GiveWell

TOP CHARITY REPORT

The END Fund's Deworming Program

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Unlike charity evaluators that focus solely on financials, assessing administrative or fundraising costs, we conduct in-depth research aiming to determine how much good a given program accomplishes (in terms of lives saved, lives improved, etc.) per dollar spent. Rather than try to rate as many charities as possible, we focus on the few charities that stand out most (by **our criteria**) in order to find and confidently recommend high-impact giving opportunities (our **list of top charities**).

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Summary

What do they do? The END Fund (**end.org**) manages grants, provides technical assistance, and raises funding for controlling and eliminating neglected tropical diseases (NTDs). We have only reviewed its **programs that treat schistosomiasis and soil-transmitted helminthiasis (STH)** ("deworming"); our recommendation is just for this part of the END Fund's work. (**More**)

Does it work? We believe that there is strong evidence that administration of deworming drugs reduces worm loads but weaker evidence on the causal relationship between reducing worm loads and improved life outcomes; we consider deworming a **priority program** given the possibility of strong benefits at low cost. In 2016, the END Fund began requiring that surveys be conducted to determine whether its programs have reached a large proportion of children targeted; to date, we have seen coverage surveys for (a non-random sample of) 69% of its 2016 and 2017 deworming grant portfolio. These studies have some methodological limitations. (**More**)

What do you get for your dollar? Our best guess is that deworming is generally highly cost-effective. We estimate that it costs donors who give to the END Fund, specifically to support deworming, $0.81 per deworming treatment delivered. This figure relies on several difficult-to-estimate inputs, including how to account for (a) donated drugs and (b) in-kind contributions from governments, as well as (c) an adjustment for fungibility—that is, based on experience, we expect the END Fund to reallocate a portion of its unrestricted funding to non-deworming NTD work in response to receiving funding designated for schistosomiasis and STH. Excluding donated drugs and in-kind contributions, the cost per treatment figure is $0.46. (**More**)

Is there room for more funding? We believe the END Fund could substantially increase its deworming grant-making with additional funds. We roughly estimate that there is a gap of $18 million over the next year between the amount of funding the END Fund will have available for grants for deworming and the amount of funding it would need to make all of the potential grants it has identified. *Update: In November 2018, we recommended that Good Ventures grant $2.5 million to the END Fund; our updated estimate of its room for more funding is approximately $15.5 million.* (**More**)

The END Fund's deworming program is recommended because:

- We consider deworming a priority program given the possibility of strong benefits at very low cost. (**More**)
- We believe the END Fund is able to absorb additional funds to start and scale up deworming programs. (**More**)
- Standout transparency – it has shared significant, detailed information about its programs. with us.

Major open questions include:

- Whether END Fund-supported programs are reaching a high proportion of children targeted, given the variable results and quality of evidence we have seen. (**More**)
- How much the END Fund will raise (or would have been able to raise) for its programs from other funders. The END Fund's revenue comes primarily from a fairly small number of large donations, which makes it more difficult to project what its revenues will be in the future. We have less confidence in our projection of the END Fund's revenue than we do for our other top charities. (**More**)
- What effect will fungibility have on the cost-effectiveness of giving to the END Fund for deworming specifically? In other words, what portion of donations made to the END Fund on GiveWell's recommendation ("GiveWell-directed" funds) will be used to increase grant-making for deworming, rather than displacing funding from deworming to other NTDs? To date, we estimate that this effect has been relatively small but we have fairly low confidence in this assessment because it's difficult to assess how much of the END Fund's funding would have gone to support deworming in the absence of GiveWell-directed funding. (**More**)

Our process

We began considering the END Fund as a potential top charity in 2015. To date, our investigation has consisted of:

- Extensive communications with END Fund staff.[1]
- Reviewing documents the END Fund shared with us.
- Visiting two END Fund-supported programs, in Rwanda and the Democratic Republic of the Congo (DRC), in 2017 (**notes and photos from this visit**).

What do they do?

The END Fund manages grants, provides technical assistance to programs, and raises funding for programs to control and eliminate neglected tropical diseases (NTDs), with a focus on soil-transmitted helminthiasis (STH), schistosomiasis, lymphatic filariasis, trachoma, and onchocerciasis.[2] We focus this review on the END Fund's support for **deworming** (mass drug administration [MDA] targeting schistosomiasis and soil-transmitted helminthiasis), which we have identified as a **priority program**.[3]

The END Fund began supporting NTD programs in 2012.[4] Through May 2017, it had disbursed $36.5 million to NTD programs.[5] Because many END Fund grants include funding for both deworming and other NTD treatments, we do not know how much of total grant funding was used for deworming specifically; we do know that 43% of the treatments that the END Fund reports being due to its funding (through 2016) were STH treatments and 17% were schistosomiasis treatments.[6]

The END Fund's implementing partners have included organizations we have conducted in-depth reviews of: the **Schistosomiasis Control Initiative (SCI)**, **Deworm the World Initiative**, and **Sightsavers**.[7]

The END Fund's role in deworming and other NTD programs

- **Surveying the global NTD landscape and choosing locations for programs:** The END Fund told us that it conducts research on the global NTD landscape, including compiling information on a) where NTD treatment is needed, b) what work is being carried out by governments, NGOs, and other funders, and c) what capacity potential implementing partners have. It uses this information to decide where to fund programs.[8]
- **Making grants to create, scale up, or fill funding gaps for NTD programs:** The END Fund told us that it makes grants to support several different types of programs, including new NTD programs in countries neglected by other donors, programs to scale up treatment coverage in countries with high NTD burdens, and established programs with small funding gaps.[9] These grants are used primarily to support activities including program implementation, disease prevalence mapping, and technical assistance.[10] The END Fund's

grantees include organizations with experience supporting NTD programs (including **SCI**, **Deworm the World**, and **Sightsavers**), organizations without experience implementing NTD programs that operate in areas in need of NTD treatments, and government agencies.[11] In addition to its planned grants, the END Fund keeps a flexible fund to support last-minute grant-making opportunities.[12]

- **Monitoring grantees' program operations:** The END Fund asks grantees to provide program budgets, work plans, and target treatment schedules, and requires that grantees submit periodic progress reports during the implementation of the program.[13] The extent of the END Fund's involvement in programs implemented by its grantees varies, and may include technical assistance from the END Fund.[14] In 2016, the END Fund began requiring that most programs (including all large programs) conduct coverage surveys;[15] see **below** for a discussion of the coverage surveys we have seen from END Fund-supported programs.
- **Raising funding for NTD programs:** The END Fund told us that it actively engages with donors and philanthropic foundations (including those without previous involvement with NTDs) to raise funding for NTD programs.[16]

Levels of involvement in NTD programs

The level of the END Fund's involvement in the NTD programs implemented by its grantees varies. Below is a rough breakdown of the services it provides and rough estimates of the percentage of its spending that goes to programs in each level of involvement, from most intensive to least intensive:[17]

- **Hands on** (~20% of spending): capacity-building assistance, detailed planning support, technical assistance, and procurement support. Examples include programs in Nigeria[18] and the DRC.[19]
- **Substantive involvement** (~20% of spending): review of program design, budget support, work planning guidance, and networking support. Examples include Zimbabwe[20] and Angola.
- **Engaged** (~20% of spending): review of program design, budget support, technical review, and networking support. Examples include Liberia and Côte d'Ivoire.
- **Light touch** (~40% of spending): review of program design, negotiation of budget, and ongoing review of program output. Examples include Rwanda, Ethiopia, and Kenya.

The END Fund expects the breakdown of its spending between these four categories to remain roughly similar over time.[21]

We learned in more depth about the END Fund's work in Rwanda and Idjwi, DRC during a site visit in 2017:

- In Rwanda, where the END Fund provides light-touch support to biannual deworming programs for preschool- and school-aged children,[22] its role primarily involves providing funding, monitoring program spending, and advocating for government support of deworming.[23] It also provides support for a Rwandan technical advisor who oversees the program for the Ministry of Health, which runs the deworming distributions and conducts monitoring of the program.[24] The END Fund's goal is for the Rwandan government to fully fund the program in the future.[25]
- In Idjwi, where the END Fund provides hands-on support for deworming and other NTD treatment,[26] it has played many roles, including:[27]
  - Facilitating initial discussions between the Ministry of Health's national NTD program and Amani Global Works (AGW), the END Fund's implementing partner in the DRC.
  - Writing a budget for the program.
  - Planning distribution logistics and trainings.
  - Connecting AGW with technical experts in the Ministry of Health to help with monitoring and prevalence mapping.
  - Sending its staff to aid in building community support for deworming.
  - Facilitating meetings with local government.
  - Helping to secure drugs.
  - Instructing AGW staff in World Health Organization (WHO) guidelines for NTD programs.

For more examples of the END Fund's roles in the countries it has worked in, see our **February 2017 conversation notes**.

Overview of spending

Through May 2017, the END Fund had disbursed a total of $36.5 million to NTD programs. The countries that had received the most grant funding from the END Fund were Ethiopia ($6.6

million), Angola ($5.9 million), Nigeria ($3.8 million), and DRC ($3.7 million)—together these four countries accounted for over half of the END Fund's grant-making. In total, the END Fund had made grants to support work in 25 countries and for two cross-country programs.[28]

In 2016, 43% of the END Fund's grants supported deworming. In 2017, 57% of grants are expected to support deworming.[29]

Overall, grants accounted for 72% of the END Fund's spending in 2016, other program services (program oversight/management and communications) accounted for 20%, and other costs (management and general, and fundraising) accounted for 8%.[30]

Angola program spending breakdown

We use the Angola program as an example of how funds may be used by implementing partners.

