Reviewer’s report

Title: Disaggregating catastrophic health expenditure by disease area: cross-country estimates based on the World Health Surveys

Version: 0 Date: 26 Oct 2018

Reviewer: Michael Engelgau

Reviewer's report:

Reviewer Comments

Title: Disaggregating catastrophic health expenditure by disease area: cross-country estimates based on the World Health Surveys Authors: Haakenstad A et al.

Overview:

This manuscript conducts an economic analysis of catastrophic health expenditures (CHE) in LMICs using data from the World Health Survey (2002-4). The authors determine household income and then remove food expense and use the net as the available household income. Then they determine the proportion of this net that is spent on health care during the last month. They find substantial CHEs are across all countries with a range from 15% to 30%. They report a positive correlation between CVD CHE and the global burden of disease level of CVD burden in country. A large proportion of the CHE is due to causes that cannot be determined. They were not able to look at health care coverage in their analyses. They conclude that financial risk protection from disease may not always align with national disease burdens.

General Comments:

With the SDG focus on universal healthcare coverage, this is a well-conceived and well written manuscript on a very important and timely topic. There are some areas where in could be improved including a better explanation of how the age of the WHS data may be affecting the results and the large proportion of medical cause being in the other (not defined) category.

While this type of study is invaluable in the context of rolling out UHC, the older data from the WHS created challenge to its current relevance. It seems this may have been the only standardize dataset that covered so many countries that is currently available for analyses. It would be helpful if the author could discuss the dataset selection and the decision to go with the WHS - including a more detailed understanding of what some of the limitation might be. There may be country-specific data that could be compared to the WHS data for an analyses similar to what
was done - to reassure that the older data is at least similar to what we have more currently. Also, what might be important and enlightening would be to try to describe the level of healthcare coverage and/or the healthcare financing across various countries in 2002-2004. Likely it will have change much since but this may provide better insight into some of the findings and trends.

The analyses of looking at the GBD country burden and the correlation to CHE for a specific disease may be pushing the data beyond it limits. More explanation of why this approach is justified would be helpful. It is a very interesting finding of the direct correlation of CVD burden and CHE. However, it is challenging to understand why injury and communicable diseases are more flat in their correlation. A more detailed explanation of why we think this is the case would be useful. Again, with this situation, if a few country have better data from other sources, it would be helpful to confirm these types of profiles.

Another major challenge is sorting out the issue of the "other" disease category. More discussion on how this may be impacting the conclusions would useful.

The profile of CHE at 15% in LICS, 30% in LMICs, and 15% in UMICs probably needs better explanation. We would think this would be a positive relationship with the largest CHE proportion in the LICS. However, the assumption is that in LICS, care may not be available, or, if it is, it is being forgone. Again, looking at some example of individual countries would be reassuring that this is a valid explanation.

Specific Comment:

Suggest to grafts of the data in table 2 using the fully control model.

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

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
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