Reviewer’s report

Title: The Danish Health and Morbidity Surveys: Study design and participant characteristics.

Version: 0 Date: 28 Nov 2018

Reviewer: Saverio Stranges

Reviewer's report:

Overall, this is a well-written manuscript, which describes the study design of the three most recent health surveys in Denmark, including the survey mode and response rates.

The authors also highlighted some of the potential benefits from using mixed-mode approaches for data collection, allowing for the invited individuals to complete either a web questionnaire or an identical paper questionnaire. This approach may partially counteract the general declining trend in response rates observed across several nationwide health surveys around the world.

I have a few comments and suggestions for the authors, which might help further improve the overall merit of this manuscript. Specifically:

1) If available, it would be informative to show some socio-demographic data of non-responders as compared to responders, across the three most recent surveys (2010, 2013, 2017). This would be important to rule out major selection bias among the study participants in these surveys.

2) In the limitations' section, the authors should also discuss about the self-reported nature of the data collected, which might be a problem especially in the diagnosis of highly prevalent chronic conditions, such as hypertension and diabetes, which also require a physical examination and biomaker data. This is likely to produce an underestimation of prevalence rates for these conditions (and possibly others).

3) The authors also mentioned about collection of new data and exposure variables. Two areas which would deserve future attention should be: environmental pollution, and use (and abuse) of social media.

4) The use of web-questionnaires is a great addition. However, I wonder if this approach may be applicable to other contexts and countries as well, with higher degrees of population heterogeneity and without a secure electronical mail service, Digital Post, as in Denmark.
5) Finally, I wonder if these health surveys can be linked to administrative data on hospitalizations, drug prescriptions, and primary care visits, as well as with mortality data. As the authors are aware, data linkage initiatives are happening in many countries and can help overcome some of the challenges in developing cohort studies, which are time consuming and require a large amount of resources.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?
4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal