Author's response to reviews

Title: How do women judge quality? Determinants of perceived quality of obstetric care in rural Tanzania: a cross-sectional study

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Author's response to reviews: see over
Response to reviewer comments
19 September 2014

Dear Editors,

Thank you for giving us the opportunity to revise this manuscript. The reviewer comments have helped us to strengthen this paper. As requested we have provided a point-by-point response to each review comment below. The corresponding changes in the manuscript have been highlighted. Please let me know if you have additional questions.

Best wishes,

Elysia Larson

Reviewer comments & authors’ responses
Reviewer's report #1

Reviewer: Catherine St. Hill
Reviewer's report:

Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

1. The authors should clearly establish the relationship between the importance of knowing how pregnant women rate the quality of obstetric care and the central problem stated in the manuscript that obstetric care facilities cannot deliver BEmONC. This correlation will strengthen the significance of their research.
   • Thank you. We have added a sentence to the beginning of the third paragraph of the background section to highlight the importance of multiple perspectives on quality of care. The argument is that while technical quality of care from the health system (supply-side) perspective is being measured, it is also important to measure how the users judge and assess quality of care (the gap filled by this manuscript). Later in the same paragraph, we note the reasons why women’s assessment of quality is itself valuable—as this may determine confidence in health care and future utilization.

2. Additional interpretations of the observed results should be more robustly discussed to lend support the conclusions. For instance, could multiparity versus uniparity influence a woman’s perception of care because of a patient’s familiarity with a particular facility? Do other languages spoken in Tanzania in addition to
English reflect a woman’s socioeconomic status and could this be a bias that the survey used to collect results was confined to Swahili and English? How does experiencing a complication affect a pregnant woman’s perceived quality of care?

- We agree that parity is a very important characteristic, and have added a discussion of this point to the fourth paragraph of the discussion section:
  - “While prior studies have identified an association between parity (number of prior deliveries) and utilization of facilities for delivery, we did not see an association between a woman’s parity and her rating of quality of care. This may be because the dependent variable in this study—a composite measure of care quality—referred specifically to the last delivery and thus prior parity played a lesser role in the respondents’ rating.

- Swahili is the official National language in Tanzania. Although people do have their own tribal languages, in Pwani Region, where the study was conducted, Swahili is universally spoken. Our survey was designed at a primary school reading level and was administered by research assistants trained to assist in clarifying questions.

- Experiencing a complication in delivery, as reported by the woman, was not associated with her perceived quality of care. We have added the following to the discussion (page 14) to address this:
  - “Experiencing a complication during labor and delivery, as reported by the woman, was not associated with her rating of quality of care. The vast majority (94%) reported a complication and thus this likely includes a range of adverse experiences in labor (i.e., pain) rather than actual medical complications. Further, it is likely that the nature of the health workers’ response to a complication, rather than the complication itself, would determine a woman’s rating of quality. It was not possible to measure this in this study.”

3. The proximity of a pregnant woman to a health care facility is a variable that may impact the results and should be discussed in the Conclusion section.

- We agree that the current literature suggests that proximity to a health care facility is an important variable to investigate. We looked at a number of proximity variables, and report the distance from a woman’s hamlet to the nearest hospital as well as the density of healthcare facilities within 30 km in the results and Table 1. As reported, neither variable affected a woman’s rating of quality. We have expanded our exploration of this variable in the discussion section, as this is indeed an important finding:
  - The local availability of health facilities, measured both by the distance from a woman’s hamlet to the nearest hospital and by the density of healthcare facilities within 30km of her hamlet, did not affect her rating of the quality of care. While proximity of healthcare has been shown to be associated with healthcare utilization, in this analysis proximity was not associated with women’s rating of quality. This analysis was restricted to women delivering in primary care clinics, and as such
cannot assess the role of proximity on quality ratings when women are traveling further distances and to access higher-level clinics.

4. On page 12, line 17 the authors imply that “Health worker confidence may be perceived by women as arrogance, or over-confident health workers may work quickly or communicate poorly with the patient”. The basis and evidence for this assertion should be included.

This is a hypothesis that our author team has developed based on authors’ clinical experience in Tanzania. We have labeled it more clearly as a hypothesis rather than assertion in the text.

5. Throughout the manuscript, terms are not clearly defined. What definition was used for the term "minors" that gave assent? On page 13, line 5, the authors state that they surveyed pregnant women who reported disrespect or abuse. How were “disrespect or abuse” defined and objectively assessed? What are the definitions of a hospital, health center, and dispensary in Tanzania in terms of the level and expected quality of care that can be received at each facility? On average, how many patients are seen, how many obstetric staff members are employed and what levels of experience do they have at each of these facilities?

