**Reviewer’s report**

**Title:** Wealth-related versus income-related inequalities in dental care use under universal public coverage: a panel data analysis of the Japanese Study of Aging and Retirement

**Version:** 0  **Date:** 18 Aug 2015

**Reviewer:** Magnus Hakeberg

**Reviewer's report:**

Review: manuscript PUBH-D-15-00135 'Wealth-related versus income-related inequalities in dental care use under universal public coverage: a panel data analysis of the Japanese Study of Aging and Retirement'.

The objective of the present study was to explore differences in the use of dental care depending on the distribution of income or wealth. Previous research has shown that socioeconomic position, measured by means of different methods, is related to dental care behaviors e.g. dental care attendance patterns. This finding is revealed in different countries and with different dental care services. However, the explicit difference between income or wealth-related associations to dental care use is not as well described. In that sense this study is of interest specifically since Japan has more of a national dental health insurance system as compared to the majority of developed countries.

The manuscript is well-written with a clear rationale. There are some issues that the authors need to discuss, clarify and add in order to possibly improve the manuscript.

**Background:**

In the first paragraph it is stated that poor oral health affects quality of life…but what important dental or rather oral diseases do the authors refer to. Broaden the context as to more explicitly show what diseases are common and may implicate risk for decreased health-related quality of life and chronic diseases.

In the second paragraph, the authors state that cost is the most important factor when it comes to avoidance of dental care. There are some other factors that also are associated to nonattendance. Do discuss this topic.

The issue of coverage through the national insurance system in Japan is interesting, especially given the view on preventive care. Less preventive care may mean more restorative treatments, also more emergency dental care. It is also related to health behaviors and knowledge. Do provide research findings from the literature regarding the divide between prevention, restorative treatment and dental care habits.
Methods:

Clarify the participation rate and e.g present a flowchart. As of now it is somewhat hard to understand participation, drop-outs etc. More information about the non-participants is also important concerning some parameters (gender, SES...). Provide a sentence about research ethical approval.

The outcome variable, dental care, can be measured in different ways of course. The question is general and if there are more information that can be retrieved it may be explored and give important results. One such analysis would be the care habits for the past two years since that measure probably can mirror a better and more general picture of people's dental care habits. Another analysis would be if the results differ depending on attending a dentist or hygienist.

Self-reported income and wealth can be questioned regarding validity and reliability. Please provide some information, if possible, of these measurement issues. The authors state that there were a significant number of missing values. Please include in text how many missing. Were there any patterns in the missing observations with regard to other important covariables? For single imputation techniques there may be some risk for bias estimates. And can multiple imputation methods be applied instead? The variables retirement allowance and recent inheritance may have some bias built in, in respective measure.

In the need variables, a measure pain or symptoms should be included in order to better capture the need for dental care.

Analysis/results:

A complementary analysis would be to include multivariate models to evaluate the exogenous variables' contribution to the overall model fit, and also to understand the separate independent variables' importance in explaining the outcome.

Discussion:

Discuss further measurement issues, the imputation method vs bias. Besides the economic/cost perspective of dental care use, widen the discussion in general term inasmuch to include important social determinants of health and health services.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No
Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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