Reviewer's report

Title: The effect of an internet option and single-sided printing format to increase the response rate to a population-based study: A randomized controlled trial

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Reviewer: Niels Henrik Hjollund

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BMC Medical Research Methodology

Title: The effect of an internet option and single-sided printing format to increase the response rate to a population-based study: A randomized controlled trial

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The paper reports a 2x2 factorial designed RCT with the aim to explore the effectiveness of single-sided questionnaires and an internet option for response in increasing response rates to a population-based study with 4600 residents in an area of Scotland. Additionally, the paper includes an update of a metaanalysis.

It is important and relevant to study determinants for response-rates in order to address the important issue of selection-bias. However, when response-rate are as low as one third it is a priori hard to hypothesize that interventions like these two should have any substantial effect, even if they turned out to be statistically significant. When response rates are so low we need some basic knowledge on why participants choose not to participate, e.g. from interviews, before a more relevant intervention can be designed.

The results are not presented optimally, and the tables should be redesigned. A new Table 1 should present the four groups by gender, age, number of deceased and invalid address. Tables should also provide information on the distribution of response rates with respect to age and gender.

The analyses should include if age or gender have any interactive effect.

With respect to statistical power the width of the CI are not very wide, so for the main results I am not as worried as the authors.

Minor issues:

L 59: A lot of epidemiologist would say that internet based data collection is most feasible.

L 109: An “internet-fatigue” could also be hypothesized. The internet is not so new and anymore.

L 136: The exact URL should be presented. URL’s may be very long and difficult to type.
L 167: Response rate before reminders should be reported
L 218: Better if costs were divided into fixed and pr questionnaire costs
L 225: Reduced data entry cost is important and should be included – cf above
L 211: The “summary of evidence” and figure 2 is a relevant way to compare the results with previous studies. However, this is an essential part in any discussion section. It should be moved to the discussion section and the reference to this update should also be deleted from the aim (L117)

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests