

2017 GiveWell cost-effectiveness analysis (CEA) — Version 5
Release notes

Summary

This was a large update that involved several major additions and changes. We released this version of the CEA simultaneously with our updated recommendations and reviews for year-end 2017. Among the major aspects of this release:

- We updated cost figures for most of our recommended charities.
- We added three charities to the CEA.
- We implemented a new process for adjusting cost-effectiveness estimates based on the expected behavior of other funders.
- We gave all individuals in the CEA an opportunity to change parameter values.

The table below shows how the median cost-effectiveness of each charity relative to GiveDirectly changed between Version 4 and Version 5 of our 2017 CEA:

Charity	Median [<i>charity</i>] vs. cash before	Median [<i>charity</i>] vs. cash after	Percentage change
Deworm the World	11.9x	12.4x	4.3%
SCI	5.1x	9.8x	93.3%
Sightsavers	3.7x	4.8x	29.6%
AMF	4.0x	6.0x	49.5%
Malaria Consortium	3.4x	6.6x	91.5%
Helen Keller International	n/a	8.9x	n/a
END Fund	n/a	4.2x	n/a
No Lean Season	n/a	4.9x	n/a
GiveDirectly	1.0x	1.0x	0.0%

Change 1: Renamed the *Personal values* tab to "*Moral weights*"

What changed? We renamed the tab titled "Personal Values" to "Moral weights".

Why did we make this change? In a previous release, we switched the tab name from "Moral weights" to "Personal values." We decided we preferred the original name and switched back.

How does the change affect the results? This change does not affect the results.

Change 2: Removed the anchoring value row on the *Moral weights* tab

What changed? The row at the top of the *Moral Weights* tab titled "Anchoring value—see the notes on each cell for details" was removed from the CEA.

Why did we make this change? Initially, this row was intended to give individuals an option to indicate an anchoring value and leave a cell note to explain how they went about assigning weights to each outcome accounted for on the *Moral weights* tab. This row wasn't used by many people, and we decided that individuals could use cell notes next to their names to provide the same information.

How does the change affect the results? This change does not affect the results.

Change 3: Changed a suggested input for the *Duration of long-term benefits of deworming* parameter

What changed? In the past, one of the suggested inputs for the *Duration of long-term benefits of deworming* parameter was 10 years. This was the lowest of the suggested input values. 10 years was intended to represent a very pessimistic reading of the results. The second round of the Kenya Life Panel Survey (KLPS-2) took place roughly 10 years after children in the study population of Miguel and Kremer 2004 (<http://dx.doi.org/10.1111/j.1468-0262.2004.00481.x>) were dewormed. We have now seen results of the KLPS-3 which took place about 5 years after the KLPS-2. Accordingly, we have updated the suggested input value to 15.

Why did we make this change? We recently saw preliminary, confidential results based on the latest KLPS-3 follow-up data.

How does the change affect the results? This change does not directly affect the results. However, the change may impact the values individuals choose to use for this parameter.

Change 4: Replicability adjustments renamed to internal validity adjustments

What changed? We renamed most of our parameters labeled "replicability adjustment" to "internal validity adjustment." The deworming replicability adjustment was not renamed since some individuals have historically used the parameter to capture both internal and external validity concerns.

Why did we make this change? We think the meaning of "internal validity" is easier to interpret.

How does the change affect the results? This change does not directly affect the results.

Change 5: New suggested inputs for *Treatment effect of deworming on ln(consumption)*

What changed? We recently reviewed a preliminary, confidential analysis by Ted Miguel and others that pools earnings data from the Kenya Life Panel Survey 2 (KLPS-2) and KLPS-3 to estimate the treatment effect of deworming following the Miguel and Kremer 2004 experiment. We were given permission to publish point estimates from this new analysis. Our best guess based on the new analysis is a treatment effect of a 0.143 unit increase in ln(consumption). Previously, our best guess was a 0.139 unit increase.

Why did we make this change? Relying on the new analysis allows us to make use of additional and more recent data.

How does the change affect the results? This change does not directly affect the results. However, the change may impact the values individuals choose to use for this parameter.

Change 6: Changed the *Proportion of deworming going to children* input value for SCI

What changed? We changed SCI's proportion of treatments going to children from 85% to 81%

Why did we make this change? We received new data.

How does the change affect the results?

Charity	Median [<i>charity</i>] vs. cash before	Median [<i>charity</i>] vs. cash after	Percentage change
SCI	5.1x	4.8x	-4.9%

Change 7: Changed the *Proportion of deworming going to children* input value for Sightsavers

What changed? We changed Sightsavers' proportion of treatments going to children from 85% to 100%

Why did we make this change? We believe that treatments going to adults have been excluded from our cost per treatment analysis. Accordingly, we assume 100% of Sightsavers treatments go to children.

How does the change affect the results?

Charity	Median [<i>charity</i>] vs. cash before	Median [<i>charity</i>] vs. cash after	Percentage change
Sightsavers	3.7x	4.3x	17.0%

Change 8: Updated country spending figures used to in our insecticide resistance adjustment

What changed? When calculating our insecticide resistance adjustment for nets, we assign weights to countries based on AMF spending. We updated this calculation to use newer spending figures.

Why did we make this change? We wanted the insecticide resistance calculation to make use of the newest spending figures.

How does this change affect the results?

Charity	Median [<i>charity</i>] vs. cash before	Median [<i>charity</i>] vs. cash after	Percentage change
AMF	4.0x	4.0x	-0.2%

Change 9: Added data from 2016 to the SMC CEA

What changed? We added 2016 data from the ACCESS-SMC program to the SMC CEA. This data included:

- Expenditures in 2016
- Target population sizes in 2016
- Coverage data from 2016
- Adherence data from 2016

The updated information on target populations and expenditures moved the estimated cost per treatment from \$5.68 to \$4.33 (a 24% decrease).

Why did we make this change? Previously, our CEA only drew on 2015 data from the ACCESS-SMC program. 2016 data recently became available.

How does this change affect the results?

Charity	Median [<i>charity</i>] vs. cash before	Median [<i>charity</i>] vs. cash after	Percentage change
Malaria Consortium	3.4x	4.8x	39.3%

Change 10: Used projected 2017-2020 treatment numbers to assign weights to each area considered in our calculation of Deworm the World's *Worm intensity adjustment*.

What changed? When calculating the worm intensity adjustment, we take a weighted average of the locations the charity has worked or plans to work in the future. Previously for the worm intensity adjustment for Deworm the World, the weights we used were based on a sum of past treatments and planned treatments. We are now using projected treatments by country for the period 2017-2020 for the weights in this calculation.

Why did we make this change? We want to estimate the marginal benefit of additional funding for Deworm the World. In some cases we believe that what the organization has done in the past is the best indication we have of what they will do in the future. In other cases, we believe that there the ways in which the organization's plans for the future differ from past work is large enough that it is better to rely on projected treatments, though there is a risk that projections will be accurate, we prefer this approach. We previously expected apply the principle of accounting for up to three years of past treatments and up to two years of projected treatments when assigning weights to each area considered in our worm intensity analysis, but decided in this case that it was a more accurate projection to use projected treatments only.

How does the change affect the results?

Charity	Previous suggested intensity adjustment	New suggested intensity adjustment	Percent change
Deworm the World	16.4%	19.6%	19.4%

Change 11: Added worm prevalence and intensity data for Deworm the World's potential work in Pakistan

What changed? We added prevalence and intensity data from Pakistan. The source of our estimated prevalence and intensity figures is unpublished.

Why did we make this change? If it receives the funding to do so, Deworm the World may fund a large number of treatments in Pakistan in coming years.

How does the change affect the results?

Charity	Previous suggested intensity adjustment	New suggested intensity adjustment	Percent change
Deworm the World	19.6%	18.0%	-8.1%

Change 12: Added worm prevalence and intensity for Deworm the World's potential work in Nigeria

What changed? We began to account for the worm prevalence and intensity in Nigeria when calculating our worm intensity adjustment for Deworm the World. The source of our estimated prevalence and intensity figures is unpublished.

Why did we make this change? If it receives the funding to do so, Deworm the World may fund a large number of treatments in Nigeria in coming years.