- Thank you for requesting further clarification. We have made the following changes to add clarity:
  - We have added a phrase to the methods section to clarify that minors are women under 18 years of age.
  - We have added a sentence to the methods section on page 9 to clarify that disrespect and abuse were measured through self-report by the woman and were defined as anything she perceived to be disrespectful. The following is the sentence we added:
    > "Women were asked if they experienced disrespect or abuse during delivery, and the terms were not further defined. The report is therefore their perception of what it means to experience disrespect or abuse."
  - To the first paragraph of the methods section we added the following clarification regarding the level of care provided at each type of health facility:
    > “Dispensaries offer outpatient services including reproductive and child health services and uncomplicated deliveries. The dispensaries included in this study were staffed by medical attendants, nurses, and clinical officers. Health centers and hospitals are the next two tiers of healthcare in Tanzania and both offer inpatient and outpatient services. District and regional hospitals, as well as some health centers, offer comprehensive emergency obstetric and newborn care, including caesareans and blood transfusions. Health centers and hospitals both serve as referral centers for the lower-level health facilities.”
We give the average number of staff at the study facilities in table 1 as well as the average number of patients seen. We described the level of staff training briefly in the methods section ("The dispensaries included in this study were staffed by medical attendants, nurses, and clinical officers.") and in the fifth paragraph of the discussion section. We used clinical vignettes to further assess the obstetric skill level of the clinical staff.

6. A description of the criteria that were used to choose study facilities should be included in the methods (inclusion versus exclusion criteria).
   - We have included a description of the inclusion and exclusion criteria for facilities in paragraph 2 of the methods section (page 5):
     - "Facilities in the four districts were eligible for the study if they were government-managed primary care facilities, with at least one medically trained staff member (e.g. doctor, clinical officer, or nurse), were actively providing delivery services, and did not have an additional, ongoing large maternal and newborn health quality improvement project. From these, the six dispensaries with the highest volumes of deliveries were selected for inclusion in each district."

7. The Conclusions section should include a description of the type and extent of training that obstetric care staff receive and the potential impact on pregnant women’s perceptions of the quality of care received.
   - In the fifth paragraph of the discussion section we have added a brief description of the obstetric training received by the staff at the study dispensaries.
     - "We may not have seen an association between the health-care provider clinical vignette scores and woman’s ratings of quality in part because the clinical vignettes were only conducted with providers who have received formal training in basic emergency obstetric and newborn care,[30] such as nurses and clinical officers, and other providers, such as maternal health aides, also conduct deliveries in some of the study facilities."
   - Unfortunately, women are not able to determine the level of cadre providing their clinical care, and as such we are not able to measure the association between cadre and a woman’s perception of the quality of care received. We have added a sentence describing this limitation:
     - "Because women were not able to report the cadre of the health worker providing their obstetric services, we were not able to assess how perceived quality of care varied by cadre of health worker."

Minor Essential Revisions (such as missing labels on figures or the wrong use of a term which the author can be trusted to correct)

1. The acronym ANC is used throughout the manuscript but is not defined and
therefore should be clearly described.

- Thank you for noting this omission. We have defined ANC as “antenatal care” at the first place it appears in the manuscript, in paragraph 3 of the “measures” section.

2. In the Abstract, Methods section line 3, it should be clearly stated that women are delivering neonates since what they are delivering is not clearly defined.

- As recommended, we have changed this sentence so that it now reads: “Women who had delivered newborns in a study facility were included in this analysis.”

3. In the background section, line 2, instead of “…under five…” the sentence should be “…mortality under 5 years of age…”

- We agree that there are additional ways to phrase mortality in children under 5 years of age and the term we have chosen to use is short hand. We have retained the original language (under-five mortality) as it is commonly used in the literature, including in the Global Burden of Disease studies and reports from international bodies including UNICEF.

4. Figure legends should be included with more detail to accurately describe each figure.

- We have changed the figure 3 legend to read: “Distribution of composite perceived quality index, created from six ratings of aspects of technical and non-technical quality of care, Tanzania, 2012.”

5. The label for Figure 3 should be associated with the graph rather than presented on separate pages. Also the text “Figure 3” is too small to be read clearly.

- Figure 3 was uploaded in a separate document, and will be combined with the label during the editing stages of the manuscript. The text for figure 3 is the same size as that for other tables and figures in the version we uploaded – during the final editing stage we will work with the journal to ensure that they are readable.

