Reviewer's report

**Title:** Improving participation rates by providing choice on participation mode: Two randomized controlled trials.

**Version:** 2  
**Date:** 17 December 2014

**Reviewer:** Maureen Murdoch

**Reviewer's report:**

Thank you for the opportunity to review this interesting manuscript. The authors raise a nuance related to improving response rates that I had not previously considered, and I hope their work will spur more research in this area.

**Major Compulsory Revisions**

Stylistically, this manuscript would benefit from crisper, clearer language; more concise writing; and a more active voice. For example, the first several paragraphs in the introduction could be combined into one paragraph to concisely convey the essential point of this paper. Namely,

1. “Low participation rates [in survey research] reduce one’s effective sample size [and] statistical power and may *increase risk* for selection bias.” 2. Intriguing evidence suggests that offering potential participants a choice of response mode could increase response rates. 3. But there are few head-to-head trials.

Then discuss those head-to-head trials in the second paragraph. When doing so, please be clearer about the contrasts studied in previous literature. For example, in the cancer study cited [reference 13], were individuals randomized to a choice versus no-choice arm, or were they randomized to telephone (not telephonic) interviews v. postal questionnaire? If the latter, then the citation does not really belong in this paper. If the former, what mode did the no-choice participants receive—Telephone or postal questionnaire, or something else? That study’s negative findings could have resulted if offering a choice had no effect on response rate*or* if the type of mode offered in the no-choice arm was particularly desirable and deflated the apparent difference between the two groups. I have similar questions about reference 14. Were participants in reference 14 actually assigned to a choice or no-choice arm?

Finish the introduction by explicitly stating your study hypotheses.

**Methods**

The methods section is unclear, partly because too much time was spent discussing the larger study (TICD) from which this sample was derived and not enough time discussing the present study. I suggest giving the present study a short, snappy name, such as the “Social Networks in CVD Study,” and using that title throughout the paper. Open the methods section with the study population, and start with language more like the example below:
“The Social Networks in CVD Study (or whatever name they choose) was an observational study of social networks among individuals in [whatever location/state/city/institution] with known CVD or high risk for CVD. Potential participants were identified from a larger randomized controlled trial of two different interventions for CVD case management. [In *one* sentence describe the eligibility criteria for the larger study and how participants were identified for enrollment.] [X] number of enrollees in the larger randomized controlled trial were approached [describe how they were approached] and invited to participate in the Social Networks in CVD Study. Two trials were conducted. The first ran from [dates]. During this time potential participants were either randomly invited to participate in a telephone interview that asked about their social networks (the no-choice arm) or invited to participate in either a telephone interview or postal questionnaire that asked the same questions (the choice arm). The second trial ran from [dates]. In this trial potential participants were randomized to participate in a postal questionnaire (the no-choice arm) or given the option of a postal questionnaire or telephone interview. “

How did you determine if someone had cognitive impairments or poor language skills?

Adding a study flow chart would help readers understand the methods better (e.g., a flow showing the number potentially eligible for study, the number agree to participate, drop outs and losses to follow up, and the number analyzed). Table 1 is not terribly useful and should be deleted.

Clarify that, while the Social Networks in CVD Study is an observational study (at least, I assume it is from the description given), the present effort is a randomized controlled trial.

Add a new subheading corresponding to data collection procedures. Please explain why two trials were run. Please explain why the n was twice as large in the second trial. Please explain why these trials were run sequentially and not concurrently. It doesn’t sound as if true randomization occurred in this study—is this correct? Rather, it sounds as if 2 different consent documents were prepared and randomly interleaved. If so, were the documents truly randomly interleaved, or were they systematically interleaved (e.g., every other document was no-choice). How was random interleaving assured? Did recruiters simply take the top consent document and, depending on which form it was, determine which arm the participant went into? If not, please clarify how randomization was achieved. Could recruiters access or guess the patient’s assignment prior to enrollment? Typically randomization occurs after participants agree to participate, but that doesn’t seem to be the case here. Please indicate whether recruiters, participants, and analysts were blinded to study hypotheses and/or study arm assignment.

Why did you wait 2 months after receipt of completed consent documents to collect the data? What implications does this delay have for good response rate, regardless of study arm? Were multiple contacts made? Did these vary by choice/no choice arm? Were incentives offered? How long was the questionnaire? How long was the telephone interview? Were the same questions
asked in the postal questionnaire as in the telephone interview?

Under measures and outcomes, I suggest you choose one primary outcome—presumably overall participation rate—and identify the rest as secondary outcomes. Please always report results for the primary outcome first in the text and in the Tables.