The END Fund funds and collaborates with the MENTOR Initiative to run NTD programs in six provinces in Angola.[31] This program falls under the "substantive involvement" category of the END Fund's work.[32] The END Fund's role in this program includes providing technical assistance, helping with program design, deciding which diseases to treat, and doing high-level advocacy with the Ministry of Health.[33]

The END Fund provided us with detailed documentation on one of its grants to support an NTD program in Angola as an example of its work; we have not yet requested similar documentation for the END Fund's other grants.[34]

The END Fund's five-year grant to the MENTOR Initiative was intended to support NTD-prevalence mapping (of soil-transmitted helminthiasis, schistosomiasis, and lymphatic filariasis) in three provinces in Angola, school and community-based mass drug administration, and a school-based handwashing education program. (Lymphatic filariasis mapping was not completed.)[35]

We have seen a breakdown of the MENTOR Initiative's spending by activity and by expenditure category for the first two years of the program (April 2013 – March 2015):[36]

The MENTOR Initiative, spending breakdown by activity, April 2013 - March 2015

Program activity	Spending	% of total spending
Program Management and Administration	$873,013	43%
NTD Mapping	$291,046	15%
Training and Workshops	$247,586	12%
Supervision	$214,577	11%
Mass Drug Administration	$195,947	10%
NTD Capacity Building	$99,034	5%
IEC/ACSM[37]	$33,330	2%
Water, sanitation, and hygiene	$32,329	2%
Assessments and Surveys	$19,803	1%
Support to Health Facilities	$275	0%
Total	**$2,006,940**	**100%**

The MENTOR Initiative, spending breakdown by expenditure category, April 2013 - March 2015

Expenditure category	Spending	% of total spending
Human Resources	$642,620	32%
Infrastructure and Other Equipment	$357,975	18%
Planning and Administration	$284,504	14%
Training	$234,702	12%
Overheads	$171,001	9%
Technical Assistance	$102,814	5%
Health Products and Health Equipment	$69,686	3%
Procurement and Supply Management Costs	$67,207	3%
Monitoring and Evaluation	$53,651	3%
Communications Materials	$22,734	1%
Living or Other Support to Beneficiary Population(s)	$46	0%
Total	**$2,006,940**	**100%**

The END Fund also provided more detail on the expenditures included in the above categories.[38]

Our understanding is that the mass drug administration in the MENTOR Initiative's spending breakdowns refers to two rounds of school-based MDA: one round of albendazole in October and November 2013 for the treatment of STH and one round of praziquantel in November 2014 for the treatment of schistosomiasis (albendazole was unavailable during the November 2014 distribution).[39]

Does it work?

We believe that there is strong evidence that administration of deworming drugs reduces worm loads but weaker evidence on the causal relationship between reducing worm loads and improved life outcomes; we consider deworming a **priority program** given the possibility of strong benefits at low cost.[40]

We are uncertain overall about the proportion of targeted children reached through END Fund-supported programs. We have seen some monitoring from END Fund-supported programs of the types that have increased our confidence in similar programs conducted by **Deworm the World**, **SCI**, and **Sightsavers**.

It seems plausible to us that the END Fund has an impact by causing deworming programs to start or scale up. The END Fund may also have a positive impact on deworming programs by providing non-monetary assistance to its grantees, but we have not investigated this question in depth.

Note that, in this section, we exclude the END Fund's grants to support other organizations that work on deworming that we have separately reviewed (Deworm the World, SCI, and Sightsavers) because we see END Fund's value added as identifying and supporting opportunities that we have not identified through other means.

Details follow.

Are mass deworming programs effective when implemented well?

We discuss the independent evidence for deworming programs extensively in **our intervention report**. In short, we believe that there is strong evidence that administration of deworming drugs reduces worm loads but weaker evidence on the causal relationship between reducing worm loads and improved life outcomes; we consider deworming a **priority program** given the possibility of strong benefits at low cost.

There may be important differences between the type and severity of worm infections in the places where the END Fund supports programs and the places where the **key studies** on improved life outcomes from deworming took place. More **below**.

What is the likely impact per treatment in the END Fund's programs compared with the independent studies on the impact of deworming?

In general, mass deworming programs treat everyone in a targeted demographic, regardless of whether each individual is infected (**more**). Because of this, the benefits (and therefore the cost-effectiveness) of a program are highly dependent on the baseline prevalence of worm infections.

In this section, we discuss how the disease burden in the areas the END Fund works in compares to the places where the independent studies that form the evidence base for the impact of deworming were conducted. While it is our understanding that END Fund programs generally target areas that require mass treatment according to WHO guidelines,[41] the disease burden in END Fund areas is on average lower than in the study areas, so our expectation is that the impact per child treated is lower in END Fund areas. We adjust our cost-effectiveness estimate (more **below**) accordingly.

In this **spreadsheet**, we compare the prevalence in places in which the END Fund currently supports a program to the prevalence rates from the studies providing the best evidence for the benefits of deworming.

Key pieces of evidence that we discuss in our **report on deworming** (**Miguel and Kremer 2004**, **Baird et al 2012**, and **Croke 2014**) are from deworming experiments conducted in Kenya and Uganda in the late 1990s and early 2000s. Prior to receiving deworming treatment, the participants in those studies had relatively high rates of moderate-to-heavy infections of schistosomes or hookworm.[42]

Are targeted children being reached?

In 2016, END Fund began requiring that the programs it supports (excluding ones that receive only limited support) conduct coverage surveys to determine what portion of targeted children receive and ingest pills.[43] For the grants the END Fund made in 2016 and 2017, we have seen coverage surveys covering roughly 70% of total grant-making for deworming. The coverage numbers for the distributions we are most interested in (i.e. MDAs that target school-age children) are generally middling, with median coverage around 50-60%. These surveys are from a non-random sample of the END Fund's work and therefore may not be representative of its overall results. Additional surveys were expected but have been delayed. We note some methodological limitations of the surveys below; it is our impression that the quality of the surveys we have seen from the END Fund may be more variable than what we have seen from some of our other top charities such as Evidence Action's **Deworm the World Initiative** and, to a lesser extent, the **Schistosomiasis Control Initiative**. We believe that END Fund staff may generally be less directly involved in the implementation of program monitoring than the staff of those organizations.

More details below and in **this spreadsheet**.

Are these monitoring results representative of END Fund-supported programs overall?

In total, for the grants the END Fund made in 2016 and 2017, we have seen coverage surveys covering 69% of total grant-making for deworming.[44] The results we have seen could overstate the impact of the average END Fund-supported program if coverage surveys are more likely to be skipped or the results withheld in countries with lower coverage rates. There are a couple of reasons this might be the case:

- Country programs that have more capacity and experience are likely to be those that both carry out high-quality distributions and complete all the steps necessary for coverage surveys to be implemented and for the results to be shared with the END Fund (and thus with GiveWell).
- Coverage surveys are more likely to be skipped or results withheld if implementers recognize that the surveys are likely to show low coverage results and reflect poorly on them. We have

no evidence that this has occurred for END Fund-supported programs, and note this only as a general possibility.

We exclude END Fund partnerships with our other top charities that work on deworming from this analysis. The END Fund notes that these other partnerships, which tend to be with local organizations and governments, may systematically implement less robust monitoring and evaluation processes than its partnerships with other GiveWell top charities.[45]

Methods

We note some methodological choices that somewhat limit our confidence that coverage survey results represent fully accurate estimates of coverage that are representative of the country program as a whole. These themes are similar to what we have noted for **SCI's coverage surveys**. More details and citations in **this spreadsheet**.[46]

- In four cases (in 2016 MDA reports from anonymous Country A), districts were purposively selected for coverage surveys based on having the most extreme (highest and lowest) reported coverage. In one case (Angola), districts were non-randomly selected using a few factors including reported coverage rates.[47] In the other three surveys (DRC, Chad, and the Republic of the Congo), we are uncertain how districts were chosen. In nearly all cases, villages and households within districts were selected randomly; see this footnote for the only exception we are aware of.[48]
- The eight coverage surveys we have seen from the END Fund vary in terms of clarity and thoroughness. For example, the surveys we have received from Country A answer most of our methodology questions, while the survey from DRC answers our methodology questions less clearly and thoroughly.
- Four of the coverage surveys took place at least five months after the relevant MDAs took place; some people may have been surveyed more than a year after the relevant MDA. In several cases, it is unclear how much time had elapsed since the relevant MDA.
- In several of the eight surveys, we are uncertain whether there were procedures of data quality control, how 'don't know' responses were counted (if they were accepted), and whether any questions to check the accuracy of respondents' answers were asked.[49]

- We place limited weight on the survey from DRC because it primarily interviewed adults rather than children, had a small sample size, and was carried out by government health workers rather than individuals independent of the MDA implementation.
- In the survey from Chad and one of the surveys from Country A, it appears that a sample of the entire population was interviewed regarding ivermectin and albendazole coverage, and a sample of the school-age population was interviewed regarding mebendazole coverage. We are uncertain whether this means that school-age children in these areas were targeted in both albendazole and mebendazole distributions, were excluded from albendazole distributions, or something else.

Results

Full results are in **this spreadsheet**.

The coverage numbers for the distributions we are most interested in (i.e. MDAs that target school-age children) are generally middling, with median coverage around 60-70% and coverage rates varying widely from location to location. In one location in Country A, mebendazole coverage is reported at less than 1%, indicating that the distribution may not have happened. The fact that the surveys found extremely low coverage rates in one case and variable coverage overall increases our confidence in their reliability.

Have infection rates decreased in targeted populations?

A type of evidence that would increase our confidence in a deworming program is measurements of infection rates before the program starts and following one or more rounds of MDA.[50] Our impression is that this type of evidence is more expensive to collect and more complex methodologically, so we've largely relied on coverage surveys (discussed in the previous section) to evaluate organizations' track records.

We have not seen this type of evidence from the END Fund and our understanding is that the END Fund has not collected this type of evidence from its grantees.

Does the END Fund cause deworming programs to start and/or scale up?

We do not have high confidence in our answer to this question. It seems plausible to us that some of the new and existing deworming programs funded by the END Fund would not otherwise receive funding.

Does the END Fund cause more funding to be spent on NTD programs than would have been spent in its absence?

