universally recognized as a safe and scalable solution. The NSBDP treats children using the existing school infrastructure, which is highly cost-effective and is well accepted by communities, given that teachers are trusted by parents and local leaders. Anecdotal evidence indicates that the NSBDP has reduced the stigma of worm infection. People now know the remedy and ease of taking a tablet and feel comfortable having their children treated by teachers in school.

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<sup>1</sup> Ministry of Health, The 2<sup>nd</sup> Kenya National Strategic Plan for control of Neglected Tropical Diseases, Revised Edition; 2016-2020.

KEMRI has monitored the impact of the NSBDP since 2012 to understand the impact of the NSBDP on the prevalence and intensity of STH and schistosomiasis across Kenya<sup>2</sup>. The data collected in Years 1-4 show a decline in the prevalence and intensity of any STH infection both pre- and post-treatment each year, though county-level data were heterogeneous. Reinfection is a challenge; in Year 4, the combined STH reinfection rate was 14%. The program has dramatically reduced prevalence of any schistosomiasis infection by 69% from Years 1 to 4, although “hot spots” of infection still persist after four years of chemotherapy. It is clear that although the impact of the program has been significant, regular deworming must continue to maintain lowered levels of worm infection.

Evidence Action’s Monitoring, Learning, and Information Systems (MLIS) team conducts process monitoring and coverage validation (PMCV). Through process monitoring, we have assessed the effectiveness of the cascade, determining that information is retained from one layer of training to the next. This substantial investment in program monitoring means that we are able to draw informed conclusions about program effectiveness and the ways that the program should be adapted over time.

NSBDP stakeholders convey the impact in children’s lives. In the words of Hajara El-Busaidy, County Director Health in Kwale County, “Since the deworming program started, school attendance has improved, the children have become healthier and there is remarkable improvement in school performance.” Mary Kanyoro, the former Sub-County Director of Education in Kisumu, commented: “In the five years that I oversaw the implementation of NSBDP in Kisumu District, a positive impact was noted on pupils’ health and attendance due to the consistent treatment. [I] hope the program will be retained and expanded.”

“I have seen the program grow and improve. The program has been improving each successive year. The program has an excellent way of capturing lessons learnt during the course of program implementation. I have always had pleasant surprise to learn that there are new updates about the program shared during deployment. It is worth noting, that most changes are based on views given by participants and which are incorporated and inform changes that are reflected in the subsequent implementation year. This has resulted into a robust, efficient and effective program in terms of reach. The ultimate improvements are seen in clearer instruction material, data capturing tools and posters used to implement the program. The materials are simple, clear and adult friendly. Because of these efforts, deworming drugs are efficiently distributed to ensure all target children are reached.”

-Zablon Paul Onyango

Master Trainer and County Public Health Officer,  
Kakamega County

The NSBDP’s cascade model introduced a unique approach at the start of the NSBDP. The cascade effectively mobilizes and conveys information from the national level to the county and sub-county

<sup>2</sup> KEMRI monitoring takes place only in CIFF-supported geographies.

levels, down to teacher trainings and community sensitization to enable teachers to provide deworming medicine to children. Similarly, the cascade structure is used in reverse to facilitate treatment reporting, with each level aggregating data of the one below. This enables cost-effective distribution of both knowledge and essential program materials, including drugs, down to the last mile.

The NSBDP is a global model for school-based deworming, providing lessons for similar programs in India, Ethiopia, and Nigeria. In the past three years, Evidence Action’s global deworming reach has increased fivefold. We supported the treatment of 196 million children in 2016 by advising governments in India, Ethiopia, Vietnam, and Nigeria in addition to Kenya, a significant contribution towards achieving the global WHO goal of reaching 75% of at-risk children with deworming treatment by 2020.

The NSBDP continues to demonstrate strong and consistent implementation and has achieved consistently high treatment coverage. In Year 5, the program treated 5.9 million children for STH and over 519,000 for schistosomiasis. We experienced our highest coverage in Year 4, given our END Fund treatment strategy that results in approximately 350,000 children receiving schistosomiasis treatment every two years rather than annually. STH treatment figures steadily rose through Year 4, with a decline in Year 5 due to the treatment strategy in END Fund-supported areas. Schistosomiasis treatment was lowest in Year 3, given the drug shortage experienced that year.

“Despite Mombasa county being cosmopolitan, a large percentage of the population lives in slums with inadequate safe drinking water, sanitation facilities, and sewerage facilities. Pollution of the environment as well as behavioral factors such as poor hygiene compounds the situation and continues to put the community at risk...

In this year’s campaign, more than 634 public and private schools participated with about 169,000 children aged 2-14 years benefiting, both enrolled and non-enrolled. It is encouraging to note that there were no refusals and parents brought children who were absent during the deworming day to health facilities. Due to the good collaboration some teachers from schools which were not in the list called the sub-county health officers to organize for deworming.”

-Dr. Shem Patta

County Health Director, Mombasa County

CIFF’s investment was catalytic for the program and supported development of a world-class program model. It inspired investment from The END Fund (\$541,441) and facilitated the equivalent of over \$2.1 million in WHO drug donations (albendazole valued at over \$1 million and praziquantel valued at over \$1.1 million). In addition, we estimate that the

program has leveraged GoK in-kind support valued at \$7.9 million over five years, primarily through government staff time.

The NSBDP grew to national scale following a corruption scandal in the Ministry of Education that threatened to derail the program. Given that experience in 2009, stakeholders recognized the importance of accountability and the need for the support of an external party to serve as fiscal agent. The approaches we have put into place provide a high level of accountability, and officials participating in the program recognize the importance of this responsibility. The program has disbursed over \$2.5 million in implementation funding to government structures in Years 3, 4, and 5, with the proportion of funds fully reconciled growing from 84.8% to 91.0% to 94.0% over that period. Senior MoE and MoH officials have unanimously requested that Evidence Action continue its support to national school-based deworming, as they see an important continued role in providing technical assistance, as well as for fiscal agency support.

Through its Monitoring, Learning, and Information Systems (MLIS) team, Evidence Action has also provided regular and rigorous process monitoring and coverage validation (PMCV) services to the program. Complementing the treatment coverage data generated by program reporting forms, PMCV data has enabled the program to understand specific points in the implementation process with room for improvement, such as the degree of preparedness in training sessions or shortcomings in the program's supply chain. PMCV data has provided a foundation for the program's tradition of data-based decision-making. This report considers data trends and lessons learned from five years of program implementation, as well as the next steps for continued impact. The NSBDP enjoys strong political will by leveraging and maintaining strong government partnerships, as enshrined in the program's governance structures. The Steering Committee provides strategic oversight, ensuring progress towards overall goals and considering material changes to the program. It is co-chaired by the Director of Basic Education (MoE) and the Director of Preventive and Promotive Health (MoH). The Management Team oversees day-to-day planning, implementation and monitoring of the program at a logistical and operational level. GoK colleagues at national and county levels have expressed that this is a well-managed program and asserted their desire to see Evidence Action continue its supportive role, given the need for continued deworming in at-risk areas.

NSBDP stakeholders have been working together for several years to determine how best to transition national-level roles and responsibilities to government officials over time while maintaining program quality. CIFF strongly encouraged a government-driven process to achieve clarity on roles, which helped build momentum for these conversations. The Steering Committee co-chairs determined that following Year 5, school-based deworming should fall under the mandate of Kenya's School Health Program, and be subject to the established governance structures in the revamped School Health Policy. Related transitions will take place following the finalization of that policy, and stakeholders are

working to determine their respective roles at the unit level in preparation for an appropriate handover process based on transition milestones with decision gates.

CIFF's investment in the NSBDP has created impact not only over the past five years, when children have been able to learn without worm infection, but impact that will extend well into the future, as Kenya's children will grow into educated and hard-working adults. The program has demonstrated national coordination and leadership of devolved program implementation. The decisions on future program governance ensure continued and ever-increasing GoK ownership moving into the next phase of the program. We sincerely thank CIFF for its investment, which is a springboard for continued impact and program success.

## Glossary

CDE: County Director of Education	NHIS: National Health Information System
CDH: County Director of Health	NPELF: National Program to Eliminate Lymphatic Filariasis
CHV: Community Health Volunteer	NSBD: National School-Based Deworming
CHEW: Community Health Extension Worker	NSDBP: National School-Based Deworming Programme
DEC: Diethylcarbamazine	NSHTC: National School Health Technical Committee
DEO: District Education Officer	NTD: Neglected Tropical Diseases
DHIS: District Health Information System	PC: Preventive Chemotherapy
DTW: Deworm the World	PMCV: Process Monitoring and Coverage Validation
ECD: Early Childhood Development	PSAC: Preschool-Age Children
EMIS: Education Management Information System	RPRG: WHO Regional Partner Review Group
GoK: Government of Kenya	SAC: School-Age Children
HMIS: Health Management Information System	SAE: Severe Adverse Event
ICC: Inter-Agency Coordinating Committee	SOP: Standard Operating Procedure
KEMRI: Kenya Medical Research Institute	SCDE: Sub-County Director of Education
KEMSA: Kenya Medical Supply Authority	SCMOH: Sub-County Medical Officer of Health
KPI: Key Performance Indicators	SHICC: Inter-Agency Coordinating Committee
LF: Lymphatic Filariasis	SHSC: School Health Steering Committee
LSHTM: London School of Health and Tropical Medicine	SHNM: School Health, Nutrition, and Meals
MDA: Mass Drug Administration	SHNMU: School Health, Nutrition, and Meals Unit
MHIS: Management Health Information System	SHP: School Health Policy
MLIS: Monitoring, Learning, and Information System	SHPS: School Health Program Secretariat
MoE: Ministry of Education	STH: Soil-Transmitted Helminths
MoH: Ministry of Health	TWG: Technical Working Group
MOU: Memorandum of Understanding	WASH: Water Sanitation and Hygiene
NCAHU: Neonatal, Child and Adolescent Health Unit	
NDMS: National Director of Medical Services	



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# Section 1

## Year 5 Performance



# 1. Year 5 Performance

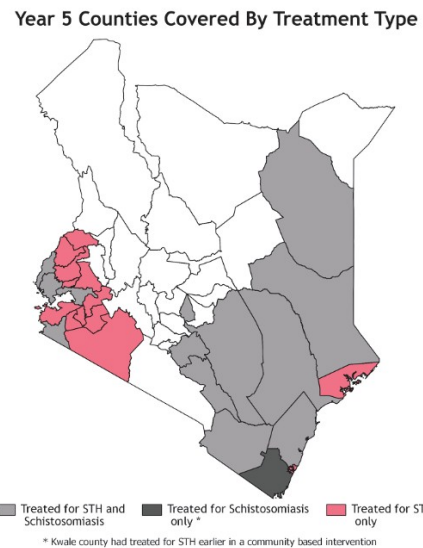
## 1.1. Year 5 Deworming

### 1.1.a. Year 5 Treatment Data

The 2017 mass drug administration (MDA) under the NSBDP took place in February and May 2017, covering 133 sub-counties across 27 counties. Treatment areas are shown in Figure 1, Counties Covered by Donor and in Figure 2, Counties Covered by Treatment Type. The final treatment data indicate that across all program counties, we reached 5,973,386 children for soil-transmitted helminths (STH) treatment under NSBDP in 2017, which is 80% of the target population<sup>3</sup>. This figure includes regions supported by both CIFF and The END Fund. The program also reached 519,232 total children for schistosomiasis treatment, which is 68% of the target population (see Table 1).

Figure 1: Counties Covered by Donor

Figure 2: Counties Covered by Treatment Type



### 1.1.b. Year 5 Key Performance Indicator Highlights

In CIFF-supported regions during Year 5, the program treated 5,921,721 children for STH across 21 counties, reaching 80% of the target population. These included 4,322,175 enrolled school-age children, 1,451,447 preschool-age children and 148,099 non-enrolled school-age

<sup>3</sup> Kwale is one of the 27 counties included in the scope of the NSBDP, and usually receives treatment for both STH and schistosomiasis. However, STH treatment data is not available for Kwale due to a change in treatment strategy midway through year 5 such that albendazole in Kwale was distributed through the LF program instead of the NSBDP. All reported STH treatment figures exclude Kwale, and as noted in the appended KPI and PMCV reports, this change in strategy affected performance against several targets. As of 2016, the program was treating approximately 224,300 children for STH and 66,700 for schistosomiasis.

children. With 4,322,175 school-age children treated for STH in CIFF regions, the program reached 83% of the target for this sub-group of children in Year 5. Overall, the program dewormed 5,973,386 children across the 27 counties including END Fund supported regions, reaching 80% of the target population.

The program treated 476,232 children for schistosomiasis in CIFF-supported areas, of whom 458,403 were enrolled SAC and 17,829 were non-enrolled SAC. With 458,403 enrolled SAC treated, the program reached 68% of the target population of enrolled SAC with schistosomiasis treatment in Year 5. Coverage was lowest in Migori (55%), Kisumu (56%), and Kwale (64%), some of the larger counties receiving CIFF-supported treatment. Across Kenya, the NSBDP treated 519,232 SAC for schistosomiasis against a target of 768,466, also representing 68% coverage.

Table 1. KPI Year 5 CIFF indicators and targets<sup>4</sup>

No.	Indicator	Year 5 actuals	Year 5 targets <sup>5</sup>
9a	Number of children receiving STH treatment	5,921,721	5,250,000
9b	Number of children receiving schistosomiasis treatment	476,232	547,000
10a	Number enrolled SAC receiving STH Treatment	4,322,175	5,000,000
10b	Percentage of enrolled SAC receiving STH treatment	83%	85%
11a	Number enrolled SAC receiving schistosomiasis treatment	458,403	534,000
11b	Percentage enrolled SAC receiving schistosomiasis treatment	68%	85%
12a	Number of non-enrolled SAC dewormed for STH	148,099	264,000
13a	Number of non-enrolled SAC dewormed for schistosomiasis	17,829	11,700
14a	Number of PSAC receiving treatment for STH	1,451,447	1,600,000
15	Percentage of target schools attending teacher training sessions	89%	95%
16	Percentage of teacher training sessions where albendazole (and praziquantel if necessary) are available on the day of training	94%	90%

<sup>4</sup>Targets presented here are inclusive of Kwale county; however, final STH treatment data is not available for Kwale at the time of report submission, as these treatments were administered via the LF program in May 2017.

<sup>5</sup>The targets listed here were agreed upon with CIFF and only account for CIFF-supported regions. However, using planning data from counties in Year 5 we would have expected an overall target population of 6,776,924 inclusive of all SAC and PSAC; against this figure, the program's actual performance would be 87%. More information about how denominators are calculated can be found in Appendix 1.

17	Percentage of schools attending teacher trainings receiving all critical materials for Deworming Day at teacher trainings (critical is defined as: drugs, poles, monitoring forms)	83%	87%
18	Percentage of parents interviewed who were aware of Deworming Day prior to the event	65%	40%
19	Percentage of standalone ECD centers who were aware about Deworming Day prior to the event	68%	80%
20	Percentage of schools performing deworming on designated county Deworming Day	92%	90%
21a	Percentage of divisions correctly (+/- 10%) reporting on school level coverage of total children dewormed	86%	85%
21b	Percentage sub-counties correctly (+/- 10%) reporting on school level coverage of total children dewormed	87%	85%
22	Percentage sub-counties submitting forms 517 C, D and E to National level within three months of Deworming	94%	100%

The program trained 31,206 teachers from 15,603 schools in preparation for Deworming Day. Of the 883 training sessions, 694 trainings focused on STH treatment and 189 combined STH and schistosomiasis treatment. Of the schools receiving STH-only training, 86% received all of the required materials, which include drugs and monitoring forms.

A total of 92% of CIFF-supported schools conducted deworming on the designated county deworming day. Other schools rescheduled deworming activities in response to competing priorities. The majority of schools completed the monitoring forms as required (15,261/16,488). Ninety-five percent of sub-counties then returned these forms plus other required monitoring forms to the national level within three months. Please see Appendix 2 for full Key Performance Indicator details of Year 5.

### 1.1.c. Performance Contracting

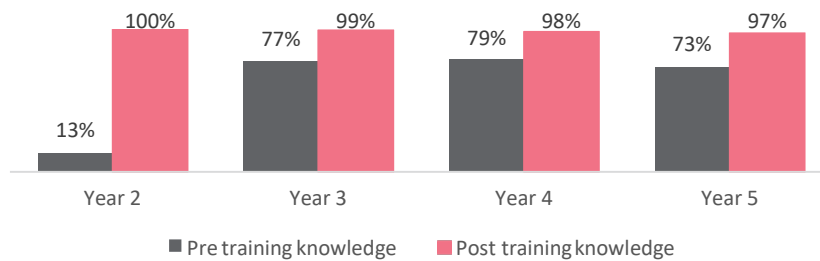
On June 30, we provided preliminary Year 5 treatment numbers to the government for its performance contract reporting, inclusive of the May 2017 CIFF-funded treatment wave in eight counties. Overall, the program reached 5.9 million children and surpassed the annual target of 5.7 million children. Both the MoE and the MoH regularly request the preliminary

treatment numbers for performance contracting purposes, though we have not seen specific documentation of the MoE’s use of these figures.

### 1.1.d. Process Monitoring and Coverage Validation Highlights

Our process monitoring assesses the quality of program implementation. Through process monitoring, the program is able to assess the quality of trainings, the flow of drugs and treatment forms, the preparedness of schools, and the level of community awareness. The detailed process monitoring and coverage validation (PMCV) reports are available in Appendix 4 (PMCV Year 5 Report). Training participants’ pre- and post-test scores showed that knowledge of both STH and schistosomiasis treatment improved post-training (Figures 3, 4, 5 and 6). This affirms the importance of annual training for both STH and schistosomiasis treatments. However, pre -test knowledge was lower in all subject areas for schistosomiasis when compared to STH. Post-test knowledge from year 2 to year 4 were similar for in all subject areas for both STH and schistosomiasis. Only in year 5 post-test knowledge were lower in subjects for schistosomiasis compared to STH. This was the case at both sub-county and teacher training levels. The data suggest that schistosomiasis treatment knowledge is harder for government officials and teachers to learn and retain, likely given the comparative complexity of schistosomiasis transmission and drug administration compared to STH.