I suggest you choose one of the AAPOR standard definitions for their primary outcome. (American Association for Public Opinion Research: Standard Definitions: Final dispositions of case codes and outcome rates for surveys, 4th edn. Lenexa, Kansas: AAPOR; 2006.) Most studies of this type choose definition #2 (AAPOR, 2006, pg 32), and that seems to come closest to what is described here. To be entered in the numerator, did participants have to fully complete the questionnaire or telephone interview, or were some missing answers allowed? If so, how many missing answers were allowed before the individual was considered a non-participant? Or was the return of a questionnaire, whether completed or not, sufficient to count as a participant? If a participant answered just one telephone question and then aborted the interview, was s/he counted as a participant? I was not entirely certain who went into the denominator—again, using the AAPOR definitions and providing a study flow chart could help clarify this for readers. Was this an intention-to-treat analysis?

I did not understand the definition of the conditional participation rate. Perhaps if I understood the recruitment and enrollment process better, this would be clearer. As best I can tell the numerator is the same as the main outcome, but the denominator is different. Somehow, you are assessing what proportion of people said they would participate and then actually did. However, I really cannot tell who is going into this denominator. Again, a study flow chart would help (as would clearer language). The same basic critique applies to “willingness to participate.” The figure was helpful to some degree, but if the authors used a flow chart and clearer language in the text, the figure could actually be deleted.

If I understand “preference for participation mode” correctly, you are reporting [the number of people who selected telephone interviews divided by all those offered a choice] to the [number of people who selected a mailed questionnaire divided by all those offered a choice]. Correct? Perhaps this would be clearer if it were restated, “Among those offered a choice, we also compared the proportion of people choosing telephone interviews to the proportion choosing postal questionnaires.” This does not map to the Figure’s definition. Please clarify. In the introduction, you should explain why you are looking at this outcome, and there should be a specific hypothesis linked to it. Consider shortening the term “preference for participation mode” to “mode preference.”

Consider rewriting the sample size and analysis section to something more concise, such as, “Assuming a two-tailed alpha of 0.05 [it was two-tailed, yes?], 80% power, a response rate 50% in the two no-choice arms and 65% in the two choice arms (or 35%, because this is two-tailed), we estimated we needed 338 participants in each of the two no-choice arms and 338 in each of the two choice arms (total N = 1,352).” Or did you need just 338 participants spread across both no-choice arms and 338 participants spread across both choice-arms (total N =
676)? By the way, please consider using the terms “choice” and “no-choice” to describe the study arms. The “choice format invitation” and “single format invitation” terms are confusing.

Results

Instead of using the terms, “Trial 1” and “Trial 2,” which force the readers to constantly refer back to earlier segments of the manuscript to remind themselves what was studied in each, please consider using the terms “No Choice (telephone) versus Choice” and “No Choice (postal questionnaire) versus Choice”—or something along that line. Please do this for the text subheadings and for the Tables.

Again, always report the main outcome first.

Table 2 would be more useful if it were additionally stratified by study arm assignment. Reporting the overall summaries is important, but please also describe the stratified results. For example, how many women were randomized to Trial 1 no choice (telephone) versus to choice? How many women were randomized to Trial 2 no choice (postal questionnaire) versus to choice?

Systematic differences in the characteristics of people assigned to the different treatment arms could bias study results. Table 2 is where readers get a sense of whether that happened.

Table 3 and 4 should be combined into a single table. N's should not have their own row but should be reported in the columns directly under the subheadings (e.g., No choice/interview/n= 198). Participation rate should be listed first in the rows. Present separate column headings for the test statistic, degrees of freedom, and p-values. For Table 5, please pivot the table so that the column subheadings are Trial 1/no choice (telephone)/n, Trial 1/choice/n, Trial 2/no choice (postal)/n, and Trial 2/choice/n. Wasn’t conditional participation already reported in Tables 3 and 4? I would omit these data from Table 5. Where are the test statistics, degrees of freedom and p-values for Table 5?

Critical information about the methods is reported in footnote in the Tables. Please move this text to the Methods section of the paper.

Discussion

The discussion is difficult to critique because so many methodological issues are unanswered for me. This section would also benefit from clearer, crisper language. I might suggest, instead of reporting results for Trial 1 and Trial 2 separately, that the authors embrace their mixed findings and discuss the two results side by side. For example, start the first paragraph thus: “Findings from this study were mixed. Individuals offered only a telephone interviews were as likely to return a survey as those offered a choice of mode, whereas those offered a only a postal questionnaire were substantially less likely to return a survey compared to those offered a choice.”

Regrettably, until the methodological issues raised above are addressed, I don’t feel I can further critique the discussion.

Minor Essential Revisions
In line 78, please substitute the words, “in the present study” for “In this study.” Otherwise readers will think you are still talking about citation 14.

Please omit the sentence starting on line 163. It has nothing to do with the present study.

The text in the results should briefly summarize the Table’s results, not exhaustively repeat the same information.

**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 I have no competing interests.