Reviewer's report

Title: Intervene before leaving: clustered lot quality assurance sampling to monitor vaccination coverage at health district level before the end of a yellow fever and measles vaccination campaign in Sierra Leone in 2009

Version: 1 Date: 4 April 2012

Reviewer: Banu Cakir

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Dear Editor;

I have read the manuscript entitled “Intervene before leaving: clustered lot quality assurance sampling to monitor vaccination coverage at health district level before the end of a yellow fever and measles vaccination campaign in Sierra Leone in 2009”. I understand that the authors have revised the their earlier manuscript 'Clustered Lot Quality Assurance Sampling and Cluster-Sample Surveys: two complementary methods to monitor and evaluate a yellow fever and measles vaccination campaign at health district level in Sierra Leone in 2009" and have submitted the revised version.

Vaccination coverage studies are quite popular, in developing countries in particular and, thus, the topic could be of interest to many readers. I personally believe that the C-LQAS could be quite effective in timely monitoring of vaccination campaings, and to efficiently use resources targeting at the priority areas with unacceptably low rates. The manuscript introduces it as a tool for early detection of the progress of a vaccination survey with regards to reaching targeted coverage levels, rather than as a method to estimate coverage following the completion of a campaign. The introduced model of use may lead to more efficient use of resources and thus, is important to share with readers.

In comparison to the earlier version of the manuscript and with reards to my own comments:

1) The revised version seems to delete many paragraphs that caused a confusion in understanding the underlying theme of the paper, and did a good job in introducing C-LQAS as a method to investigate vaccination coverage even before leaving the region, to enable mop-up activities in a timely manner.

2) The authors added some detail on “variation of alpha and beta values in C-LQAS methodology according to the hypothesised distribution of coverage in
the clusters compared with the mean coverage in the entire lot" - which was missing in the earlier version.

3) I found Figure 1 unnecessary, yet, does not need to be deleted, if page limits are appropriate.

4) Limitations of the study is discussed properly in the revised text.

5) The authors discuss DEFF and its potential affect on conclusions on the vaccination coverage rates. Yet, it is not clear to me how they used this in comparing coverage rates based on C-LQAS and CS after the survey (Tables 3 and 4). How are the confidence intervals on Tables 3 and 4 are calculated? Did the authors make any correction for design effects in the C-LQAS phase or for CS, or both? Some detail is needed in explaining Tables 3 and 4 and how DEFF was used in comparative analyses.

6) Lastly, the scientific language of the manuscript could be improved. There are unnecessarily long sentences, it is hard to follow the text. Some revisions are suggested on the original document, and is attached.

**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