Reviewer's report

Title: Relationship Between Multimorbidity, Demographic Factors and Mortality: Findings from the UK Biobank Cohort

Version: 1 Date: 10 Dec 2018

Reviewer: Mette Nørgaard

Reviewer's report:

The authors have revised the manuscript appropriately and the manuscript has improved substantially by this revision. but I have a few remaining comments.

On page 16, the section "Type of Long-term conditions and Clinical Outcomes" would benefit from presenting HRs with 95% CI instead of simply writing statistically significant association. Statistical significance does not give the readers any information on the magnitude of the association or the precision of the estimate. Please see Rothman KJ. Six Persistent Research Misconceptions. J Gen Intern Med. 2014;29:1060-4.

In the conclusion "Multimorbidity had a greater impact on all-cause mortality in middle aged as opposed to older populations, particularly males, which deserves further exploration" it should be specified that it is a greater RELATIVE impact. In women aged 37-49 the 7-year mortality seems to be 0.4% in those without LTC and 2.2% in those with 4 or more, while the corresponding estimates in women aged 60-73 were 1.9% and 6.4% so the absolute difference is 1.8% in younger and 4.5% in older.

In the tables, instead of only presenting the actual number of deaths, it would be relevant to also have the follow-up time specified. So either change number of deaths to the 7-year cumulative mortality or the mortality rate or simply give the follow-up time in a separate row.

When assessing the validity of self-reported long-term conditions, it would be relevant to present the positive predictive value of this information along with the completeness of registration if available. Have the authors or others formally examined this?
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.

Yes

Are the conclusions drawn adequately supported by the data shown?
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Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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