Reviewer’s report

Title: Online, paper or mixed? A randomised trial and economic evaluation of the effect of response mode on response rate, response bias, and item non-response in a survey of doctors

Version: 2 Date: 21 January 2011

Reviewer: Jeanette Ziegenfuss

Reviewer’s report:

Thank you for the opportunity to review the manuscript Online, paper or mixed? A randomized trial and economic evaluation of the effect of response mode on response rate, response bias, and item non-response in a survey of doctors. The manuscript details a randomized trial of different approaches to survey a nationally representative sample of doctors in Australia, concluding that a mixed mode approach is the most cost-effective way to survey doctors. This research is important and the approach undertaken by the authors is thorough. The presentation of the study design and results could be clarified in order to further strengthen the manuscript. Specific comments follow.

Major Compulsory Revisions

1) It is not clear how results are analyzed. Individuals are randomized to one of three arms; online, paper or mixed. However, in all three arms, respondents have the option of completing the survey either online or on paper. So there are really two different levels operating here – contact protocol and mode of completion. It is likely that each level will work differently on the different outcomes. For example, contact regime would impact unit response rate whereas mode of completion would impact item response rate. Please clarify for the reader the distinction between these two levels and how you analytically handle cases that cross modes.

2) In some respects, all three of the contact regimes represent mixed mode designs. In all instances, the individual has the choice of completing the survey either online or in paper. What differs is the ease of each completion mode across contact regimes (i.e., in paper the individual has a paper copy whereas in online they would need to take another step of either requesting the paper survey or printing it out). Please discuss in light of table 5. What you have called mixed mode could be called sequential mixed mode and what you have called paper mode could be considered simultaneous mixed mode. Further, in the online mode you require respondents to retype an address into a computer – this requires more from a potential respondent than would an online mode that contacted individuals via email. This should be discussed.

3) It would be informative to compare responses to the first mailing and the second mailing across modes. For example, the first contact in the online and mixed modes are the same. How do responses differ just to the second contact
in these two groups?

Minor Essential Revisions

1) Abstract, results: Include the overall response rate and/or the response rate of one of the modes to give the differences scale.

2) Background, paragraph 3: You state that the “literature is large” please specify the literature on what. Also in this paragraph clarify if the cited studies pertain to doctors or the general population.

3) Methods, paragraph 1: Please clarify how the current study fits into the MABEL study and how the cost results are extrapolations to the full study.

4) Methods, paragraph 1: How are the references [3,8,25] supporting the preceding statement?

5) Methods, paragraph 1: How complex was the process to logon to the secure website? This could impact the response rate in the mode and should be discussed in the discussion.

6) Methods, paragraph 1, last sentence: It is not clear which arm this statement pertains to. It is also not clear if a second paper survey was sent in the second mailing within the paper arm.

7) Methods, paragraph 2: How long was the survey in total?

8) Methods: You assess nonresponse bias by comparing to the overall population characteristics of doctors in Australia. Please discuss the quality of these data. Are there any potential sources of error here? Also, do you have these data on an individual level? If so, it could be interesting to directly compare characteristics of responders compared to nonresponders.

9) Results, paragraph 2, penultimate sentence: Who is the comparison group?

10) Results, paragraph 2, last sentence: The introduction of the incentive here is confusing. Was it offered in all modes? This detail may be better placed in the methods.

11) Discussion, paragraph 2: It is asserted that doctors “prefer” one mode over another. This is not directly assessed and should be qualified as such.

12) Discussion, paragraph 3: While more younger doctors may drive a switch to online technologies, this is speculative and many alternative mechanisms exist, such as the proliferation of smart phones, for example.

13) Discussion, paragraph 4: It is not clear how costs will vary across geographies exclusively. Won’t they also vary across institutions? Please expand on this.

Discretionary Revisions

1) Background, paragraph 5, sentence 3: Suggest changing “increase in response rate” to “decrease in nonresponse bias.” As you state earlier these are not always linearly related and as such, nonresponse bias is really a more important indicator of data quality.

3) Methods, paragraph 3: It seems unnecessary to me to include which investigator did the randomization, organized the data, etc.

4) Results: Table 1 is essentially a check of the randomization. I think that the table could be omitted and you could just state that the randomization “worked.”

5) Results, paragraph 5: You discuss item response rates for the different sections. It may be useful to discuss where in the survey the sections were located. Was there overall attrition or just skipped questions/sections?

6) Discussion, paragraph 2: The portability of the paper survey is mentioned as a potential benefit of this mode. Increasingly, online modes are also portable. This could be useful to include in the discussion.


Minor issues not for publication

1) Abstract, methods: First sentence is not a complete sentence.
2) Methods, paragraph 3: States is spelled wrong.
3) Methods, paragraph 4: It seems redundant to me to say mean response rates.
4) Results, paragraph 5, sentence 2: I believe you mean “response” not “question”

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**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.