Figure 3: Sub-county training participants’ knowledge pre- and post-training on STH treatment<sup>6</sup>



<sup>6</sup>Pre training participants N: Year 2:80; Year 3: 150; Year 4: 160; Year 5: 184. Post-training N: Year 2: 80; Year 3: 151; Year 4: 147; Year 5: 134

Figure 4: Sub-county training participants' knowledge pre- and post-training on schistosomiasis treatment<sup>7</sup>

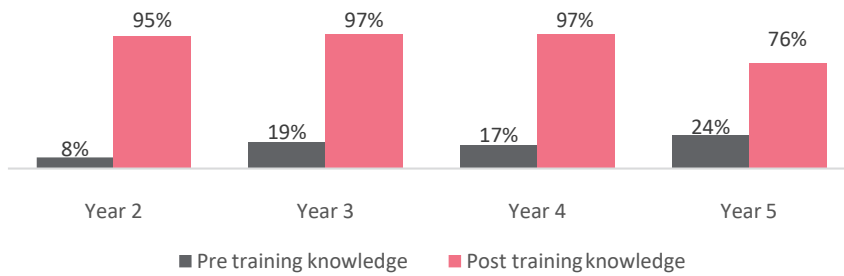


Figure 5: Teacher training participants' knowledge pre- and post-training knowledge on STH treatment<sup>8</sup>

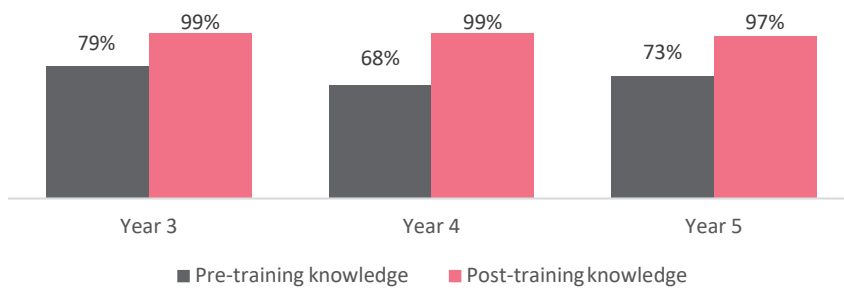
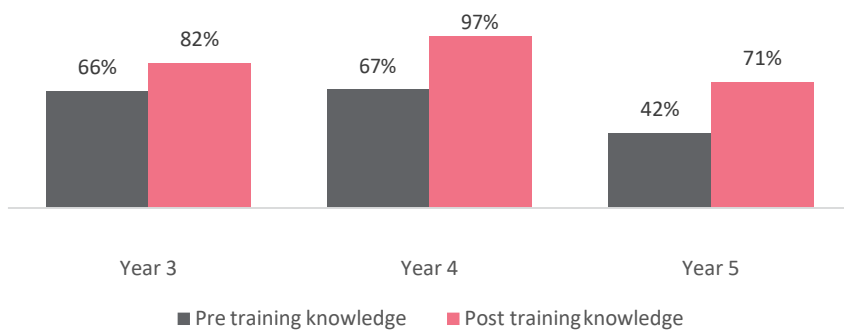


Figure 6: Teacher training participants' knowledge pre- and post-training knowledge on schistosomiasis treatment<sup>9</sup>



<sup>7</sup>Pre training participants N: Year 2: Not available Year 3: 51; Year 4: 56 Year 5: 65. Post-training N: Year 2: Not available; Year 3: 50; Year 4: 49 Year 5: 92

<sup>8</sup>Pre-training n=Year 3: 316; Year 4: 221; Year 5: 366. Post-training n=Year 3: 300; Year 4: 218; Year 5: 363

<sup>9</sup>Pre-training n=Year 3:52; Year 4: 39; Year 5:116. Post-training n=Year 3:53 ; Year 4:39 ; Year 5:121



The extent to which topics were “completely covered” in sub-county and teacher trainings varied according to topics. The term “completely” refers to how thoroughly the trainer covered the prescribed content according to the training manual and presentations. Topics less thoroughly covered at both sub-county and teacher trainings included drug administration, drugs and dosage, and monitoring forms. All training topics were covered more thoroughly in teacher trainings than at sub-county trainings. However, the monitoring team observed that 20 to 30 percent of training participants at both sub-county and teacher trainings were not present at the venue before the start of the first training session. This could have caused trainings to start late, reducing the amount of time available to trainers to cover all training topics sufficiently.

Teachers most commonly relied on school children and posters to sensitize community members about deworming day. Most parents of enrolled children heard about deworming day from their children. The parents of non-enrolled children got their information from a wider range of sources including children, friends and relatives, primary school teachers, and Community Health Extension Workers/Community Health Volunteers (CHEWs/CHVs). The parents of both enrolled and non-enrolled children rarely reported getting their information from posters, although a majority of CHEWs reported that posters served as their most common means for community sensitization. The data affirm that parents of enrolled children were more aware of deworming day than the parents of non-enrolled children. This suggests that the most effective community sensitization technique remains the transmission of information from teacher to child. As such, future teacher training should continue to emphasize the teacher’s role in community sensitization and the messages that need to be shared with the wider community in advance of deworming day. For non-enrolled parents the program needs to look at alternative community sensitization strategies that focus on private and public communication methods to reach these parents.

### 1.1.1.e. Milestone Analysis

We have achieved most of our Year 5 milestones, as outlined below in Table 2 and in full detail in Appendix 5 (Milestone Summary). Some milestones require follow-up after the CIFF grant period. These include ongoing tasks such as determination of unit level roles and responsibilities, validation of the standard operating procedures (SOPs), and input of Year 4 and Year 5 data into the Health Management Information System (HMIS). We are following up closely with the relevant government units to ensure that these milestones are achieved.

At the start of Year 5 we agreed to provide funds to the Neglected Tropical Diseases (NTD) Unit for two additional milestones as discussed with CIFF. The NTD Unit’s milestones were not fully achieved, as detailed in Appendix 6 (NTD Milestones). CIFF has expressed its intention to support continued work toward these milestones through a separate mechanism.

Table 2. Year 5 milestones

Milestone	Month due	Description	Status
M1	Aug-16	Year 4 treatment data entered into HMIS	Partially complete; ongoing follow-up
M2	Sep-16	Develop secondment plan to match Evidence Action staff with capacity building needs identified by NTD, NCAHU, SHNM units for Y5	NTD - Complete SHNM - Complete NCAHU - Ongoing follow-up
M3	Dec-16	Standardize tools & protocols for 'meta-cascade' support functions (i.e. SOPs for cascade activity details including responsibility matrices to outline transition of specific roles over time)	Complete; Ongoing follow-up about formal adoption through the Director of Family Health
M4	Dec-16	Submit detailed drug requisitions to NTD/GoK and KEMSA for domestic distribution for Year 5 implementation	Complete
M5	Jan-17	Determine program roles and responsibilities, including central coordination function in years 6-10	Partially complete; governance structure determined; unit-level roles and responsibilities in process. See details in Appendix 5.
M6	Jan-17	Communicate any changes to Cascade Plans to KEMRI	Complete
M7	Feb-17	Timely submission of Y5 PZQ & ALB administration reports to NTD Unit for WHO reporting	Complete
M8	Feb-17	CIFF bi-annual reporting	Complete
M9	Apr-17	Confirm procurement of PZQ tablets by NTD unit from WHO donation program for Y5 schistosomiasis treatment	Complete
M10	Jun-17	Conduct Deworming Days	Complete

M11	Sep-17	Y5 Jan-Jun 2017 & Final grant report	Complete
M12	Sep-17	Ensure GoK departments have Y5 data using appropriate systems (HMIS, performance contracting)	Performance contracting – complete; HMIS – ongoing follow-up
M13	Sep-17	Process financial accountability returns	Complete

## 1.2. Year 5 Implementation Context

### 1.2.a. Explanation of Relevant Contextual and Political Factors; Impact on Program and Mitigation Measures

In Year 5, NSBDP treatment took place in February and May 2017, covering 133 sub-counties across 27 counties. We supported treatment in 19 counties during the first wave and 8 counties during the second wave. CIFF supported treatment in the 21 counties comprising 133 sub-counties: an increase over the 111 sub-counties previously covered in CIFF areas; The END Fund supported treatment in six counties. The additional sub-counties in CIFF areas were sub-counties with new administrative split from the former boundaries. We had 348 divisions for STH treatment in the 133 sub counties, and 95 divisions for schistosomiasis treatment in 43 sub-counties, eventually treated in 16,632 schools. Following the initial planning meetings where training, monitoring, and communications materials were reviewed, the program procured all materials centrally and then dispatched them to the counties just before the start of the cascade at the county sensitization meetings. The NTD Unit led drugs logistics, quantification, and distribution. The program deployed master trainers, facilitated the counties to conduct sub-county meetings, teacher training sessions, community sensitization activities, and supported deworming days. Evidence Action’s MLIS team monitored deworming days in schools, and national level health and education personnel also made observation visits. All the cascade steps occurred in both waves of implementation.

The program experienced several challenges related to cascade implementation. The new administrative boundaries introduced challenges in logistics management, requiring constant communications between the secretariat and the new sub-counties. Competing activities at the county level required skillful negotiation with the counties to ensure they delivered on the mandate of the NSBDP. Most counties submitted data and financial returns in a timely manner, which enabled us to submit preliminary Year 5 data for performance contracting to the government by the end of June. The preliminary data was generated from Sub-County Summary Forms (517E), while the final data is generated from division

summaries (Form 517D). These final numbers will be made available in the forthcoming Year 5 results booklet, expected to be released in late 2017 or early 2018 depending on GoK's preferred timelines.

### 1.2.b. Program Leverage

We have leveraged our working relationships with Government of Kenya (GoK) officials to expand our engagement on NTDs in Kenya. At the request of the NTD Unit and with the support of The END Fund, we served as the fiscal agent and technical assistance provider for the National Program to Eliminate Lymphatic Filariasis (NPELF) in all endemic counties for the 2016 treatment round. Evidence Action staff now share their time between NSBDP and NPELF needs, which reduces NSBDP costs when staff are deployed to the NPELF. The two programs currently have non-overlapping peaks in activity. Treatment in Kwale County for the NSBDP target population took place through community-based treatment under lymphatic filariasis (LF) mass drug administration (MDA), which covered all community members from age two onwards. The same albendazole tablet used during LF MDA is normally used for STH treatment in schools; therefore the NSBDP made savings on this end as estimated 270,000 preschool-age and school-age children were treated in the community<sup>10</sup>, and the typical training cascade in Kwale was compressed to a smaller scope.

### 1.2.c. Environmental and Political Factors

Kenya experienced severe drought conditions through much of the program year. We recognized the risk of food insecurity increasing the likelihood of severe adverse events (SAEs) or a requisite change in Ministry of Health (MoH) and/or Ministry of Education (MoE) priorities. This concern was steadily monitored through communications with county and sub-county officials and did not end up having an impact on program implementation.

Public sector doctors, pharmacists and dentists went on a 100-day strike from December 2016 through March 2017, protesting wages and devolution-related concerns and interrupting services at 2,700 public health facilities nationwide. The strike affected NSBDP coordination, as the pharmacists manage drug logistics while county and sub-county directors manage disbursement and accounting, and there were slight delays. We however engage multiple officials at each level of implementation and this assisted us to proceed with activities when they stepped in to cover for the cadres who were on strike. We were also able to receive the financial returns and other pending deliverables after the strike was resolved.

### 1.2.d. Drug Management

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<sup>10</sup> As reflected by preliminary data shared by the TUMIKIA research team. Note that this figure represents both SAC and PSAC together as treatments were aggregated according to different age groups (i.e., 2-8 years and 9-14 years) compared to those used for the NSBDP (i.e., 5-14 years).

At program inception, the program design required that drugs be handed over to district-level health officers (equivalent to the current sub-county medical officer of health (SCMOH)) during district (now sub-county) trainings by the national-level master trainers. This contrasted with the preference of government officials from Kenya Medical Supply Authority (KEMSA) and the Drugs and Poisons Board, who preferred that KEMSA should manage drug distribution from the national depot to regional depots and directly to each individual school. In 2012, the two approaches were eventually harmonized and adopted to follow the distribution channel from national to regional by the MoH officers and eventually to counties and sub-counties through facilitation by the secretariat. In the same year, the first draft of the drug protocol was developed by the MoH, led by Dr. Anne Wamae, who was then the Head of the Department of Family Health, in consultation with Evidence Action, KEMSA, and the Drug and Poisons Board. The parties discussed finances and logistics and agreed that the program was only cost-effective when drugs are delivered to teachers during teacher training sessions. It was determined that KEMSA would release drugs to the regional depots, after which SCMOHs would deliver the drugs to teacher training sessions for distribution to schools.

The drug distribution protocol describes the movement of deworming drugs to be used for NSBDP treatment from the point of storage with KEMSA in Nairobi to the teachers in primary schools. Drug distribution to schools and administration on deworming day must be properly managed to avoid waste and losses, and to ensure accountability. In Year 5, the Management Team mandated the NTD Unit to lead drug management in line with the sustainability and roles transfer discussions. Drug tracking in the reverse cascade after MDAs is the most challenging drug management task. In the past, leftover drugs were redistributed to health facilities to be used for routine deworming services, but this posed a challenge for clarifying inventory and procurement needs. When we worked with the NTD Unit (which manages the WHO drugs requisition process and heads the drugs Technical Working Group) to revise the drug management protocol during Year 5, it was agreed and documented that no medicine should be left in the health facilities for routine community use. Instead, the SCMOH should submit the tablet return form to the NTD Unit, indicating the numbers of used and unused tablets.

The protocol remains with the NTD Unit for finalization since it is the only department mandated to request and report drugs usage to the WHO. We anticipate that this will improve drugs management during the reverse cascade.

Year 5 drug management faced some challenges. As NTD Unit staff learned about NSBDP practices and needs, they required more support with drug quantification than anticipated. Some drugs were sent to the wrong areas, such that we had to help troubleshooting and couriating drugs to their correct destinations. Our process monitoring affirmed that more teachers in Year 5 required support from CHEWs to get drugs than in previous years. The percentage of schools receiving drugs before deworming day likewise decreased in Year 5. These issues may have contributed to the decline in treatment coverage. The NTD Unit has

not yet ensured that drugs have been returned to Sub-County Pharmacists, nor has it yet reported on the quantities of drugs that remain in each sub-county after Year 5 deworming. The handover of duties related to drug management therefore remains a critical need for the program going forward. The management team is discussing these issues and will provide guidance on the way forward.

Evidence Action provided Year 4 treatment data to the NTD Unit for its 2018 drug requisition to the WHO Africa Regional Office Regional Partner Review Group (RPRG). The RPRG responded with its questions and comments, and the NTD Unit resubmitted the paperwork by the August deadline in order to ensure continued availability of drugs for NSBD. The current stocks held at KEMSA stores are 6,346,600 albendazole tablets and 2,210,000 praziquantel tablets; the albendazole tablets in the stores are both for the NSBDP and LF MDA and therefore additional albendazole are required for the upcoming rounds.

#### 1.2.e. Data Management

In July, Dr. Sultani Matendehero and Ms. Cecilia Wandera from the NTD Unit and Mr. Paul Byatta from Evidence Action participated in a WHO technical workshop on M&E tools and preventive chemotherapy data triangulation. The workshop focused on data quality improvement, standardized application of NTD Preventive Chemotherapy monitoring guidelines, data triangulation, and data flow between countries, WHO regional and global offices, and identification of in-country opportunities for operational research. Participating countries are expected to use the practical knowledge they gained to improve subsequent data collection, collation, and reporting.

#### 1.2.f. Mapping

Alongside our support for program implementation, Evidence Action provided some support to the NTD Unit to review all available prevalence data at the county level during Year 5. We intend to provide resources for mapping in areas where there is insufficient data but some evidence suggesting prevalence of STH and/or schistosomiasis. The NTD Unit is consolidating existing secondary data from previous studies, partners, Year 1 – 5 program monitoring data by KEMRI and other stakeholders, as well as primary data it collected between 2013 and 2015 with funding from WHO. These data collectively will inform the government's treatment strategy for the second phase of the program.

The NTD Unit, with support from Evidence Action, is in the process of finalizing the agreement on the scope of work for the data analysis and additional mapping. The NTD Unit will need to develop mapping protocols which will be agreed by the stakeholders in the process. So far, stakeholders involved in the process include the relevant divisions and units at the MoH (the Division of Vector-Borne Diseases and the NTD Unit), KEMRI, Kenya Methodist University, London School Hygiene and Tropical Medicine (LSHTM), WHO

Kenya country office, and Evidence Action. The stakeholders reviewed the WHO recommended guidelines for mapping, the current prevalence maps for schistosomiasis and STH by sub-county and county, and the data gaps that the NTD Unit will need to fill so as to have sub-county, county, and national STH and schistosomiasis maps. The stakeholders then suggested some preliminary options for filling the gaps. The NTD Unit is in the process of synthesizing recommendations from the stakeholder meeting and will update partners involved in the program on the way forward.

Ultimately, these data will inform an updated NSBDP treatment strategy for the second phase of the program. The data produced from the mapping exercise is also intended to provide a more comprehensive target (denominator) to be used for reporting national treatment coverage for both school-age and preschool-age children.

### 1.3. Year 5 Program Governance

Throughout Year 5 we have worked with government colleagues to ensure smooth governance of program implementation. We have also planned for the handover of roles in the context of the program's long-term ownership and sustainability, which are outlined in Section 4.3, Defining Roles and Responsibilities Between NSBDP and Stakeholders.

#### 1.3.a. Personnel Changes

NSBDP Steering Committee membership is determined by post. For example, the co-chairs are the MoH's Head of Preventive and Promotive Health and the MoE's Director of Basic Education. Following widespread allegations of misuse of funds at the MoH as revealed by an internal audit report in October 2016, some civil servants were reassigned in November 2016. Shifts in the ministry included key members of NSBDP governance structures: the head of Preventive and Promotive Health Services, who serves as Steering Committee Co-Chair, as well as the head of the Neonatal, Child, and Adolescent Health Unit (NCAHU) within which school health is domiciled. Given the above changes at the MoH, Dr. David Soti is currently the co-chair of the Steering Committee, while Dr. Mohamed Sheikh is the co-chair of the Management Team. We held briefing meetings with incoming stakeholders on their key roles with respect to the NSBDP management aspects and to promote successful coordination and program implementation. At the end of March 2017, a number of Principal Secretaries were reshuffled, including Dr. Nicholas Muraguri in the MoH. The new Principal Secretary is Mr. Julius Korir.

