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: 11 December 2013

Reviewer: Colin Mathers

Reviewer's report:

This paper addresses an important issue in improving verbal autopsy instruments and methods and provides a valuable analysis of a valuable reference data source of hospital-based deaths with cause of death based on strict diagnostic test data and with responses to a set of verbal autopsy deaths. The paper deserves to be published, and I have some suggestions for discretionary revisions, which I believe could enhance the usefulness of the analyses presented.

• Discretionary Revisions

1. It would be useful to include a little more information on how the InterVA-4 instrument dealt with the fact that only about 70% of the WHO indicators were available in the PHMRC dataset. Did this mean that the InterVA instrument required some adaption or is it the case that the InterVA can be run with a reasonably high number of missing items and still produce probabilistic diagnoses?

2. Following on from point 1, would it be possible to include some information on the sensitivity of the InterVA diagnoses to the dropping of the unavailable VA indicators? For example, a WHO-instrument dataset could be taken and run with the complete data and also with the indicators missing from the PHMRC dataset set to missing. It would be of interest to see what the concordance was and whether there were specific diagnoses mostly affected (perhaps those which are flagged in the discussion of the paper, where the concordance with the hospital diagnosis was also lower).

3. In second para of discussion, it would be useful to explain briefly what the ICD-10 coding rule is for the example given.

4. I would find it useful to also include the last figure in table form with the names of the cause groups – that would complement the figure nicely for those interested in which causes performed better and worse.

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 that I have no competing interests