Reviewer's report

Title: Performance of verbal autopsy, physician coding and classification systems in the Indian Million Death Study

Version: 1 Date: 4 September 2013

Reviewer: Michel Garenne

Reviewer's report:

The paper presents an analysis of data quality of the Million Death Study conducted in India since 2002. This is from far the largest study on causes of death based on verbal autopsies (VAs) and on a large representative sample of deaths in a national population (some 170,000 deaths). This report will be highly valuable for researchers, international organizations, development agencies, and health professionals. However it suffers from a number of weaknesses and limitations, and could be improved before publication.

General comment

1. The paper has two parts, which could be separated: the first part deals with the quality of the VAs, the second with a comparison of re-classifications systems. This is not at all the same issue. Re-classification can be based either on good or bad data. I recommend extending the first part, the most important for readers. The second part deals with arbitrary re-classifications used by WHO and by GBD. It could be presented separately in the paper, or in an appendix, or in a separate paper.

2. The first part should deal specifically and in details with the specific points used for quality assessment: proportion ill-defined; CSMF compared with re-sampling; urban vs rural; total vs hospital based studies; age patterns. Each point could be addressed in a separate paragraph with a specific table or figure.

3. Do authors have a direct comparison between VA’s and medically certified diagnoses?

4. The grouping into 18, 19 or 21 categories is very arbitrary, and of little use for public health. Neither the WHO nor the GBD could be considered as proper references. The differences between the 3 classifications should be better investigated, since they use the same data and the same original diagnosis. Some differences are hard to understand.

5. How were multiple causes dealt with?

Detailed comments

6. The authors are unclear whether they focus on age 5-69, or on all ages. They should make a choice, and stick to it in the whole paper. I recommend including
all ages.

7. Page 6. The urban / rural difference is not a matter of “over-estimating” or “under-estimating”. It is simply a different cause of death profile.

8. Page 10: what is ORGI?

9. The large differences in road traffic accidents should be discussed in detail. This is unexpected.

10. Is there any way to provide more details on infectious & parasitic disease (e.g. measles, pertussis, dysentery, meningitis, etc.)

11. Is there any way to provide more details on injuries: road traffic accident, domestic accident, snake bite, other injuries; homicide; suicide; other violence.

12. The section on snake bite could be expanded if illustrated by a figure. However, is it necessary in this paper, since there is already a publication on this issue?

Tables & Figures

Table 1 is of little use. Its information could be presented in a few sentences in the Data & Methods section.

Figure 1 is of little use. It could be put in words in the Data & Methods section.

Figure 2 is of little use. Numbers could be explained in text.

Figure 3, 4, 5, 6 are not readable in black and white. Add markers for each series.

Additional files:

It would be better to explain how and why the classifications differ, and to provide only the proper numbers. The figures are hard to read and of little use.

References

Author could add a link to the questionnaire used in the MDS.

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare no competing interests