#### 1.3.b. Steering Committee and Management Team Meetings

The Steering Committee and Management Team led strategic decision-making and day-to-day programmatic trouble-shooting for Year 5 implementation. Evidence Action supported

six Steering Committee meetings in Year 5 rather than the four that were planned, given the sustainability discussions led by the Steering Committee. Key decisions focused on program sustainability, the secretariat functions, and roles and responsibilities for Years 6 to 10.

Evidence Action supported eight Management Team meetings to discuss day-to-day program matters. The meetings focused on ensuring smooth program implementation and coordination between program partners. The TWG recommended changes to data collection tools to include administrative units that respond to drug data needs. The Management Team likewise discussed the Merck pilot and future program governance. Some issues remained unresolved at the end of Year 5 that are still being followed up, including signing of NSBDP SOPs, follow-up of financial reconciliation from difficult counties, and data entry into DHIS.

Evidence Action worked closely with unit representatives and Steering Committee Co-Chairs to pursue alignment on program governance looking forward toward Years 6-10. The Steering Committee constituted a six-member committee comprised of nominees from the MoH's NTD Unit, MoE's School Health Nutrition and Meals Unit (SHNMU), WHO, CIFF, and Evidence Action. The committee deliberated on the options for ensuring adequate program resourcing and implementation structures in the program's next five-year phase. Additional information about the six-member committee and the Steering Committee Co-Chairs' recommendations is provided in Section 3 of this report (The Way Forward: Program Roles and Responsibilities).

Steering Committee members were looking forward to a learning exchange trip to India. The trip was not possible, however, given bureaucracy and tight timelines. We are grateful to colleagues in India for preparing for the visit, even though it did not come to pass.

### 1.3.c. Standard Operating Procedures

Over the course of Year 5, Evidence Action worked to document current practices and timelines related to key program processes including the drug supply chain, community sensitization, training and distribution, monitoring, and budgets and financial documentation. The Management Team discussed these program SOPs in their April and June meetings, followed by a validation meeting at the end of June to finalize the documents. We expect the NCAHU to formally approve the SOPs through the Director of Family Health. Once approved, we expect that the SOPs will inform continued discussions of roles and responsibilities, providing background about the specific tasks that need to be undertaken for program success.

### 1.3.d. School Health Policy



The 2009 School Health Policy has been under review for the last two years. In July 2017, it was presented to the School Health Technical Committee for discussions, where the following timelines were identified for conclusion of the policy. The next steps will be a July period for county comment, a review workshop proposed for September, a validation meeting proposed for October, and dissemination proposed for November and December. These activities will be funded by UNICEF. The School Health Policy defines National School-Based Deworming (NSBD) as an activity under the School Health Program, which means that we will change how we refer to the program from “NSBDP” to “NSBD.” We will work with the Management Team to anticipate the implications of the revised policy on program implementation. Among other things, we anticipate that this may bring beneficial opportunities to more directly collaborate and communicate with partners working in relevant sectors such as WASH. We describe the expected impact on program governance structures in Section 3.4 (Program Governance Structures).

#### 1.4. Year 5 Program Communications

Evidence Action supported a number of community sensitization strategies in support of Year 5 deworming. We continued to use radio this year, as we have since Year 3. County representatives chose radio stations with the widest audience within their counties and used those to inform the community about the exercise, dates, venues, target age group, and treatment type. Lamu county, as an exception, also incorporated town announcements to cover the areas where radio does not reach. Additionally, posters were used at school and community level to advise on dates and venues as well as encourage behavior change. CHEWs and CHVs took the opportunity during community events such as health days and local meetings to inform the community about the activity.

CIFF supported the creation of a documentary about the school-based deworming in Kenya. Produced by Ms. Lorna Irungu of Siwa Communications, the documentary covered deworming activities in Busia and Voi and included interviews with key officials at the national level and county level (Kisumu and Kirinyaga counties). Evidence Action facilitated the creation of the documentary, which showcases the successful first five years of the NSBDP.

In June the GoK released the Year 4 (2015-2016) NSBDP results at a function graced by the Principal Secretary of the MoE, Dr. Belio Kipsang, who promised his continued commitment to the NSBDP and lauded the team effort that resulted in treatment for 6.4 million children. The event was well attended by representatives from the MoH, MoE, KEMRI, CIFF, and other key stakeholders. It was widely covered by the media. Through CIFF’s coordination, the ten-minute documentary about the program aired on KTN the evening after the release of results event. A full-page spread was published in the Daily Nation to emphasize key messages about deworming children in schools.

## 1.5. Year 5 Closeout

Year 5 came to a close on June 30, 2017. CIFF is providing limited funding in the closeout quarter (July-September 2017) for Evidence Action to carry out some final programmatic activities and to close the grant.

One of the final activities was NSBDP treatment in Kwale County, which took place in July 2017. School-based deworming was not conducted there earlier due to the TUMIKIA endline surveys happening in that county, whereby treatment would have invalidated the results of the parasitology. It was also important to coordinate with the timing for LF MDA. The LF MDA in Kwale took place May 19-21, with NSBDP treatment scheduled to take place shortly afterwards. We then postponed schistosomiasis deworming to take place on July 5<sup>th</sup>, in order to avoid coinciding with the month of Ramadan, when fasting could potentially increase side effects from praziquantel.

In Kwale, school-age children and preschool-age children were treated at home through community-based LF MDA, which involves the co-administration of albendazole and diethylcarbamazine. To avoid any double treatment, the NSBDP focused only on the 220 Kwale schools requiring treatment for schistosomiasis and did not distribute albendazole during school-based treatment. The NTD Unit and the LSHTM will provide data on the coverage of school-age and preschool-age children during the LF MDA, for the visibility of NSBDP stakeholders.

During the closeout quarter, we continued to process data and financial returns from the reverse cascade. We received all data from the field by the end of July, and it was processed by the Monitoring, Learning and Information System (MLIS) team in preparation for this report and the forthcoming release of Year 5 results. We received 94.22% of county financial returns as of the September Management Team meeting, at which point we planned for escalation to MoE and MoH for follow-up. Continued financial return processing is taking place through the end of the closeout quarter.

We have been following up with NCAHU about the entry of Year 4 and Year 5 data in District Health Information System (DHIS), as outlined in Appendix 5 (Milestone Summary). Some technical changes were due to be made in the DHIS platform before entry of Year 5 data so as to be able to serve all relevant stakeholders with specific data points. The Health Management Information System (HMIS) department has not yet made changes due to competing priorities. We will continue to follow up on this matter in Year 6.

We collaborated with the NTD Unit on drugs management in the reverse cascade and data needs for international requisitions in order to help build capacity. In Year 5 the Management Team tasked the NTD Unit with a greater role in drugs management. The training and distribution cascade ended after the second wave of treatment in May, but the

NTD Unit did not immediately follow up about the reverse cascade of drugs. Follow-up has therefore spilled into the closeout quarter. It is important to complete the drugs reverse cascade, as the drug inventory informs international requisitions and serves as the basis for future activity planning. We are discussing this at the management meeting with a view to find a solution going forward.

Finally, we have worked to prepare final donor reports. We will submit the final financial report to CIFF on total project expenditures for the July-September period on November 30, 2017. We welcomed CIFF's team of auditors in Washington, D.C. the week of August 14<sup>th</sup> and in Nairobi the week of August 21<sup>st</sup>, responding to their queries and providing background about program operations.

## Section 2

### Five Years of Supporting National School-Based Deworming in Kenya



## 2. Five Years of Supporting National School-Based Deworming in Kenya

### 2.1. Program Performance: Key Performance Indicators

The NSBDP has reduced the prevalence and intensity of both STH and schistosomiasis infections among its target population over the five years of CIFF's support. Reinfection rates have also fallen for all infections, although those changes are not statistically significant. Four years of impact data, collected and analyzed by KEMRI, demonstrate the necessity of continued PC for the elimination of STH and schistosomiasis as a public health problem in affected populations. Once Year 5 impact data is available, we will support the government to reassess the NSBDP treatment strategy with an aim to continue minimizing harmful reinfections. KEMRI also recommended additional interventions in its Year 4 report, noting that "long-term control measures lie in concomitantly improving the quality of the water supply, sanitation and hygiene (WASH) and hygiene education in schools."

We served more children than targeted in every year of the program, consistently surpassing the WHO's recommended threshold of treating at least 75% of at-risk children. The program treated increasing numbers of children for STH through Year 4. Treatment figures are broadly consistent with the annual treatment strategy, for which different numbers of schools were targeted in alternating years in END Fund regions: we treated more schools for schistosomiasis in Years 2 and 4 than in Years 3 and 5. The number of children treated for schistosomiasis dropped in Year 3 given drug shortages brought about by poor drug management and expiry. The number of adults treated under the NSBDP has decreased over time, which is appropriate given the program's focus on children.

#### 2.1.a. Impact Indicators

KEMRI has monitored the impact of the NSBDP since 2012 using a representative, stratified, two-stage sample of schools in CIFF-funded areas across Kenya. The objective of this intensive monitoring is to understand the impact of NSBDP treatment on the prevalence and intensity of STH and schistosomiasis infections across program areas, and to assess program effectiveness on an annual basis.

The NSBDP monitoring framework set out three different components of data collection. In Years 1, 3 and 5 KEMRI collected data from a sample of 200 schools in 20 sub-counties to establish an accurate measure of national infection levels. Annually, KEMRI carried out pre- and post-intervention surveys in 60 of the 200 sampled schools to assess reduction in infections that can be directly attributed to program intervention. Finally, KEMRI assessed the transmission dynamics of STH and schistosomiasis by collecting data four times a year from 10 randomly selected schools to understand re-infection, seasonality and, where possible, causation.

The data below covers Years 1-4 of the NSBDP and data collected from the sample of 60 schools. Year 5 program data is currently being prepared by KEMRI and will be provided by KEMRI to CIFF separately. This is a high-level summary drawn from KEMRI reports. As we are not responsible for the collection and analysis of this data, KEMRI reports should be referenced for further details.

The data indicate that the NSBDP immediate reduction target of 60% in prevalence and intensity for any STH infection has been met annually for Years 1-4 (see Figure 7). However, this is not the case for any schistosomiasis infection, where the target was only met in years 2 and 3 (see Figure 7).

The data collected in Years 1-4 shows a decline each year in the prevalence and intensity of any STH infections both pre- and post-treatment. However, the data show that re-infection levels of all STH infections combined did not reduce significantly. Data from across the four years show that children are most commonly re-infected with *A. lumbricoides* compared to other types of STH infection (see Figure 7). In Year 4, the combined re-infection rate for all STH infections was 11.2%, compared to 14% in year 1. *A. lumbricoides* had the highest re-infection rate in both years 1 and 4, between 7.5% and 7.4%. The KEMRI Year 4 report recommends conducting further research on *A. lumbricoides* to test its efficacy and potential for drug resistance.

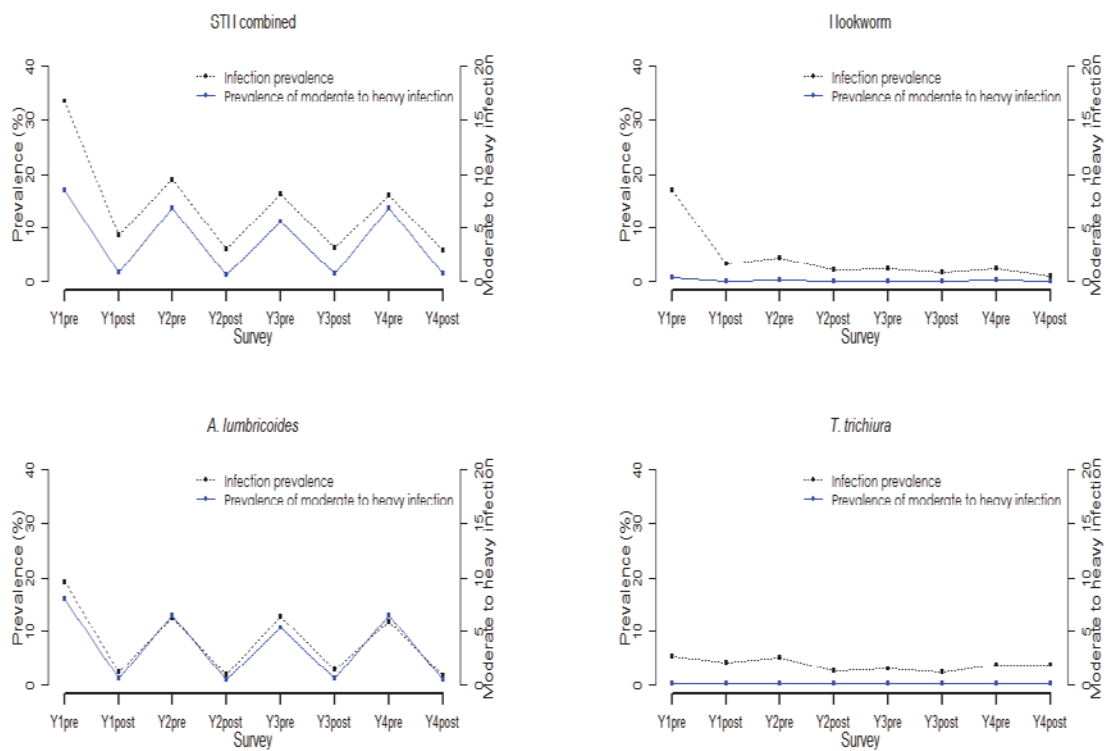
County-level data were heterogeneous. For example, Bungoma, Kisii and Nyamira had significantly reduced any STH infection rate by 90% or more in Year 4. Other counties, such as Mombasa, Kwale, and Busia saw rates of reduction below the 60% target.

The prevalence and intensity of any schistosomiasis infection declined at a much slower rate each year compared to any STH infection. Nevertheless, data found that the reduction in prevalence of any schistosomiasis infection reduced significantly (by 68.8%) from Years 1 to 4. Further, in Year 4, the overall prevalence of *S. mansoni* has been reduced to below 1 percent in Taita Taveta county. The prevalence of *S. haematobium* had also reduced to zero in Mombasa and Taita Taveta. However, the prevalence of any schistosomiasis infection actually increased in Kilifi and Kwale counties, showing that “hot spots” of infection still persist after four years of chemotherapy. This points to the importance of reassessing treatment strategy in the program’s second phase.

Due to inconsistencies in the treatment schedule for schistosomiasis it was harder for KEMRI to draw conclusions on the re-infection rates for any schistosomiasis infection between Years 1 to 4. Nevertheless, the data indicates that re-infection rates were high for any schistosomiasis infection, with rates being higher for *S. haematobium* compared to *S. mansoni*.

In its Year 4 report KEMRI recommends using data from county level results to target geographical areas where infection rates remain high post-treatment and to look beyond school-attending children to other population groups in order to achieve the interruption in transmission of STH and schistosomiasis infections. KEMRI also conclude that PC is necessary but not sufficient for the goal of eliminating STH and schistosomiasis as a public health problem. They recommend that further reduction in transmission also requires improvements in sanitation and hygiene in communities affected by STH and schistosomiasis.

Figure 7: STH combined and individual STH infection year 1 to 4 prevalence and infection rates



### 2.1.b. Outcome Indicators

In this section we present program outcomes, as captured by the Key Performance Indicators (KPI) in our agreement with CIFF. Many of the KPIs include data from years 1-5 (9a, 9b, 10a, 10b, 11a, 12a, 13a, 14a, 14b, and 15), while others (11b, 16, 17, 18, 19, 20, 21a, and 21b) will have data for years 2-5. The latter group were introduced as the program developed, informed by the results of the program's first year. Finally, KPI 22 was introduced in Year 3 to document the speed of data turnaround in the NSBDP; our trend analysis on this KPI covers Years 3-5.

The NSBDP has achieved consistently high PC coverage, surpassing WHO coverage targets each year. The highest overall program performance was in Years 2 and 4, given that some schools covered by END Fund receive schistosomiasis treatment every two years rather than annually, and because of the drug shortage in Year 3 and exclusion of Kwale from STH treatment in Year 5. STH treatment figures steadily rose through Year 4, with a decline in Year 5, partially due to the decision not to provide albendazole through the school-based platform in Kwale. Additional reasons for lower coverage in Year 5 are discussed in Appendices 2 and 4. Schistosomiasis treatment was lowest in Year 3, given the drug shortage experienced that year. The number of preschool-age children treated increased in Years 1-3, then decreased in Years 4-5.

