Reviewer's report

Title: Long-term declines in self-rated health and functional status among older Medicare beneficiaries

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Reviewer: Benjamin Shaw

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The manuscript entitled “Long-term declines in self-rated health and functional status among older Medicare beneficiaries” is a well-crafted and well-executed study, with many strengths. At the same time, additional issues that should/could be addressed include:

- Major Compulsory Revisions

1) It is not clear exactly what advantages are gained by focusing upon “long-term” functional declines, particularly when these declines are operationalized as dichotomous variables and measured on the basis of only 2 points in time. For this reason, a more fully developed argument/rationale for the advantages of this research design is needed.

2) Also needed is a stronger rationale for including self-rated health in a study that is framed primarily as an examination of predictors of functional decline.

3) The exclusion of so many respondents from the original sample is troubling. The implications of this limitation should be discussed. Also, it is not clear why some respondents were excluded. For example, why were some respondents’ baseline interviews not able to be linked to their Medicare claims? The reasons for this could lend insight into the degree of bias that might have resulted from the respondents’ exclusions.

4) In the Discussion, more contemplation is needed about how the results might be interpreted. For example, the authors report that hospitalization and terminal drop were associated with functional declines, but do not discuss why these associations might have occurred. While the data do not speak to the question of “why”, readers could benefit from learning about some potential explanations for these associations. Similarly, some thoughts regarding potential explanations for the lack of associations between continuity of care and functional decline would be helpful.

- Discretionary Revisions

5) On page 5, the authors state that recent improvements in late-life functional status are “well-established”. This characterization is debatable (e.g., see Crimmins & Beltran-Sanchez, 2011, Journal of Gerontology, Social Sciences).
6) On page 15, the authors characterize the prevalence of improvements in functioning as “modest”. This characterization is a bit inaccurate, as the prevalence of improvements is not so different than the prevalence of declines.

7) On page 18, when discussing the associations between smoking and mobility decline, the authors may want to point out that no association was found between former smokers and mobility decline. This lends further support to the idea that smoking cessation may help to prevent such declines.

Level of interest: An article of outstanding merit and interest in its field

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.