In our experience funding deworming programs, the funding available for this work has not been sufficient to reach all at-risk populations with MDA. It is a major goal of the END Fund to bring funding to NTD programs that would not have been spent on NTDs in its absence. Our understanding is that many of the END Fund's funders did not fund NTD programs before funding the END Fund, but this not something we have discussed in detail with the END Fund and we are interested in understanding this better in the future. This is not a question we have focused on to date because the END Fund has told us that it would use funding it received due to GiveWell's recommendation for grant-making and technical assistance rather than for expanding fundraising efforts.[51]

What's the case for GiveWell directing funding to the END Fund rather than directing this funding to other top charities that work on deworming?

We have more information about and are generally more confident in Deworm the World and SCI's track record of directly supporting deworming programs than the END Fund's track record with the programs it has supported. This is in part because we have recommended Deworm the World and SCI for longer and because the END Fund plays a less direct role for many of its programs than the other organizations do for their programs. Our recommendation of the END Fund rests primarily on the expectation that the END Fund will be able to reach populations that Deworm the World, SCI, and Sightsavers are not likely to reach. In other words, our recommendation of the END Fund expands the amount of **room for more funding** in deworming that GiveWell can direct funding to. It is also possible that the END Fund is able to

reach populations with higher worm loads and/or at a lower cost; we have attempted to account for this in our **cost-effectiveness analysis**, though the estimates are rough.

Some reasons to believe that the END Fund may be able to reach populations that Deworm the World, SCI, and Sightsavers are not likely to reach are:

- The END Fund has worked with organizations that previously had little to no involvement in the NTD sector and are now implementing deworming programs at a large scale; one of these organizations told END Fund staff that it would not have begun working on deworming if not for the END Fund's support.[52]
- The END Fund keeps a flexible budget for last-minute deworming funding opportunities and has told us that it has gained a reputation for being able to move quickly to fill urgent funding gaps.[53]
- The END Fund has funded programs in conflict areas. For example, the END Fund made a grant to the World Food Programme to support deworming programs serving populations in conflict areas.[54]

In December 2016, Good Ventures, on GiveWell's recommendation, made a grant for $5 million to the END Fund.[55] Other GiveWell-directed donors also gave to the END Fund in late 2016 and early 2017, totaling about $300,000.[56] In late 2017, we spoke with the END Fund about how this funding had changed what grants it made in 2017. The END Fund told us that it planned to use $4.7 million of the GiveWell-directed funding it had received in 2017. This funding was largely used to maintain the END Fund's grant portfolio, as it lost other revenue at the same time: its total grant-making in 2016 was $13.0 million and was expected to total $13.4 million in 2017.[57] Of the END Fund's disbursed and planned grant-making for 2017, 75% supported projects the END Fund had supported in 2016, 14% supported new grants in Afghanistan, Central African Republic, Republic of the Congo, and DRC, and 11% supported other GiveWell top charities.[58]

Below we discuss two examples of the END Fund's role and what the END Fund's value added may be: one in which the case for its impact seems relatively clear to us and one in which it seems less clear.

Angola

It seems likely to us that the deworming program in six provinces in Angola would not have occurred in the absence of the END Fund. The END Fund noted that its early activities in Angola

included approaching the government of Angola about an MDA program, raising funding from Dubai Cares and the Helmsley Charitable Trust to support the program, and approaching and partnering with the MENTOR Initiative to implement the program (which had no previous involvement with deworming programs).[59] The END Fund also told us that it believes that the Angola program would not have occurred without its involvement,[60] and that the program has not scaled to areas outside of those funded by the END Fund, due to lack of funding.[61]

Rwanda

Rwanda may be an example of a case in which the END Fund's value added was more limited. This program was started by Geneva Global in 2007; national prevalence and intensity mapping of STH and schistosomiasis was done in collaboration with SCI.[62] Geneva Global funded four MDAs in 2008-2011.[63] When the END Fund was established in 2011, it negotiated a contract with the government under which the END Fund would provide funding and SCI would provide technical support for the deworming program.[64] The END Fund told us that they have been told that without their involvement there would not have been enough funding to support the program at this time because Geneva Global no longer had funding for it (its donor having switched to supporting the END Fund) and SCI was not planning to support it.[65] Two MDAs were missed during the 2011 contract negotiations.[66]

In 2016, the END Fund concluded a further two year contract directly with the government on the basis that parties would work toward the government taking financial ownership of the program.[67]

Does the END Fund improve the quality of deworming programs?

There may be cases where the END Fund adds value to programs through its grant management process (including requiring periodic progress reports from implementing organizations and by providing technical guidance on implementation issues).[68] Value add of this type is difficult to assess, and we do not have evidence on how the END Fund has affected the quality of programs.

Are there any negative or offsetting impacts?

We discuss several possible considerations but do not see significant concerns.

Administering deworming drugs seems to be a relatively straightforward program.[69] However, there are potential issues that could reduce the effectiveness of some treatments, such as:

- **Drug quality:** For example, if drugs are not stored properly, they may lose effectiveness or expire.
- **Dosage:** If the incorrect dosage is given, the drugs may not have the intended effect and/or children may experience additional side effects.
- **Replacement of government funding:** We have limited information about whether governments would pay for the parts of programs paid for by the END Fund in its absence. We also have little information about what governments would use deworming funds for if they did not choose to implement deworming programs.
- **Diversion of skilled labor:** Drug distribution occurs only once or twice per year and is conducted by volunteers in communities or teachers in schools. Given the limited time and skill demands of mass drug distribution, we are not highly concerned about distorted incentives for skilled professionals. Planning for the program can take senior government staff time; we are not sure what these staff would spend their time on in the absence of deworming programs, but suspect that they would support other education or health initiatives.
- **Adverse effects and unintended consequences of taking deworming drugs:** Our understanding is that expected side effects are minimal and there is little reason to be concerned that drug resistance is currently a major issue (**more information from our report on deworming**). We are somewhat more concerned about potential side effects during integrated NTD programs, since multiple drugs are taken within a short time period, but it is our understanding that organizations follow protocols to space out the treatments to sufficiently avoid adverse effects.[70]
- **Popular discontent:** We have heard a couple of accounts of discontent in response to mass drug administration campaigns supported by the Schistosomiasis Control Initiative, including one case that led to riots.[71] Additionally, during deworming activities supported by Evidence Action's Deworm the World Initiative in Ogun State, Nigeria in December 2017, rumors of students collapsing reportedly generated panic that led some parents to take their children out of school; the Ogun State government denied that any students collapsed.[72]

While the accounts we have heard are from programs supported by the Schistosomiasis Control Initiative and Evidence Action's Deworm the World Initiative, we think it is possible that other deworming programs could cause similar discontent.

What do you get for your dollar?

This section examines the data that we have to inform our estimate of the expected cost-effectiveness of donations to the END Fund. Note that the number of lives significantly improved is a function of a number of difficult-to-estimate factors. We incorporate these into our **cost-effectiveness model**. In this section, we focus on the cost per treatment delivered, which is an important input in our cost-effectiveness model.

What is the cost per treatment?

We estimate that on average the total cost of a schistosomiasis and/or STH treatment delivered in END Fund-supported programs is $0.81, which includes an adjustment to account for a portion of GiveWell-directed displacing unrestricted END Fund funding from deworming into non-deworming NTD work. Excluding the cost of drugs (which are often donated) and in-kind government contributions to the programs, we estimate that the END Fund's cost per treatment is $0.46. These estimates rely on a number of uncertain assumptions. Details in **this spreadsheet** and discussed in following sections.

Our approach

Our general approach to calculating the cost per treatment is to identify comparable cost and treatment data and take the ratio. We prefer to have a broadly representative selection of treatments in order to mitigate possible distortions (such as using data from a new program, which may incur costs from advocacy, mapping, etc. before it has delivered any treatments).

To get the total cost, we attempt to include all partners (not just the END Fund), such that our cost per treatment represents everything required to deliver the treatments.[73] In particular, we include these categories:

- Two types of END Fund grants: (1) grants for schistosomiasis and/or STH MDA only; and (2) grants for MDAs for both schistosomiasis/STH and other NTDs. For the latter, we multiply the total by the percentage of total treatments delivered under the grant that were schistosomiasis or STH treatments.[74]
- A proportional allocation of the END Fund's operating costs.
- Assumed value of donated drugs.
- A rough estimate of costs incurred by the governments implementing the programs (e.g., for staff salaries when working on the MDA).

We start with this total cost figure and apply adjustments in our cost-effectiveness analysis to account for (a) fungibility with funds the END Fund spends on programs for NTDs other than deworming (see **below**), and (b) cases where we believe the charity's funds have caused other actors to shift funds from a less cost-effective use to a more cost-effective use ("leverage") or from a more cost-effective use to a less cost-effective use ("funging").

Shortcomings of our analysis

Some reasons to interpret our estimates with caution include:

- We are interested in estimating the cost of delivering a schistosomiasis/STH treatment when giving to the END Fund and specifying that the funding should be used to support these NTDs in particular. This estimate is complicated by fungibility between schistosomiasis/STH and other NTDs (see **next section**) and by the fact that, for many END Fund-supported programs, the END Fund's grant supports treatment for both schistosomiasis/STH and other NTDs. The approach we have taken is to, in our analysis, (a) only include the costs of grant-making that supported, at least in part, MDA for schistosomiasis/STH; (b) for grants that include both schistosomiasis/STH and other NTDs, take the amount of the grant multiplied by the proportion of total NTD treatments delivered in that program that were for schistosomiasis/STH; and (c) adjust by the proportion of GiveWell-directed funds that we believe, in effect, supported schistosomiasis/STH (see **below**). This approach relies on the assumption that it costs the same amount to deliver each type of NTD treatment and that the treatment numbers the END Fund has provided are accurate.
- For many END Fund-supported programs, the END Fund is not the only donor to the program. We have asked the END Fund for information on what other donors and

governments have contributed to the programs it has supported. The END Fund has noted uncertainty about this data in several cases and a number of cases where data on contributions may be missing.[75] We have excluded two grants where we lacked information on spending by others and where we expected spending by others to be a major part of the total cost.[76] We have also compared the average financial cost in END Fund-supported programs to that of SCI- and Deworm the World-supported programs; this comparison led us to believe that we were likely missing some costs and we have made an adjustment to our estimate of the END Fund's cost per treatment to account for this.[77]

- We do not have any direct information on the value of government staff or volunteer time used in END Fund-supported programs; the approach we have taken to roughly estimate government contributions for END Fund programs (as well as for SCI-, Sightsavers-, and some Deworm the World-funded programs) is to base the estimate on a single study from an SCI-funded program that is now several years old.[78]
- We only have information on the direct program costs (i.e. grants to governments) paid by other donors. We do not have estimates of most of these other donors' other costs (e.g. central costs and technical assistance). As an approximation, we inflate other donors' contributions to programs by the proportion of total spending that SCI and Deworm the World spend on other costs.