Figure 8: Schistosomiasis infection prevalence and intensity rates years 1 to 4

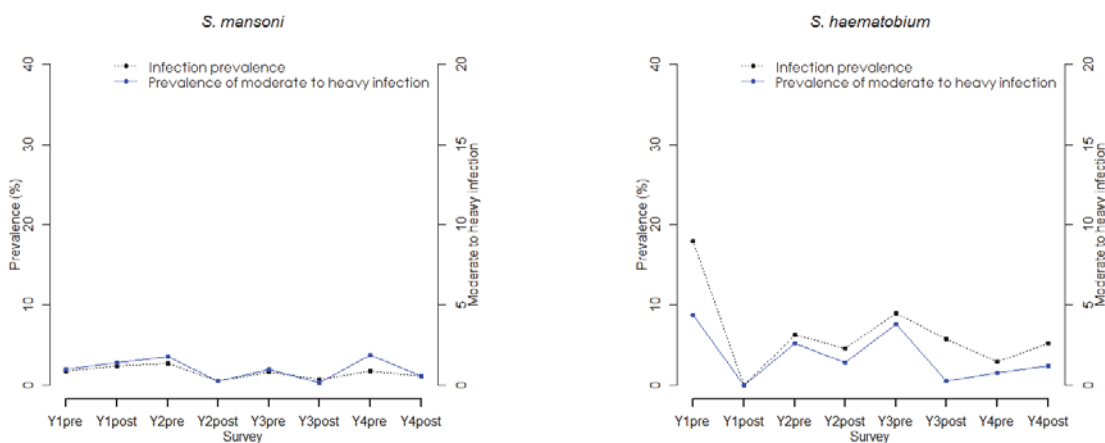


Figure 9: Number of children dewormed for STH in CIFF-funded regions

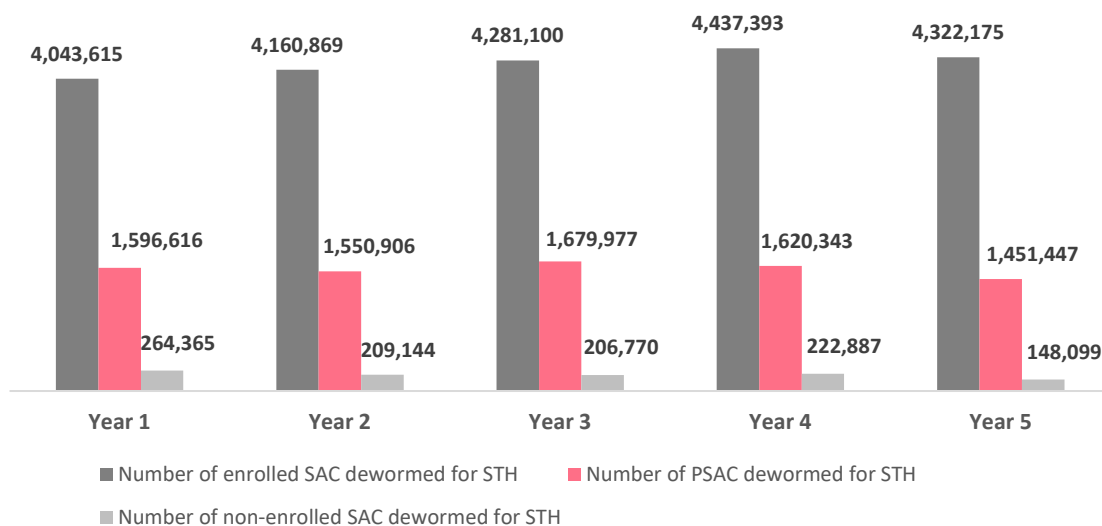
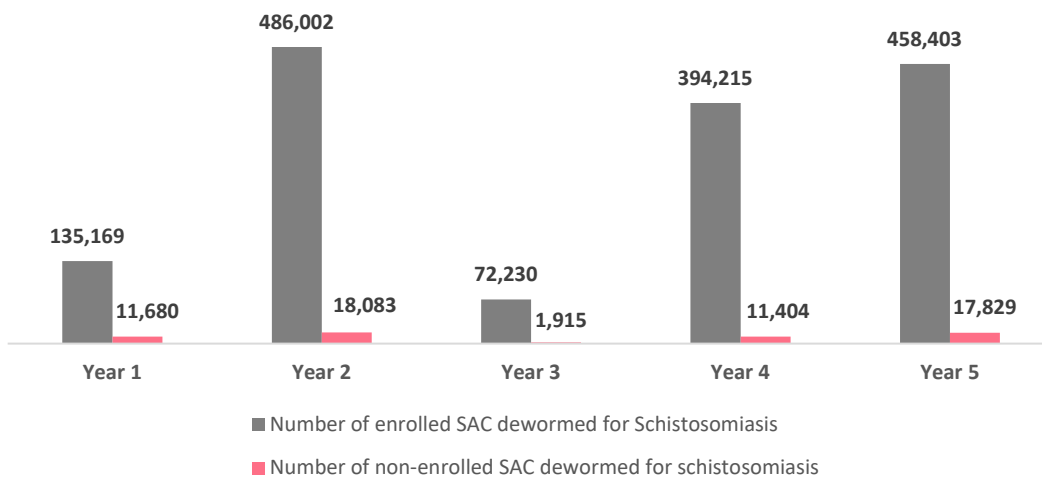


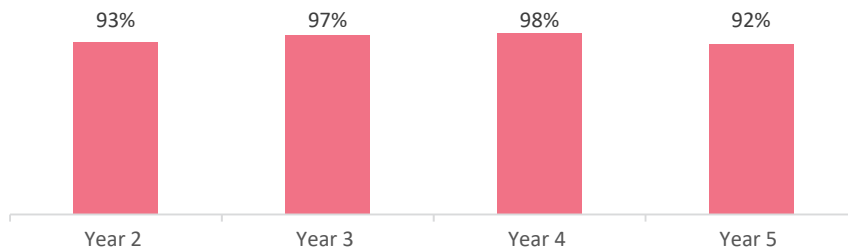


Figure 10: Number of children dewormed for schistosomiasis in CIFF-funded regions



The percentage of schools holding deworming day as designated by the county saw consistent increase through Year 4. The percentage decreased in Year 5 due to competing activities, which required rescheduling of deworming activities. These activities are described in Section 2.2.e.iii (Stakeholder Communications and Coordination).

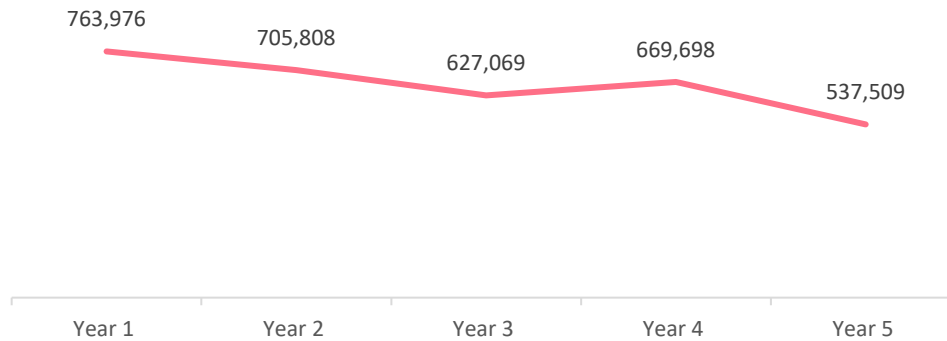
Figure 11: Percentage of schools carrying out deworming on planned county Deworming Day<sup>11</sup>



The number of adults dewormed through the NSBDP has declined over time. Parents may have been more likely to come at first, as they wanted to accompany their children. As the years went by, the program became more familiar and routine. We sensitized parents that the donated drugs should be used for kids, not adults. By Year 5, the number of adults served by the program was just over half of what it was in Year 1.

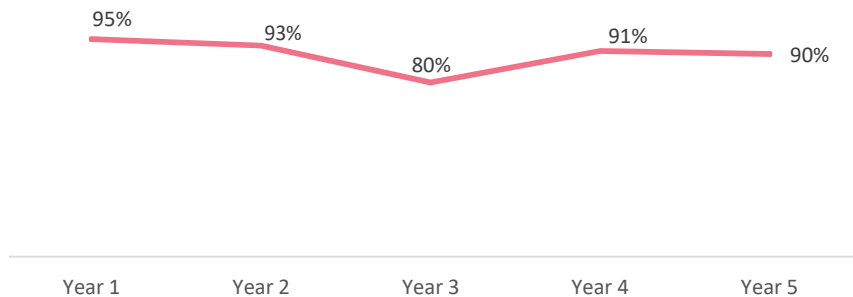
<sup>11</sup> N= year 2: 14,525; N= year 3: 15,588; N= year 4: 14,412; N= year 5: 15,261

Figure 12: Number of adults dewormed



When considering teachers' participation in teacher trainings, we note a drop in attendance in Year 3. This relates to the teacher strike that took place that year. The number of schools participating in the NSBDP increased every year of the program: 13,294 in Year 1, 14,592 in Year 2, 15,790 in Year 3, 16,304 in Year 4, and 16,488 in Year 5. This reflects the increasing number of Kenyan schools over the life of the program, as well as increasing awareness about the NSBDP.

Figure 13: Percentage of target schools attending teacher training



While Kenya has offered free primary education since 2003, the effect of this policy on school enrolment has been felt over time. MoE officers have been on the forefront to sensitize community members on the benefits of education, leading to the increased number of children enrolled in schools. MoE data indicate a year-to-year school enrollment increase of between 2-5% in recent years, with growth from 9.5 million primary school students in 2014 to 10.3 million primary school students in 2016. We do not have county-specific enrollment data. In the NSBDP treatment results we observe that as primary school enrollment increases the number of non-enrolled children reached in school decreases (see Figures 9 and 10). Non-enrolled children constituted between 3% and 4% of NSBDP

beneficiaries, with a decline seen in Year 5. Narok and Trans Nzoia counties stand out, with drops of more than 50% in the number of non-enrolled children served between the beginning and end of the five years of implementation. All counties saw decreases in their non-enrolled children except for Garissa county in Northeastern Kenya, where the number of non-enrolled children increased from 10% of NSBDP beneficiaries in Year 4 to 21% in Year 5. Garissa is an arid county, and much of its population traveled long distances to seek water and grazing land in light of the famine conditions. The program has made a concerted effort to expand reach to hard-to-serve populations, as described in Section 2.2.a.iii, Changes in Implementation Approach Over Time.

We note that the number of private schools participating in the NSBDP steadily increased between Years 2 and 4. From the NSBDP data on Form P, a total of 4,853 private schools participated in the program in Year 2. The numbers increased to 15,840 in Year 3, 17,452 in Year 4, and 17,350 in Year 5. We do not recall a particular intervention that could explain this increase, but it may be that the program increased in visibility with the message that it was a program targeting all eligible children, independent of whether they attend public or private school. Private primary schools in Kenya have dramatically increased in number, growing from a proportion of 19% of all schools in 2009 to 26% of all schools in 2014<sup>12</sup>. This means that the number of private schools increased both in absolute terms and as a proportion of all schools.

### 2.1.c. Output Indicators

We observe that the distribution of training materials remained stable across all years of the program. The complete coverage of all training topics and pre- and post-test scores have also remained stable at both sub-county and teacher training between Years 2 and 4, before dropping in year 5 (tables 3 and 4). While the distribution rates of training materials remained high between Years 2 to 5 for both sub-county and teacher trainings, distribution rates of all materials except posters dropped slightly between Years 4 and 5, given that we printed one booklet per school rather than two as a cost-saving measure. At the same time, the percentage of topics “completely” covered at training remained stable at sub-county trainings from year 2 to 4, and then dropped in year 5. At teacher trainings, the coverage of topics increased for all topics in year 4 and dropped again in year 5. Finally, post-test scores for STH remained stable for all years, whilst post-test scores for schistosomiasis treatment remained stable from years 2 to 4, then dropped in year 5 among participants among participants of both sub-county and teacher trainings. The level of completeness of training is consistent throughout the cascade: we see a correlation between thoroughness of sub-county trainings and the thoroughness of teacher trainings.

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<sup>12</sup> <https://www.kicd.ac.ke/images/ICT/2014BasicEducationStatisticalBooklet.pdf>

Table 3: Extent to which different topics were covered during sub county trainingsessions<sup>13</sup>

Training topics	Year 2	Year 3	Year 4	Year 5
STH Forms	89%	97%	87%	69%
Schistosomiasis forms	94%	72%	63%	28%
Worms	85%	87%	85%	50%
Drugs and dosage	80%	89%	91%	47%
Drug administration	100%	90%	74%	41%
Reverse cascade	75%	84%	81%	85%

Table 4: Extent of different topics covered during the training sessions<sup>14</sup>

Training topics	Year 2	Year 3	Year 4	Year 5
STH Forms	32%	66%	82%	64%
Worms	83%	72%	92%	82%
Drugs and dosage	60%	60%	86%	73%
Drug administration	96%	84%	97%	66%
Reverse cascade	74%	70%	90%	70%

In Year 5 we worked to align MoH and MoE administrative units, which resulted in including 13 new sub-counties in the program. The new sub-counties were a result of the MoE catching up with devolution and posting sub-county officials to these sub-counties. The MoH already had staffed these sub-counties. The NSBDP uses the MoE platform for logistics management, so we only adapted the new sub-counties when MoE aligned to MoH in terms of gazetting these sub-counties and posting MoE officials to administratively manage them. The increase in participating sub-counties in Year 5 created confusion. We instruct sub-counties to manage last-mile distribution of training materials and drugs. Year 5 process monitoring data indicates that distribution success is decreasing, suggesting a gap in sub-counties following through with distributing training materials and drugs. New sub-counties may have experienced confusion about their role in the last mile-distribution of training materials and drugs. We will work with newly included sub-counties to clarify expectations in Year 6 and beyond.

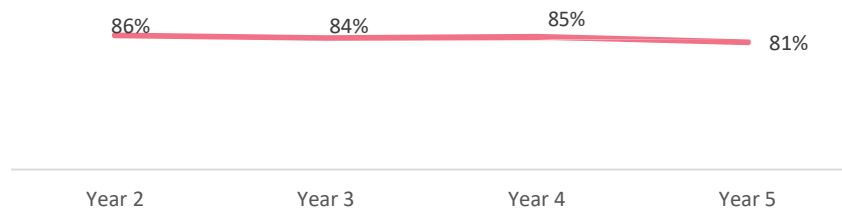
The trend data indicates that the majority of schools were able to demonstrate preparedness for deworming day (Figures 14, 15 and 16). The data show that deworming day was

<sup>13</sup> N=Year 2: 46; Year 3: 38; Year 4: 39; Year 5: 44

<sup>14</sup> N=Year 2: 84; Year 3: 76; Year 4: 52; Year 5: 86

completed systematically in the majority of schools across all years. Overall, head teachers demonstrated that schools were prepared for deworming day, with plans in place for treatment and handling of side effects in most cases. Head teachers report that their schools continue to carry out school-based sensitization activities each year (Figure 14).

Figure 14: Teachers that trained others at the school following their own training



While the percentage of schools that received drugs and training forms prior to deworming day remained stable from year 2 to 4 and dropped in year 5, our monitoring team observed that the majority of schools that received all materials adhered to the key requirements of drug administration on deworming day (Figure 15). The percentage of schools systematically implementing deworming day remained consistently high, above 95 percent, in 3 years (figure 16). Monitoring teams asked questions about systematic implementation in Years 3-5 only.

Figure 15: Percentage of schools with forms and drugs before deworming day

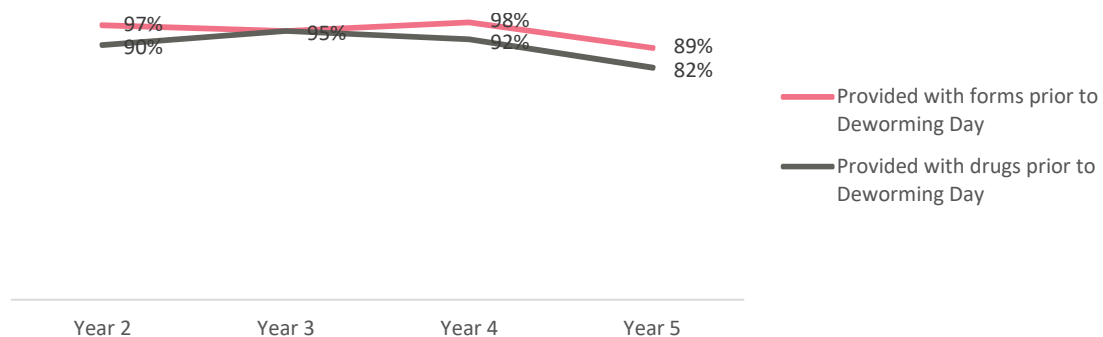
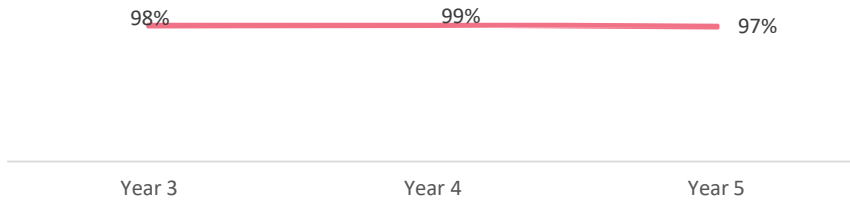


Figure 16: Percentage of schools where Deworming Day proceeded systematically



Unsurprisingly, the parents of enrolled children have consistently been more aware of deworming day than parents of non-enrolled children (Figure 17). The percentage of parents of non-enrolled children who intend to send their children for deworming day has also dropped more significantly since Year 3 than among parents of enrolled children (Figure 18).

