Reviewer’s report

Title: The association between travel time to health facilities and childhood vaccine coverage in rural Ethiopia. A community based cross sectional study.

Version: 2 Date: 18 March 2012

Reviewer: Christopher John Clements

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This study looks at the association between distance a family has to travel to a health post and infant vaccine coverage. It is a study with a relatively simple and appropriate design (albeit the calculation of travel time being very sophisticated). It looks at an important issue in public health, especially for Africa. The description of the method and the results are clearly written and appropriate.

Major essential revisions

1. The main concern I have is for the discussion last paragraph – arguably the most important in the article (page 12). The authors state that: “High levels of vaccination coverage can be achieved in remote area ("s" is missing) for children with poor access to health facilities, at least in early infancy.” This is not a true generalization. Actually it is very hard to achieve high coverage in remote areas. The point of the article (as I understand it) is that higher coverage can be achieved if access to health services is improved by reducing distances/travel time for mothers to reach vaccination sites. The next sentence: “However, problems with access to other infant vaccines remain” is confusing and does not logically follow the previous one. The sentence could usefully be deleted. The next sentence: “Outreach programs and supplemental immunisation activities such as national immunisation days should be considered for other vaccines such as DTP and BCG” would be more accurate if it generalized for all vaccines e.g. “Where appropriate, outreach programs and supplemental immunisation activities should also be considered for raising coverage”.

Minor essential revisions

1. The age range of infants surveyed was 12-59 months. I assume this is because the on-going survey that this was a part of wanted to include this age-range. Normally coverage surveys restrict the age range to 12-23 months. By extending the range to 59 months, the study has included late doses (outside the scheduled age) in its estimate of coverage – this has the effect of inflating coverage by including late doses. While this does not invalidate the study, it might conceal a real difference in the age at which infants are getting immunized – do mothers, for instance, travel more willingly with a younger or alder child? In terms of vaccine coverage levels, it is actively misleading, but that is not the focus of the study. It would be good to see a brief acknowledgement of this point in the text.
Some minor points:
Page 4 line 6. EPI stands for the Expanded Programme on Immunization.
Page 4 line 15 mins should be written in full i.e. minutes.
Page 5 the immunization schedule is not described in generally accepted terms. What is called DTP is actually “DTP-containing vaccine” or “pentavalent vaccine” as it contains five antigens. Polio vaccine should be described as oral polio vaccine (OPV) to distinguish it from IPV. It would be appropriate to mention here that OPV and measles vaccines are also delivered by supplemental immunization activities.
Page 11 line 16 too many “to”s
Page 12 Competing interests should be competing interests.
References: some inaccuracies eg ref 11 and ref 20. The protocol is to name only six authors and to state “et al” for any more than 6. This is not adhered to.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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