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

None

Level of interest: An article of importance in its field

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:
Reviewer's report #2

Reviewer: May Nawal Lutfiyya

Reviewer's report:

Major Compulsory Revisions (which the authors’ must respond to before a decision on publication can be reached)

Throughout the manuscript, the term ANC is used, although not defined. This needs to be addressed.

- Thank you for noting this omission. We have defined ANC as “antenatal care” at the first place it appears in the manuscript, in paragraph 3 of the “measures” section.

The authors’ note that they surveyed pregnant women who reported disrespect or abuse. My questions are: How were disrespect and/or abuse defined? How were these terms objectively assessed and measured?

- We surveyed women who had delivered a baby in the prior year. We asked women if they had experienced any disrespect or abuse during their delivery. We have added a sentence to the methods section on page 9 to clarify that disrespect and abuse were measured through self-report by the woman and were defined as anything she perceived to be disrespectful. The following is the sentence we added:
  o “Women were asked if they experienced disrespect or abuse during delivery, and the terms were not further defined. The report is there of their perception of what it means to experience disrespect or abuse.”

In the methods, it is essential that a description of the specific criteria used to choose study facilities be provided.

- We have included a description of the specific criteria used to select facilities in paragraph 2 of the methods section (page 5):
  o “Facilities in the four districts were eligible for the study if they were government-managed primary care facilities, with at least one medically trained staff member (e.g. doctor, clinical officer, or nurse), were actively providing delivery services, and did not have an additional, ongoing large maternal and newborn health quality improvement project. From these, the six dispensaries with the highest volumes of deliveries were selected for inclusion in each district.”

What are the specific definitions for: a hospital, a health center, and a dispensary in Tanzania?
• We have added information to the first paragraph of the methods section describing the different levels of health facility in Tanzania:
  o “Dispensaries offer outpatient services including reproductive and child health services and uncomplicated deliveries. Health centers and hospitals are the next two tiers of healthcare in Tanzania and both offer inpatient and outpatient services. District and regional hospitals, as well as some health centers, offer comprehensive emergency obstetric and newborn care, including caesareans and blood transfusions. They serve as referral centers for the lower-level health facilities.”

Please describe the level and expected quality of care that can be received at each type of facility (in other words how do these qualities differentiate the different types of facilities)?
• As described above, we have added information to the methods section describing the facilities. In addition, we have added another sentence to the discussion section which further highlights that a wider range of services exists in health facilities that are of different service levels than those included in this paper:
  o “Because health centers and hospitals are expected to provider a wider range of maternal health services, including these facilities in future studies may provide a wider range of health system characteristics.”

Moreover, how many patients are seen at each type of facility (either average daily or weekly rates)?
• We assessed the size of the facility, measured by the average monthly facility deliveries, as a potential predictor of perceived quality of care. In table 1 we report that the average number of facility deliveries in the study facilities was 7.4 in the year proceeding interview (2011). In the methods and discussion sections we refer briefly to the differences between the facility types and reference the “Tanzania Service Availability and Readiness Assessment” which describes these differences in more detail. Because the scope of this analysis is limited to facilities at the dispensary level, we have given brief overviews of the differences of each type of health facility in order to provide context for the analysis, without providing more detail than is warranted for the scope of this paper.

Also please describe the staff who are employed at each of these facilities by the following: how many staff are there, what training do the staff have, what levels of experience do the obstetric staff have?
• The number of staff employed at the study facilities was assessed as a potential predictor of perceived quality of care. The average number of healthcare providers was 4.1 and is reported in table 1. We have added a sentence the methods section that describes the level of healthcare providers at these facilities: “The dispensaries included in this study were staffed by medical attendants, nurses, and clinical officers.” In preliminary analyses we assessed
the make-up of health worker cadre as a potential covariate, but found minimal variation between facilities and co-linearity with the variable ‘total health workers’ and therefore have not maintained it in the included models.

There should also be a description/discussion of the type and extent of training of the obstetric care staff and the potential impact that has on pregnant women’s perceptions of the quality of care received.

- To the fifth paragraph of the discussion section we have replaced the descriptor “skilled” with a more informative clause describing that nurses and clinical officers have received some formal training in basic emergency obstetric and newborn care. We have also added a sentence that clarifies that we were not able to directly assess the association between the cadre of the health worker providing the obstetric care and the woman’s rating of quality of care.
  - “We may not have seen an association between the health-care provider clinical vignette scores and woman’s ratings of quality in part because the clinical vignettes were only conducted with providers who have received formal training in basic emergency obstetric and newborn care,[30] such as nurses and clinical officers, and other providers, such as maternal health aides, also conduct deliveries in some of the study facilities.”

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:8 declare I have no competing interests.