Figure 17: Parents interviewed who were aware of deworming day

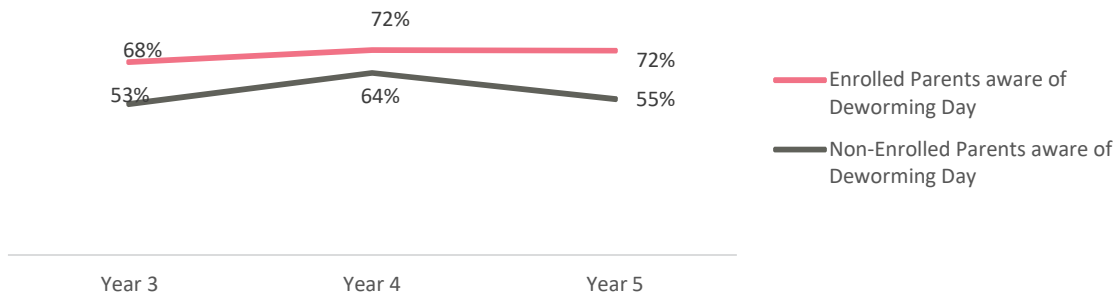
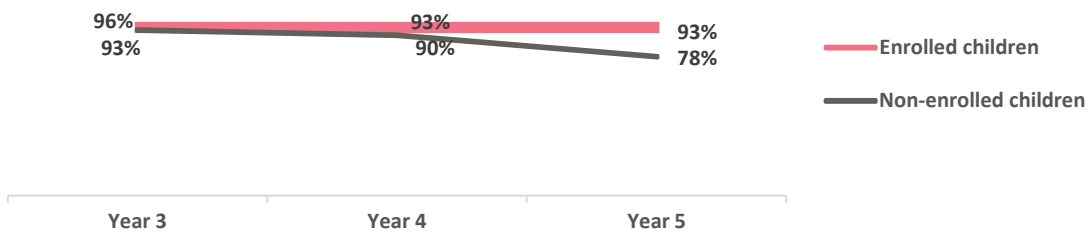
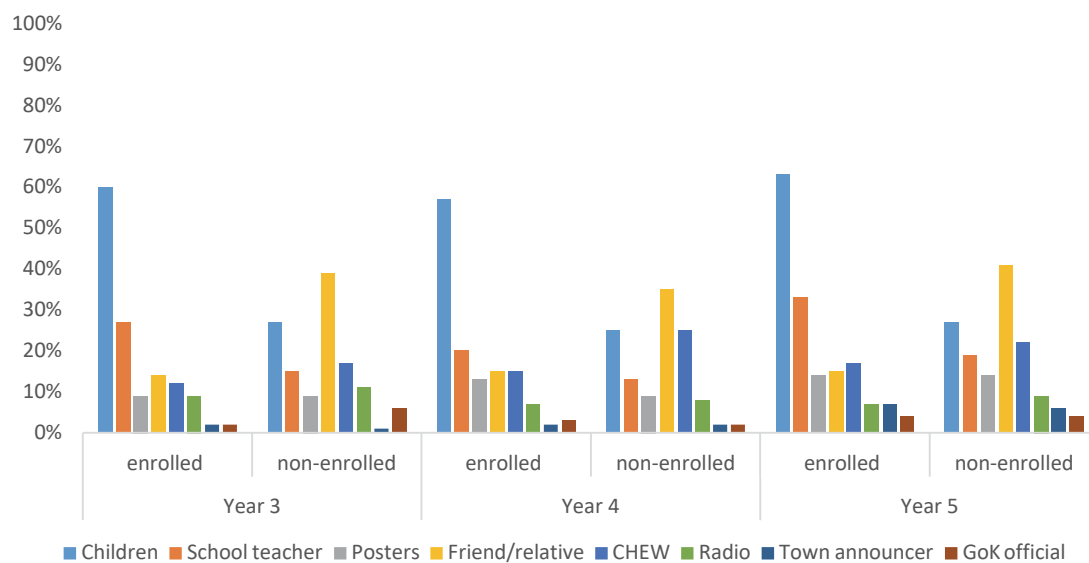


Figure 18: Number of parents aware of deworming day who plan to send their children for deworming



Across the past three years, children and primary school teachers have been the main sources of information about deworming day for parents of enrolled children (Figure 19). Parents of non-enrolled children source their information from a much broader base (Figure 19). Despite trying new initiatives such as radio, which was tested and rolled out from Year 2, the data show that radio and posters were not as effective as word-of-mouth in transmitting the message on deworming. This would suggest that transmitting information through teachers, CHEWs, and CHVs remains the most appropriate method for community sensitization.

Figure 19: Information sources for parents of enrolled and non-enrolled children



### 2.1.d. Coverage Validation Data Findings

To validate program treatment coverage as reported on the treatment forms from schools, the Evidence Action monitoring team conducted coverage validation surveys in Years 3, 4 and 5 of the program. We adopted a school-based approach in conducting the coverage validation since the NSBDP is implemented at schools.

The MLIS team administered coverage validation surveys at school level. The primary method of estimating coverage was by interviewing children in sampled schools. To check on the robustness of individual children interviews, the monitors also conducted group interviews in selected classrooms.

To determine the sample of schools to be surveyed, MLIS used a two-stage sampling approach. MLIS first stratified the schools by counties participating in the program, then

selected a proportionate sample within the counties. The sample aimed to meet a confidence level of 95% and a margin of error of 10% at the national level. At school level, for individual interviews, the monitors randomly selected 3 streams.<sup>15</sup> In each stream, the monitor interviewed every 5<sup>th</sup>, 10<sup>th</sup> and 15<sup>th</sup> child as indicated on the class register. That is a total of 9 children in every school. For group interviews, the monitors randomly selected 3 streams per school and conducted the interview with a full stream of children.

We defined surveyed coverage as the proportion of children who could correctly identify the correct deworming pill and the dosage offered. From the results, the school-based coverage validation survey indicated high surveyed coverage rate of 95%, 93%, and 94% for Years 3, 4 and 5, respectively. Interviewed children cited absence from school on deworming day as the main reason for not taking the drugs. Four percent of children interviewed were absent in Year 3, 5% in Year 4 and 3% in Year 5. Interviewed children also cited insufficient drugs on deworming days as reasons for not taking deworming drugs.

In summary, to boost the coverage rate further the program will need to look into how to increase children's attendance rate on the deworming day. Additionally, the program will need to address the issue of a few schools not having sufficient drugs on deworming day. Please see Appendix 3 for full process monitoring and coverage validation details.

## 2.2. Lessons Learned

### 2.2.a. Implementation Learnings

#### 2.2.a.i. Implementing in the Context of Devolution

The NSBDP has been at the vanguard of defining how nationally-coordinated programs work in the context of devolution. In 2010, Kenya adopted a new constitution, which recognizes just two levels of government: national and counties. The constitution initiated a period of transition in which Kenya has moved from strong central management toward a federalized approach with 47 counties. Elections in 2013 selected county-level officials and began the actual transition of power. The MoH is fully devolved, while the MoE is to remain centralized. MoE officials still report into the central MoE, while the MoH does not have the same level of direct authority over county health structures.

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<sup>15</sup> A typical full primary school has children in ECD and class 1 to 8. A class can be divided into more than 1 stream, if the population of children cannot fit in one stream.



### 2.2.a.ii. Treatment Strategy

The WHO recommends that STH treatment should be administered once per year when STH prevalence in the community is over 20%, and twice a year when STH prevalence in the community exceeds 50%. MDA is not recommended by WHO when STH prevalence in the community is below 20%; in such communities, it is appropriate for health facilities to test and treat individuals with suspected worm infection. At its start, the NSBDP focused on 66 districts where STH prevalence was above 20%. The 66 districts under devolution became 111 sub-counties and have further been subdivided into 124 sub-counties that the program targets in line with WHO guidelines. Out of these, the program treats for schistosomiasis in 34 sub-counties. The NSBDP consistently conducted an annual treatment round for STH in all participating counties. We anticipate a review of the treatment strategy in counties covered by the NSBDP following the results of KEMRI's surveys following Year 5 treatment. We also anticipate that KEMRI will undertake a reassessment of STH and schistosomiasis prevalence in END Fund counties, as we have committed funds for this purpose. The review will relook at the treatment strategy in all current NSBDP target areas to determine the appropriate treatment strategy for the next phase of the program, in line with WHO guidelines following multiple rounds of high coverage MDA.

The NSBDP has employed different treatment strategies in different parts of the country. Schistosomiasis is a focally distributed disease, which means proper targeting is critical. Treatment strategy is determined by schistosomiasis prevalence, as assessed by surveys of stool or urine samples in school-age children. In END Fund-supported areas, treatment strategy is determined in line with WHO recommendations: annual where prevalence is over 50%, and every other year where prevalence is 10-49%.

CIFF funding supported annual schistosomiasis treatment in areas co-endemic for STH: near Lake Victoria and at the coast. Near Lake Victoria, target areas are based on a distance of 8 kilometers or less from the lake. At the coast, we conducted a pilot in Year 1 using a school health questionnaire. For the pilot, the NSBDP treated where schistosomiasis prevalence in schools was at 20% or more as reported through the questionnaire. We treated where prevalence was at 15% or more for Years 2-5, as the NTD Unit discussed with the WHO during the RPRG meeting of July 2012. We would note that we do not have impact data in END Fund regions to assess the merits of annual versus every other year treatment. We look forward to discussions that will identify the treatment strategy for Year 7 and beyond. We recommend that the NSBDP Steering Committee should harmonize schistosomiasis treatment strategy in all NSBDP treatment areas for Year 7.

### 2.2.a.iii. Changes in Implementation Approach Over Time

Evidence Action has made adaptations over time to ensure the program is data-driven and effective even in Kenya's changing political context.

The level of engagement and involvement from GoK staff has increased as the program matured and stabilized. In the first year of the program, before devolution, we worked with provinces and districts. Then, in Year 2, we introduced county meetings and worked with county officials. The County Director of Education (CDE) and the County Director of Health (CDH) jointly convene NSBDP county meetings. Participants include the County Executive Committee members for health and education, the County Director of Teachers Management, the County Quality Assurance Officer, the County Public Health Officer, and the County Pharmacist. The earlier regional meetings included other stakeholders like religious leaders and other county health implementing partners, who were not engaged in the subsequent activities but rather helped in creating awareness. County meetings include relevant Sub-County Directors of Education (SCDE) and SCMOHs, which is important for ensuring continuity in the cascade and appropriate communications about logistics. After relying on this composition for county meetings in Years 2 and 3, we determined that it would be important for Sub-County Health Records and Information Officers to participate. They did so in Years 4 and 5, which facilitated their familiarity with program data. We support the transport and food costs for all participants, as well as hall and projector hire, driver lunches, and coordination allowances for the co-conveners.

Our engagement with master trainers likewise changed over the five years of the NSBDP. For the first two years of the program, we worked with national-level master trainers. In Year 3, we developed a cohort of county-based master trainers to respond to the devolution structures. County-level engagement resolved the challenge of master trainers having to seek permission to work outside of their jurisdictions. It also helped to increase counties' sense of program ownership and decreased the amount spent on master trainer per diems. On the whole, we observe that because county officials do not report to the national level, ongoing sensitization and communications are important for ensuring a sense of shared responsibility and accountability in the program's execution.

At the start of the NSBDP, deworming treatment was provided in fifteen waves. We have gradually reduced the staggering of implementation, with fewer deworming days each year. There are pros and cons to each approach. Monitoring a single large treatment wave requires many monitors at once, and none at other times. Yet a single big push is helpful for creating national-level attention and generating all treatment data at once. We took advantage of the emerging county structures to emphasize the importance of simultaneous county-wide deworming. Rather than relying on regional trainings that combined districts, as we did in Year 1, we now encourage counties in the same region to agree to deworm at the same time.

With time, we have adjusted our approach to sensitizing community members about the program. At the start, we used town criers to make announcements. In Year 2, we learned through process monitoring data that counties and sub-counties were mentioning the program on the radio. We decided to cease our support for town criers, whose effectiveness was not supported by data, and instead direct resources toward the radio, spreading the use of radio from a few counties to all.

We have succeeded in expanding coverage of hard-to-reach populations, particularly in the most recent year of implementation. Several NSBDP counties experience particular hardships, such as frequent tribal clashes in competition for grazing and water resources, Al-Shabaab-inflicted violence, remoteness, and/or harsh climatic conditions. In Lamu and Tana River counties, where such issues frequently recur, county meetings planned to serve hitherto hard-to-reach schools in Year 5, recognizing a period of relative calm. The program served four mobile schools in Tana River county, two schools in the Tana Delta, and schools in Lamu county's Mpeketoni Boni forest. Teachers representing these schools all participated in teacher training sessions and successfully dewormed their students. In Tana Delta, students simultaneously benefitted from the MoE's homegrown school feeding program, which ensured that they did not take praziquantel on empty stomachs.

### 2.2.b. Financial Management

At the start of the NSBDP, Evidence Action and CIFF agreed to treat disbursements to districts (and later counties and sub-counties) as grant expenses even if they were "yet-to-be-reconciled disbursements" from a programmatic perspective. This decision reflected the risk of government structures failing to account for the funds they received, and the reality that government structures do indeed need the money to be able to implement the program. In practice we follow up closely to maximize receipt of financial returns, reconciling over 80%. Our reconciliation rates have increased over the years, from 85% in Year 3 to 91% in Year 4, to over 94% in Year 5 (with final returns still coming in).

At each level of activity implementation, we generate accountability forms to account for each expense. Examples include transport, coordination, lunch, and airtime allowances forms. We expect fund recipients to provide us with valid receipts from service providers for other expenses, such as venue hire, projector hire, meals, and stationery. We disburse money via electronic funds transfer to the appropriate MoE and MoH county and sub-county accounts. Government officials send us complete and adequately supported financial returns after the completion of each activity. Where this task has been delegated, the CDE/CDH and SCDE/SCMOH are expected to supervise and sign off before returns are sent back.

When sharing budgets with the county and sub-county teams, we provide clear financial accountability principles and guidance. We outline how funds disbursed for implementation

are to be accounted back to Evidence Action. Upon implementation of an activity, the county official should send back the reconciled documents within a week. When needed, our team sends follow-up reminders to county and sub-county officials after two weeks. We reconcile the financial documents received from the field against the budget to check if the amount budgeted and sent coincides with what was spent. We seek reimbursement from counties and sub-counties with pending balances. We refund counties and sub-counties who spent more than their budgets if such over-expenditures were pre-approved. Some county and sub-county officials are less responsive than others to our follow-up. When needed, we forward information to the Management Team for its intervention.

We have faced a number of challenges related to financial returns. First, not all government structures send financial returns on time. Achieving desired reconciliations requires persistent follow-up. Second, some financial returns that we receive have not been appropriately completed. At times, county and sub-county officers delegated the financial reconciliation process but did not provide the necessary supervisory oversight. In a few cases, we could not allow the submitted supporting documentation, which resulted in delays in processing financial returns while we awaited correct and full accountability documents. We alerted relevant county and sub-county officials about the anomaly and reminded them of the importance of complying with the provided budgets. While we considered withholding funds the following year from sub-counties that had outstanding disallowed or unaccounted balances, in practice this was not workable because of the high turnover of personnel. We would note, however, that the amounts typically involved were minimal (under 10%) when compared with the volume of funds that are accounted for correctly and in good time.

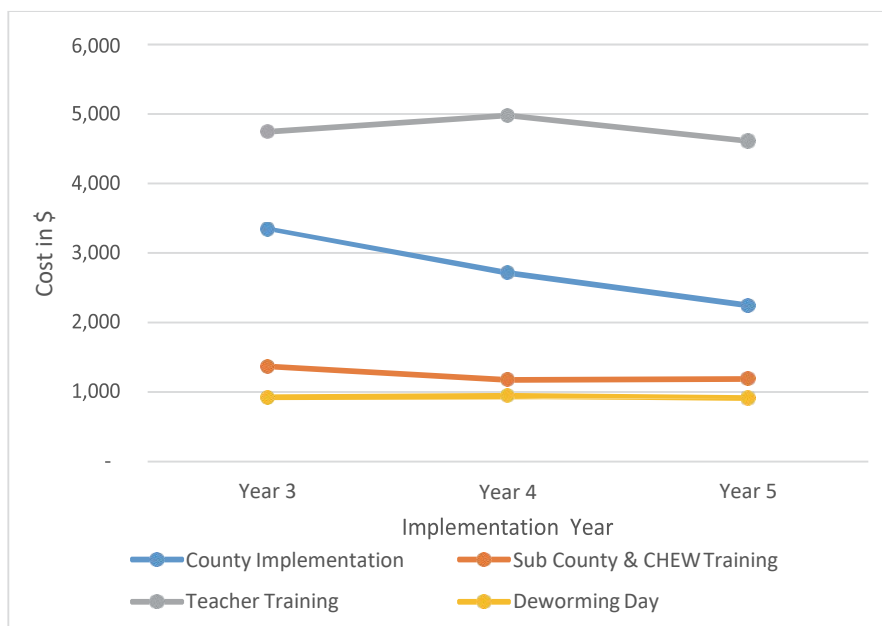
#### 2.2.b.i. Program Cost Trends

Looking back on the final three years of CIFF's support to the program, we note a decrease in the average costs for our main cascade activities. County-level budgets decreased from \$3,339 to \$2,244 per county from Year 3 to Year 5. Sub-county/CHEW trainings, teacher trainings, and deworming day budgets were all less expensive in Year 5 than they were in Year 3, as shown in Figure 20.

#### 2.2.b.i. Program Adaptations to Increase Cost-Effectiveness

The NSBDP is a successful program operating at scale, coordinated nationally and implemented by counties and sub-counties. We recognize, however, that the intensive design of the cascade model may not be feasible to continue in the long term. We are committed to seeking to improve cost-effectiveness without sacrificing program quality. Over the first five years of the NSBDP, we have sought to economize in different areas, exploring the trade-offs and ensuring continued high coverage.

Figure 20: Average Cost Trends



In the NSBDP’s original design, district-level trainings took place over 2.5 days, with the last half-day dedicated to planning. This introduced logistical challenges, because with travel time it was not possible for master trainers to manage two trainings during a work week. We adjusted the trainings to take place in two days, leading to cost savings and simplified logistics.

In program Years 2 and 3, we held regional stakeholder meetings to include influencers, such as religious leaders, who are not directly involved in the program. Anecdotal evidence suggests that the stakeholder meetings smoothed program implementation, but they were not included in Years 4 and 5 to save on costs. We do not see an effect on program impact. Likewise, over time we have reduced the budget for venue costs and projectors. This was negatively received by some counties, but we do not have conclusive evidence that would suggest an effect on program results.

NSBDP materials are a key cost driver for the program budget. As the program has matured, we have worked toward printing materials in large batches to save money. In Year 5, we printed all materials at once, rather than before each treatment wave. In Year 1, we spent over \$85,000 to print training materials. In Year 2, we combined multiple leaflets to create sub-county and teacher training booklets, reducing costs by 27%. By Year 3, we refined our print list to better anticipate printing needs. We saw a year-to-year cost reduction of 22% between Years 2 and 3. For Year 4, we reduced the number and distributed one teacher training booklet to each school instead of two, with a cost reduction of 8%. For Year 5, we printed all training materials at once leading to a reduction of 13%. Our reduction over time

in printing costs exemplifies our dedication to ever increasing program efficiency and cost-effectiveness: printing cost 55% less in Year 5 than it did in Year 1.

We tweaked our approach to implementation each year, applying lessons learned. We reduced the number of county school health sub-committee meetings per year from four to two, leading to a 15% cost reduction, saving \$24,322 per year.

Over the life of the program we have taken three approaches on how to engage CHEWs. The CHEWs play a role in awareness about activities and management of SAEs. At first, CHEWs attended teacher trainings. Given their background knowledge of public health, however, many reported feeling bored or detached when included alongside teachers. Our second approach was to hold a CHEW forum, which brought the CHEWs together separately from other program stakeholders for half of a day. The CHEW forum served as an incentive for CHEWs and fostered their sense of responsibility. In Year 4 we piloted the approach of integrating the CHEW forum into sub-county trainings as a cost-cutting measure which was with positive results, hence completely adopted this approach in Year 5. In some areas, CHEWs expressed confusion about which day of the two-day sub-county training they should attend. The transition from the CHEW forum approach to the merged sub-county trainings led to a savings of \$41,308, which was a 14% reduction. This cost savings must be weighed against the programmatic consequences: our process monitoring data indicate that CHEW involvement in raising awareness decreased after full incorporation of CHEWs into sub-county trainings. Of the three approaches, we conclude that the CHEW forum model most successfully engaged the CHEWs. Overall treatment data in Year 5 did not decline substantially or in a way that could be attributed to CHEW activity, however, suggesting that either the CHEW forum or the integrated sub-county training approach could be used to engage CHEWs in the future. It could be seen as a trade-off between cost and smoothness of implementation.

