Author’s response to reviews

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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Author’s response to reviews:

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

• The background section of the abstract is edited to reflect the main objective of the paper.

• Lines 27-30

Methods:

What is the source of data you used for this analysis?

• The Measurement, Learning and Evaluation Project collected the survey data and generated the matatu route data for Kisumu. The Nairobi matatu data were publicly available from the Digital Matatus Project. Text edited for clarification.

• Lines 31; Lines 35-36

I would prefer to include number of facilities included for client-exit interview, including number of clients who participated in the interview, number of clusters by settlement types.

• This information is now included in the methods and results sections of the abstract.
What method or instrument you used to measure distance between clusters and facilities to investigate geographic access?

- We measured straight-line distances between clusters and health facilities and matatu stops. Text edited in methods section of abstract.

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

- Text added to provide recommendations.

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

- Text added to the background section. At the moment, the government of Kenya does not have any other investments in public transportation besides the standard gauge railway system that connects two major cities – Nairobi and Mombasa. Other alternative modes of transportation such as larger country buses serve to connect larger cities and towns across the country.

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

- References were corrected

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

- We have edited the study objectives to more clearly reflect the descriptive and exploratory nature of the paper. The primary objective of this exploratory study was to describe the availability of facilities offering LARCs relative to the location of formal and informal settlements and matatu routes. The secondary objective of this study was to
examine matatu use among women seeking family planning services, using a separate
dataset of client exit interviews from a subset of participating high-volume facilities.

• Lines 165-181

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

• We thank the reviewer for their comment. Text added to background to address this
comment. A limitation of this exploratory study is that we are unable to examine the
relationship between transportation and LARC use among clusters in formal and informal
settlements as this was not a part of the MLE survey. Another limitation is that we used
cluster location information captured from a representative household survey in 2010 and
were therefore unable to present recent measures of modern contraceptive use at the
cluster level. The 2010 data allowed us to present an overview of availability of facilities
offering LARCs relative to cluster locations representative of the city-level population;
these data were linked to recently available matatu information to develop a general
understanding of the current infrastructure in Kenya and Kisumu. The findings here can
inform future studies that consider facility and transportation factors when measuring
current LARC use and access.

• Lines 374-382

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:

• The methods and results sections were edited and restructured to avoid redundancy and
more clearly align with the study objectives. Tables were reordered to align with the
restructured methods section.

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.

• Text updated to clarify the use of primary data collected by MLE and references were
added to provide additional MLE study details.
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.

Text was added to clarify the availability of data in Nairobi and our capacity to generate a similar dataset in Kisumu.

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.

Total formal/informal settlement counts were added and all clusters were included in this analysis. Informal/formal status was defined at the enumeration area level by the Kenya National Bureau of Statistics during the 2009 Census. The definition of formal distinguishes between areas based on whether most households in the area have property titles and official services. Text edited and citations added for clarification.

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

Text updated to reflect exit interviews were restricted to high volume facilities to ensure that a sufficient flow of clients was available for survey.

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?

Methods and results sections edited to reflect that high-volume facilities were selected for client exit interviews and the number of clients recruited for CEI are reported.

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?
• We have a census of all public facilities in Nairobi, but a sample of a subset of private facilities, and therefore restricted our Nairobi analyses to public facilities. We have added text to reflect this justification. We also modified the text describing how the sample of private facilities was constructed to clarify that this was not a census and we do not have a comprehensive list of private facilities in Nairobi.

• Lines 215-217; Lines 222-223; Lines 227-230

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

• We thank the reviewer for their comments and have made substantial changes to reorder this section to address their suggestions.

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 Kisumu CEI?

• Table 1 label edited to reflect number of clients completing exit interviews. The response rates for Nairobi and Kisumu CEI were not calculated. During the survey period, we attempted to interview all women, and interviewers reported that few declined.

Line 275-277 (page 12): "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.

• Typos corrected and Table 1 is now Table 2

• Lines 314-316

Line 278-279 (page 12): Again, there is discrepancies between the text and table-1 data on primary reason for visiting facilities

• Typos corrected and Table 1 is now Table 2

• Lines 317-318

Line 283-284 (page 12): 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%)

• We agree with the reviewer. Text was edited to clarify this similarity.
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

• Typo corrected in table 2 to reflect 240

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:

Line 331-333 (page 15): "Despite this difference, we see that about a quarter of women are taking matatus…": I am not sure which difference you are referring?

• Text edited to clarify comparison between walking and % using matatus

• Lines 387-388

Line 354-355 (page 16): Are you saying that the population both in urban and rural areas in Kenya were within 5 Km of public health facilities?

• Text updated to reflect access in all areas in Kenya

• Line 361

Line 365-368 (page 16): 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)

• Text was added to clarify that the comparison is between formal and informal settlements, and the wealthy clusters are not located in informal settlements.

• Lines 371-374

Line 359-374 (page 16): 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

• We edited the background and discussion sections to address study limitations and clarify data sources. Survey data were primary, collected by MLE. MLE also created the Kisumu
matatu dataset. The only secondary data set used for this study is the Nairobi matatu dataset obtained from the Digital Matatus Project.

- Lines 176-182; Lines 187; Lines 375-386

Line 370-373 (page 16): I think for urban poor, transportation cost is more important than physical access to the route of transportation

- We agree with the reviewer’s statement and have modified text to clarify.

- Lines 404-406

Line 390-396 (page 17): 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?

- We have edited the conclusion to discuss study implications and provide suggestions for future studies.

- Lines 422-430