Reviewer's report

Title: The effect of survey method on survey participation: Analysis of data from the Health Survey for England 2006 and the Boost Survey for London

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Reviewer: Jeanette Ziegenfuss

Reviewer's report:


This manuscript presents a comparison of results from two different survey protocols implemented in the same population with the same frame and method for drawing the sample and recruiting participants. The experimental design is a strength of this study.

The authors attempt to determine how data quality is impacted across two data collection strategies. Outcomes considered are unit nonresponse, nonresponse bias, and item nonresponse. While cost was a major motivator the method chosen in the boost protocol, differential costs across protocols were not presented. This paper would be even more useful if relative costs per complete could be included.

Major compulsory revisions:

1. Overall the paper would be improved by clarifying the writing, the description of the research design, and including additional elements like the total sample size in the text of the manuscript.
2. You have information from household interviews for people individual responders and nonresponders. Why not explicitly look at the differences for these two groups? Moreover, is there any other frame data that you could use to compare nonresponders to the household survey to responders in order to inform your estimates of bias?
3. Include a more detailed discussion of the potential to generalize your findings to other populations and any limitations to your study design.
4. In sum, all of my minor revisions constitute a "major compulsory revision."

Minor essential revisions:

1. In the methods of the abstract, include a statement about the outcomes that you are considering.
2. In the conclusion of the abstract, you state that lower individual response rates in the boost method might be due to the urbanized and multi-lingual nature of London. While you discuss language issues in the manuscript, I found the urbanicity claim unsubstantiated. You also make this statement in the last paragraph of the discussion.
3. In the last paragraph of the background, you state the outcomes considered. These do not match those presented in the first paragraph of the statistical analysis. Do you look at measurement error? My understanding based on the background is that you do not.

4. The overall protocol is not clear. Is the household protocol exactly the same across the boost and the core? How are individuals selected within the household? Is the nurse visit and interview in the core at the same time? How many contacts are made before a household is considered a nonresponder? Are bilingual interviewers available, were the instruments translated into any other languages? (this seems particularly important to included given your comments on language proficiency in the discussion). Perhaps a figure would help clarify the study design for the reader.

5. You state that interviewers return to collect the questionnaires rather than having participants rely on post. The companion article states that there is the option of returning it by post. Is this the case? If so, how many do so? This would be important as there are likely cost savings with participants doing so.

6. In the first paragraph of the statistical analysis, you state that nonresponse error were investigated by examining differences in response rate between the two surveys. As there is not necessarily a linear relationship between response rate and error, this approach in itself does not inform if there is bias.

7. It is not clear why data for men and women were analyzed separately. Please defend this choice.

8. In the results, please include the overall sample size for each protocol.

9. In the second paragraph of the socio-demographic section and the sixth paragraph of the discussion, you state that the differences in the ethnic profile were no longer significant once non-response weights were applied. It is not clear why nonresponse weights were applied here. Moreover, while you never state what characteristics you use to create your nonresponse weights, if they are the same as those that you are comparing on, this is definitionally true.

10. In the discussion you talk about systematic differences in interviewers between the protocols. I think that you mean to conclude that this could differentially impact response rates, but you never explicitly state this.

11. In the conclusion, be more explicit about why you think that the boost method would be less useful in metropolitan areas with lower response rates.

Discretionary revisions:
1. Much of the detail included in the fifth paragraph of the methods is not needed and could be condensed for this manuscript.

2. The fourth paragraph of the discussion is not tied directly into your findings. Suggest either more explicitly relating these observations or omitting paragraph.

Minor issues not for publication:
1. In the seventh paragraph of the discussion you state that the interviewers used in the core survey were more experienced, since the boost interview was much
shorter… This does not seem like a fitting explanation for why they are more experienced. Please change or clarify.

**Level of interest:** An article whose findings are important to those with closely related research interests

**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:**

I declare that I have no competing interests