### 2.2.c. Severe Adverse Events

During the 5-year implementation period, the program received reports of 131 cases of severe adverse events (SAEs) related to praziquantel administration. In addition, other children reported adverse events that were not severe, such as stomach aches, nausea, or dizziness. The program did not collect data about SAEs in Year 1. No SAEs were noted in Year 3, given the drug shortage and reduced number of children treated that year. The teachers, divisional officers, sub-county officers, and county leadership responded to all cases. They ensured that children with any side effects were instructed to lie in the shade. They involved the parents of children with severe adverse events and took the children to the hospital for diagnosis and treatment.

Two children died during the five years of program implementation, in Kisumu and Kwale counties. In both cases, the children died from untreated malaria and not as a result of the

deworming medication. Nevertheless, these tragic events inspired a review of the SAE protocol in Year 2 to emphasize the flow of information from households to county officials. The protocol indicates that the CDH is the program spokesperson at the county level. We circulated the investigation report to all members of the cascade to correct the news that misattributed the side effects to deworming medicine. We also developed a guide for media engagement and circulated it to all CDHs. We share the SAE protocol at all levels of implementation to strengthen the communication structure and management of SAEs.

#### 2.2.d. Drugs Management Approach

The NSBDP requires sufficient supplies of drugs. Over the five years of CIFF's support, the NSBDP received 49,808,580 albendazole tablets and 9,435,800 praziquantel tablets for STH and schistosomiasis treatment, respectively. The value of these donated drugs was over \$2.1 million. The program partnership framework stipulates that the GoK is responsible for ensuring the availability of sufficient drugs.

It is very important that ministerial departments work closely with one another to ensure that the country has the correct requisition of drugs. In 2012 the MoH reported that it was not aware of 2.66 million praziquantel tablets delivered in August 2011 and stored at Red Cross warehouses in Nairobi with an expiry date of June 2013. The MoH PS was aware, however, of the arrival of 3.5 million tablets that arrived in November 2012 with expiry dates in February 2014. To avoid such confusion, NSBDP leadership mandated that the NTD Unit should be the only department submitting drug requests to the WHO, tracking customs clearance, and ensuring that shipments are received and transported to KEMSA depots in Nairobi. The NTD Unit also oversees and coordinates all drug distribution.

The program has adjusted its drug management over time in response to challenges and lessons learned. Our approach to drug distribution has changed over time in light of devolution. In Year 1, training teams traveled to the field with drugs. In some cases, master trainers distributed drugs. In others, SCMOHs picked up drugs directly from regional depots under the oversight of Evidence Action staff. After the child's death in Year 2, however, all stakeholders increased their awareness of the liability of non-MoH personnel handling drugs. One result was an emphasis on the importance of the MoH handling drugs.

The revised, streamlined approach to drug management requires drugs to arrive at regional KEMSA depots to be picked up by county pharmacists. The SCMOH picks up drugs from the county pharmacists and distributes to teachers during their training sessions. In Year 2, we used KEMSA's delivery system for the coastal region. In this case, however, KEMSA's logistics and dispatch system did not separately track the drugs that were requisitioned for the NSBDP. We therefore have applied the streamlined approach to the whole country, as it is low-cost and effective.

In Year 2, several sub-counties erroneously used NSBDP deworming tablets for the Malezi Bora project. In response, we improved our communications with the county through the County Pharmacists related to expectations and distribution.

Early in the program, the drug protocol mandated that any drugs remaining after deworming day should be redistributed to local health facilities for the treatment of other populations. This posed a challenge for clarifying inventory and procurement needs. The forthcoming revised drugs protocol will instruct that no medicine should be left in the health facilities for routine community use. Instead, the SCMOH should submit the tablet return form to the NTD Unit, indicating the numbers of used and unused tablets. We anticipate that this will improve drugs management during the reverse cascade.

The challenge of donated praziquantel having a short, two-year shelf life has affected the program several times. Some of this time is taken up in shipment via sea to reach Kenya, and we require 6-8 months for program planning and trainings before drugs can be delivered to schools for deworming. In Year 2, Kenya received more praziquantel than it required. We supported the government to distribute praziquantel tablets with short expiry timelines. We planned the timing of activities around expiry dates, which put pressure on sub-counties. After deworming day, the remaining praziquantel had 1-3 months before expiry, meaning that it could not be used in the same schools (where repeat treatment would be inappropriate given the timeframe). Despite efforts to ensure consumption of the short-expiry praziquantel tablets, 1,774,259 tablets expired before they could be consumed at local health facilities. Sub-counties were left holding expired drugs, but they lacked suitable disposal facilities and required guidance on the next steps.

As a result of the mismanagement that resulted in praziquantel expiry, Merck withheld its praziquantel donation to Kenya for Year 3. Lacking sufficient praziquantel, we treated only two counties that year, Siaya and Busia. Remaining counties requiring schistosomiasis treatment were skipped, meaning that approximately 420,000 children missed treatment.

Kenya was cited for praziquantel donation problems at the WHO Africa RPRG meeting held in Brazzaville, Congo in July 2014. To expedite the process of destroying the expired praziquantel as required by Merck, the National Director of Medical Services (NDMS) sent letters to all CDHs to collect and send expired drugs to Nairobi for destruction. Consequently, all the expired tablets were incinerated in Nairobi in November 2014. The ministry reported that Merck had put Kenya back on the donation list in December 2014 and approved the release of 3.465 million tablets to be shipped to Kenya in July 2015 for Year 4 treatment.

Drug wastage is a perennial challenge for the NSBDP. Citing drug stability and liability issues, the GoK requires that tins should not be opened before deworming day, which means that each school receives its anticipated number of drugs rounded up to the nearest tin. This results in a lot of wastage, particularly at smaller schools. Merck intends to reduce the



quantity of praziquantel tablets from 1,000 per tin to 500 per tin, which should reduce drug wastage in the future. Albendazole was packaged in tins of 500 tablets in Years 1 and 2, but this was reduced to 200 tablets per tin from Year 3 onwards. The change made distribution to schools more efficient and reduced drug waste.

As described in the Year 5 section of the report, the role of the NTD Unit in drug quantification and distribution has increased over time, introducing challenges as officers get to know the needs and expectations. The drug distribution protocol was expected to be fully revised and finalized for application in Year 5, but it remains with the NTD Unit for finalization. Regarding drugs management for Year 5 specifically, the NTD Unit has not yet ensured that drugs have been returned to sub-county pharmacists. We will continue to support the NTD Unit where required to ensure the availability of drugs for future treatment rounds.

## 2.2.e. Persistent Implementation Challenges

### 2.2.e.i. Turnover of Government Personnel

The NSBDP is implemented by government personnel at the sub-county, county, and national levels, with the sub-county principally driving program success. It is difficult to overstate the level of turnover when considering the full five years of NSBDP implementation. In the education sector, we began working with District Education Officers (DEOs), who became SCDEs. Just 9 of the 124 sub-county-level officials were the same from Years 1 to 5, a turnover rate of 93%. In the health sector, just 2 of the 137 SCMOHs were constant from Years 1 to 5. 98.5% of sub-counties had new faces at some point during the implementation period.

Such turnover poses challenges to successful program implementation. We must invest time in building new working relationships, and we lose the established relationships whenever staff change. Officials were sometimes promoted or demoted within a sub-county, or they were transferred from one sub-county to another NSBDP sub-county. In such cases we encountered familiar people in new settings. When officials were completely new, at times they delayed making decisions until they were thoroughly briefed on the program. Alternatively, some new officials delegated their roles out of unfamiliarity. Sensitization about the program has therefore been an ongoing task, to build working relationships with new officials and ensure continued quality in program implementation.

### 2.2.e.ii. Strikes

Strikes in the health and education sectors have been a recurring challenge for the program. We have monitored possible labor grievances to be able to anticipate when the NSBDP may be affected by strikes. A strike would be most damaging if it came between teacher trainings

and deworming day, so we scheduled activities in a way that they would either finish before a threatened strike, or fully take place afterwards.

Teachers went on strike in September 2012, and we postponed implementation in 25 sub-counties until January 2013. Teachers again went on strike in June 2013. Some counties were treated in September of that year, while others delayed teacher training sessions. The teacher strike in September 2015 led us to postpone deworming activities until March 2016.

Health worker strikes can likewise threaten successful program implementation. We engage multiple people at each level of the health system so that we're not dependent on just one individual or one cadre for successful implementation. For example, in the Year 5 doctors' and pharmacists' strike from December 2016 through March 2017, we used public health officers to help distribute drugs to sub-counties. We have varied our response to strike actions according to the timing and the people involved.

### 2.2.e.iii. Stakeholder Communications and Coordination

Successful program implementation relies on effective stakeholder communications. For example, we must accurately communicate the schistosomiasis treatment criteria to ensure that no one feels that some schools are being deliberately or erroneously excluded.

We have found it effective to use Echo Mobile, a SMS platform that allows mass texting to implementers in the field. It has helped us to improve communications over time, particularly filling gaps at the district/sub-county level. We send messages to remind teachers of impending trainings, and encourage them to sensitize others.

While key people in ministerial departments, counties, and sub-counties are eager to participate and seem dedicated to the program, they are pulled by many other competing demands on their time. Competing priorities include a number of programs sponsored by other donors and jointly implemented by the MoH and MoE, such as:

- Malezi Bora, or “Good Upbringing” in Swahili, which aims to increase the utilization and improve the delivery of routine evidence-based health and nutrition services for children under age five, expectant women, and breastfeeding mothers in Kenya.
- VVOB Healthy Learning Initiative, which serves the poorest and most vulnerable children in arid and semi-arid areas by engaging motivated teachers and parents as healthy learning champions who coach and share experiences with nearby schools.
- Tusome, an initiative focused on improving the literacy and numeracy skills of learners in grades 1 to 3 in all public and private schools in Kenya. The program is implemented by the MoE with technical assistance from RTI from 2014–2018.

- PRIDE, or the Kenya Primary Education Development Project, funded by the Global Partnership for Education and managed by the World Bank for 2015-2018. The \$88 million project covers early-grade mathematics competencies, primary school management, evidence-based policy development, and project management.
- AMREF/GIZ Comprehensive School Health Program, which supports GoK to introduce a socially equitable financing system, the development and introduction of quality standards and quality management, and the mainstreaming of gender equality and human rights principles in the reform process. The program works in collaboration with the private sector and is implemented in Vihiga, Kwale, and Kisumu counties.

Like the NSBDP, these programs and others hold regular meetings, workshops, and field activities. When donors or GoK stakeholders do not help to coordinate, at times programs find themselves in a “tug of war” for officer time and attention. This is, of course, in addition to other regular duties of GoK personnel.

Given the turnover of government officials described earlier, it is important for us to collect and confirm administrative data before each cascade. Such data include the county and sub-county administrative heads from both ministries, email addresses, phone numbers, and bank account details. These data ensure that we include the necessary stakeholders in the planning processes and budgets. We ask for administrative data two weeks before the start of each cascade so that we can update our database. We have also empowered master trainers and DEOs to vigilantly collect correct planning data.

#### 2.2.e.iv. Data Harmonization

At the outset, the NSBDP adopted the division as the planning administrative unit for both health and education. For ease of implementation, districts with DEOs were recognized as implementation districts/sub-counties since the program is implemented in schools. This enabled data to flow from schools to districts to the national level for entry, cleaning, analysis, and sharing.

Before devolution and the 2010 constitution, the universally recognized administrative units included provinces, districts, divisions, locations, sub-locations and villages. The constitution instructed that wards should replace divisions as administrative units. The MoH has adopted the use of wards, as it is fully devolved. The MoE uses divisions and zones as administrative units; divisions do not physically exist, so zones are the MoE’s preferred unit. Unfortunately, the geographic boundaries for these different units do not always align.

Since the NSBDP is implemented in schools, it is most convenient to receive data through MoE staff within MoE administrative units. Given the logistical advantages, we have used MoE administrative units since 2012. To qualify for program inclusion, a sub-county must have a SCDE available to serve as the account holder of program funds.

The challenge lies in the ministries' differing understandings about administrative units. They use different numbers of only roughly equivalent units (sub-counties/districts and divisions/wards), limiting the utility of MoE data for MoH purposes. In cases where there is one MoE lead for a geographic area, in Years 1-4 we considered that geographic area to be one, even if it could be perceived to be two sub-counties. In Year 5 we adopted 13 new sub-counties in CIFF-funded regions in response to concerns about administrative units raised by the MoH and upon posting of SCDEs to those sub-counties. With this adjustment, both MoE and MoH have near similar numbers of sub-counties in each county.

In the next phase of the program, the NSBDP Management Team has instructed that data collection tools should include information from both the MoH and MoE administrative units, so that data can be disaggregated according to the users' needs. In the near term, Evidence Action's secondment of Ms. Olive Mutai has resolved some of the immediate challenges in order to provide data in the format needed by the NTD Unit.

## 2.2.e.v. Kenya As An Example to Others

The NSBDP has served as an example to other school-based deworming initiatives around the world. A delegation of fourteen people from the Ethiopia Federal Ministry of Health, Regional Health Bureaus, Ethiopia Public Health Institute, and the Federal Ministry of Education, traveled to Kenya in February 2016 to engage an equally large and diverse Kenyan delegation from the NSBDP in a conversation regarding lessons learned, programmatic successes, what works and what does not, and the future sustainability of the respective deworming programs. The trip featured a field-based day in Nandi County observing deworming day activities in four schools. Kenyan national, county, and sub-county government representatives were at the forefront of all efforts throughout the learning exchange, organizing, leading, implementing and exemplifying the unification of the MoH and the MoE for a successful, cost-effective deworming program at all levels all the way down to the schools.

The Ethiopian team benefited from first-hand exposure to deworming in Kenya, noting the significant amount of involvement and deworming knowledge of both line ministries and the effectiveness of using teachers to administer tablets to the children. The delegates from Ethiopia also found it helpful to obtain a detailed understanding of process monitoring and coverage validation by independent monitors. Upon return to Ethiopia, the Federal Ministry of Health immediately began policy amendment discussions regarding teachers as drug administrators with top ministry officials. Additionally, the inspiration and knowledge instilled within the Regional NTD Focal Points of Oromia, Amhara, SNNPR, and Tigray

significantly increased their prioritization of the deworming program in their areas, communication with the federal-level and productivity.

In 2014, Evidence Action began conversations with the Ministry of Health and Family Welfare in India, with the goal of encouraging establishment of a national-level deworming program. This grew out of our state-level engagement in the states of Bihar, Rajasthan, and Delhi. As part of the preparations for setting up and expanding the deworming program, Evidence Action's India Director, Priya Jha, visited Kenya in May 2014 to meet with Kenya colleagues representing MLIS, Implementation and Policy. Team members shared program successes and challenges with her, spanning planning, budget development, preparation of training materials, training, implementation, and reporting.

In 2016 we began working in Nigeria, supporting school-based deworming in Cross River State as part of the state's integrated NTD program. The Kenya deworming and MLIS team provided critical inputs to the program's cascade design, monitoring and evaluation strategy, and training materials as it scaled up to the state level for the first time. The team shared learnings and best practices from Kenya via remote consultation as well as in-person collaboration. Evidence Action's Lead Representative and Program Manager from Nigeria visited the Nairobi office for working sessions in 2016 and 2017, and also observed teacher training during Year 5 of the NSBDP. Based on feedback from partners, we know that the reports and recommendations from these engagements ultimately enabled Cross River's government team, as well as government implementers in our three new partner states in 2017, to more fully understand and appropriately apply components of best-practice and cost-effective programming such as planning for a single day of treatment and a single mop-up day, a consolidated training cascade, or independent process monitoring by an objective third party firm. Support from Kenya to Nigeria has also included hands-on assistance from the MLIS team in recruiting and training independent monitors and setting up systems for data storage, management, and analysis.

## 2.3. Data Management Learnings

### 2.3.a. Data management Approach

In its first five years, the NSBDP collected three components of data: process, performance and impact data. Evidence Action directly supported process and performance data. KEMRI was responsible for collecting and sharing the impact data.

The process of performance data management was shared between Evidence Action and government officials. The KPIs and the subsequent design of reporting forms is a collective exercise led by the NSBDP Management Team. The KPIs and the data collection tools are reviewed every year as part of preparations for the year's treatment activities. Therefore, this is a process that involves the key stakeholders of the program: the MoE, the MoH, and

Evidence Action. The KPIs for the first five years also took into account the reporting and accountability interest of CIFF and The END Fund.

MoE officers are responsible for filling of treatment forms and the subsequent aggregation of the data. In the first phase of the program, the responsibility of filling treatment forms falls on teachers. Teachers indicate children treated at class level. The head-teacher of each school aggregates the treatment. MoE officers at ward and district levels aggregate the data at ward and district levels respectively before submitting all the data from school, ward, and districts to Evidence Action offices in Nairobi. In the first phase of the program, the process of collating and aggregating treatment data through the reverse cascade was done manually and on paper.

Evidence Action receives treatment data from the DEOs. We verify the data, coordinate data entry, and conduct data analysis based on pre-set KPIs, and subsequently archive historical data in Excel and Stata formats. In Years 1 and 2, we worked with a vendor to conduct data entry; given a lack of capacity by the vendor to enter the data within desired timelines, in Years 3 to 5 we conducted data entry ourselves.

### 2.3.b. Data Management Changes Over Time

We have made a number of changes to data forms over the past five years. For example, in Year 2 the program team implemented a radio campaign to supplement community sensitization activities about deworming day. The process monitoring forms were changed to reflect the program changes. The form included questions not only on parental sources of information, but also recall questions on what information parents could remember from the radio campaign, to better understand the value of the impact of the radio campaign.

The treatment data forms were changed between Year 4 and Year 5 in order to reflect changing reporting requirements from both the NTD and the WHO. This included collecting data that would provide greater detail on the number of children treated from different age groups.

