Reviewer’s report

Title: Determinants of unequal access to preventive care in China: a multilevel analysis of a cross-sectional household survey

Version: 2 Date: 15 October 2015

Reviewer: Sean Clouston

Reviewer’s report:

Review –

The paper is an interesting paper about the role of differences in health insurance in creating social inequalities. The paper would probably benefit from interacting more with sociological theory about the nature of social inequalities in health. Notably, I would direct them towards a wealth of literature discussing how social inequalities arise and how they exist globally. As it is, the authors do a good job of talking about how the literature discusses these issues within China, and also of wrapping up their results. I have a number of questions about the analysis, though, that I think temper my enthusiasm for the manuscript. The first is that there’s a concern about the exclusion criteria, which result in the removal of half of the sample, and there’s not enough discussion of the distribution of preventive care services both across communities and within them. GIS mapping may help them to reasonably discuss these differences and think about them. The discussion is heavy and hard to read as written – long winded. There are also a lot of small typographical errors, some of which are detailed below, but the paper would benefit from having a native English speaker editing it for grammar.

Specific comments

The abstract is clear, though some issues remain –

It should be - “Regional disparities were found…”

Introduction

Any time you have statements such as “it has been proven…” you should have a citation showing that this is the case. Also, nothing with statistics is ever “proven” so having a more tailored language would be useful.

I’ve never heard of a “pro-rich effect” though I obvious understand the meaning. Marmot describes this as a social gradient, terminology that I think works. I’ve also seen socioeconomic inequalities. Both are okay. You currently define pro-rich effect, so if that’s a term you want to keep, then that’s up to you but I would go with more standard terminology.

Which services are “certain preventive care services”?

Is China not a developed country?
It might be clearer if you have headings – “Setting” for example (page 5 above the discussion of China).

I think I take issue with how the sentence starting: “Although it is a voluntary insurance scheme…” is phrased. Firstly, those who are unemployed are unlikely to have a lot of cash sitting around for health insurance, so the view that they are able to pay may be somewhat absurd. It would be useful to know how many people are not covered by one of these schemes. Secondly, scheme is technically correct, but usually we say “health insurance program” rather than scheme.

The sentence starting “Registered doctors available…” needs to be clarified.

The sentence “Meanwhile, [the] urban-rural gap…” is unclear.

The sentence “Although the NRCMS has a…” is unclear and badly worded. I would go with more descriptive language, such as: “has been associated with decreases in socioeconomic inequalities in health” or something else rather than “pro-poor effect”.

The sentence “Arguably, health insurance schemes…” is heavily biased. Not all are meant to do this, so I would be careful.

Methods

It is unclear if the loss of sample size (from 27K to 13K) is due to the adult restriction or to the sample covered by BSMI.

Excluding those who are not covered, since the lack of coverage is itself both a reason to see increases in social inequalities and also an interesting comparison group.

“Written informed consent was obtained…”

Not “The respondents with a higher income…” but “Respondents with higher incomes…” similarly, “Never-married single respondents…”

There is not really any such thing as a “0 percentile”. I would note that you’re doing this, and then label it high or low as is standard.

Table 2 is a drastically smaller sample than it should be.

It would be useful to see something relating to the distribution of community level variability in the outcome, certainly, and in SES-related outcomes.

The empty model is pointless unless you have a measure of model fit derived from it to compare with, or something.

Discussion

I would remove “These figures are extremely low compared to…” and just describe the rates in other places (something you already do). The sentence thus
seems uninformative and redundant.

“Consumers are selective of preventive care services.” Is a meaningless sentence.

“This study proved that age, sex…”. No statistical study can prove anything, it can only find associations.

There are sociological theories that try to detail the overall impact of such inequalities in access to prevention and their effects on health, morbidity, and mortality overall. It might be useful to tie this into that discussion:


Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:

I declare that I have no competing interests.