Fungibility

We first recommended funding to the END Fund in late 2016. We **wrote at the time**:

> Because the END Fund will likely have a pool of unrestricted funds to reallocate across NTDs, we would guess that a dollar to the END Fund for deworming will not result in an increase in deworming funding by a full dollar; that some of that dollar will support other NTD programs. We have not yet fully evaluated these other NTD programs, but our initial read of the evidence is that they are likely less cost-effective than deworming.

In 2017, the END Fund spent about $4.7 million in GiveWell-directed funds in the form of grants to other organizations. Our best guess is that, of this $4.7 million, 83% funded MDA for schistosomiasis and STH, while the rest displaced unrestricted END Fund funding from deworming into grants for other diseases: lymphatic filariasis, onchocerciasis, and trachoma.

In 2017, the END Fund's revenue fell and a portion of GiveWell-directed funding was used to maintain some of its non-deworming grant-making. In aggregate, however, our understanding is that total non-deworming grant-making will be lower in 2017 than in 2016 while deworming

grant-making will be higher in 2017 than in 2016. (The figures are somewhat uncertain as the data we have is from October 2017 and includes projections for the remainder of 2017.)

We note that the allocation between deworming and other NTDs does not seem to have been driven by donor restrictions; only a small portion of funding received in 2016 and 2017 was restricted to use on other NTDs.[79]

Details in **this spreadsheet**, sheet "Fungibility."

In our **cost-effectiveness analysis**, we adjust for the expectation of fungibility. Therefore, the END Fund's cost-effectiveness according to the model is slightly less strong as it would be without fungibility.

Is there room for more funding?

We believe that the END Fund could effectively use more funding than it expects to receive and is likely to be constrained by funding.

In short:

- **Total opportunities to spend funds productively:** The END Fund has identified potential grants for deworming totaling about $23 million in the next year and $53 million over three years. Excluding grants that we have included in "room for more funding" for the other deworming charities we recommend, we estimate about $21 million in identified opportunities in the next year and $48 million over three years. Assuming that the amount that the END Fund grants out remains the same proportion of overall costs (which is likely an overestimate), the total cost would rise to about $29 million (one year) and $66 million (three years). In addition, other opportunities may arise, and the END Fund has provided some examples of early stage conversations.
- **Cash on hand:** As of June 2018, the END Fund held about $2.4 million in uncommitted funding.
- **Expected additional funding:** We roughly estimate that the END Fund will have about $19 million (including uncommitted funding from 2018)[80] that will be available to allocate to opportunities in the next year, of which the END Fund expects to allocate at least 60%, or about $12 million, to work on deworming.[81] There is significant uncertainty about how much funding the END Fund will raise for allocating in 2020 and 2021.

In sum, for the next year, we estimate that there is a gap of about $18 million between the amount of funding the END Fund will have available for grants for deworming and the amount of funding it would need to cover the total cost of all of the potential grants it has identified (not including grants that we have included in "room for more funding" for the other deworming charities we recommend).[82] Sources of major uncertainty in this estimate include whether the END Fund will encounter non-funding bottlenecks in some of its identified and early-stage opportunities, the amount of funding received from other sources, the proportion of funding allocated to deworming, and costs other than grants. There is not currently enough clarity around potential future funding to determine whether the END Fund will have a funding gap for deworming in 2020-2021; based on the global unfilled need for deworming, the END Fund believes it will continue to have a funding gap for this work.[83]

Update: In November 2018, we recommended that Good Ventures grant $2.5 million to the END Fund; our updated estimate of its room for more funding is approximately $15.5 million.

More details in the sections below and in **this spreadsheet**.

Uncommitted and expected funds

As of June 2018, the END Fund held $18.0 million, of which $15.6 million was committed to grantees and operating costs, leaving $2.4 million in uncommitted funds.[84]

As a rough guess, we estimate that the END Fund will raise about $69 million over the next three years:[85]

- $16.8 million for use in 2019. This is the amount that the END Fund raised in 2017, less the amount that GiveWell recommended that Good Ventures give to the END Fund.[86] We assume that it will raise a similar total amount in 2018.
- $27 million for use in 2020. As of August 2018, the END Fund had received $23 million in pledges for 2019. We have made a guess about how much additional funding the END Fund will raise beyond existing pledges.[87]
- $25 million for use in 2021. As of August 2018, it had received $14 million in pledges for 2020. We have made a guess about how much additional funding the END Fund will raise beyond existing pledges.[88]

We expect that a portion of END Fund grant-making will support treatments for NTDs other than deworming. The END Fund told us that in the future it expects to spend at least 60% of its funding on deworming. We have assumed that 60% of future revenue (excluding GiveWell-directed funding) will be available for grants to support deworming (including grants and other associated costs), with the remainder supporting other NTD programs.[89]

Additional spending opportunities

The END Fund provided a list of 33 potential grants to schistosomiasis/STH programs totaling $23.3 million for one year and $53.4 million over three years.[90] Excluding grants that we have included in our room for more funding estimates for Deworm the World, SCI, and Sightsavers—the other deworming organizations we recommend (which the END Fund also funds)—the list totals $21.3 million for one year and $48.3 million over three years.[91] In addition, the END Fund told us that it identifies additional opportunities on an ongoing basis and has provided examples of early-stage conversations that could lead to grant opportunities in the future.[92]

In **our analysis of the END Fund's total cost per treatment**, we estimated that funds granted out accounted for 73% of total spending.[93] To estimate the full cost to the END Fund to make all of the grants on its list of potential deworming grants, we add funding for non-grant costs (which include program costs such as program oversight and design, technical assistance, and advocacy, as well as fundraising and indirect costs) based on the past ratio of grant costs to total spending. This is likely an overestimate—it seems intuitively unlikely to us that, for example, the END Fund would double its staff if it were to double its grant-making. This brings the total to $29.2 million for one year and $66.2 million for three years.[94]

Note that for our room for more funding analysis we ask top charities for rough estimates of their ideal budgets for the next two to three years. Because GiveWell-directed funding can fluctuate significantly year-to-year, our preference is for the organizations to which we direct funding to treat the funding as a multi-year grant to help smooth funding year-to-year and allow for longer-term planning. Smoothing funding and long-term planning may be less of a consideration in the END Fund's case than for many of our other top charities—as a grantmaker, it may be able to scale up and down more easily.

Global need for treatment

There appears to be a substantial unmet need for STH and schistosomiasis treatment globally.

In 2017, the World Health Organization (WHO) released a report on 2016 treatments stating that:[95]

- 69% of school-age children in need of treatment were treated for STH in 2016, up from 63% in 2015 and 45% in 2014. Coverage was 65% in African countries in 2015.
- 52% of school-age children in need of treatment were treated for schistosomiasis in 2015, up from 42% in 2015.

We have not vetted this data.

The END Fund as an organization

We have spent less time investigating the END Fund and have gained less insight into its activities and track record than we have for our other **top charities**. As such, we have a somewhat limited view on the qualities below.

- **Track record:** The END Fund made its first grants in 2012 and therefore has a somewhat limited track record.
- **Self-evaluation:** Over the last couple of years, the END Fund has begun building a track record of evaluating its work through coverage surveys.
- **Communication:** To date, the END Fund has generally communicated reasonably clearly with us.
- **Transparency:** The END Fund has provided the information we've asked for and has not hesitated to share it publicly (unless it had what we felt was a good reason).

More on how we think about evaluating organizations can be found in our **2012 blog post**.

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1. We have published notes from the following conversations:
   - **GiveWell's non-verbatim summary of a conversation with END Fund staff, February 25, 2015**
   - **GiveWell's non-verbatim summary of a conversation with Ellen Agler and Sarah Marchal Murray, July 30, 2015**
   - **GiveWell's non-verbatim summary of a conversation with END Fund staff, October 7, 2016**
   - **GiveWell's non-verbatim summary of a conversation with END Fund staff, October 17, 2016**
   - **GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017**
   - Starting in 2017, we deprioritized publishing notes from our conversations with the END Fund. We continued speaking regularly with END Fund staff in 2017-2018.
2.
   - "The END Fund works to control and eliminate neglected tropical diseases (NTDs). This work includes, but is not limited to, deworming initiatives. The END Fund is aligned with the London Declaration on Neglected Tropical Diseases, which was launched in January 2012 and aims to eliminate or control 10 neglected diseases by 2020. The END Fund's portfolio currently covers the five most common NTDs that, together, cause up to 90% of the NTD burden in sub-Saharan Africa." **GiveWell's non-verbatim summary of a conversation with END Fund staff, February 25, 2015**, pg. 1
   - "The END Fund focuses on tackling the five most prevalent NTDs: intestinal worms, schistosomiasis, lymphatic filariasis, trachoma, and river blindness - all of which can be treated by medicines generously donated by pharmaceutical companies for national mass drug administration programs." **END Fund website, What we do**
     - "Intestinal worms, or soil-transmitted helminths (STH), are the most common NTDs worldwide. STHs are caused by a group of parasitic worms, most commonly hookworm, roundworm (ascariasis) and whipworm (trichuriasis) that are either transmitted through contaminated soil or by ingesting parasite eggs." **END Fund website, Intestinal worms**
     - "Onchocerciasis (also known as river blindness) is an eye and skin infection that is caused by a parasitic worm (onchocerca volvulus), transmitted by the bite of a black fly that lives and breeds on the banks of fast-flowing rivers and streams." **END Fund website, River blindness**
   - "The END Fund, in collaboration with government partners and non-governmental organizations on the ground, treats NTDs by following a proven implementation model that is tailored to meet the needs of individual countries. Successful implementation involves understanding the scale of the problem and designing a robust MDA campaign targeted to reach and treat the right people. It is a process that catalyzes resources, builds capacity among health professionals, and mobilizes communities to distribute medicines for maximum impact at minimal cost." **END Fund website, Our strategy**
   - **GiveWell's non-verbatim summary of a conversation with END Fund staff, February 25, 2015**, pg. 1:
     - "The END Fund also aims to increase capacity of existing non-governmental organizations (NGOs) working on NTDs and expanding the field of organizations working on NTDs by giving direct grants and working with ministries of health and local and international NGOs. When the END Fund re-grants to another program, it is often involved in programming design."
     - "The END Fund aims to increase the number of philanthropies that work on NTDs. It often starts conversations with people and organizations that aren't currently engaged in the field."
     - "The END Fund is always looking to find donors who might be interested in the NTD opportunities that it has identified."
3. We have not completed up-to-date intervention reports for the other NTD programs the END Fund supports; our **published intervention report on lymphatic filariasis** is outdated (as of October 2016).
4. Beneficiaries of programs reported beginning in 2012 in **END Fund Aggregate Portfolio Figures 9 Sept 2014**, "Beneficiaries" sheet.