How does the change affect the results?

Charity	Previous suggested intensity adjustment	New suggested intensity adjustment	Percent change
Deworm the World	18.0%	15.2%	-15.9%

The table below shows how Deworm the World's cost-effectiveness changed when moving from the adjustment value used in the last published CEA (19.61%) to the new adjustment value (15.66%):

Charity	Median [<i>charity</i>] vs. cash before	Median [<i>charity</i>] vs. cash after	Percentage change
Deworm the World	11.9x	11.0x	-7.7%

Change 13: Added END Fund to the *Worm intensity* workbook

What changed? We added data from the END Fund to the worm intensity workbook.

Why did we make this change? A later step in this update involves adding the END Fund to the CEA. We wanted to be able to incorporate prevalence data from the END Fund into the CEA.

How does the change affect the results? The END Fund was not in the CEA, so this change has no effect on the results.

Change 14: Calculated a new intensity adjustment for Sightsavers

What changed? We removed our old Sightsavers intensity data and calculated new worm intensity adjustments based on an analysis of data we recently received.

Why did we make this change? Our old worm intensity adjustment calculation for Sightsavers was based on very limited data. These data may not have accurately reflected worm prevalence in areas where Sightsavers was treating. Due to the lack of reliable data, we use the worm

intensity adjustment calculated for SCI as the parameter for Sightsavers' worm intensity adjustment.

How does the change affect the results? None of the calculated worm intensity adjustments were used directly in the CEA. See the next change for more details.

Change 15: Began making ad hoc modifications to determine worm intensity adjustment values used in the CEA

What changed? We began informally accounting for factors not captured in our calculations used to estimate worm intensity in areas where our deworming charities operate. As a result, our worm intensity adjustments became higher (implying higher worm burdens than suggested by our calculations).

Why did we make this change? Several factors are not accounted for in our calculations:

- *Schistosomiasis haematobium* infections. This is because *Schistosomiasis haematobium* was not present in the context studied in Miguel and Kremer 2004.
- Questions about the reliability of our prevalence and intensity data
- Concerns related to our use of a statistical model to estimate worm intensity based on worm prevalence data
- Using data from only some of the countries in which a charity works to estimate worm burden across all locations it works, due to lack of data from other locations

In particular, we had low confidence in our calculated worm intensity adjustments for Sightsavers and the END Fund and adjusted them upward in the direction of the adjustments for SCI and Deworm the World, where we have more complete data. We also adjusted them upward because of the relatively high prevalence of *Schistosomiasis haematobium*. We made a similar ad hoc upward adjustment to the figure for SCI due to *Schistosomiasis haematobium*.

How does the change affect the results?

Intensity adjustments:

Charity	Previous suggested intensity adjustment	New suggested intensity adjustment	Percent change
SCI	11.4%	15.0%	24%
Sightsavers ¹	11.4%	8.0%	-42%
END Fund	N/A	8.0%	N/A

¹ This row captures the effect of moving from our previous worm intensity adjustment for Sightsavers (based on worm burdens in SCI's programs) to our new intensity adjustment for Sightsavers.

[Charity] vs. cash:

Charity	Median [charity] vs. cash before	Median [charity] vs. cash after	Percentage change
SCI	4.8x	6.4x	31.9%
Sightsavers	4.3x	3.1x	-29.6%

Change 16: Implemented a new process to account for how funding GiveWell recommended charities influence other funders.

What changed? Funding GiveWell recommended charities may influence how other entities (e.g. governments) spend money. We use "leverage" to refer to a situation when funding one of our recommended charities causes other entities to spend more on the program that the charity works on than they otherwise would have. We use the word "funging" to refer to a situation where funding one of our recommended charities causes other entities to spend less on the program that the charity works on than they otherwise would have.

As a part of this change, we removed all cost figures from the *Parameters* tab. Now for all charities, we use cost figures that reflect the total cost of a program (i.e. we include costs paid by governments and other philanthropic entities). For each charity involved in programs that receive resources from multiple sources, we define three possible outcomes and assign a probability to each one:

1. A government (with domestic resources or with funding from the Global Fund to fight AIDS, Tuberculosis, and Malaria) would fully fund a program in the absence of a charity.
2. In the absence of a charity, a government would continue the same level of funding for a program.
3. A program would go unfunded in the absence of a charity.