In Year 4 MLIS changed the process of training the process monitoring data collection team. Previously training was centralized to one location, while in Year 4 training was decentralized to take place in counties. The MLIS team trained county-level process monitoring data collectors, who then trained all the data collectors in their county. This was primarily a cost-saving measure, resulting in savings of \$68,606 (a 38% reduction). The data collection team has not seen any drops in data quality as a result of the changes in data collection.

### 2.3.c. Government Data Ownership

The NSBDP strived to align to the Health Management Information System (HMIS) and Education Management Information System (EMIS) offices at the national level to refine and harmonize the NSBDP indicators and the GoK's data management and reporting systems including the NTD database. We worked with the aim to solidify a common understanding of these government tools, data, and reporting needs to ensure that the program fits into the existing systems. The MoE will soon launch a new system known as NEMIS (National Education Management Information System) in 2017 or later, to replace the old system EMIS. Data points expected to be captured in the NEMIS include number of schools deworming, and number of students/pupils dewormed, though not the number dewormed per school. Important information such as disaggregation by age and gender is not planned to be captured; neither is the number of non-enrolled children treated. Therefore, this platform best works to help in triangulation purposes for the number of children enrolled in the primary schools.

Treatment data help the MoH to measure progress towards goals of the Kenya Health Sector Strategy and Investment Plan, specifically contributing to policy objective of elimination of communicable conditions. With the system running properly, the government will be able to receive and analyze data much more quickly than the six months it has formerly required. This will also allow external stakeholders, like WHO, to access program results more rapidly. Currently all implementing counties were trained in 2016 (participants included the County Health Information Officers and Sub-County Health Information Officers). Following this, 60% of NSBDP Year 4 data has been entered and 36% of Year 5 data has been entered. There remain technical changes that are required in the platform to ensure that all data points in the data collection tools can be reported through the platform after NSBDP reporting forms were reviewed in Year 5. NCAHU is following up about this with the Health Information System department.

## 2.4. Applying Research Findings to Program Implementation

Evidence Action is committed to contributing to and applying the findings from the global evidence base to the NSBDP. Over the five years of CIFF's support, we have collaborated with three research projects that are building the evidence base on deworming and implementation approaches:

- TUMIKIA evaluated the effectiveness of community-based deworming for controlling and ultimately eliminating STH. The LSHTM ran the study in Kwale county from 2014-2015 to compare annual school-based deworming with an alternative of increased coverage (serving all community members once per year) and an alternative of increased coverage and frequency (serving all community members twice per year). We worked closely with the TUMIKIA team to coordinate

the school-based and community-based treatment activities to prevent clashing timelines, and Evidence Action's MLIS team provided process monitoring and coverage validation services during the training and drug distribution exercises. We await results to determine programmatic implications.

- TakeUp evaluated social and behavioral incentives for adults to embrace deworming treatment. Evidence Action conducted the study in Busia, Siaya, and Kakamega counties with funding from CIFF and other funding sources; field work took place in 2015 and 2016. Analysis of the results are in process; findings from the study will be relevant in Kenya in discussions about whether to transition from control to elimination of parasitic worm infections, given the current reservoir among adults that fosters reinfection. GoK stakeholders on the TakeUp Task Force have expressed great interest in the study findings and how those findings may inform future policies. We provided a separate report to CIFF about TakeUp in February 2017.
- Merck is assessing whether including batch numbers on praziquantel tins could improve the planning and delivery of deworming drugs in Kenya. We have been supporting the pilot in collaboration with the MoH, the MoE, KEMSA, and Merck. Together, we have piloted a SMS-based tool to track praziquantel from the factory to the schools to improve transparency, planning, and drug availability. Schools treating for schistosomiasis participated in the pilot. In the first wave, approximately one-third of teachers responded to Merck with their praziquantel batch numbers. Merck is still finalizing the data from the second wave. We expect that the data and programmatic conclusions, once available, will be shared by the NTD Unit at forthcoming NSBDP Management Team and Steering Committee meetings.



## Section 3

### The Way Forward: Program Roles and Responsibilities



## 3. The Way Forward: Program Roles and Responsibilities

### 3.1. History of the Roles and Responsibilities Discussion

NSBDP stakeholders have been working together for several years to determine how best to transition roles and responsibilities over time while maintaining program quality. Toward the end of Year 4 and into Year 5, CIFF made a compelling case for a government-driven process to achieve clarity on roles and responsibilities; we agreed with this approach and subsequently strove to put the government in the driver's seat for decision-making while balancing with the desire to maintain a high-quality, high-impact program.

The effort to define program sustainability and structure for the next five-year phase of the program began in 2014 by exploring the potential feasibility of government partners contributing to program funding at various levels (i.e., national, county, etc.) in light of some restructuring as part of devolution. In mid-late 2015, we held meetings with MoH, MoE, CIFF and KEMRI stakeholders<sup>16</sup> to define the vision for program sustainability, explore potential structures, and develop a phased process for transition of program responsibilities between 2017 and 2022. We captured these discussions and a proposed framework for transition in a “sustainability strategy”, shared with the Steering Committee and CIFF in October 2015. The document outlined a step-wise transfer of governance and programmatic duties, recognizing the constraints related to both financing and program structure. At that time, CIFF expressed concern about the timeframe for the transition, indicating a strong preference for an accelerated timeframe and a desire to see greater emphasis on domestic resourcing. CIFF staff indicated that they would not be able to provide financing beyond Year 5 for the strategy as outlined.

Subsequent staffing changes at both Evidence Action and CIFF resulted in delays in advancing the sustainability conversation. At the Year 4 Annual Program Review in May 2016, CIFF and Evidence Action agreed that government stakeholders should lead the conversations about the handover of program responsibilities. This agreement reflected the view that decisions related to program governance and management must be fully embraced by all relevant counterparts at the MOH and MOE to ensure that the transition process is ultimately successful.

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<sup>16</sup> Participants included, but were not limited to Dr. Jackson Kioko (Director of Medical Services, MoH), Ms. Leah Rotich (Director General, MoE), Dr. David Soti (Steering Committee Co-chair and Head, Preventive and Promotive Health Services), Mr. Abdi Habat (Steering Committee Co-chair and Director, Basic Education, MoE), Mr. Samuel Amwayi (Disease Response and Control, MoH), Dr. Mohammed Sheikh (Head, Neonatal Child and Adolescent Health Unit, MoH), Mr. Paul Mwongera (Head, School Health Nutrition and Meals Unit, MoE), Dr. Sultani Matendebero (Head, Neglected Tropical Diseases Unit, MoH), Dr. Charles Mwandawiro (Assistant Director, KEMRI), and others.

In Year 5, the priority of the sustainability discussions was to explore possibilities of increased government co-financing, identify a government-led secretariat, and determine roles and responsibilities for ministry units for Year 6 and beyond. In August and September 2016, government officials were running into challenges with advancing conversations on the handover of deworming program responsibilities. In September the Steering Committee nominated a six-member sub-committee intended to consult widely, review program roles and responsibilities, and recommend a way forward. Dr. Sultani Matendechero of the MoH NTD Unit led the overall process, with other sub-committee members representing MoE SHNM, KEMRI, WHO, CIFF, and Evidence Action.

The Steering Committee did not develop Terms of Reference for the six-member team, and so the six-member team took it upon itself to undertake the following tasks:

1. Ensure comprehensive intra- and inter-ministerial consultations occur on the vision of the program for Years 6 to 10.
2. Determine roles and responsibilities pertaining to program governance for Years 6 to 10 and make recommendations to the Steering Committee for consideration.
3. Plan for a stakeholder forum for GoK-led consultations on sustainability and ensure high-level stakeholder participation from the two ministries at the planned GoK-led forum.

Throughout November, we supported the organization of multiple meetings, including a retreat for the six-member team, and briefed MoE and MoH stakeholders about the progress. While we strongly encouraged the co-chairs to convene the Steering Committee meeting planned for December, and made repeated follow-ups via phone, text, and in-person visits, we were unable to secure timely commitment for participation from all parties. The meeting delayed until January 2017, and prioritized the conclusion of sustainability discussions by consultations within MoE and MoH. Members proposed that following these consultations, the six-member team should incorporate feedback into a shared sustainability document by mid-February for endorsement. The ministries held consultations in February but were unable to produce clear or commonly held recommendations.

Ultimately, it became clear that the six-member team was an ineffective structure given that its membership neither reflected all key units nor possessed the authority to make recommendations. Thus, the Steering Committee co-chairs resumed their leadership of the process and issued a joint proposal on program governance structures for Years 6-10.

The Steering Committee adopted the co-chairs proposal in May, initiating actions to develop a revised program partnership agreement. The partnership agreement will govern the program in Years 6 to 10 (2017-2022), and enshrines the government's commitment to extend the NSBDP so as continue regular treatment of at-risk children. The agreement

covers three parties -- the MoE, MoH and Evidence Action, and indicates that the program will be governed according to structures outlined in the School Health Policy, once the policy is finalized and put into practice. We expect that the Principal Secretaries in both ministries will sign the agreement during the closeout quarter (July – September 2017).

### 3.2. Alignment of Deworming with Existing Policy Structures

In Years 6-10 of the NSBDP, program governance structures will be reinforced by and reflected in an updated School Health Policy (2016-2020). Specifically, the reviewed School Health Policy is expected to:

1. Strengthen the School Health Inter-Agency Coordinating Committee (SHICC) that will integrate all school health interventions, including school-based deworming among other activities (e.g., water sanitation and hygiene, nutrition, etc.).
2. Establish a School Health Technical Committee that will include all school-based health interventions and will function as a TWG of the SHICC.
3. Establish a School Health Program Secretariat, domiciled at MoH (with NCAHU likely to take a leadership role, given its scope and mandate). School-based deworming will be one of the activities of the school health program.

With the activation of these structures, policy-related oversight and strategic advice will be provided by the SHICC and the School Health Technical Committee, while an implementation team specifically focused on deworming will be established and will meet regularly to manage day-to-day implementation matters, similar to the role of the current Management Team. The implementation team will likely have some overlap in membership and will coordinate closely with the School Health Secretariat, established as part of GoK's School Health Program to perform administrative duties for all activities within its scope (including school-based deworming).

### 3.3. GoK Program Investment: Opportunities and Challenges

CIFF and the END Fund generously supported the first five years of NSBDP implementation. The GoK provided in-kind support, which includes teachers' and other GoK personnel's time spent on NSBDP, as well as drug storage costs, over the five years valued at \$7.9 million. In five years the NSBDP benefited from donated drugs worth \$2.1 million.

In March 2017, when the Steering Committee co-chairs met to continue their discussions around the future of program governance, they also classified two categories of program inputs requiring ongoing financial support. These included: (1) the provision of drugs, and (2) the management of program operations and logistics, such as ensuring a timely training

cascade and correctly distributing program materials. When considering GoK financing for the program, the co-chairs agreed that the MoH should work toward funding the provision of drugs, whether through the national or county levels, for preschool-age children who are not provided for by the WHO donation and/or to prepare for the possibility that the donation program may not last for the entire duration of the NSBDP. Therefore, MoH will continue to procure drugs from the WHO drug donation program and the MoE should aim to provide funds to cover operations and logistics, an investment that could be complemented by external donor support.

Both ministries agreed that they would advocate for budget allocations in upcoming budget proposals for subsequent fiscal years towards school-based deworming. Government through the Steering Committee decision of May 2017 requested Evidence Action to lead external fundraising efforts in collaboration with MoE and MoH.

As previously shared with CIFF, we commissioned Dalberg to research and document the opportunities and challenges for government investment in this program. The resulting document, “Landscape Analysis on National and County Government Co-Financing of Health Sector Programs,” explains that transitioning NSBDP from foundation and donor funding to GoK funding would carry significant risks:

- i) *Allocation risk*: obtaining partial budget support is possible within 2-3 fiscal years, but not likely as the vast majority of preventive health funding in Kenya’s budget comes from donors. In both ministries’ budgets, allocation levels are inconsistent from year-to-year, making program planning challenging and requiring continuous advocacy.
- ii) *Disbursement risk*: release of budgeted funds is unpredictable for both ministries, and often untimely. Last year, just 48% of the Preventive Health Development budget was issued by the exchequer. Teachers and other government employees sometimes fail to report to work because of delayed salary payment—this would imperil the deworming program.

The analysis also concluded that the effort required to secure annual funding from county health budgets would be prohibitive, and thus, the best option for continued financing is to pursue foundation and donor support.

### 3.3.a. MoE NSBDP Treasury Request in Year 5

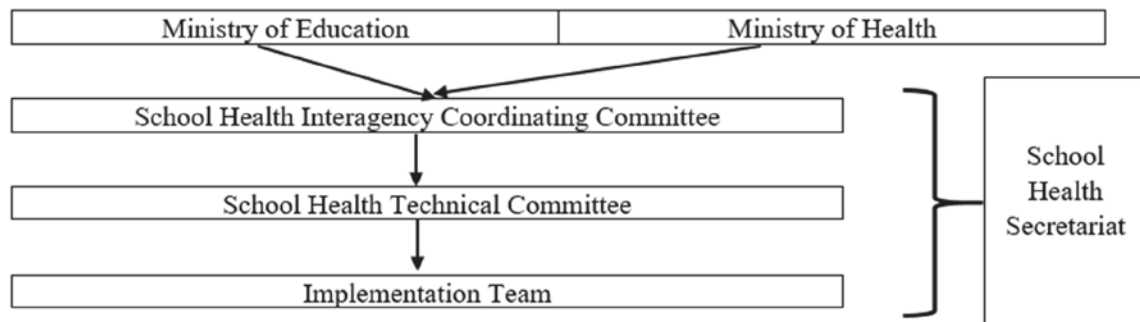
The MoE, through the Directorate of Primary Education, made a request in Year 5 for Treasury support to the NSBDP in 2018-2019. The Directorate had already exceeded the ceiling and several of its requests were cut. MoE has expressed its commitment to continuing to try to integrate the budget as its own line item under the SHNM in the next financial year. This will be important because the government requires all budget line items to be linked to specific performance indicators. Currently the line item in the Basic

Education budget that is closest to school-based deworming is School Feeding- also under the SHNM Unit. It would not make sense to include NSBD money within the same budget line as School Feeding, given that there would be multiple associated indicators; the expectation is that the full allocation to School Feeding would be linked to School Feeding indicators. Moreover, combining funds for different purposes within the same budget line would lead to confusion about how much has been set aside for each purpose. The new budget line will therefore require the MoE to identify relevant and salient indicator options to be tracked alongside related spending.

### 3.4. Program Governance Structures

The governance structure of the NSBD as contained in the School Health Policy (2016-2020) under review is framed by its classification as an activity within the School Health Program under the School Health Policy. The School Health Program consists of three main organs, namely the School Health Inter-agency Coordinating Committee (SHICC), the School Health Technical Committee (SHTC), the School Health Secretariat, and an Implementation Team that brings together all relevant stakeholders. The structures are outlined below.

Figure 21: Proposed School Health Governance Structures



#### 3.4.a. School Health Inter-agency Coordinating Committee

The Steering Committee resolved that NSBD should ideally be governed by the SHICC in alignment with the School Health Policy (2016-2020) under review. The highest organ of the School Health Policy, this committee convenes representatives from the relevant line ministries and other stakeholders, providing for a semiannual meeting. It will be co-chaired by Cabinet Secretary, MoE and Cabinet Secretary, MoH. The committee will be responsible for policy advisory, coordination, resource mobilization and advocacy.

#### 3.4.b. National School Health Technical Committee

Collaborating government ministries often instate inter-sectoral committees comprising of relevant line ministries and other stakeholders, typically meeting quarterly to deliberate on a particular technical or thematic area. Such a committee shall be established to deliberate on the thematic area under which school-based deworming falls.

The NSHTC is responsible for overall policy implementation, strategic program oversight, and decision-making authority of the School Health Program. It is the second-highest organ of governance within the School Health Policy after the SHICC, bringing together technical representatives of relevant line ministries. It is co-chaired by the Director, Primary Education, MoE and the Head, Department of Preventive and Promotive Health Services, MoH, thus bearing a resemblance to the current structure's Steering Committee. Remaining members are defined by the School Health Policy.

While the School Health Policy is under review, the NSBDP National Steering Committee will play the role of the NSHTC, following the same structures established and employed throughout the first five years of the NSBDP (see Appendix 4). The tenure of the National Steering Committee will lapse automatically upon the adoption and operationalization of the reviewed School Health Policy.

#### 3.4.c. Implementation Team

National School-Based Deworming will establish an implementation team in accordance with the provisions of the School Health Policy. The role of the implementation team will be to oversee the day-to-day planning, implementation and monitoring of NSBD at a logistical and operational level.

The NSBD implementation team will comprise of representatives of MoE, MoH and Evidence Action, formally appointed by the NSHTC responsible for school-based deworming and for further defining the implementation team's terms and roles. While the School Health Policy is under review, the NSBD Management Team will play the role of the Implementation Team, following the same structures established and employed throughout the first five years of the NSBD (see Appendix 4). The tenure of the Management Team will lapse automatically upon the adoption and operationalization of the reviewed School Health Policy.

#### 3.4.d. School Health Secretariat

A secretariat of the School Health Program will be established and housed within MoH to perform administrative duties and coordinate the overall implementation of program activities. MoH partners have indicated that the natural home for this secretariat will be within NCAHU. School-based deworming is one of the activities that will be administered

and coordinated by the secretariat. It will be established with the adoption and operationalization of the reviewed School Health Policy.

### 3.5. Program Data and Alignment with Government Systems

Years 1 to 5 were instrumental in establishing and building upon a successful, high-quality program, including robust monitoring and evaluation. Our MLIS team has managed data collection, cleaning, and analysis, process monitoring, and coverage validation. We provided data to GoK for performance contracting and international drug requisition needs. We recognize that data is most valuable for informing program implementation, and the interface between the MLIS and implementation teams focuses on data for decision-making. Looking forward, it will be important to transfer data ownership to government stakeholders.

#### 3.5.a. Performance/Treatment Data

There are a few platforms through which treatment data, and ownership of the relevant systems and processes, can be transferred to government. These include the existing MoH and MoE data management systems and the integrated NTD database, described in more detail below. These processes and systems directly produce key program metrics tracked by both ministries, underscoring the relevance of transitioning the associated responsibilities to GoK. Further, compared to the data collection processes for impact monitoring and independent process monitoring, treatment data is very straightforward to gather. Detailed instructions for recording and reporting are included at all levels of the training cascade, and standardized reporting forms control the potential range of responses.

#### 3.5.b. Health Management Information System

HMIS is a web-based platform via which the MoH collects data from its health facilities across the country. On a routine basis, often monthly, each health facility reports on cases of diseases encountered at the facility. This data is then immediately available the ministry. The data can be aggregated by sub-county, county or national.

Adopting HMIS for deworming data reporting was suggested and actioned following the Year 2 Annual Program Review. HMIS is an appropriate platform for data reporting for the program as:

- i) It is a government-owned platform (albeit, specifically for MoH). In the spirit of transferring data ownership to government stakeholders, use of this platform integrates deworming data within existing government systems of data management.



- ii) There is existing knowledge on the use of the platform, therefore requiring minimal training to allow MoH stakeholders to access and share data from the system. Additionally, throughout years 1-5 of the NSBDP, adjustments have been made to both the technical structure of the database (i.e., data validation measures) as well as the fields included in reporting forms to increase compatibility between the two.

While there has been progress made on the adoption of HMIS as a deworming data reporting platform, this remains incomplete due to the following challenges:

- i) HMIS is a health facility-based system. This means that data is collected, entered and submitted from health facility level. NSBDP is school-based program whereby data is collected and aggregated through the education structures. Health and education structures do not always align since health is a devolved function while education is not. For instance, teachers treat and record school level data, but health officers record facility level data; education data is often aggregated by ward or sometimes division, while health data is often aggregated by sub-county; this can lead to duplicate reporting or gaps in reporting since the populations and geographies captured by each sector's databases are not always aligned.
- ii) NSBDP is a multi-sectoral program. This means that different stakeholders need access to the program data, and in some cases the data needs to be re-formatted to fit the needs of specific stakeholders. For example, in the performance contracting, MoH is interested in all individuals treated, including PSAC, SAC, and adults. MoE, on the other hand, is interested in enrolled children treated. For WHO drug requisitioning purposes, the NTD Unit (within MoH) is interested in school-age children only. Because of the range of stakeholders' needs for interpreting and applying the data, and the HMIS officers' limited capacity to manipulate and re-shape the data before sharing with other partners, there are limitations in the ultimate utility of HMIS data outputs.

### 3.5.c. Education Management Information System

Analogous to HMIS, EMIS is a system of managing data and information within the education system. Through EMIS, education stakeholders are able to collect data from lower levels of education structures and/or distribute information from the MoE to lower levels of education structures. In the first phase of the program, the program engaged with MoE officers to establish the feasibility of school reporting data through EMIS. While the MoE formally launched the EMIS platform in 2012, consistent human resource constraints prevented it from becoming a robust system. The program therefore was unable to make early progress in integrating deworming data in EMIS. However, in Year 4, the program managed to have a deworming indicator and question added to the annual school survey that the MoE administers to all schools and is intended to be reflected in EMIS.

The MoE continues to develop its database and is now working on an updated system to be rolled out in 2017 or later. In the next phase of the program, there are opportunities to further engage with EMIS with a view of establishing the feasibility of integrating deworming data reporting in the existing and new education data systems. EMIS is an appropriate platform for data reporting as:

- i) It is a government-owned platform (albeit, specifically for MoE) that works through its existing structures, passing data from schools through DEOs and onward. Integrating deworming data into the government's existing data management system can promote sustained government ownership of the program's reporting and data management needs.
- ii) The current data reporting channels allow program performance information to feed into government accountability mechanisms. Using EMIS for deworming data will ensure the continued ability for aggregated coverage data to be included in accountability structures such as performance contracting.

### 3.5.c.i. Challenges

The MoE has experienced severe constraints in human resources devoted toward EMIS. At any given time during the past five years, there has only been one officer designated to work on the data system, while juggling other responsibilities as well. Up to now, officers working on the database have not come from backgrounds specializing in data management or technology systems.

There is a general lack of clarity and direction for schools regarding how frequently they should submit various data pieces through EMIS, and how this aligns with the deworming calendar.

In the upcoming years of the NSBDP, program stakeholders will gather and maintain awareness of the roll-out plans for an updated EMIS database, and continue to liaise with MoE partners to determine a plan for supporting progress in this area.

### 3.6. Integrated NTD Database

The Integrated NTD Database is a tool developed by WHO and recommended to endemic countries. The purpose of the tool is to: i) provide a single platform for capturing data for all NTDs in a given country, ii) standardize performance indicators across countries, and iii) allow for storage of historical treatment data in one platform in a given country. Overall, the NTD database facilitates countries to report to WHO on NTD program outcomes.

Since 2014, the NTD Unit has made progress towards adopting the integrated database, though it is not yet fully operational owing to challenges around the format of treatment data and lack of epidemiological data at disaggregated levels. These hurdles translate into challenges in completing the international drug requisitions to the WHO donation program as well as reporting to WHO.

Evidence Action continues to work with the NTD Unit to address these challenges, to ensure all required information is availed on time as well as in assisting to complete the international drug requisition forms. In July 2017, Evidence Action supported the NTD Unit Program Manager and the NTD Unit Data Manager to attend a WHO-convened orientation on the database (among other tools) in Geneva.

In the next phase of the program, the NTD Unit should therefore continue to assess the feasibility of adopting the Integrated NTD Database. Adopting the integrated NTD database will allow the NTD Unit to easily report to the WHO on NTD treatments, including STH and schistosomiasis that are targeted by NSBDP. Additionally, an integrated NTD database that is up-to-date will improve the process of drug requisitioning as the data needed is extracted from the database. Some challenges, however, remain:

- i) The integrated database is very specific to the NTD Unit in terms of access and usage. Those outside of the NTD Unit will have a challenge accessing the tool. Given NSBDP is a multi-sectorial program, this will hinder the access of the data by other stakeholders. It will be important to ensure that this database operates in parallel to sources such as HMIS that are accessible by other stakeholders.
- ii) The database is still on its way to becoming a routinely used tool. The NTD Unit (at the national level) has informally pointed out concerns on their ability to use the tools. It is generally not user friendly, for example it has strict validation checks that prevent users from making progress once an issue is flagged. Successful adoption of the tool will require a significant investment in training NTD personnel at the county level, and potentially training or briefing relevant health personnel at sub-counties for coordination purposes.

### 3.7. Process Monitoring and Coverage Validation

Process monitoring and coverage validation (PMCV) serves an important purpose for the program. Through PMCV, we are able to independently verify and validate the inputs and outputs of the program implementation. Therefore, this function is not intended for transfer to government ownership per se, though it will be beneficial to consider and implement strategies to increase GoK visibility of the process, awareness of the learnings generated, and ability to act on the recommendations generated.

In the next phase of the program, there are opportunities to improve the PMCV processes. Some of these opportunities include:

- i) The use of an independent firm to conduct process monitoring and coverage validation. The firm should be sufficiently independent from the program implementers and partners offering technical assistance.
- ii) The program will continue to explore the use of WHO-recommended methodologies for program monitoring. Over the last two years, WHO has released tools for data management and monitoring. Representatives from the NTD Unit and Evidence Action's MLIS team attended a workshop in Geneva in 2017 to learn firsthand about some of these resources. Going forward, the NSBDP partners will explore how WHO recommendations on coverage validation can be integrated into the current monitoring system.
- iii) Stakeholders can explore more opportunities for sharing lessons from independent process monitoring. Currently, we work with the MLIS team to review lessons learned on a quarterly basis but do not have regular channels for providing this feedback directly to government counterparts. Platforms such as Management Team meetings would be appropriate for more deliberate discussion of recommendations arising from independent monitoring.

### 3.8. Impact Monitoring

KEMRI conducted impact monitoring in the first phase of the program. In the next phase of the program, KEMRI still has the comparative advantage in conducting impact monitoring. This comparative advantage is in the form of capacity, skills, and familiarity of the program. Thus, conversations have begun and are ongoing regarding KEMRI's continued involvement and leadership in impact monitoring during the second phase of the program. In the near future, these conversations will focus on detailing its specific scope, activities, deliverables, and establishing an appropriate contract agreement. For value addition, KEMRI will need to engage more closely with the program, especially in terms of understanding findings from their surveys, as well as other factors like re-infection rates, drug resistance, and other issues.

### 3.9. Capacity Support to Ministries/Units

With an aim of increasing ministry stakeholders' understanding, participation, and ownership of program implementation and coordination, Evidence Action offered in-person support, which would be provided by seconding individual staff members with relevant skills and expertise to the partner ministries. Staff secondment is a documented strategy for building capacity alongside trusting professional relationships. In sustainability conversations, CIFF, Evidence Action, and GoK agreed that seconding staff to the ministries would help prepare GoK personnel to confidently assume various program responsibilities in the next few years.

Evidence Action seconded MLIS staff member Olive Mutai to the NTD Unit beginning in February 2017 for one day per week. Her focus is on aligning target population figures given the MoE and MoH difference in administrative units, ensuring that tools capture the data needs of both the program and the NTD Unit. To date, Ms. Mutai has worked with the NTD Data Manager to compile NSBDP Year 4 data, fill out the WHO reporting templates, and address emerging data quality issues. Ms. Mutai helped to update the forms used to capture NSBDP treatment data from schools to include a data field that captures administrative units recognized by both the MoH and MoE. Ms. Mutai also supports HMIS data collection, mapping efforts, and LF data management.

In July 2016 Evidence Action and NCAHU together with NTD Unit held several meetings to discuss current and future roles and responsibilities. Representatives of these units provided their perspectives and expectations on future roles for the program, which formed the basis of further internal ministry consultations given their respective mandates. The NTD Unit for instance prioritized the drugs management process as one program component that required their involvement by identifying challenges and weaknesses that could be resolved through enhanced participation of the unit in program implementation.

We have not yet seconded staff to support NCAHU, given NCAHU's staffing transitions and the focus on overall program conversations about the next program phase. Given the consensus that MoH (with leadership from NCAHU) will serve as the secretariat for the School Health Program, including NSBD activities, it will be important to work toward building NCAHU's capacity for this role in Year 6 and beyond. We will continue these discussions with NCAHU to develop an appropriate plan.

We seconded Ms. Anne Njoroge to the MoE SHNMU to keep MoE officials updated about program delivery, to follow up about opportunities for MoE to request budget support for the program, and to facilitate coordination between school-based deworming and other related initiatives. A letter from the Permanent Secretary formally acknowledging the secondment was received in June 2017; see Appendix 7 (MoE Secondment Confirmation).

Moving forward, Ms. Mutai, Ms. Njoroge, and other potential secondees will continue to identify capacity constraints and areas for skill-building within the relevant partner units. Evidence Action will include goals and milestones for capacity building in upcoming workplans and transition plans, along with an evaluation framework (e.g., decision gates) to measure successes or persisting challenges in these secondment efforts.

## Section 4

### Key Issues to Address Going Forward



## 4. Key Issues to Address Going Forward

### 4.1. Evolving context

The governance and funding contexts in Kenya continue to evolve, with influences from the operationalization of devolution, constantly changing political priorities, a new School Health Policy being finalized, and leadership transitions within MoH and MoE. Solidifying expectations at the county and sub-county levels provides an opportunity for the program to continue progress toward institutionalizing school-based deworming in GoK structures in the future. We look forward to national-level GoK stakeholders continuing to strengthen county-level engagement as well, through advocacy and targeted intra-ministerial communications. See Appendix 6 (NTD Milestones).

### 4.2. Relationships between NSBDP Stakeholders

National school-based deworming is an activity under the School Health Program, which brings together the two ministries. Going forward it will be important for all NSBDP stakeholders to have an effective, collaborative, and cooperative relationship for the successful implementation of the program.

It is critical to explicitly document how programs relate to one another within each ministry and across the two ministries; in the absence of a hierarchical or direct reporting relationship, it can be challenging for government programs to collaborate successfully. Particularly during Years 4 and 5, Evidence Action has made substantial headway in this area. We successfully facilitated complex conversations with the wide variety of NSBDP stakeholders to move from aspirational conversations about a vague concept of program institutionalization, toward documenting clear plans for an evolved governance structure that aligns with broader health and education policies and human resourcing. The significant strides toward finalizing a new MOU and both ministries' active inputs to a set of shared standard operating procedures for the program are two examples of this progress.

### 4.3. Defining Roles and Responsibilities Between NSBDP Stakeholders

The NSBDP is implemented by GoK stakeholders at various levels, while Evidence Action has provided secretariat functions, technical support, and fiscal agency. The Steering Committee has agreed that Evidence Action should continue to provide technical support and fiscal agency while transferring secretariat functions to the MoH (NCAHU) as part of the new School Health Policy structure. We have begun handing over some responsibilities, focusing first on the most attainable wins; for example, NCAHU has begun convening and taking notes for Management Team and Steering Committee meetings.

The expectation is that once the MOU is finalized, all NSBDP stakeholders will determine comprehensive roles and responsibilities for all relevant units. It is anticipated that this process will be stakeholder-driven (i.e., at the level of the current Management Team), to have a common understanding on the expected contributions to program implementation. Outputs from the stakeholders' discussions would be presented for the Steering Committee or its co-chairs to validate and direct, such that there is an accountability mechanism in place. Once the roles and responsibilities are clarified and aligned with all stakeholders, a phased handover process based on transition milestones/goals with decision gates will be developed in order to facilitate the transition process while ensuring program quality is not negatively impacted.

#### 4.4. Example of Gaps and Progress Toward Defining Stakeholder Roles: Drug Management

Roles related to drug management must be urgently clarified. The NTD Unit is tasked with procuring donated drugs, while the program is domiciled at NCAHU and is part of NCAHU's performance contract reporting. The program must determine the dynamics between the NTD Unit and NCAHU related to requisitions and data to ensure the smooth availability of donated drugs.

In Year 5 the NTD Unit increased its role in drug quantification and distribution, with expectations to manage drugs through the reverse cascade. The Unit could take a larger role in future drug management, including internal requisition, drug distribution, and full management and monitoring of the drugs reverse cascade; while concrete plans are not yet in place for these transitions of responsibility, we are committed to supporting the NTD Unit to take on more of these roles in future program years. The experience with drugs in Year 5 suggests the value of continued capacity building for NTD officers tasked with drug management. Decision gates will help to define when the NTD Unit is prepared to take on new roles successfully.

The program will need to work on using donated drugs for their intended purpose, which is school-age children. Stakeholders agree it is important to provide drugs to both PSAC and SAC, even though PSAC and adults are not supported by the WHO drug donation program. Recognizing that drug donations are a part of what makes the program cost-effective and viable, the GoK will need to source drugs for these populations separately. This will help to ensure continued, sufficient coverage of all target groups, including PSAC.

#### 4.5. Program Work Continuing After the End of the Grant Period

We look forward to having additional prevalence and intensity data that will inform the future NSBD treatment strategy. In May the NTD Unit convened a group of stakeholders to



provide inputs towards existing STH and schistosomiasis prevalence data. The stakeholders were drawn from the MoH, WHO, KEMRI, Evidence Action, Kenya Methodist University, and London School of Hygiene and Tropical Medicine. These activities are described in Section 1.2.f(Mapping).

Kenya held general elections on August 8, 2017, to decide who will hold the offices of President, Governor, Member of Parliament, Senator, Woman Representative, and Member of County Assembly. Nationwide, a total of 14,552 candidates vied for 1,882 positions. The presidential election was contested and the Supreme Court ordered a fresh presidential election to be conducted on October 26, 2017. It is likely that the elections may lead to several changes in leadership, including those who have been champions for the program within MoH and MoE. This prolonged transition period and general outlook of uncertainty means that many GoK personnel are not focusing on future program planning activities or projects on which their responsibilities may soon change.

Recent and future personnel changes at the national, county, and sub-county levels will necessitate building relationships with new government officials, sensitizing them to the importance of school-based deworming and their roles in program delivery. This is described in further detail in Section 2.2.e.i (Turnover of Government Personnel).

Evidence Action and the NSBDP Management Team will use the final Year 5 treatment data presented in this report to develop the Year 5 results booklet. We plan to publish the results booklet in November 2017. In addition, KEMRI's assessment of program impact will be shared with all NSBDP stakeholders upon finalization.

## 5. Conclusion

The NSBDP has enabled great strides toward eliminating parasitic worms as a public health problem both in Kenya as well as internationally through sharing learnings from the Kenya program with other country partners. Recent impact data indicate that since 2012, significant reductions in STH and schistosomiasis prevalence have occurred in the 27 counties treated by the NSBDP, with the exception of *S. mansoni* prevalence, for which declines were only modest given challenges in regular treatment. Given the rigorous evidence base that documents the immediate and long term benefits of deworming on children's health, education, and economic potential, these reductions are assurance of not only fewer worm infections for Kenya's children, but also improved livelihoods.

Moving toward preparations for the second phase of the NSBDP, encompassing years 6-10, the GoK is driving the process of solidifying future program governance structures and clear unit-level roles and responsibilities. Evidence Action continues to provide workplanning, budgeting, and technical support as planning for another treatment cascade begins. We will

continue to work with NSBDP stakeholders to ensure that the step-wise handover of program responsibilities is properly defined and sequenced, and to actively transition the agreed tasks to relevant units, careful not to compromise program quality throughout this phase.

After five years of reaching or surpassing its performance targets, the NSBDP remains a programmatic model for high coverage school-based deworming, as well as for government leadership, ownership, and successful implementation at scale. Evidence Action looks forward to maintaining and refining its support for the program as it matures, while continuing to both gain and share learnings from the partnership in the future.

We also look forward to continued collaboration with CIFF on overlapping areas of interest. We understand that CIFF is undertaking a strategic review of activities in Kenya, and that CIFF's priorities may change as a result. We would appreciate hearing the results of this review as related to areas adjacent to school-based deworming, and to maintaining open lines of communication regarding our respective activities. We will apprise CIFF of noteworthy program results going forward, including the release of Year 5 results anticipated within the next three to six months.

## Appendix List

1. KPI TrendAnalysis
2. KPI Year 5 Report
3. Process Monitoring and Coverage Validation Trends
4. PMCV Year 5 Report
5. Milestone Summary
6. NTD Milestones
7. MoE Secondment Confirmation