Reviewer’s report

Title: Household Catastrophic Medical Expenses in Eastern China: Determinants and Policy Implications

Version: 3 Date: 25 November 2012

Reviewer: Subhash Pokhrel

Reviewer’s report:

This is a well written paper evaluating household catastrophic medical expenses in Eastern China. Two unique points make it interesting: (a) it focuses on relatively developed area in China (research on well-off population in low/middle income countries is usually rare); and (b) within the developed region, a substantial variation in income exists (the income redistribution from development is not necessarily homogenous and its consequences in terms of other outcomes such as health expenditures is an important area to research).

I am happy to recommend a publication of this paper, provided the authors consider my following comments:

a) Because this survey data is not openly available, the authors must demonstrate that it is a valid survey. It would be immensely helpful to compare the summary statistics of this sample with other available sources of data (e.g. regional statistics obtained from Statistics Office or other surveys).

b) Please provide detailed account of the Survey and include sample design flow-diagram, sample size calculation, response rate and questionnaires as an additional file.

c) Please provide a description as to what was the basis for including the reported questions, where they were sourced from (e.g. previous surveys/studies or research team’s deliberation based on theory/ a priori expectations/ hypotheses), etc. This is important to show that the survey was conducted using best research practice.

d) In the discussions, please include a reflection of conducting such surveys in relatively developed areas (including for example response rate and how it compares with other similar surveys within China and abroad).

e) Although you refer to a previous study for methods to estimate catastrophic expenditure, it would still be helpful to have a brief description of this method in the text.

f) For the readers’ benefit, please explain in more details how multi-level regression is particularly relevant here. For example, there are other simple methods such as use of robust standard errors but you used multi-level modelling because it has XX advantages over other such methods.... etc. and your data, the way it was generated, met the assumptions underlying this method (explain what they were). Also, comment on the fact that by applying this method, you were actually able to control for area and household level variations in the
probability of one having a catastrophic illness, which is not common in the literature (if applicable), etc.

g) Explain the basis for including only the reported independent variables. What variables were considered but dropped/not included and why?

h) Comment on the validity of the regression model based on model diagnostics reported in Table 4. To what extent the model fit the data and a reflection as to whether multi-level modelling was actually appropriate in your case.

i) A comment on whether ordinary logistic model would have given you similar conclusion would be helpful. You don’t need to report the quantitative details of this finding but a comment (based on this additional analysis) may add to the justification of choosing multi-level model.

j) The jump from what you find (results) and what you recommend (e.g. community-based insurance) is huge, particularly in the absence of enough details (in the Introduction or Discussion section itself) around why this particular type of health financing helps prevent incidence of catastrophic illness. Please back up with earlier evidence from China or abroad. This applies to all other policy recommendations that you make. Please do not assume that readers of this Journal would have enough understanding about these policy options (e.g. community-based insurance).

k) I suspect that some of the inconsistent findings you report and discuss are the outcome of your survey sample being different from those earlier studies. This is why demonstrating early on that your survey is valid is so critical.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests.