Reviewer’s report

Title: The burden of premature mortality in Thailand, 2005: new estimates from corrected vital registration

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Reviewer: Colin Mathers

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This is a well written paper that contains a largely well conducted analysis of Thai mortality data to arrive at best estimates of deaths by cause, taking into account levels of completeness estimated from capture-recapture studies, and reclassification of ill-defined causes using the results of a large verbal autopsy validation study. Apart from a couple of more minor points noted below, my main comment relates to the relative lack of information on the actual validation study results and how they were applied. The methods are described, but I think it would greatly increase the transparency and usefulness of the paper for others conducting or planning similar research for other countries to include additional information on the VA validation results as an annex table. See below.

Minor essential revisions

The annex tables include a table summarizing deaths by cause, age, sex for the "improved VR" adjusted to 100% completeness, and a second table redistributing ill-defined cause categories according to GBD methods. In order to understand better how the VA validation study resulted in re-mapping of the deaths in certain ill-defined categories, it would be extremely useful to include at least two additional annex tables along the following lines:
- a table of the VR deaths by cause, age, sex before "improvement"
- a table of the VA validation study results (eg- the reclassification matrix, or something similar showing how and which deaths were remapped to other categories).

Discretionary revisions

Global burden of disease analyses have often used a cause of death model (CODMOD) to adjust the broad cause distribution for bias between infectious, non-infectious and injury causes for populations where death registration is significantly incomplete. It seems that this was not done for the Thailand analysis reported in this paper, rather the estimates of completeness were used to simply up-scale the numbers at each age. It may be worth adding a comment - do the authors make the assumption that there is no significant bias or do they have some evidence or argument that in the Thai case there would not be such a bias.

Level of interest: An article of importance in its field
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