Reviewer's report

Title: Comparison of participants and non-participants to the ORISCAV-LUX population-based study on cardiovascular risk factors in Luxembourg

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Reviewer: Pascal Bovet

Reviewer's report:

The paper provides a useful account of the extent and meaning of participation rates in population-based surveys of cardiovascular risk factors in a high income country. Analysis and discussion for the results are valid and well done, overall. I have raised a few fairly minor issues.

1) The abstract is too long and could be shortened to main findings and messages.

2) I am not convinced of the pertinence of the aim “to descriptive strategies used to enhance response rates”. I think this aim, and much of the related discussion throughout the paper, should be dropped in the entire paper (and just a few words mentioned on what was done to increase participation as background information). Indeed, the strategies used in the survey are what is routinely expected from such surveys and, more importantly, the paper does not (and cannot) provide analysis of the impact of any of these strategies (what would be participation if X or Y was done or not done), so much of this discussion is conjectural.

3) In the abstract, only age-adjusted estimates (or possibly also age and sex adjusted estimates) should be given (i.e. no crude estimates) as what is of interest is only comparison when age of groups compared is accounted.

4) Since several attempts (reminders) were made to contact eligible participants (as expected in such surveys), it would be useful to provide some analysis of the impact of sending repeated letters (since this info can be derived from the data).

5) It would be useful to provide some estimate of the cost of the study, including when broken down by participant. Conducting such surveys is straightforward technically, but few appreciate the real (high) cost of such surveys and this information (cost) can help potential investigators to plan such surveys.

6) A table well shows lower participation among youth, as expected. It would be useful to provide this data stratified for sex, as lower participation may be substantially different among men and women.

7) Along the same line, the discussion could be extended, within 1 paragraph, about the future of population-based surveys in high income countries, including listing possible alternative options to get similar information (e.g. whole population surveillance mechanisms, etc). The fact that Luxemburg already has national mechanisms to routinely collect various data at a population level (e.g.
IGSS) offers a good background to elaborate of such possible new ways to get such information.

8) It would be useful to have one paragraph in the discussion to elaborate on the apparently discrepant notions that non participants did not differ from participants based on data from IGSS and the fact that non participants include substantially more “employees” and less “working class”, hence a strong SES difference. Considering that SES is a powerful predictors of CVD and many CVD risk factors (tobacco, obesity) this raises some questions.

**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