5. See **this spreadsheet**, "(Added by GiveWell) Direct costs" sheet, cell C17. See also sheet "All grants to all countries" for grant dispersal dates.

6. See **this spreadsheet**, "All treatments all countries" sheet, columns P through W.

7. **END Fund Information for GiveWell, 2016**, sheet "Updated Program Financing."

8.
- "The END Fund works to identify the highest need NTD areas globally and then attempts to address the gaps where there is high burden and little available treatment. Ms. Agler and Mr. Lancaster spend a lot of their time surveying the evolving landscape of NTD prevalence and related philanthropic, governmental, and NGO activity."

  "END Fund staff members are constantly researching opportunities where additional philanthropic dollars would make a difference and where the END Fund could ensure additive coverage. The END Fund asks:

  - Is there a need?
  - Is the need sufficient to justify treatment?
  - Does the implementing partner have the capacity to meet results (i.e., reducing prevalence and intensity of infection) within the timeline?"

  GiveWell's non-verbatim summary of a conversation with END Fund staff, February 25, 2015, Pg 2.

- "Due to the END Fund's familiarity with the state of NTD work in the DRC, it is highly involved in helping its implementing partners to identify provinces to work in that have both a high disease burden and a high potential for program success. It is typically less involved in the implementation of these programs, though it engages in capacity building and substantive engagement with indigenous agencies." **GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017**, Pg 3.
- The END Fund made a grant to the World Food Programme to support deworming in conflict zones where people otherwise would not receive treatment:

  "The World Food Programme (WFP) previously had direct access to deworming drugs through pharmaceutical companies' drug donation programs and was using these drugs to deworm approximately 20 million children per year through its school-based feeding programs in several countries. After drug procurement was centralized through WHO and only ministries of health were eligible to apply for drug donations, WFP found it increasingly challenging to continue deworming efforts because countries implementing deworming programs did not know how to integrate with it.

  "In order to leverage WFP's deworming capacity, the END Fund made a grant to WFP to support WFP to use its special resources to distribute medicines for deworming in countries where others were unable to do so. These countries include Afghanistan, Chad, Cote d'Ivoire, the Democratic Republic of the Congo, Sudan, South Sudan, and Zambia. This is seen as particularly important because many WFP programs serve populations in conflict zones that would not otherwise receive treatment."

  GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017, Pg 9.

9. **GiveWell's non-verbatim summary of a conversation with END Fund staff, February 25, 2015**:

- "The END Fund is interested in the following kinds of opportunities:

1. Ensuring additive coverage in high burden countries – E.g., Nigeria, Ethiopia, and the Democratic Republic of the Congo (DRC). There are opportunities to scale up coverage in these countries because many people aren't getting treated and there are possible implementing partners already on the ground. The END Fund spends a lot of time looking into these opportunities.
2. Providing coverage in "orphan countries" with few donors and local partners – E.g., Angola, the Central African Republic, and South Sudan.
3. Investing in specific projects that have a potential high return on investment:
    i. For example, the END Fund has been working with the Zimbabwean government on a school-based deworming campaign because it may be especially cost-effective. Three million children were treated last year. The END Fund is hoping another two million children will be treated this year. With additional funding, the END Fund would help the Zimbabwean government scale up the program to treat 4.7 million children in 2016.
    ii. There may be an especially high return on investment in South Sudan as well. Due to the recent conflict, there is no NTD program there and few implementing agencies. There has been no mapping to identify NTD prevalence. If an organization made a substantial grant by the end of 2015, the END Fund would be in position to use that money in South Sudan. There is also a need for funding in (northern) Sudan, where 4.3 million children need treatment for NTDs.
    iii. The END Fund is looking at partnering with the Ethiopian Federal Ministry of Health on a national deworming campaign to treat intestinal worms and schistosomiasis for over 20 million children, which will require increased investment and donor coordination." Pgs 3-4.

- "The END Fund identified a large gap in Angola: there was high NTD burden, little treatment provided by the government, and none of the traditional aid donors were involved. Since the end of the civil war there has been little bilateral funding and institutional aid. Angola is now a middle-income country, but there is incredible health inequality. Before The Helmsley Trust was involved, the END Fund had some funding for the area through Dubai Cares, but there was the potential to do a bigger project.
  [...]
  "The END Fund also identified a local partner, the MENTOR Initiative. The MENTOR Initiative had not worked broadly in the NTD space, but it was a grantee of the President's Malaria Initiative and had successfully reduced malaria burden in Angola.
  [...]
  "The END Fund wants to aid in the building of a large and scalable national deworming program, in line with the control and elimination agenda. It worked closely with the MENTOR Initiative to ensure this program would be a 3-year collaboration." Pg 5.
- "India – A few years ago a Deworm the World project to reach 17 million children in Bihar had a gap in funding. The END Fund provided a small grant that allowed the program to continue. Now, Evidence Action in partnership with the Children's Investment Fund Foundation and the Indian government have funded the program, so the END Fund was able to cover a 'gap' year of funding to ensure continuity of the program." Pg 4.

10.

GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017

11.

- **GiveWell's non-verbatim summary of a conversation with END Fund staff, February 25, 2015**:
    - "The END Fund also aims to increase capacity of existing non-governmental organizations (NGOs) working on NTDs and expanding the field of organizations working on NTDs by giving direct grants and working with ministries of health and local and international NGOs. When the END Fund re-grants to another program, it is often involved in programming design. Ideally, the END Fund works with governmental and local NGO implementing partners. This approach usually works best. However, in some cases, the END Fund will directly fund and work with the government.

It is currently funding government projects in Zimbabwe and Ethiopia; the government has executed programs successfully." Pg 1.

- "The END Fund also identified a local partner, the MENTOR Initiative. The MENTOR Initiative had not worked broadly in the NTD space, but it was a grantee of the President's Malaria Initiative and had successfully reduced malaria burden in Angola." Pg 5.

- SCI and Deworm the World (which have experience supporting NTD programs) and the MENTOR Initiative (which did not have prior experience with NTD programs) are listed as implementing partners in **END Fund Aggregate Portfolio Figures 9 Sept 2014**, "Number of GsPsIPs" sheet.
- For more partners, see **END Fund Information for GiveWell, 2016**, sheet "Updated Program Financing."

12.

- "In October 2016, the END Fund was approached by the Mectizan Donation Program, which had been approached by Chad's Ministry of Health for emergency funding for LF and onchocerciasis control. Trainings had been conducted and the country was prepared to conduct a mass drug administration, but lost funding to do so. The END Fund used its emergency funding to provide about $95,000 to support a mass drug administration to treat these two diseases, which reached over 80% coverage." **GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017**, Pg 8.
- "The END Fund typically spends several million dollars per year on deworming funding opportunities that it was not aware of at the beginning of the year. It is able to find these opportunities by remaining involved in the NTD community, e.g., by going to regional meetings and meeting with ministries of health." **GiveWell's non-verbatim summary of a conversation with END Fund staff, October 17, 2016**, Pg 2.

13.

- **END Fund Program Process Overview 2015**:
  - "Partnership Agreement - Draft PA and supporting annexes; review, negotiate and finalize with IP the budget, work plan, PAF and target numbers, reporting dates, disbursement schedule, and special conditions; if an agreement is used other than our standard PA template then have reviewed by the SVP Finance and Administration" Pg 3.
  - "Periodic Reports - Review periodic reports and cash requests as necessary to ensure IP is fulfilling conditions of PA, use Project Cycle Management approach and provide systematic feedback to IPs on performance; standard practice is for the END Fund to receive quarterly program updates from grantees" Pg 4.
- The END Fund provided several documents produced by the MENTOR Initiative (which received a grant from the END Fund to implement an NTD program in Angola) on program budgets, workplans, and program operations, including:
  - **END Fund Angola MENTOR Annex 5 - MENTOR Workplan Yr2-S2 With targets 2015**
  - **END Fund Angola MENTOR P7 Periodic Reporting and Cash Request 31 Dec 2014**
  - **END Fund Angola MENTOR P7 Budget Summary 02 April 2014**
  - **END Fund Angola MENTOR P7 150126 MDA report November 2014**
  - **END Fund Angola MENTOR P7 Annex 1 - NTD treatment strategies Y3 updated, 2015**
  - **END Fund Angola MENTOR Proposal, Budget narrative with comments, Year 3, Redacted 2015**
  - **END Fund Angola MENTOR Revised Plan, Workplan Year 3, 3 April 2015**

14.

END Fund Program Process Overview 2015:

- "The primary function of the END Fund programs team is to manage grants in a professional manner that meets the standard expectations for good practice in the NTD sector. In doing so, the team must ensure that all aspects of a program are consistent with WHO guidelines for delivery of NTD interventions and treatment. Team members monitor programs and provide technical assistance to partners when necessary to ensure minimal risk to funds provided by the END Fund and our donors. With the overall objective to deliver high performing projects, the team works collegially at different levels of involvement with our various partners. Depending on their existing capacity and the complexity of the program, the team

takes an approach of light touch, moderate engagement, or substantial involvement to also ensure that donors and the END Fund receive a maximum return on their investment." Pg 1.

- "Substantive Involvement - PD to be in regular communication with IPs to discuss implementation issues and assist in any necessary decision making or technical guidance; communicate any material program variances to Senior Management Team so donor communications and financial impact can be assessed" Pg 4.
- "Program Visit - Schedule and complete in-country monitoring site visits; minimum one per program year, record findings in TOR and trip report template" Pg 4.

15.

"Over the past year, the END Fund and its partners have been discussing the use of coverage surveys – i.e., surveys of children participating in mass drug administration (MDA) programs to monitor the delivery of a treatment. The END Fund has determined that coverage surveys will be required for all its substantial investments in neglected tropical diseases (NTD) programs. Coverage surveys have been scheduled for 11 of its grantees' MDA programs to treat schistosomiasis and soil-transmitted helminthiasis, and all other major NTD control and eradication programs it funds will do coverage surveys.

"Smaller grants – e.g., several thousand dollars to a local government's ministry of health to help implement a program – will not be subject to the coverage survey requirement, but countries will always be encouraged to adopt good practice." **GiveWell's non-verbatim summary of a conversation with END Fund staff, October 7, 2016**, Pg 1

16.

GiveWell's non-verbatim summary of a conversation with END Fund staff, February 25, 2015:

- "The END Fund is always looking to find donors who might be interested in the NTD opportunities that it has identified." Pg 1.
- "The END Fund aims to increase the number of philanthropies that work on NTDs. It often starts conversations with people and organizations that aren't currently engaged in the field." Pg 1.
- "The Helmsley Trust has a longstanding interest in education and children, but it had never funded a NTD related project and was just beginning to develop its Africa portfolio. The END Fund began speaking with The Helmsley Trust staff about the importance of deworming. The Helmsley Trust wanted to work in Sub-Saharan Africa because of the high NTD burden and asked the END Fund what areas current funders were neglecting. The END Fund directed them to the Angola deworming project. While this is a restricted donation, The Helmsley Trust tailored its donation to the END Fund's assessment of current needs and the donor space." Pg 5.
- "An anonymous donor had previously funded initiatives focused on child health and education in Africa, but it had never funded NTD interventions. As with the Helmsley Trust, the END Fund persuaded the anonymous donor of the importance of deworming. The donor and the END Fund discussed structuring its support as unrestricted funding." Pg 6.

17.

"In particular, if you divided the programs into 4 buckets, from most intensive to least intensive involvement, the END Fund's spending would roughly be allocated as follows:

1. Hands on (capacity building assistance, detailed planning support, technical assistance, procurement support): ~20% of its spending. Examples include Nigeria and the Democratic Republic of the Congo (DRC).
2. Substantive involvement (review of program design, budget support, work planning guidance, networking support): ~20% of its spending. Examples include Zimbabwe and Angola.
3. Engaged (review of program design, budget support, technical review, networking support): ~20% of its spending. Examples include Liberia and Cote d'Ivoire.
4. Light touch (review of program design, negotiation of budget, ongoing review of program output): ~40% of its spending. Examples include Rwanda, Ethiopia and Kenya.

The END Fund expects the division of funding between these buckets to stay roughly similar over time."

GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017, Pg 2.

18.

"The END Fund is working to increase the implementing capacity of two local organizations in Nigeria: MITOSATH, which runs integrated programs to treat STH, schistosomiasis, LF, and onchocerciasis, and the Amen Health Care and Empowerment Foundation (Amen Foundation)." **GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017**, Pg 3.

"The END Fund is highly involved in all aspects of the MITOSATH and Amen Foundation programs it supports, including program design, accountability, and increasing the organizations' capacity to deliver programs at scale. Both organizations previously had limited engagement in the NTD sector and are now implementing programs at the state level." **GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017**, Pg 4.

19.

"Due to the END Fund's familiarity with the state of NTD work in the DRC, it is highly involved in helping its implementing partners to identify provinces to work in that have both a high disease burden and a high potential for program success. It is typically less involved in the implementation of these programs, though it engages in capacity building and substantive engagement with indigenous agencies." **GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017**, Pg 3.

20.

The END Fund works directly with the Ministry of Health in Zimbabwe. Its roles include providing technical assistance, funding, program planning assistance, and liaising with other organizations and government agencies.

"Because the END Fund does not work with any local implementing partner organizations in Zimbabwe, it is highly involved in supporting the Ministry of Health:

- The END Fund provides technical assistance to the government, primarily in the form of oversight to ensure that World Health Organization (WHO) protocols are followed. The END Fund often acts as the liaison between the Ministry of Health and WHO headquarters.
- As the Ministry of Health scaled up its deworming program, the END Fund provided funding and helped with planning meetings, budget meetings, and liaising with WHO.
- Since 2016 was the first year that the Ministry of Health provided treatment for LF and trachoma, The END Fund also provided assistance in creating a national integrated NTD program.
- It helped to liaise with the International Trachoma Initiative so that the Ministry of Health could receive donations of Zithromax (for trachoma) and diethylcarbamazine (for LF) for the first time.
- It provided guidance on deciding where to conduct mapping activities. At first, the Ministry of Health had created a plan to map the country which was not in line with WHO recommendations.
- In 2016, it partnered with Econet Wireless, the largest cell phone company in Zimbabwe, to run a pilot text message campaign to increase awareness and coverage. About 7 million text messages were sent to all cell phone subscribers of Econet Wireless in regions where deworming and/or LF treatment was scheduled to take place, with the dates and locations of scheduled treatments and a reminder to ensure that children attend school on those dates."

GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017, Pg 5.

21.

"In particular, if you divided the programs into 4 buckets, from most intensive to least intensive involvement, the END Fund's spending would roughly be allocated as follows:

1. Light touch (review of program design, negotiation of budget, ongoing review of program output): ~40% of its spending. Examples include Rwanda, Ethiopia and Kenya.
2. Engaged (in addition to the above, assistance creating budgets, technical review of program design, and networking support): ~20% of its spending. Examples include Liberia and Cote d'Ivoire.
3. Substantive involvement (in addition to the above, work planning guidance): ~20% of its spending. Examples include Zimbabwe and Angola.
4. Hands on (capacity building assistance, detailed planning support, technical assistance, procurement support): ~20% of its spending. Examples include Nigeria and the Democratic Republic of the Congo (DRC).

The END Fund expects the division of funding between these buckets to stay roughly similar over time."

GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017, Pg 2.

22.

"Light touch (review of program design, negotiation of budget, ongoing review of program output): ~40% of its spending. Examples include Rwanda, Ethiopia and Kenya." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pg 2.

23.

"The END Fund provides support for a Rwandan technical advisor who essentially oversees the planning, implementation and oversight of the program for the MOH. The Rwandan MOH runs the deworming distribution and conducts monitoring. The END Fund primarily provides funding for the program, checks that funds are being spent appropriately, advocates to the government about the importance of deworming, and provides miscellaneous small support when necessary (e.g., helping to procure sieves to be used in monitoring)." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pg 3.

24.

"The END Fund provides support for a Rwandan technical advisor who essentially oversees the planning, implementation and oversight of the program for the MOH. The Rwandan MOH runs the deworming distribution and conducts monitoring. The END Fund primarily provides funding for the program, checks that funds are being spent appropriately, advocates to the government about the importance of deworming, and provides miscellaneous small support when necessary (e.g., helping to procure sieves to be used in monitoring)." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pg 3.

25.

- "In April 2016, END Fund concluded a new 2-year contract directly with the government. The contract provides that both parties will work toward the government taking ownership of the deworming program and that the parties will renegotiate the budget each year." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pg 3.
- "END Fund is optimistic that the Rwandan government will fund the deworming program in the future." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pg 4.

26.

"Hands on (capacity building assistance, detailed planning support, technical assistance, procurement support): ~20% of its spending. Examples include Nigeria and the Democratic Republic of the Congo (DRC)." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pg 2.

27. "The END Fund has had very deep involvement in all aspects of the Idjwi program, including facilitating an introduction between AGW and the national NTD program (part of the MOH), which has been critical to securing medication. The END Fund also assisted AGW by writing a budget for the program, planning the distribution logistics and trainings, connecting AGW with technical experts in Rwanda's MOH to help with monitoring and mapping schools, visiting Idjwi island to help build community support for deworming, facilitating meetings with government in Kinshasa and South Kivu, helping to secure drugs, building capacity to follow WHO guidelines, etc." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pgs 4-5.

28. See **this spreadsheet**, sheet "(Added by GiveWell) Summary."

29. See **this spreadsheet**, sheet "Fungibility."

30. See **this spreadsheet**, sheet "(Added by GiveWell) Summary," section "Spending breakdown by spending type."

31. "The END Fund works with the MENTOR Initiative (MENTOR) to run NTD programs in six of the 18 provinces in Angola. It is highly involved in these programs, offering technical assistance, assisting with program design, deciding which diseases to treat, and doing high-level advocacy with the Ministry of Health. The END Fund has spent about $5.9 million in Angola to date and is not aware of other funders for NTD programs in the country." **GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017**, Pg 2.

32. "Substantive involvement (review of program design, budget support, work planning guidance, networking support): ~20% of its spending. Examples include Zimbabwe and Angola." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pg 2.

33. "The END Fund works with the MENTOR Initiative (MENTOR) to run NTD programs in six of the 18 provinces in Angola. It is highly involved in these programs, offering technical assistance, assisting with program design, deciding which diseases to treat, and doing high-level advocacy with the Ministry of Health. The END Fund has spent about $5.9 million in Angola to date and is not aware of other funders for NTD programs in the country." **GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017**, Pg 2.

34. **Sarah Marchal Murray, END Fund Chief Operating Officer, email to GiveWell, May 1, 2015**

35. "In 2012 The MENTOR Initiative, commenced a 5 year grant with END Fund to work with the Government of Angola to build the capacity and reach of their Neglected Tropical Diseases programme. Specifically the programme was to map three key NTDs in Uíge, Zaire and Huambo provinces and work to reduce disease burden through biannual mass drug administrations through school and community networks, whilst building capacity of health workers through training and supervisions, coupled with a school-based programme to encourage hand-washing in children.
"Working through MENTOR's existing structure and relationships at national level and in the 3 provinces the programme initiated mapping and an initial mass drug administration (MDA) of albendazole (ALB) to school aged children and subsequently a larger MDA with Praziquantel (PZQ) in year 2. The mapping had been planned to integrate soil transmitted helminths (STH), schistosomiaisis (SCH) and lymphatic filariasis (LF) in the 3 provinces in the centre and north of Angola,

however, mapping of LF mapping was not possible and was ultimately dropped from the protocol." **END Fund Angola MENTOR Revised Plan, Proposal, 22 April 2015**, Pg 2.

36.

GiveWell's analysis of END Fund Angola MENTOR Revised Plan Budget Summary Years 3-4 22 April 2015, "GW calculations" sheet.

37.

- IEC stands for Information, Education, and Communication. We have not seen ACSM defined in the END Fund's documents.
- "Information, Education and Communication (IEC) in order to educate children and communities on the ways of identifying and preventing NTDs, and on the places where they can find a treatment." **END Fund Angola MENTOR Revised Plan, Proposal, 22 April 2015**, Pg 14.

38.

GiveWell's analysis of END Fund Angola MENTOR Revised Plan Budget Summary Years 3-4 22 April 2015, "Definitions" sheet.

39.

- "Two rounds of school based MDA have been completed in the first two years of the grant, one in October/November 2013 and another in November 2014 in Uíge, Zaire and Huambo provinces as well as comprehensive disease mapping of STH and SCH." **END Fund Angola MENTOR Proposal, proposal strategy with comments Years 3-5, Redacted 27 March 2015**, Pg 13.
- "Working through MENTOR's existing structure and relationships at national level and in the 3 provinces the programme initiated mapping and an initial mass drug administration (MDA) of albendazole (ALB) to school aged children and subsequently a larger MDA with Praziquantel (PZQ) in year 2." **END Fund Angola MENTOR Revised Plan, Proposal, 22 April 2015**, Pg 2.
- "For Y2, MDA school campaign will target PZQ only given that Albendazole didn't arrive the country due to delays in placing the order from WHO." **END Fund Angola MENTOR P7 Periodic Reporting and Cash Request 31 Dec 2014**, Program Progress Outputs sheet, cell N25
- See our **deworming intervention report** for WHO recommendations for drugs to treat STH and schistosomiasis.

40.

See our **intervention report on deworming** for more detail.

41.

"The END Fund also uses World Health Organization (WHO) guidelines to determine when intervention is necessary, though it will adapt these to local conditions. Mr. Lancaster shared that the END Fund only works in countries that have a level of disease prevalence that would require treatment according to WHO guidelines." **GiveWell's non-verbatim summary of a conversation with END Fund staff, February 25, 2015**, Pg 3.

42.

- Details of the Kenya studies (**Miguel and Kremer 2004**, **Baird et al 2012**) in our **Reanalysis of the Miguel and Kremer deworming experiment** page.
- Details of the Uganda study (**Croke 2014**) **here**.

43.

"Over the past year, the END Fund and its partners have been discussing the use of coverage surveys – i.e., surveys of children participating in mass drug administration (MDA) programs to monitor the delivery of a treatment. The END Fund has determined that coverage surveys will be required for all its substantial investments in neglected tropical diseases (NTD) programs. Coverage surveys have been scheduled for 11 of its grantees' MDA programs to treat schistosomiasis and soil-transmitted helminthiasis, and all other major NTD control and eradication programs it funds will do coverage surveys.

Smaller grants – e.g., several thousand dollars to a local government's ministry of health to help implement a program – will not be subject to the coverage survey requirement, but countries will always be encouraged to adopt good practice." **GiveWell's non-verbatim summary of a conversation with END Fund staff, October 7, 2016**, Pg 1.

44.

- See **this spreadsheet**, sheet "Comprehensiveness."
- The END Fund notes that reported coverage is available for all its supported programs, including those for which coverage surveys are not conducted. (END Fund, comments on a draft of this review, September 12, 2018.) In our experience, administrative reported coverage figures, which are often available for the deworming programs supported by our recommended charities, tend to be less reliable and are substantially less useful for our purposes.

45.

"The END Fund partners with other GiveWell-ranked top charities. Therefore, the END Fund is evaluated solely on our other partnerships, which tend to be with local organizations and governments. This impacts our results, as local organizations and governments are more likely to have less robust M&E processes than International NGOs/research-focused organizations. At the same time, the long-term value of increased local ownership and sustainability is not explicitly included in GiveWell's assessment despite it being a significant benefit to working with these local organizations." END Fund, comments on a draft of this review, September 12, 2018.

46.

See both "Results" tab (see cell notes) and "Methods" tab. Note that we also received a coverage survey for a 2017 MDA in anonymous Country A; we have excluded that survey from our analysis as the END Fund told us the results are not reliable. END Fund, conversation with GiveWell, August 8, 2018.

47.

- Cited in **this spreadsheet**:
  Angola (2017): "Based on the reported coverages the Municipalities of Kibala and Libolo were chosen. These municipalities were selected based on criteria such as resources / time available, lowest reported coverage on both ALB and PZQ distributions and highest discrepancies between baselines (DPE, School level and CENSUS)."
- "WHO guidelines indicate that both random and purposive sampling can be used by countries depending on the primary purpose of the coverage survey… Therefore, Ministries of Health can determine the route to take between random and purposive sampling… the END Fund follows recommendations of the Ministry of Health on these matters, in order to set a path of sustainability from the beginning of partnering." END Fund, comments on a draft of this review, September 12, 2018.

48.

In Chad, villages were selected taking 'biogeographic variability' into account. See **this spreadsheet**.

49.

Of the five countries from which we have seen coverage surveys, we have seen fairly detailed information on data quality control from one of them, very limited information from another two, and no information from the other two. See **END Fund, responses to GiveWell coverage survey questions, June 12, 2018, redacted** for more details, including a general protocol for data quality control in DRC; we are not sure if this protocol was used for the survey we have seen from DRC. Where checks on respondents' answers are used, they appear to consist solely of showing the medication respondents should have received, rather than showing several medications and asking which was given. Information about data quality control, 'don't know' responses, and checks on respondents' answers can also be found in **this spreadsheet**.

50.

See our reviews of **Deworm the World** and **SCI** for examples.

51.

Ellen Agler, conversation with GiveWell, September 22, 2017

52.

- "The END Fund is highly involved in all aspects of the MITOSATH and Amen Foundation programs it supports, including program design, accountability, and increasing the organizations' capacity to deliver programs at scale. Both organizations previously had limited engagement in the NTD sector and are now implementing programs at the state level." **GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017**, Pg 4.
- "The END Fund works with Amani Global Works (AGW) on Idjwi. Before it partnered with END Fund to do deworming, AGW was focused on improving the hospital/clinic capacity on Idjwi and running other programs, for example programs to reduce severe acute malnutrition. END Fund presently accounts for ~30% of AGW's funding, and it restricts that funding to MDA related activities." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pg 4.
- **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pgs 4-5:
  - "The END Fund has had very deep involvement in all aspects of the Idjwi program, including facilitating an introduction between AGW and the national NTD program (part of the MOH), which has been critical to securing medication. The END Fund also assisted AGW by writing a budget for the program, planning the distribution logistics and trainings, connecting AGW with technical experts in Rwanda's MOH to help with monitoring and mapping schools, visiting Idjwi island to help build community support for deworming, facilitating meetings with government in Kinshasa and South Kivu, helping to secure drugs, building capacity to follow WHO guidelines, etc.
  - "The END Fund and AGW's collaboration came about following a meeting between the END Fund and AGW's Executive Directors at a conference. We asked AGW about alternative paths where it would have done deworming, possibly with less involvement from the END Fund; AGW insisted that END Fund was necessary."

53.

- "The END Fund typically spends several million dollars per year on deworming funding opportunities that it was not aware of at the beginning of the year. It is able to find these opportunities by remaining involved in the NTD community, e.g., by going to regional meetings and meeting with ministries of health. It is very likely that unexpected funding opportunities will arise in the next year, particularly because the END Fund has gained a reputation as a nimble actor in the NTD community that is able to move more quickly than government funders to fill urgent gaps.

  "Engaging with last-minute funding opportunities will be an important strategy to build the capacity to control STH and schistosomiasis in the long term. There are several countries (including the DRC, Sudan, South Sudan, Yemen, and Zimbabwe) where the END Fund has begun and expanded its programs largely due to its engagement with last-minute funding opportunities." **GiveWell's non-verbatim summary of a conversation with END Fund staff, October 17, 2016**, Pg 2.

- "In October 2016, the END Fund was approached by the Mectizan Donation Program, which had been approached by Chad's Ministry of Health for emergency funding for LF and onchocerciasis control. Trainings had been conducted and the country was prepared to conduct a mass drug administration, but lost funding to do so. The END Fund used its emergency funding to provide about $95,000 to support a mass drug administration to treat these two diseases, which reached over 80% coverage." **GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017**, Pg 8.
- "The END Fund's flexibility allows it to take advantage of grant opportunities others cannot, and some of those grant opportunities are highly cost effective. The END Fund reserves a portion of its annual budget to fund opportunities that emerge in the END Fund's proactive assessment of the NTD landscape where there may be gaps left by other funders or catalytic opportunities." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pg 7.

54.

"The World Food Programme (WFP) previously had direct access to deworming drugs through pharmaceutical companies' drug donation programs and was using these drugs to deworm approximately 20 million children per year through its school-

based feeding programs in several countries. After drug procurement was centralized through WHO and only ministries of health were eligible to apply for drug donations, WFP found it increasingly challenging to continue deworming efforts because countries implementing deworming programs did not know how to integrate with it.

