Author's response to reviews

Title: Scaling up of comprehensive EmOC services in rural Tanzania using non-physician clinicians

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Version: 2 Date: 10 March 2011

Author's response to reviews:

Reviewer 1

Reviewer’s report:

Major Compulsory Revisions and Comments:

1. These comments and suggestions are based on the questions provided by the HRH editors. Is the question posed by the authors new and well defined?

The authors need to clearly articulate a research question.

The increased use of NPCs to expand access to Comprehensive Emergency Obstetric Care is certainly an important area of interest in the field, and there is a clear need to assess innovative training programmes necessary to expand access to CEmOC, including anesthesia particularly by NPCs. However this manuscript only describes the introduction of a 3 month training module for Assistant Medical Officers, and fails to articulate a specific research question related to this training programme. There are a number of key questions that could have been developed into research questions including for example:

• What value does this new training intervention add to what is currently existing in pre-service education? Does this new 3 month training intervention result in better practice/ quality of care compared to current training received for CEmOC and anesthesia?

• Does the new 3 month training programme better address workplace needs compared to current training?

• Using a simple before / after design is the new training programme a better means of developing competencies compared to existing training programmes?

• What are the lessons learnt from the introduction of a 3 months training programme? (more of a case study than a research project)

Response

The following research questions have been added in the manuscript
a. Does the new 3 month training of AMO in CEmOC better address workplace needs compared to current training?
b. Can a 3 month comprehensive training of nurses and clinical officers in anaesthesia result in acceptable quality of care?

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?
   The manuscript simply describes the training programme and does not describe any research methods. In the absence of a clearly articulated research question it is difficult to assess the appropriateness of the methods.

Response
   See our responses in reviewer’s comment no. 1 above

3. Are the data sound and well controlled? No. No specific research data were collected. It appears that the only data presented in the manuscript were routine/programme data from the records of the training programme.

Response
   Thank you for the comment. As mentioned in the manuscript the goal of the training programs was to train and equip the participants with knowledge and essential skills for CEmOC and anaesthesia. Both knowledge and required skills were assessed objectively as outlined in the methods in the manuscript. The authors intended to present the results based on the assessment of the practice in CEmOC and anaesthesia during and after training.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition? (see response to question 3)

Response
   See our response to comment number 3

5. Are the discussion and conclusions well balanced and adequately supported by the data? The lack of a research question and scientific research method limits the conclusions that can justifiably be drawn from the data. E.g. no data is provided to support the claim that “there is no doubt that the training programs have improved the knowledge and clinical management” and nor is there evidence to support that this will translate into maternal mortality reduction. The authors claim that this training has “strengthened the human resources for provision of CEmOC services” a conclusion based on the exposure of the AMOS to a CEmOC training programme. However, the authors also indicate that for many of the CEmOC skills – the trainees did not successfully complete the required number of procedures and the reader is left wondering about the competency of the AMO to perform the full set of CEmOC signal functions (other than caesarean sections). Claims about quality of care are also not adequately backed up by the data provided. In their final conclusion, it is an oversimplification to equate training programmes with a scale up of “task
shifting”. It would be useful for the authors to consider all the other enabling elements necessary to support task shifting e.g. regulation, ongoing supervision and quality monitoring, and ensuring adequately health facility infrastructure, drugs and supplies.

Response
In an attempt to make the case stronger, the authors have included the performances of the trainees in their health centres after training. The sentence “there is no doubt that the training programs have improved the knowledge and clinical management” has been modified. As commented by the reviewer the authors also recommended (in the limitations) for technical support and regular supportive supervisions by more experienced staff in an attempt to bridge the gaps of the training programs. The trainees were also advised to start with obstetric surgeries which are considered to be uncomplicated like normal caesarean sections and continue to refer complicated ones.

6. Do the title and abstract accurately convey what has been found? The title is misleading as the paper focuses on a single intervention (a 3 months training programme) and does not consider all the elements necessary to be in place in order to scale up access to comprehensive EmOC.

Response
Thank you for a good comment. The title has been modified to read “Scaling up of comprehensive emergency obstetric care in rural Tanzania using non-physician clinicians: lessons learned from the training phase”. The goal of the programmes was to train the teams of AMOs and nurses, and then introduce CEmOC services in remote rural health centres in Tanzania. In the methods it has been stated that AMOs were trained in all elements of comprehensive EmOC. Some (not all) of the elements of CEmOC other than obstetric surgery which the AMOs performed have been reported in the results including table 2. These elements included manual removal of placenta, removal of retained products, assisted vaginal delivery etc. It is also important to mention that most of (not all) elements of basic EmOC were provided in the health centres where the participants came from in Tanzania so it was logical put much more emphasis in obstetric surgeries and anaesthesia in order to enhance scaling up of CEmOC services.

7. Quality of written English: Needs some language corrections before being published

Response
Corrections have been made

Reviewer 2

8. A major limiting factor of this article is that the measured performance is related to the training outcome. It would be helpful for the trainers, the
organizers, and it would make the case stronger if there was a follow up evaluation of the experience and therefore the article would be based upon. The satisfactory results verified by the trainers in the controlled environment of the training program must be confirmed in the much more challenging context of the remote health centre where the trainees have to apply the acquired skills.

Response
Thank you for the comment. The authors agree with the reviewer's opinion. The participants' experiences in 3 health centres supported by the World Lung Foundation (WLF) have also been added in the manuscript. Only facilities supported by WLF were included in this manuscript as other (funders) have not launched the CEmOC services in their health centres. Considering that introduction of CEmOC in these health centres is supported by different organizations the authors believe that the performance of these cadres in their respective facilities will be published separately as the authors may not be authorized for the rest.

9. A second concern refers to the fact that the training fell short in reaching the minimal target of the course procedures; probably this is due to the large number of participants (23) in one of the batches.

Response
The authors agree with the reviewer’s comment and consider the issue raised by the reviewer as one of the limitations of training program and lessons learnt for effective implementation. In view of this the authors have recommended a list of solutions in an attempt to address it (see limitations).

10. Third, it appears to be a divergence of opinion regarding human resource availability, which the authors would need to work out better. Whereas the present article refers to an acute shortage of human resources, a previous recently-published article, (Reference 10 in the present article): The Quality of Emergency Obstetrical Surgery by Assistant Medical Officers in Tanzanian District Hospitals. A shortage of qualified staff is not the limiting factor in Tanzania; rather, it is access to facilities where such care is available. By Colin McCord, Godfrey Mbaruku, Caetano Pereira, Calist Nzabuhakwa, and Staffan Bergstrom. [Health Affairs 28, no. 5 (2009): w876–w885 (published online 6 August 2009; 10.1377/hlthaff.28.5.w876)]

On discussion and policy implications, this article states that: “With 1,300 assistant medical officers in service now and 200 new ones graduating each year, Tanzania has staff available for these facilities if they can be built and supported. More midwives are also needed, existing hospitals must be improved, and better transport is needed to create a functioning referral system. But shortage of staff capable of doing emergency obstetrical surgery is not the limiting factor in Tanzania.”

Response
Thank you for the observation and the comment. In the second paragraph of the
introduction, the authors cited the national report about the acute inadequacy of staff in the health sector in Tanzania (ref no. 3) indicating that the available human resources is only 32% of the required skilled workforce in Tanzania. One more report has been added and projected even further decline of HRH per capita in the coming years given population growth rate projections (ref no 5: Lowell Bryan, Rita Garg, Salim Ramji, Ari Silverman, Elya Tagar, Iain Ware. Investing in Tanzanian Human Resources for Health: an HRH report for the TOUC Foundation, Inc., McKinsey & Company. July 2006, also available online on www.touchfoundation.org/.../mckinsey_report_july_2006_5nYbVVVS.pdf). On the other hand, the broad objective of the reference cited by the reviewer was to assess who provides and the corresponding quality of obstetric surgeries in rural districts in Tanzania and not to evaluate the availability of human resources for health. However, the quoted article did not imply that there are adequate health personnel in Tanzania, which has a population of 41million people with the stated number of skilled staff. What the article wanted to emphasise was that an additional 1300 AMOs with 200 graduating every year who can perform the same surgical services as doctors, then the shortage is not as severe!

