Reviewer's report

Title: A cost effectiveness study of caesarean-section deliveries by clinical officers, general practitioners and obstetricians in Burkina Faso

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Reviewer: Margaret Elizabeth Kruk

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Human Resources for Health review
Margaret E. Kruk

Hounton et al: A cost effectiveness study of caesarean-section deliveries by clinical officers, general practitioners and obstetricians in Burkina Faso

This paper addresses a very important question using data from Burkina Faso, where the policy implications of this analysis would be very pertinent. The major weakness of this paper lies in lack of specificity of the methods section. The study would be impossible to replicate (or even fully understand) given the current description of the costing approach. Other comments:

Major compulsory comments

Introduction. There is no discussion of neonatal mortality in the introduction or in the methods, yet this is used to measure program effectiveness.

Page 4: Where did cost data come from? No detail on sources is given. Text on page 5 suggests that personnel time was allocated to arrive at personnel costs per surgery but this is the only cost input described (and itself needs more detail). Please also provide more detail on sources of other operating cost inputs: drugs, supplies, etc. How were longer hospital stays costs—average per day cost or ingredients-derived cost?

Page 5: Description of survey (on c-section) should be added.

Page 5: Although the analysis is from a health ministry point of view, the authors should comment on the cost of the surgical kit (borne by patients) as this is obviously a crucial (and likely expensive) input and has equity and access to care implications. It will not affect the analysis as it is required for all three cadres being assessed.

Page 7: Please spell out assumptions for this modeling exercise. Please also do it as a one-way sensitivity analysis showing the additional costs of the various components of a new training program. The sensitivity analysis should be very clear on what is being costed.

Pages 8 and 9: There is nothing in the discussion about productivity differences (c/s per provider per year) between the three cadres although these a perhaps
the major input into the costing exercise. What are the reasons for any productivity differences? How could these be addressed? Different levels of productivity should also be modeled in the sensitivity analysis.

Table 2: Please show currency (mentioned in text, relevant to show again here). There are lots of key assumptions made in the costing here that should be detailed in the methods section. For example, why is basic clinical officers training discounted over 30 years but clinical officers training over 20 years? Do physicians trained in essential surgery stop practicing surgery after 5 years? These inputs can have large effects on the outcome and should be discussed/justified in methods.

Tables 3 and 4: The total cost of surgical team is unclear—per what? This needs to be better explained in methods also. The cost per c-section is clear but presumably productivity issues influence total costs.

1. Is the question posed by the authors new and well defined? yes

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work? This is the weakest section of the paper.

3. Are the data sound and well controlled? Difficult to say without a much clearer description of sources and assumptions used.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Partly. Needs sensitivity table, discussion of discount rate (in tables also), etc.

5. Are the discussion and conclusions well balanced and adequately supported by the data? More discussion on sources of cost difference between cadres.

6. Do the title and abstract accurately convey what has been found? yes

7. Is the writing acceptable? yes

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

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