Based on the probabilities assigned to each outcome and a rough estimate about the counterfactual value of funds, we estimate how much more or less cost-effective a program is expected to be after accounting for possible leverage and funging.

Why did we make this change? In our old approach, we had to make many simplifying assumptions about the behavior of other funders. While the new approach has limitations, we expect it to provide a better estimate of how funding our recommended charities affects the behavior of other funders.

How does the change affect the results?

Charity	Median [charity] vs. cash before	Median [charity] vs. cash after	Percentage change
Deworm the World	11.0x	14.3x	30.4%
SCI	6.4x	8.0x	25.4%
Sightsavers ²	3.1x	4.2x	38.9%
AMF	4.0x	4.7x	16.0%
Malaria Consortium	4.8x	5.1x	5.9%

Change 17: Updated cost figures for three of our top charities

What changed? We added updated cost estimates for the Against Malaria Foundation, Deworm the World, and SCI.

Why did we make this change? We want our CEA to be based on the most up-to-date information.

How does the change affect the results?

Charity	Median [charity] vs. cash before	Median [charity] vs. cash after	Percentage change
Deworm the World	14.3x	11.2x	-21.6%
SCI	8.0x	8.6x	8.5%
AMF	4.7x	5.2x	11.4%
Sightsavers ³	4.2x	4.2x	-1.2%
Malaria Consortium	5.1x	5.1x	1.0%

² As a part of this change, we adjusted how we handle Sightsavers' cost per treatment. In Version 4 of the 2017 CEA, Sightsavers' cost per treatment was a user-selected value. Since our estimate of Sightsavers' cost per treatment was based on limited data, many individuals used SCI's cost per treatment as a proxy for Sightsavers' cost per treatment. In this step, we moved Sightsavers' cost per treatment from the *Parameters* tab and used a new default cost per treatment figure that comes from GiveWell's 2017 analysis of Sightsavers' cost per treatment.

³ The cost-effectiveness of Sightsavers and Malaria Consortium moved slightly because parts of our leverage calculations for those organizations account for how cost-effective certain types of spending are relative to AMF.

Change 18: Added Helen Keller International, the END Fund, and No Lean Season to the CEA
What changed? We added CEAs for Helen Keller International, the END Fund, and No Lean Season.

Why did we make this change? Helen Keller International and No Lean Season were made GiveWell top charities at the time of this CEA release. In the past, we did not have enough information and data from the END Fund to make a CEA that would be informative for us. Information we have recently received allowed us to make a higher quality END Fund CEA than we could have before.

How does the change affect the results? Cost-effectiveness estimates for each of these organizations can be seen in the table at the end of this document. Adding these organizations to the CEA did not affect the results for any other charities.

Change 19: Solicited new input values from CEA contributors and added a new CEA contributor
What changed? We allowed CEA contributors to update their values for parameters and moral weights. Individuals contributed initial parameter values for the charities added in this update. We also added Caitlin McGugan, a Senior Fellow at GiveWell, as a new CEA contributor.

Why did we make this change? This update involved adding charities to the CEA and updating suggested parameter inputs. We asked CEA contributors to input new values for these parameters. Additionally, we want to encourage individuals involved in GiveWell's research to periodically re-engage with all aspects of GiveWell's cost-effectiveness analysis and update their CEA input values as they see fit.

How does the change affect the results?

Charity	Median [<i>charity</i>] vs. cash before	Median [<i>charity</i>] vs. cash after	Percentage change
Deworm the World	11.2x	12.4x	10.4%
SCI	8.6x	9.8x	13.3%
Sightsavers	4.2x	4.8x	14.8%
AMF	5.2x	6.0x	15.9%
Malaria Consortium	5.1x	6.6x	28.6%
Helen Keller International	n/a	8.9x	n/a
END Fund	n/a	4.2x	n/a
No Lean Season	n/a	4.9x	n/a
GiveDirectly	1.0x	1.0x	0.0%