Reviewer 3
Minor Essential revision
11. Title.
Reading the title I would expect to find strategies for scaling up the Comprehensive emergency Obstetric Care (CEmOC) services using non-physician to other areas of Tanzania with shortage of Human resource for CEmOC. This assumes that these non-physician are there but are not used for CEmOC. The contents of the manuscripts deal with conducting short course for teams of CEmOC workers. Hence the title does not fully reflect the contents of the manuscripts. I would like to see the word training in the title.

Response
Thank you for the comment. The title has been improved and the word training has been added (see also our response to first reviewer’s comment no. 6 above).

12. Introduction.
Authors observed that 85% of the major obstetric surgeries in the rural districts are performed by Assistant medical Officers (AMO) indicating that they have enough skills to perform these type of operations even before this training. Also mentioned …the current AMO training need to be strengthened… I would like to know

1. What is the actual weakness in the current AMO training

Response
Although there is no any published report about the actual weakness in the current AMO training, there have been concerns from various stakeholders including regional and district medical officers about the quality of the AMOs
currently graduating from AMO schools in Tanzania. There could be many reasons for such weaknesses but the most leading is lack of adequate exposure to hands-on-training in the current AMO schools which has been attributed to increased competition for surgical procedures as most of them (AMO schools) have also medical schools and internship training as opposed to the past. In the introduction weaknesses have been described.

2. How are the contents, of the three months short course curriculum on CEmOC, differing from the contents of the AMO course curriculum concerning obstetric surgeries?

Response

As stated in the manuscript the training curriculum for CEmOC was competency-based with much emphasis on hands-on-training as opposed to the existing AMO curriculum which one would even consider it as a syllabus because it just outlines the list of topics to be taught and very little description on the assessment methods.

3. The problem statement is not clearly articulated and therefore the hypothesis for this training program is not clear to me. Teaching Clinical officers and nurses to be anaesthetic assistants and pairing them with AMO to make teams of CEmOC health workers is an innovative idea that has not been given enough weight in the introduction and in the discussion.

Response

Our problem statement is the fact the met need for CEmOC is extremely low especially in remote rural areas in Tanzania and this is complicated by acute shortage of qualified staff. The authors have tried to clearly illustrate the importance of the innovation for maternal health (see the first two paragraphs in the discussion).

13. Methods

Second paragraph on Training venue and capacity; The 8th sentence- talking about mean delivery and mean caesarean section rate from 2005 to 2008 were 4987 and 25% respectively – This sentence is incomplete and not clear.

Response

This sentence has been edited and reads “The mean annual deliveries and caesarean section rate from 2005 to 2008 were 4987 and 25% respectively”. This sentence tries to illustrate the average number of deliveries per year and the caesarean section rate from 2005 to 2008.

2. Discretionary revision

13. Results

It would be nice to show the potential impact of this training in the indicators for EmOC in the selected regions where these participants came from (i.e. number of facilities that can provide CEmOc per geographical area.
Response

Thank you for the comment. It was not possible to map the potential number of facilities which can provide CEmOC in the geographical area. However, in an attempt to show the potential impact of this training the authors stated that “The training has strengthened the human resources for provision of CEmOC services in 12 health centres in 11 districts with a total population of 2.6 million people” (see discussion, paragraph 1, last sentence).

14. Discussions

Fourth paragraph, last sentence …innovation calls for the global community to consider scaling up training and use of NPCs in addressing the …. The importance of training teams of NPCs for CEmOC has not been given its due weight here.

Response

Thank you for the comment. The authors have improved the sentence and the importance of concept of training of teams of NPCs for CEmOC has been illustrated more clearly in this paragraph.