Notes on Givewell’s Cost Effectiveness Analysis on Deworming

29 May, 2019

# Do not run data set on git/github until privacy has been cleared  
################  
##### Data   
################  
################  
##### Research  
################  
################  
##### Guess work   
################  
################  
##### Notes:  
################  
### Source ----> Input ----> Model ----> Policy Estimates (output)  
### (\_so) (\_in) (\_mo) (\_pe)  
### values functions functions values  
### & values & values  
### arguments in functions should used "\_var" and functions should "\_f"  
#invisible( list2env(call\_params\_f(),.GlobalEnv) )

# Key policy estimates for policy makers

# Methodology

## Main Equation (the model)

* is the costs per person dewormed.
* is the benefits per person dewormed.
* is a factor to account for leverage/fudging [not reviewed in this excercise]

## Sub components:

We begin by describing the underlying analysis behind the costs. Through this excercise we use the following notation the letters denote components in percentages, monetary units (US dollars and local currency) and quantities respectively. Each new element will be tracked using a sub-index, and supra-indecis will be used to track groups, like geographies, time, and other catergories. For example represents the second quantity described in this analysis (total adjusted number childred dewormed per year) in location . At the end of each description we will show in parenthesis the original location of the parameter in GiveWell’s spreadsheets (using the notation file, sheet number, cell[[1]](#footnote-24)).

### Costs (“”)

# - inputs: tax\_rev\_init\_mo, top\_tax\_base\_in  
# - outputs: total\_rev\_pe

* : Weight for the weighted average (F1, 2, H16).
* : Total cost per child, per year in region (F1, 2, C:G16).
* : is the proportion of the costs that are paid by the Deworm the World initiative (DtW from now on) (F1, 2, C:G6).
* : estimated number of treatments delivered and commited (F1, 2, C:G7).
* : Total cost of DtW across all years (F1, 1, Z39).
* : Cost of donated drugs per year (F1, 1, Z13).
* : Additional partner costs (other than drugs) (F1, 1, Z50).
* : Goverment financial costs per year (F1, 1, X41).
* : Goverment staff value time (F1, 2, N42).
* : total adjusted children dewormed per year (F1, 1, Z15).

and are defined in terms of some of the previous elements.

* : DtW costs per children per year (F1, 2, C:G14).

The total costs of DtW across all years () is aggregated across years, regions (within country), type of cost activity (policy & advocacy, prevalence surveys, drug procurement & management, training & distribution, public mobilization & community sensitization, monitoring & evaluation, program management, giveWell added costs[[2]](#footnote-26)) and month (February or August)

* : costs by year, location, region, activity, and month. (F1, [r+m+y], E15:21)

Total number of adjusted children () is computed as follows:

$$ $$

* , and (F1, 4, B19 and F1, [country] num of children (C), AB:AC34)
* : Actual treatment rounds per year (F1, C, [rmt]25)
* : Adjustment factor (F1, [country])

### Benefits (“”)

# - inputs: tax\_rev\_init\_mo, top\_tax\_base\_in  
# - outputs: total\_rev\_pe

# Main results

# - inputs: tax\_rev\_init\_mo, top\_tax\_base\_in  
# - outputs: total\_rev\_pe

# Montecarlo simulations

# Draws  
# Compute inputs  
# Compute model  
# Run sims

# Sensitivity Analysis

1. F1 = GiveWell's estimates of Deworm the World's cost per child dewormed per year [2018]  
   F2 = 2019 GiveWell Cost-effectiveness Analysis — Version 3  
   F3 = 2018 Worm Intensity Workbook — Version 1 Sheets are named the first time and numbered thereafter. [↑](#footnote-ref-24)
2. to account for several high-level activities Deworm the World does not include in its cost per treatment analyses, as they are not directly related to any particular program [↑](#footnote-ref-26)