Reviewer’s report

Title: Socioeconomic status and race/ethnicity independently predict health decline among older diabetics

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Reviewer: Courtney Rees

Reviewer’s report:

Overall, I think this paper is a nice contribution to the literature attempting to disentangle the health effects of race/ethnicity from those due to SES. The nationally representative, longitudinal dataset is a strength, and the statistical analyses seem appropriate. However, the importance of this work should be highlighted more, especially in direct comparison to the other cited studies examining a similar issue with apparently conflicting findings (health status over time driven more by race vs. SES, or vice versa). As I am not familiar with the work in this area of longitudinal health decline among older Americans, further explanation of this study in relation to other published work is necessary to establish how this is a new contribution to the literature. Also, I had some specific points of clarification addressed below:

Major Compulsory Revisions:

Introduction

• The background section could be shortened and clarified. For example, the statement that there is conflicting research about the contribution of race over and beyond SES in health decline could be stated in one paragraph. At the same time, more information about the previous studies and how these populations or samples differed from the HRS study would be useful for context on this work (i.e., all patients with diabetes or chronic illness, all aged 65 or over at baseline, nationally representative)?

Methods

• Description of the regression was very thorough and clear. Can you also add what the parameter estimate interpretation from this model would be (e.g., individual-specific proportional odds ratios)? Also, there should be a statement that the resulting ratio represents a change in health status in between any two points in the rating (i.e., change in odds from fair to poor, poor to good, etc.)

Results

• Adding that the estimates (0.69, etc.) are odds ratios comparing racial/ethnic or SES groups would be useful.

• Discussion of results seems brief overall. There is no discussion of the unadjusted differences by self-reported health or race/ethnicity at baseline or throughout the study period. I was interested to see (perhaps in a figure) the
decline in health status overall, and how this looked by race/ethnicity and SES groups.

Conclusions

• Again, more information about the previous studies examining race and SES on health decline is needed to place these results in context with other findings.
• You have importantly highlighted that the racial differences persisted even among those with access to insurance (Medicare) and additional adjustment for supplemental insurance.
• Although there is a mention of potential interactions and mediators in these relationships, the paper did not – and perhaps is sufficiently powered to – examine such relationships. But if these analyses are feasible, this would further establish the contribution of this study to the literature.
• Another limitation of this ordinal model is that it assumes proportional change for each ranking of health status. That is, going from excellent to very good is considered the same change as going from fair to poor – which may not be true based on how people respond to this item. This should be addressed in more depth, as well as if there were other sensitivity analyses to assess raw differences in the health status ranking over time.
• Page 13 - What are the subsequent analyses that examined attrition in more depth?

Minor Essential Revisions:

Methods

• Good description of the survey methods and how the subsample of diabetics (as well as the specific waves of follow-up) were identified.
• Top of page 6: Not sure if I missed what the differences in mortality mean (-0.02, 0.05) – per 1000 person-years?
• Page 6, outcome measure: Can you further specify what cumulative probabilities of reporting a higher health status means? A change in health status rating at each time point? If this is covered in the explanation of the regression model later, then perhaps it should be moved there.
• Table 1 shows that there are a vast majority of participants with some college education or more – did you examine different categorizations of education in preliminary analyses?
• The discussion of income and assets is a little confusing. Perhaps there is an extra line that was meant to be deleted (the last line of page 6). Also, line 3 on page 7 – did you mean household assets rather than household “outcomes”? Finally, the discussion of the correlation of income and assets was a little unclear – what were the final variables included in the analyses? Both income and assets?
• Pages 7-8 – The discussions of covariates seem to be in two separate parts of the paragraph, which was hard to follow. Putting the description of the variables
and how they were measured in the same sentence would be easier for me to follow.

Results
• In Table 1, row percentages (e.g., the proportion of each racial/ethnic group by self-reported health status) might be helpful, rather than column percentages.
• In Table 3, the abbreviation “sign” for significance wasn’t clear at first (vs. positive or negative sign).

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests