Reviewer’s report

Title: Intervention of a new road safety policy was effective in the reduction of total accidents and fatalities in Ethiopia: An interrupted time series study

Version: 1 Date: 6 December 2013

Reviewer: Caroline Ariën

Reviewer’s report:

The aim of the paper is very relevant. However, I recommend a major revision before publishing the paper. Please find my questions and recommendations for improvement below.

Major Compulsory Revisions

1. The background is clear, however I would like to see more elaboration on how the road safety policy was put into operation. For instance, was it only an introduction of a new and/or higher penalty rate? Or did the enforcement (type and frequency) also change compared to the before-period? Did the new road safety police apply to all the roads in the 16 districts or did it only apply to the road under investigation?

2. Although the authors mention the possible problems of regression to the mean, over fitting and under reporting, I think it is important to tackle these problems better by for instance taking only accidents into account with series injuries and fatalities and by comparing the accident trend of the road under investigation with the general trend in the 16 districts. The other roads in the district serve as a comparison location, which can take the impact of mass media interventions into account.

3. Please mention how many accidents were excluded due to a lack of relevant information. Which information was missing? Do you have an idea of the size of the underreporting of accidents?

4. Please explain why you use monthly observations. Can you please refer to other studies which also use accident data on a monthly basis? According to my opinion you should use accidents of at least 3 successive years to avoid problems with regression to the mean, which was correctly done. According to this reasoning, it feels strange to use accident data on a monthly basis.

5. The results described in the paper deal with the effect on traffic safety after one year of implementation. Please describe also the effect over a longer time period.

6. The paragraph “Study design” is very short. Please elaborate more on this and give some references of other studies which uses this technique also.

7. The paragraph “Statistical analysis” is very hard to follow. This might be related to the fact that I am not a statistician, although I have broad basic knowledge of statistics. I hope the other reviewers can advise you about how to
improve this paragraph.

Minor Essential Revisions
1. The reference in the text to figure 1 is missing.
2. Please proofread the article because several conjunctions and articles are missing. For instance:
   a. Study setting: “The two lane road with an average width OF 8 meters …”
   b. Statistical analysis: “A time trend was used to control the confounding effect of THE underlying trend … the first observation and continued to THE last observation.”
   c. Discussion: “… after one year OF road safety policy implementation, THE rate of fatalities was …”

Discretionary Revisions
1. Abstract is quite long. Maybe you can rewrite it more to the point.
2. In the discussion session, the authors mention that the police interventions for speeding and impaired driving was weak because of a lack of appropriate tools. Do the authors have data concerning the police intervention (such as how many interventions and what was the focus of the intervention)? If available, do you see a relationship between for instance the frequency of the interventions and traffic safety?

Level of interest: An article of importance in its field

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

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests