Reviewer's report

Title: Active Trachoma Two Years After Three Rounds of Azithromycin Mass Treatment in Gurage Zone, Cheha District

Version: 1 Date: 13 May 2013

Reviewer: Jonathan King

Reviewer's report:

The authors have presented the results of a cluster random survey to determine the prevalence of trachoma clinical signs in 1 district of Ethiopia after receiving 3 annual mass distributions of azithromycin as recommended by WHO. The authors should be commended on undertaking the recommended evaluation survey and submitting the results for publication in the scientific literature. However, major revisions are necessary to clarify the purpose, the exact methodology employed and present all results that could be useful to the trachoma community.

Major Revisions:

1. The conclusion that the interventions have resulted in >40% decrease in trachoma is not justified as presented. The authors must present the data and methods from the baseline survey that would allow the reader to come to the same conclusion.

2. The sampling, sample size calculations, protocol and definitions of indicators must be clearly stated. Specifically: target age-group upon which the sample size was determined, primary sampling unit, process for random selection of clusters, households, and individuals. The current sampling methods as stated are somewhat ambiguous and conflicting (see more specific questions in pdf).

3. How was the quality (reliability) of the trachoma grading ensured if more than trachoma grader was utilized?

4. Confidence limits around point estimates of all indicators should be presented and adjusted for clustering.

5. Antibiotic coverage estimates must account for the number of possible times the child could have taken the antibiotic. As presented, these results are not informative.

6. How do the authors explain a mean age of almost 7 years when the target was 1-9 years of age? How might this affect the estimate of active trachoma observed if active trachoma was significantly higher in the 2-5 year age group? Currently, as presented in table 1, the chi-square does not show statistical significance between groups of children (i.e. 2-5 versus others). If the authors did additional statistical tests, please present these results.
7. Since there was no testing for C. trachomatis infection, the authors must revise their conclusions about infection.

8. The age-specific prevalence of trachoma clinical signs (TF, TI, TS, and TT) could be presented and would be interesting, even in the absence of baseline data.

9. The authors should discuss the uniquely high prevalence of scarring among children observed in the study. Was this advanced scars, subtle scarring? Are there any photos to document?

10. The authors should explain what they mean about exposure to dirt increased risk.

11. The authors must discuss the study limitations.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.