Reviewer’s report

Title: Are vaccination programmes delivered by lay health workers cost-effective? A systematic review

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Reviewer: Sara Bennett

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“Are vaccination programmes delivered by lay health workers cost-effective? A systematic review” Corluka et al

General Comments

Overall this is a well conducted and well written review of an important topic. With the renaissance of primary health care, combined with the shortfalls in the health workforce in many low income countries, policy makers are increasingly interested in exploring the options of working through lay health workers to achieve health goals, and until now the evidence about the cost-effectiveness of this strategy has been scattered. Accordingly, I would support the publication of this review.

The article is largely carefully written and balanced and the standard of writing is high.

My criticisms concern fairly specific issues within the overall structure and focus of the paper which I believe could be relatively easily addressed by the authors.

Major Essential Revisions

First, I found the sections of the paper which addressed “new institutional economics” and sustainability the least convincing parts of the paper. While there are important policy issues within these spheres with respect to the cost-effectiveness of lay health workers, I do not believe that the paper clearly and concretely communicated them. In some of these sections the paper seemed more concerned to provide a critique of cost-effectiveness analysis techniques rather than a practically rooted assessment of lay health workers and their cost-effectiveness. I would suggest that prior to publication the authors re-write these aspects of the paper so that the focus is very clearly on the cost-effectiveness of lay health workers (rather than a more general discussion of the need to incorporate institutional economics into cost-effectiveness analysis).

Specific suggestions regarding this are given in the specific comments below.

Second, the diversity of the interventions uncovered in the included papers makes it difficult to synthesize the data on cost-effectiveness in any meaningful manner. This is something that the authors can do little about. However I would encourage them to think further about how best to structure the rather long results section (pg 9-14) which goes through each study individually and
describes the nature of the intervention and the cost-effectiveness findings. For example, it might be feasible to cluster studies according to the role that LHWs played (were they directly administering immunizations, or was their role to canvass and persuade people to get vaccinated). Some way of structuring this information in a slightly more synthetic manner might both make it easier to read, and perhaps offer slightly greater meaning than currently

Somewhat relatedly, I found the paper quite long and believe that its length could be cut a little – partly by getting rid of some of the more theoretical discussions of new institutional economics, and partly by further synthesizing (or moving to tables this descriptive part of the results section.

Minor essential revisions

1. Pg 5 – I did not find the discussion of affordability or financial sustainability very illuminating. Often affordability is used to focus in particular on the household side, although it obviously could be used as referenced here [ref 10], but I found the concept not very clear. When there are multiple funders of a health programme, some may become less or more important over time, but the programme can still be sustainable. Further I wondered why there was not a clearer discussion of cost-effectiveness (given the title of the article). For government the question of cost-effectiveness, and whether the intervention is more or less cost-effective than alternative ones, is perhaps key. Also at least some of the interest in LHW programmes is that they are sometimes perceived to be cheaper than working through regular health staff. I think it would be helpful to state this plainly.

2. Pg5 – institutional economics – similarly, further down the same page there is a rather vague discussion about institutional economics and its relevance to this question. It was not clear what you were trying to say, and the example provided at the end of the para (top pg 6) seems like an example of economies of scope – not of the elusive institutional dimensions. I think you would be better off focusing in on a few elements of LHW programmes where institutional issues are important – for example, as you point out later, LHW programmes may help build communities and intensify social capital; to what extent has this been examined by evaluations? At one point later on you mention transaction costs – they may be important to LHW programmes, but I could see them cutting in a number of different directions, is there anything specific that you would like to analyse here?

3. Pg 7, objective 3 is not clear – it implies that affordability and sustainability may contribute to the costs and cost-effectiveness of LHWs?? I would try to simplify and state more clearly what you are trying to do here. Maybe you are simply trying to assess the affordability and sustainability of LHW vaccination programmes based on the evidence available to you.

4. I would suggest placing the QUORUM chart further down next to the results section that describes the process – the chart is not entirely clear on its own.

5. Pg 10, insert a sentence signalling that the first three studies described are cost-effectiveness studies. It would be helpful in the text if you could consistently identify the country where the study was done.
6. Calderon-Ortiz – appears to be reported in N$ whereas all other studies are in US$.

7. I found the section beginning on pg 19 on LHWs and institutional economics unconvincing – partly because you have not done a very good job at defining institutional economics (which after all is a large field with lots of different sub-fields), so the key points in the analysis were obscure. I think it would be very legitimate for the paper (indeed important) for it to discuss the broader (largely unquantified) benefits of LHW programmes in terms of building community solidarity, community development etc. But the examples actually provided in this section were not clear. The reference to transaction costs was rather mystifying and I am not convinced that the broader discussion about conventional versus less conventional economic evaluations strengthens the paper.

8. The section on Sustainability was slightly better than the preceding section, but also rather muddled. There is one very clear question about at what point in the life of the programme was the evaluation and costing conducted. This seems an important issue that is worth some discussion in terms of limitations of the study – but is not really about sustainability. Sustainability is a broad concept that encompasses financial sustainability but also a variety of other factors – political commitment, community demand, institutional capacity to deliver. I would suggest that while all of these are important, with the exception of financial sustainability they are a bit of distraction from your core focus on cost-effectiveness of programmes. I believe that if you wanted to do an analysis of the sustainability of LHW vaccination programmes, then your approach, data extraction etc, would look different from what you have reported in this paper. Accordingly, I would suggest that you more narrowly focus this section of the paper, reporting simply on studies that have explored questions of financial sustainability (while acknowledging that other aspects of sustainability are also important).

9. Box 2 – recommendations for future research. Does your third bullet imply multi-country studies?? Final bullet, I am not sure what you mean by “assessing the impact on cost-effectiveness of using an institutional economics framework”? Are you suggesting that issues of implicit contracts and informational asymmetries are addressed, that governance issues are analysed, that a transaction cost analysis is conducted, that assessments of institutional evolution be undertaken? For this recommendation to have any meaning it needs to be much more sharply specified.

Level of interest: An article of importance 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 declare that I have no competing interests