Reviewer's report

Title: A Retrospective Cohort Study Investigating Individual and Community Determinants of Facility Delivery in Rufiji, Tanzania

Version: 2
Date: 5 June 2014

Reviewer: Heather Sipsma

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Major /Minor Compulsory Decisions

1. Abstract: Please revise the first sentence of the Background section; it currently sounds as if just policymakers are advocating for facility delivery, but this is not the case. Much of the medical community and public health experts are advocating for this as well.

2. Abstract: Please include a sentence in the background that points to the rationale for the study. In other words, include a statement about what is currently unknown or inconsistent within the relevant literature.

3. Abstract: Please be more specific about what “acknowledging” the factors affecting facility delivery might look like.

4. Background: I suggest the authors reorder the presentation of the background literature so that it flows from individual to the community level factors, instead of beginning with facilities.

5. Background: Please note that the individual-level factors affecting facility delivery are many and are well-established (which will then contrast with the limited and inconsistent nature of what is known about community level factors).

6. Background: The literature on facility level factors is scant and needs additional development. The authors cite only 4 articles that suggest the presence of a skilled birth attendant decreases maternal mortality. As the authors suggest, this factor may only be loosely related to facility birth. There are a few articles I can think of off the top of my head which discuss facility level characteristics that may affect place of delivery:


7. Background: It is not clear what contribution reference #8 makes in the introduction; the authors only suggest that from this reference, we know that community-level factors vary among countries, which does not seem to be the research question of interest in this paper. Please ensure this paragraph on community-level factors focuses on the literature that examines the potential influence of community-level factors on birth setting.

8. Background: Among the studies that examine the influence of community-level factors, do they all account for individual-level characteristics? If not, this would be another strength of your approach and a gap in the literature for the authors to highlight.

9. Data: The study design is not clear. Are these longitudinal data or serial cross-sectional? It is important to clarify the points in time at which measurements occurred.

10. Data: What if the mother did not have a sister-in-law or sisters? Were these variables then simply considered missing? Similarly, is the count variable for number of facility based deliveries accumulated over different years or reported/measured at one time?

11. Data: Please include a reference for the principal component analysis used to construct your wealth measure.

12. Model specification: The authors specify a 2-level model, but discuss three levels, including those of children, mothers, and village (community). No child-level variables are mentioned in the Data section, however, so this is confusing.

13. Results: How was the increase in facility delivery analyzed? This is not clear in the analysis section. Only multilevel logistic regression models are discussed.

14. Results: The analytic approach for the results presented in the second paragraph is also not clear and not supported by the measures discussed in the Data section.

15. Results: The authors should also include an analytic approach for the results presented in Figure 3.

16. Results: The tables should separate the individual-level and community-level factors from one another so it is clear to the readers which variables belong in which category.

17. Results: Explain how the non-linearity of the age variable on facility delivery was tested or drop this parenthetical comment in the Results section.

18. Results: Table 2 lists “cousin facility delivery” and “paternal cousin facility delivery” but the text in the Results discusses “sister-in-law count of births.” Please be consistent with this terminology throughout.

19. Discussion: The authors should discuss the discrepancy between the effect of individual age (as corroborated by other literature cited in the introduction) and the effect of community mean age.

20. Discussion: The authors should include additional in-depth discussion of the
implications of these community-level results. What does this mean for community health workers, for instance, in the area and their efforts towards increasing facility births?

21. Overall: Many terms were used inconsistently (e.g., “community factors” and “community-level factors”). It improves the readability of the paper to use these more consistently throughout.