Reviewer’s report

Title: inSCALE cluster randomised trial evaluating the effect of innovative motivation and supervision approaches on community health worker performance and retention in Uganda and Mozambique: Intervention and evaluation design

Version: 2 Date: 18 January 2015

Reviewer: Audrey Prost

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This is an outstanding protocol for two cluster randomized controlled trials of interventions to improve appropriate care-seeking for childhood illnesses through innovations to increase community health worker performance and retention in Uganda and Mozambique. I strongly recommend it for publication in Trials.

1. Will the study design adequately test the hypothesis?
   Yes

2. Are sufficient details provided to allow replication of the work or comparison with related analyses: if not, what is missing?
   Yes

3. Is the planned statistical analysis appropriate?
   Yes, with the caveats outlined below in points 6.2 and 6.3.

4. Do the figures appear to be genuine, i.e. without evidence of manipulation?
   Yes.

5. Is the writing acceptable?
   Yes, the protocol is well written.

I wish to offer the suggestions outline below.

6. Major essential revisions

   6.1 Enhanced description of the Uganda’s community-supported approach through village health clubs and its alternative pathways to improve care-seeking for children: the technology-based (mHealth) intervention, trial design and analytical plans are well described. Uganda’s Village Health Clubs is less well described in the text and Table 2, and its contents are only slightly clearer in the conceptual framework figure. This intervention’s stated aim is to enhance the value placed on CHWs and their activities by other community members. However the authors state that Village Health Clubs will undertake a cycle of
participatory learning and action in which they will identify common child health problems. If this is the case, their activities could (hopefully) lead to substantial engagement of community members with child health, over and beyond their relationship with community health workers. In this scenario, improved care-seeking will not only be due to increased CHW motivation and retention, but also to enhanced community knowledge and action for child health. I would encourage the authors to describe/acknowledge this pathway in Figure 1.

6.2 Clarifying the nature of the primary outcome: On p.10 the authors state the primary outcome for both trials is “the change in carer-reported appropriate treatment for fever, diarrhoea and pneumonia in children in households receiving the intervention(s) compared to those in areas with routine iCCM (‘control’ households).” Could the authors clarify whether they mean a change from baseline, and if not, change from what? Or do they intend to compare care-seeking between trial arms in the endline survey?

6.3 Addressing multiple hypothesis testing: The authors should specify how they might allow for multiple hypothesis testing as their primary outcome actually relates to three diseases. Do they intend to analyse data for each of these separately and if so what is their plan to address multiple hypothesis testing?

Minor essential revisions:

1. Add full reference to Liu et al. 2014
2. Change CHW’s to CHWs and paper to article
3. References 13 and 14 need to be given in full.
4. On p.9, add references for "Prevalence values for FDP in the sites were based on estimates from recent Demographic and Health Surveys, Malaria Indicator Surveys and in the case of Mozambique an Integrated Health Systems and Child Friendly District Survey by UNICEF".
5. The discussion section is really an outline of public engagement and dissemination activities and could simply be labeled as such.
6. Please check the formatting of the conceptual framework figure as it is currently largely illegible.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

I am a colleague of Dr Daniel Strachan and Dr Zelee Hill, but I do not believe that this has affected by review of this article.