"In order to leverage WFP's deworming capacity, the END Fund made a grant to WFP to support WFP to use its special resources to distribute medicines for deworming in countries where others were unable to do so. These countries include Afghanistan, Chad, Cote d'Ivoire, the Democratic Republic of the Congo, Sudan, South Sudan, and Zambia. This is seen as particularly important because many WFP programs serve populations in conflict zones that would not otherwise receive treatment." **GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017**, Pg 9.

55.

See **this page** on Good Ventures' website.

56.

From GiveWell's internal donation records.

57.

- "Nearing the end of 2016, when the END Fund was recommended as a Top Charity by GiveWell for our deworming efforts, we knew that a number of our deworming grants were ending and one of our core funders announced they needed to cut back on their investments. We were concerned that we might not be able to continue some of our key investments. The Givewell-directed funding came at a critical time for our organization and allowed us to continue key END Fund supported deworming programs, as well as expand deworming support to new regions and countries in 2017. In terms of new initiatives, the END Fund was able to support new deworming investments in 2017 in Congo/Brazzaville, Kenya, and Nigeria as well as expand the programs in Chad and Nigeria (Akwa Ibom State)." Abbey Turtinen, END Fund Associate Director for External Relations, email to GiveWell, October 12, 2017.
- See **this spreadsheet**, sheet "Grants in 2016 and 2017"

58.

See **this spreadsheet**, sheet "Grants in 2016 and 2017"

59.

- **END Fund Angola Program Log 2015**:
  - "October-December 2011: Decision to focus on Angola
  - "Proposal submitted to DC: Start date project for April 2012
  - "Official request made to Govt of Angola for engagement 15 March
  - "Mentor Initiative able to work with smaller amounts in two to three northern provinces
  - "22-May-13: HT Concept Note finalised
  - "20-Feb-14: Notice of HT Board approval passed along"
- "The END Fund also identified a local partner, the MENTOR Initiative. The MENTOR Initiative had not worked broadly in the NTD space, but it was a grantee of the President's Malaria Initiative and had successfully reduced malaria burden in Angola." **GiveWell's non-verbatim summary of a conversation with END Fund staff, February 25, 2015**, Pg 5.
- The END Fund noted in a comment on a draft of this review in November 2017 that the program now covers six provinces.

60.

"Ms. Agler thinks that the Angola project would definitely have not happened without the END Fund's involvement." **GiveWell's non-verbatim summary of a conversation with END Fund staff, February 25, 2015**, Pg 6.

61.

"The END Fund would be interested in expanding its programs to the other 12 provinces in Angola, but has not done so due to lack of funding. It would be able to work with MENTOR in these other provinces if it had funding to do so." **GiveWell's non-verbatim summary of conversations with END Fund staff, February 3 and 17, 2017**, Pg 3.

62.

"The program was started by Geneva Global; Rwanda had no pre-existing NTD program. In 2007, a national survey of soil-transmitted helminths (STH) and schistosomiasis prevalence and intensity was done with SCI technical assistance. Geneva Global funded 4 rounds of treatment in 2008-2011." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pg 2.

63.

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64.

"END Fund was established in 2011, and began contract negotiations with the government for a deworming contract under which SCI would provide technical support and the END Fund would provide funding. SCI and the government each said they did not have sufficient funding for the program. Two mass drug administration (MDA) treatment rounds were missed during the contract negotiations." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pgs 2-3.

65.

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- "In April 2016, END Fund concluded a new 2-year contract directly with the government. The contract provides that both parties will work toward the government taking ownership of the deworming program and that the parties will renegotiate the budget each year. The current annual cost of the program is about $700,000." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pg 3.
- "END Fund is optimistic that the Rwandan government will fund the deworming program in the future." **GiveWell's notes from a site visit to END Fund-funded programs in Kigali, Rwanda and Idjwi, Democratic Republic of the Congo, January 30 to February 2, 2017**, Pg 4.

66.

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67.

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68.

- Steps in the End Fund's grant management process from **END Fund Program Process Overview 2015**:
  - "Periodic Reports - Review periodic reports and cash requests as necessary to ensure IP is fulfilling conditions of PA, use Project Cycle Management approach and provide systematic feedback to IPs on performance; standard practice is for the END Fund to receive quarterly program updates from grantees" Pg 4.
  - "Substantive Involvement - PD to be in regular communication with IPs to discuss implementation issues and assist in any necessary decision making or technical guidance; communicate any material program variances to Senior Management Team so donor communications and financial impact can be assessed" Pg 4.

69.

- **Our intervention report** discusses this briefly.
- Other conversations and observations have reinforced our impression that administering deworming drugs is fairly straightforward.
- The WHO factsheet on STH: "The recommended medicines – albendazole (400 mg) and mebendazole (500 mg) – are effective, inexpensive and easy to administer by non-medical personnel (e.g. teachers)." **WHO STH factsheet**

70.

We have heard this several times in conversation with several groups.

71.

- "In Tanzania matters came to a head in places around Morogoro in 2008. Distribution in schools of tablets for schistosomiasis and soil-transmitted helminths provoked riots, which had to be contained by armed police. It became a significant national incident, and one of the consequences has been the delay in Tanzania adopting a fully integrated NTD programme, and the scaling back some existing drug distributions." **Allen and Parker 2011**, pg. 109.
- "From these reports a number of problems with the MDA were raised which included fear of side effects from the tablets, particularly following the mass hysteria and death in Blantyre and Rumphi respectively and may explain some of the geographic heterogeneity seen. Furthermore most districts reported that MDA occurred after standard 8 students had finished exams and left school, and due to having inadequate resources for drug distribution...The side-effects incident in Blantyre and death in Rumphi had a large effect on districts and with many district reports stating that after the incidence many families refused to participate." **SCI Malawi coverage survey 2012** Pgs 5, 21.

72.

"There was confusion on Wednesday in some public primary and secondary schools in Ogun State, over the administration of anti-worm tablets. Nigerian Tribune gathered that some students reportedly collapsed in the cause of administering the tablets on them. This resulted into rumour that spread like wildfire across the length and breadth of the state, as parents stormed various school to withdraw their wards. When the Nigerian Tribune visited Egba High School, Asero and Asero High School both in Abeokuta South Local Government Area of the state, some parents were sighted at the school gate, who had come to confirm the incident and probably withdraw their wards. There was calmness in both schools as students in the Senior Secondary Classes were said to be preparing for their examinations. Meanwhile, the Ogun State Government through the State Commissioner for Health, Dr Babatunde Ipaye, has denied any case as a result of the anti-worm drug. Ipaye in a statement made available to the Nigerian Tribune in Abeokuta, said that no pupil or student to the best of his knowledge had reacted to the drug in the state. He explained that the exercise was done by his Ministry in collaboration with Evidence Action." **Nigerian Tribune, "Panic in Ogun schools over deworm exercise," December 2017**

73.

We explain why we take this approach in **this blog post**.

74.

For example, if a grant was for $100,000 and there were 30,000 schistosomiasis and STH treatments delivered (30% of total treatments) and 70,000 other NTD treatments delivered, we would include $30,000 ($100,000 * 30%).

75.

See the individual country sheets in **this spreadsheet**, for example the sheet "Liberia," columns J to O.

76.
Cote d'Ivoire and World Food Programme. See **this spreadsheet**, sheet "(Added by GW) Direct Costs," rows 41 to 42.

77.
See **this spreadsheet**.

78.
The study assumes that government staff costs account for approximately 30% of the program's expenses. See **our review of SCI** for more.

79.
See **this spreadsheet**, sheet "Restricted donations."

80.
See **this spreadsheet**, sheet “Funds on hand and projected revenue,” cell B31.

81.
See **this spreadsheet**, sheet “Spending opportunities,” cell O8.

82.
See **this spreadsheet**, sheet “Spending opportunities,” cell O9.

83.
Comment provided by the END Fund in response to a draft of this page in September 2018.

84.
Notes and sources in **this spreadsheet**.

85.
Notes and sources in **this spreadsheet**.

86.
- See **this spreadsheet**, sheet "Funds on hand and projected revenue," cell C31.
- GiveWell maintains both a list of all top charities that meet our criteria and a recommendation for which charity or charities to give to in order to maximize the impact of additional donations, given the cost-effectiveness of remaining funding gaps. We estimate that the END Fund will receive about $200,000 from donors who use our top charity list but don't follow our recommendation for marginal donations, and included that in the $16.8 million total. However, we have not included the grant for $2,500,000 that we recommended Good Ventures make to the END Fund in November 2017 (see **this blog post**, section "Ranking funding gaps"). See above spreadsheet for details.

87.
See **this spreadsheet**, sheet "Funds on hand and projected revenue," row 32.

88.
See **this spreadsheet**, sheet "Funds on hand and projected revenue," row 33.

89.
See the portion of the END Fund’s 2016 and 2017 grant-making that supported deworming in **this spreadsheet**, sheet "Fungibility."

90.
See **this spreadsheet**, sheet "Spending opportunities," row 53.

91.
See **this spreadsheet**, sheet "Spending opportunities," cells O4, P4.

92.

- "The END Fund typically spends several million dollars per year on deworming funding opportunities that it was not aware of at the beginning of the year [...] It is very likely that unexpected funding opportunities will arise in the next year." **GiveWell's non-verbatim summary of a conversation with END Fund staff, October 17, 2016**, Pg 2.
- See **this spreadsheet**, sheet "Spending opportunities," rows 35-51.

93.

See **this spreadsheet**, sheet "Spending opportunities," cell O5. Note that 27% is the portion of total costs that are END Fund costs other than grant-making, so we multiply funds granted out by 137% so that funds granted out are 73% of the total.

94.

See **this spreadsheet**, sheet "Spending opportunities," cells O6, P6.

95.

WHO, Summary of global update on preventive chemotherapy implementation in 2016, Pg 590, Table 1.
WHO, Summary of global update on preventive chemotherapy implementation in 2015, Pg 456, Table 1.
WHO Weekly epidemiological record, 18 December 2015, Pg. 707, Table 1.