Reviewer's report

Title: Whether to report diabetes as the underlying cause-of-death? a survey of internists of different sub-specialties

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Reviewer: Eric Jouglia

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Comments to the Authors

Tsung-Hsueh Lu et al. analyse the discrepancies between internists of different specialities in the medical certification of the causes of death for diabetic patients. The study is based on the certification of seven case histories by a total of 549 physicians.

The objective of the research is important because the tendency to report or not diabetes as the underlying cause (UC) of death may have a strong impact on the official national figures on mortality by diabetes. The study is original because few researches have been published in this field.

Major compulsory revisions

1. The sentence (p4) beginning by "One of the limitations..." and ending with "... certifying physician" is not sufficiently clear. For a better understanding, the authors should state more clearly:
   - the different steps in the process of the production of causes of death (1. certification 2. coding according to the ICD rules),
   - that the study deal only with the certification process,
   - that, to avoid certification errors, the certification is not "open", but restricted to different coherent certification models.

These detailed explanations should be added or reformulated in the Methods section.

2. The low response rate (26%) should be analysed more precisely and discussed. The authors should provide this response rate by specialities (data to introduce in the last line of table 1?). They must also discuss the possible impact of this low rate on the results and give the reasons (refusal to participate, difficulties to certify...).

3. Who have decided of the list of correct layouts for each scenarios (cause of death specialists, physicians.. ?) and why the authors did not choose, for each case history, a reference certification (gold standard). This would have provided interesting elements for a more precise analysis of the results.

4. Results: the authors say that the age distribution did nor differ between
specialists (but in table 1 cardiologist aged more than 60 years represent 14% of the total (versus 4 and 3% for the other specialities)

5. Figure 1 presents the main results of the study. It should be replaced by a table giving the different exact numbers and percentages.

6. The authors should go further in the discussion of various points:
- the general problem of the status of diabetes (risk factor or disease?),
- the usefulness of the results for the mortality data users,
- justification of the choice made to propose certification layouts instead of filling a death certificate from scratch,
- the impact of the results on the need to train certifiers on the understanding of the concept of UC (versus contributing cause),
- the potential of multiple cause of death analysis to avoid the problem of the selection of the UC in the case of diabetic patients.

Minor essential revisions
* p4 - "case scenarios" in the methods part and "case histories" in the discussion (p11)?
* p7 - the sentence "To avoid certification errors, two measures were taken" is not clear
* p11 - "two measures" - recall which measures
* p11 - response rate: replace "not very satisfactory" by "low"
* p 13 - the sentence:"A study by Murray... " is not clear
* p13 - why a reference to the US handbook and not to the WHO International classification of diseases?

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' below