Reviewer’s report

Title: Potential gains in health-adjusted life expectancy from reducing four main non-communicable diseases among Chinese elderly

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Reviewer: Ma Stefan

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General comments:

This is a well written paper and interesting study which quantified the potential gains in health adjusted life expectancies if four major non communicable diseases would be hypothetically eliminated among Chinese elderly in China.

This is an ambitious but good attempt to adopt cause deletion method that is commonly used in the cause deleted lift expectancy, but this time it modified the method to incorporate cause deleted disability prevalence in addition to cause deleted probabilities of dying in life table to calculate cause deleted health expectancies.

However, there are some issues that didn't explain and address in the study as follows:

1. In page 6, 1st formula: It assumed that all D_ik deaths were able to be eliminated, but in reality, there is impossible to eliminate all upstream associated risk factors. Likewise, it also assumed that this assumption held for YLD_r_ik in the the subsequent 2nd formula.

2. For these four major non communicable diseases studied, it assumed each of them were mutually exclusive or independent. However this is not the case as these diseases shared with some common risk factors.

3. This study is only focussing elderly, but it didn't explain in more details why they don't look into expectancies at birth?

Above issues are expected to be discussed or addressed somewhere in paper.

Specific comments:

1. In page 2, 1st line of 2nd para: it should be no 's' after disease.

2. In pages 5, 6: please specify 'w' from the 2 LE formulae.

3. In page 4, line 2: it should be CRD instead of cancers.
In tables 1, 2: in addition to present delta of two HALEs, it is better to present % differences of HALE without elimination as it can help readers understand the relative gains.

**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.

I am able to assess the statistics

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

Acceptable

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