Reviewer's report

Title: Socioeconomic inequalities in chronic conditions among older people in Australia: cross-sectional findings from the 45 and Up Study

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Reviewer: Anton Kunst

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Major compulsory revisions

1. The authors should define more clearly the health outcome of interest. The introduction starts with “non-communicable diseases” and “chronic diseases”, while the variables include “functional impairments” and even “psychological distress”. If the authors really aim to focus on non-communicable diseases, the latter two variables could better be omitted from analyses.

2. I recommend the authors to give a more detailed account of the relevant literature, and the contribution that this paper could possibly make to that literature. It is incorrect to say that “there is sparse information on socioeconomic inequalities in the prevalence of chronic conditions in older people” especially if we include the many studies on disability prevalence and incidence.

3. I recommend also presenting results for educational level. The authors recognize that income may not be a good measure of SES in older people as in younger people. Moreover, reverse causation processes at younger ages may strongly affect comparisons with older ages. The use of educational level would not suffer from such problems to the same extent, and thus provide important complementary results.

4. The response rate of only 18 percent should be given more attention. This is not “relatively low” but very low in an absolute sense, with great potential for strongly affecting observed disease prevalence rates and inequalities therein. The authors should provide more detailed information on response rates, e.g. according age group and possibly area-level SES.

5. The authors should justify the use of Prevalence Ratios (PR) instead of Odds Ratios (OR) as measure of relative inequalities. The (maximum) value of PR is strongly sensitive to the absolute level of prevalence rates (Houweling et al, Int J Equity Health. 2007 Oct 29;6:15), thus greatly affecting comparisons between age groups.

6. The authors should justify the lack of tests on interaction between age and SES. Such tests would be expected given their aim to assess whether the relationship between SES and health varies according to age.

7. Finally, the authors should justify their use of the simple ratio comparing
highest to lowest income groups. This ratio discards information on intermediate income groups, and it is sensitive to the large age differences in % people in the highest and lowest groups. It seems more useful to use the RII and SII, or their equivalents based on Lorentz curse (e.g. Concentration Index).

Minor essential revisions
None
Discretionary revisions
None

**Level of interest:** An article of limited interest

**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