Reviewer’s report

Title: Improving performance of the Tariff Method for assigning causes of death to verbal autopsies.

Version: 1 Date: 12 Nov 2015

Reviewer: Basia Zaba

Reviewer’s report:

In my original comment about the sentence that mentioned InterVA use of Bayesian theory, what worried me was the implication that a certain class of VA diagnostic systems was inherently not "data driven". InterVA is not the only VA diagnostic system that use expert judgement about the association of symptoms and causes in combination with Bayesian analyses of how that association relates population mortality fractions to probabilistic diagnoses of individual deaths. InterVA does not take the Bayesian analysis to its logical conclusion, so the criticism is at least partially justified, but newer developments (such as InSilicoVA developed at the University of Washington) based on the concept originally described in InterVA take care of this by using VA data collections to iterate to a solution that ensures compatibility between PMF and individual diagnostic probabilities. This is very much a data driven exercise even though it does not depend on a hospital gold standard. Since InSilicoVA has not yet been published in a peer reviewed journal it would be difficult for you to go into further detail about the performance of Bayesian theory for VA analysis at this juncture, so perhaps curtailing your description of InterVA as you propose is appropriate.

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.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.
I recommend additional statistical review

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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