Reviewer's report

Title: Impact of Socioeconomic Status and Medical Conditions on Subjective Health and Healthcare Utilization among Older Adults in Ghana

Version: 3 Date: 23 December 2014

Reviewer: Cathy Gong

Reviewer's report:

Reviewer comments on “Impact of socioeconomic status and medical conditions on subjective health and healthcare utilization among ageing Ghanaians” (manuscript 1909814783147474)

Recommendation: Major revision
Willing to review revision: yes

Comments to the Authors

This paper is an interesting original empirical work based on the most authoritative household survey data from the World Health Organization Global Ageing and Adult Health (SAGE) Wave 1. The binary logit and ordered logit models are used to estimate the impacts of social economic status, demographics, impairments and medical conditions on self-assessed health status, functional limitation and outpatient health facilities utilization among older Ghanaians aged 50 and plus. As mentioned in the paper in line 8-9 on Page 16, due to the use of cross sectional data, this paper did not estimate causality between social economic status and health or hospital utilization.

This paper will make a significant contribution to the knowledge of SES gradient of health and health service use in developing countries. However, both the definitions of variables used in the models and the interpretation of the model results are not clear. The mode structure and writing need to be improved.

The following comments are for revisions.

Major Compulsory Revisions

1. On Page 6 line 16-17, it was mentioned “SAGE is a longitudinal study with nationally representative samples of persons aged 50+ years in Ghana, with comparison samples of younger adults aged 18–49 years in Ghana”. Could you please confirm which age group have been included in the model in Tables 2-4? If both age groups 50+ and 18-49 are included, you might want to use a dummy variable in your model to identify the effect of these two age groups instead of using one variable of age. In addition, both age and age square term are generally included into the model.
2. On Page 8 line 9, “Chi-square test” was mentioned. Should it be “Likelihood Ratio Test”? Could you please report and discuss your test results at somewhere? Could you please also report F statistic test for each model like in Roy and Chaudhuri (2008)?

3. There is no clear how all the formulas in the section “Statistical Methods” serve directly for your model and analysis.

4. The variables summarized in Table 1 are different from the variables used in the model in Table 2. Could you please summarize all the variables you have used for the model in Table 1 and give some brief explanation for all key variables?

5. “Enable factors” is mentioned on Page 7 line 23 and on age 13 Line 9, and “enabling and predisposing factors” on page 12 and page 14 but there is no explanation for what do you mean enable factors and predisposing factors.

6. Should the section “Ethical considerations” on page 12 go to somewhere on page 6?

7. On page 13 line 4 and line 17, it was mentioned that “after controlling for chronic illness”. Does “chronic illness” mean “Impairment of daily function” or “medical conditions” controlled in Tables 2-4 or others?

8. On page 13, it was mentioned that “In model 4, after controlling for the enabling factors, urban settings, income quintile 5 (highest income 10 group) and subjective well-being had less impact on the self-assessed health (Table 2)”, but there is no model 4 in Table 2.

9. The interpretation of the model results needs to be improved, please see how other papers tell the story from the model results.

10. Please clarify whether the numbers in Tables 2-4 are the estimated coefficients from the logit model, instead of odds or marginal effects.

11. Please explain on what are the differences between model 1 and model 2 in Tables 2-4.

12. In Table 4, is the dependent variable “hospital utilization” or “outpatient health usage”? It is not clear in the explanation.

13. As income and health can affect each other, you might want to run the model by controlling economic, social and demographic variables first, and then include medical conditions and impairment of daily functions to see how the coefficients change from one to the other.

14. The findings indicate that “income and social class have strong beneficial impacts on functional limitation and outpatient care” (Page 14 line 8). I can understand the positive correlation between income and health utilization, but not clear why income has positive effect on functional limitation.
15. On page 15 lines 18 to 21, it was mentioned “The older population in the higher socioeconomic group probably may be more aware and also may have increased health risks due to lack of exercise, being more sedentary, increased intake of high fat-laden diets and hence more need for outpatient care”. This is not understandable as in general, higher income indicates better health (less care need) but higher access to health care. Please check the variables and results of the model.

16. Please explain dependent variable in Table 2: is it self-assessed health rated as “1” excellent to “4” poor or inversely. This will help to understand why the sign of coefficients of income in this study is different from estimates by Roy and Chaudhuri (2008).

Minor Essential Revisions:

17. As you have estimated the impact of social economic status (SES) on both subjective and objective health (self-reported health and functional limitation), you might want to change “subjective health” to “health” in the title “Impact of socioeconomic status and medical conditions on health and healthcare utilization among ageing Ghanaians”.

18. On Page 2 in the section of “Results”: In order to match the title of the paper, you might want to summarize more on the impact of SES and medical conditions instead of the impact of ageing and gender difference on health and hospital utilization.

19. On Page 4 in the third paragraph it was mentioned that “This trend is expected to increase significantly given population policy objectives of reducing child mortality and increasing life expectancy”. As the reducing child mortality will have impact on the dependent ratio but not the proportion of ageing. You might want to use “the dependence ratio is expected to increase significantly” instead of “the trend is expected to increase significantly”.

20. On Page 2 line 9 in the section “Methods”, it was mentioned that SAGE conducted during 2008-2009, while in Page 6 line 9, it was mentioned “one round of data collection took place in 2007”. Could you please check and confirm the consistence in years?

21. On Page 7 line 18-19, I would like to recommend to use “Ordered logit model” and “Binary logit model” instead of “Ordered logits” and “Binary logits”.


23. On Page 11, it was mentioned “gp (#####aq”. Should it be “gp (#####ap”?

24. On Page 14 line 13, it was mentioned that “by examining disparities in the use of health state and healthcare utilization” (on page 15). Should it be “by examining disparities in health and healthcare utilization”?
**Level of interest:** An article of importance in its field

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

'I declare that I have no competing interests'