Reviewer's report

Title: Usefulness of the Population Health Metrics Research Consortium Gold Standard Verbal Autopsy Data for General Verbal Autopsy Methods

Version: 1 Date: 17 December 2013

Reviewer: Diego Bassani

Reviewer's report:

This is a very welcome and interesting study comparing the WHO 2012 VA standards with the PHMRC data (referred to as a 'gold standard'). It adds to the body of studies comparing (or using) the PHMRC data to improve VA methods. It would be helpful to have the method tested by Peter Byass here added to the Popular Vote study published recently by IHME to see how much it would improve the validity of the estimates, but I understand this may not be feasible.

It is overall a well written contribution, and correctly points out the major limitations that will be encountered by anyone attempting to use the PHMRC data for studies of this nature - the fact that only limited information on signs and symptoms are available and therefore it becomes virtually impossible to assess how a VA instrument would perform since, for example, keywords in the narrative cannot be accessed/used.

The major limitation of the PHMRC is mentioned in the conclusion, but should be further detailed, as I imagine the implications of the settings where the data was collected (tertiary hospitals) is central to the CSMFs observed and may be far from a representation of deaths that occur at home and without contacts with health facilities or health-care workers. The influence of the environment where the death occurred on the VA data and narrative cannot be neglected.

Minor essential revisions

Page 4 - line 17, sentence starting with "The interVA-4 model..." seems to be missing a word somewhere in the part that reads "what would normally be a population".

Page 5 - line 10, the use of the word 'confused' is not helpful: the cases were confused with what? Or by whom? Perhaps there is a better word/sentence to describe what the author wishes to convey here.

Discretionary revisions

Table 4 - The table would be easier to read if it had the same 'age groups' side by side instead of the way it is presented. It would read in column 1 "Adults - Inter-VA" and in column 2 "Adults PHMRC" and so on. I would also like to see the 95% CIs around these estimates. I understand they will be large CIs but it is still informative and gives the reader a sense of the uncertainty around the
estimates.
I do not think Stillbirths have to have their own column, but understand that lumping them with the neonatal group would require renaming it "perinatal/neonatal causes" perhaps. The creation of this fourth category seems artificial as it is not age-based as the other ones but based on the observations made at the moment of birth (day 0).

Figure 2 - I would like to suggest the Figure 2 is modified to show the difference in CSMF by method more clearly, instead of the current unclear depiction of the CSMF by method and a not very informative correlation 'line'. Also, the WHO 2012 VA COD codes are not easy to interpret without a legend. Perhaps a table with the codes, names, and CSMF (%) would be of help and could accompany the figure. That being said, the usefulness of this 'all ages' approach is questionable. Perhaps having a separate plot for each age group (neonates, children, adult) (and excluding the current one representing all ages) will be more informative.

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.