Reviewer’s report

Title: Factors associated with intended use of a Maternity Waiting Home in Southern Ethiopia: a community-based cross-sectional study

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Reviewer: James F. Phillips

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This paper reviews the results of a cross-sectional study of the extent of knowledge of Maternal Waiting Homes (MWH) among women at risk of maternal complications in Ethiopia. Instruments assess perception of barriers to use of MWH with the overall goal of improving understanding of ways to improve MWH implementation.

The study is based on a regionally focused sample of individual women of reproductive age with power calculations based on an assumption of simple random sampling of women who have given birth in the past three years or are currently pregnant. Procedures for defining the frame are confusing. Reference is made to both areas (120 cases from Butajira, 100 from Soddo and 100 from Mareko) and to health centers, but catchment populations for the sampling process are undefined. Conventional statistical procedures for sampling at probabilities proportional to size have not been applied, suggesting that cases interviewed have unequal probabilities of being selected. Moreover, household substitution procedures are noted that introduce risk of bias. There is no discussion of sampling limitations or strategies for minimizing sampling bias. There are challenges to validity that are associated with the sampling. There is only one MWH providing care for the population under study. In this sense, the project has a sample of 1. Limitations of focusing on a single facility as a point of observation are not discussed.

Findings portray a "lack of willingness to use a MWH in the future." Time away from home and lack of an accompanying relative were dominant explanatory factors in the regression results. Costs of food and transport were important. Having experience with adversity was another. Authors conclude that women need more information about MHW and communities need more engagement. They propose involving TBA as attendants, although no evidence is provided to support this conclusion, other than citations from other studies.

Given the low cost and simplicity of geographic information system technology, I was expecting to see access to the hospital and MWH defined by distance from household to facility. Self-reported travel time is used instead. That may work, but access is usually an important determinant of facility use. In this study, travel time was not significant, bringing into question the validity of the indicator.
The principal limitation of this study is the generality of findings. The authors note that more awareness of MWH is needed, better understanding of preventive health is warranted, and overcoming barriers to access is imperative. But, these generalities could be surmised from existing literature. What is needed, instead of general statements of goals, is a roster of testable actions that program managers could take up or test that would improve MWH functionality. The analysis shows that women who have experienced complications are four times as likely to seek MWH care in the future as other women. Are they then positioned to be advocates of MWH in community events? What is the actionable implementation policy that the key finding represents? Knowledge is low, but what exactly should be done to change this? Women who perceive that there are fewer barriers to MWH use are more likely to seek such care. Who are these women and how can their perceptions inform policy? One actionable finding is quite important: Community care of children would enhance the credibility of MHW. How is this best organized?

While this study is a useful descriptive analysis of a cross-sectional survey, its findings would have been strengthened with qualitative appraisal of implementation follow-through options and potential.

The conclusion should set the stage for future action. The study should function as a baseline for a trial of ways to improve knowledge of MHW and the quality of care.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

No

**Are the conclusions drawn adequately supported by the data shown?**
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No

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