Reviewer’s report

Title: Access to public transportation and health facilities offering long acting reversible contraceptives among residents of formal and informal settlements in two cities in Kenya

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Reviewer: Melaku Samuel

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Access to public transportation and health facilities offering long acting reversible contraceptives among residents of formal and informal settlements in two cities in Kenya

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General:

In developing countries, physical inaccessibility and inadequate transportation networks to health facilities are among the major factors contributing to poor utilization of maternal health services, including family planning services. This study tried to investigate public transportation use and geographical (physical) access to health facilities offering long-acting reversible contraceptives (LARC) among residents of formal and informal settlements in two cities in Kenya. Geographic information system (using GPS) was used to examine physical access to facilities offering LARC as well as to identify Matatu routes with stops near health facilities offering LARC and sampled clusters. But, this paper lacks background information on the uptake of LARC and status of maternal health indicators in the study areas so as to assess the effects of geographic access and transportation availability and use on the health service utilization and health outcomes. For instance, what is the difference between formal and informal settlements or between Nairobi and Kisumu on the uptake of LARC and maternal health indicators (such as CPR and unmet need for modern contraceptives/LARC)? Objective and methods of the study lacks clarity and needs to be re-rewritten to avoid redundancy and improve clarity. Proximity to health facilities or access to transportation facilities does not necessarily guarantee access to health services, rather financial and social access and availability and quality of care could play important role for improvement of maternal health service utilization (including LARC uptake) and for better health outcomes. Evidences have shown that the urban poor do not necessarily have better access to services than the rural poor, despite their proximity to services. In general, this paper is not easy to follow, and it needs some more works to present the contents in better logical flow

Though the findings of this study provide some knowledge for public health field to develop evidence-based strategies and interventions to improve uptake of LARCs in different urban settlements, the authors should address some significant issues that require major revision before publishing the document. I have detailed my comments, concerns and questions below:
Specific comments, concerns and questions:

Abstract:
* Background: It would be helpful to briefly describe your main objective here and discuss more on limitation of previous studies in the main document

* Methods:
  o What is the source of data you used for this analysis?
  o I would prefer to include number of facilities included for client-exit interview, including number of clients who participated in the interview.
  o Number of clusters by settlement types
  o What method or instrument you used to measure distance between clusters and facilities to investigate geographic access?

* Conclusion: What is the implication of your study findings for family planning programmers and implementer/providers? Please provide the recommendations in line with your current findings

Background:
* Line 131-133 (page 6): How about other government or private owned public transportation options (such as transit buses or trains) in the study area? I think these large-size vehicles are cheaper and more commonly used means of transportation than the Matatus (mid-size taxis) and small-sized taxis in most urban parts of Africa

* Line 154 (page 7): Reference no. 31 and 32: please check that these are the correct references for your citation

* Line 160-166 (page 7): I would like to suggest rewriting of your study objectives to make more clear and coherent to your readers

* Line 171-173 (page 8): I would prefer to include the status of contraceptive prevalence rate (CPR), unmet need for family planning (unmet need for LARC methods), contraceptive method mix (proportion of LARC acceptors), rates of unintended pregnancy and unsafe abortion, and maternal mortality ratio in the study area. This could help to assess whether the geographic and transportation access are associated with health service utilization and maternal health outcomes or not. We can also compare the difference between the two settlements and cities in terms of these maternal health
indicators, and investigate whether the differences are associated with geographic barrier and transportation inaccessibility

Methods:

Overall, methods need to be described in logical orders to provide details and justifications of the techniques and procedures used to conduct the study and avoid redundancy:

* Line 175 (page 8): As this study utilized secondary data from 'MLE project', it would be more preferable first to describe about this project, including the purpose and time of data collection, type of data collected and procedures used to collect the data.

* Line 193-194 (page 9): You said that your study focused on Nairobi and Kisumu due to availability of geographic data on transport routes, but on page 10 (last paragraph) it was stated that geographic dataset of matatu routes in Kisumu didn't not exist. I would like to suggest authors to provide justification for this.

* Line 194-195 (page 9): How many of these clusters were from formal and informal settlements for both cities? What are the criteria that you used to include the clusters for the analysis? I would also like to know your operational definition for formal and informal settlements

* Line 205-206 (page 9): Please provide the reasons/justifications for conducting client-exit interviews (CEI) in the facilities with a high caseload only.

* Line 207-209 (page 9): was this selection based on facility's client load? What is the total number of clients recruited for CEI in Nairobi and Kisumu?

* Line 216-217 (page 10): You said that you restricted Nairobi analysis to include only public facilities because a census of private facilities was not available, but on page 9 (2nd paragraph) you mentioned that you constructed the sample of private facilities in Nairobi by compiling different sources of information. It seems that these two statements contradict each other?

* In general, this section needs revision to elaborate methods and materials used to conduct the study and improve coherence

Analysis/Results:

Major concerns in the analysis and result description include:

* Line 275 and Table 1: number of clients responded to exit interview (not sample size) in Nairobi were 1,602. What are the response rates for Nairobi as well as Kisumsu CEI?
About 50% of the women were seeking family planning as their primary reason for visiting the facility and the other half were seeking maternal or child health services": Please cross check this statement for consistence with the data in table-1.

Again, there is discrepancies between the text and table-1 data on primary reason for visiting facilities

There is no much difference between the two cities on percentage of women who took a matatu to the facilities (Nairobi 26% versus Kisumu 21%)

Table 2: Number of clients who used a matatu to get to the facility in Kisumu were 240 (1,158*0.207). Please recheck this figures using the percentage in table-1

Discussion and conclusion:

Overall, some adjustments are needed for the analysis before conclusions can be drawn from the data. However, I include few specific notes below that related to the discussion and conclusion sections:

"Despite this difference, we see that about a quarter of women are taking matatus…": I am not sure which difference you are referring?

Are you saying that the population both in urban and rural areas in Kenya were within 5 Km of public health facilities?

This indicates that the informal settlements are the mix of urban poor and urban rich people. As wealthy people have better access to transportation, distance to health facilities is not an issue for this group of people. In this case, I would prefer to compare different type of clusters in an informal or formal settlement rather than comparing the two type of urban settlements (formal versus informal)

Limitation of the study: Despite that this study revealing some evidences for public health field, it suffers many limitations that are largely due to reasons related to use of secondary data from difference sources

I think for urban poor, transportation cost is more important than physical access to the route of transportation

The conclusion just repeats the results. What are the implications of your current study findings for national programmers/planners aiming to design interventions that improve uptake of LARC methods?
* What further studies do you recommend based on your findings and limitations encountered in this study?

**Level of interest**
Please indicate how interesting you found the manuscript:

An article of importance in its field

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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