Reviewer's report

Title: Profiling the best-performing community medicine distributors for mass drug administration: a comprehensive, data-driven analysis of treatment for schistosomiasis, lymphatic filariasis, and soil-transmitted helminths in Uganda

Version: 0 Date: 02 Jan 2019

Reviewer: Michael French

Reviewer's report:

I found this to be a very interesting paper investigating an important area affecting MDA coverage in mature (and presumably also non-mature) programmes.

The treatment coverage recorded in this district was significantly lower than hoped, and it is important to understand the reasons feeding into that.

The paper highlights the interesting results around those who involved their friendship groups in MDA.

Comments

* Methods - the authors mention the area is endemic for SCH, is it also endemic for LF? (presumably it is). Do you have any information on the number of rounds of treatment the area has received?

* Methods - Make clear what the different treatment groups are for SCH / LF in this district. Is it all individuals over 12/24 months for LF? Is it SAC and adults for SCH, or just SAC? Some more information is given in the Variables section but please make explicit. Were adults really treated for PZQ in this area?

* Methods - more information on the sampling approach would be welcomed. How was the sample size calculated? With what power? Or was it a convenience sampling approach. Why were 40 households per village selected?

* Methods - What were the sums of money that CMDs were asked to choose between? How do those amounts relate to average earnings? (page 4, lines 29-32). This sounds like an interesting approach; more information would be useful for the reader for their knowledge and to be able to replicate

* Methods - Page 4, line 41-44. How was formal status defined?

* Results - does treatment coverage (and factors that affect it) vary by drug?
* Results - How do the figures 44.89% (P5, line 19) and 26.08% (P5, lines 25) relate? Should they not be the same?

* Results (P6, lines 22-25, and P7, lines 45-50). Do you think these results are due to being Female / fishermen, or is there something about the structure of these communities which leads to changes in coverage? What is the cause and effect relationship for females CMDs achieving lower coverage?

* Results (P7, lines 17-18). Can the information about treatment rates being reliant on CMD characteristics rather than recipient willingness to ingest medicines be brought into the main paper? This feels like a really important result, as it is often assumed that fear of side-effects is a strong barrier to treatment. It would be great to highlight here.

* Results (P7, lines 18-24). Here you state that only 13.5% of CMDs were classed as altruistic. But earlier you talk about how CMDs encounter significant opportunity costs by acting as CMDs. So, in effect, are more of them really altruistic?

Minor

* P7, line 6 - Aim for LF is Elimination as a public health problem, not pathogen elimination.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Not applicable

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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