Reviewer’s report

Title: Quality comparison of electronic versus paper death certificates (France - 2010)

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Reviewer: Chalapati Rao

Reviewer’s report:

This article addresses an important aspect of epidemiology in terms of improving the quality and utility of routine administrative data on cause-specific mortality as derived from death registration. The authors have clearly enunciated the benefits of electronic cause of death certification in their introduction, and the study results support their conclusions on differences in data quality from the two broad streams of data compilation i.e electronic vs hard copy death certification.

The article could be improved by addressing the following points.

Major Compulsory Revisions

1. Page 5; last paragraph. The use of the term ‘formal approach’ is unclear. In order to explain this issue, it is recommended that specific technical terms should be used for the two approaches. One solution would be through use of the following definitions:
   - A – comparison of UCD from DC with medical records – could be termed ‘content’ validity
   - B – comparison of ‘intrinsic’ characteristics of DCs for specific criteria at a population level – could be termed as ‘criterion’ validity.

Authors are recommended to look into this matter, and come up with proper standard terminology for such assessments. Further, the authors could refer to an overall framework for assessment of cause of death data quality, which makes similar points in regard to data validity (e.g Rao, C., et al. (2005). "Evaluating national cause of death statistics: Principles and application to the case of China." Bull World Health Organ 83(8): 618-625.

2. Page 6: Methods. The authors mention 5 automated coding systems. Over here, please provided a table outlining the background / characteristics / current application of each system

3. Page 8; Results. The manuscript should provide information on the characteristics of participating institutions, as there could be an element of selection bias here. IF the institutions conducting electronic death certification are largely teaching hospitals or tertiary facilities, there could be a greater potential for higher data quality in terms of number of causes per death, and lower proportions of imprecise codes, as well as correct certification leading to application of the General Principle for coding. Any implications of characteristics
of participating institutions should also be mentioned. In case possible, a stratified analysis comparing data quality across institutions with similar characteristics should be presented, which could clearly demonstrate the benefits of electronic vs paper death certification

4. Page 10; Discussion section, third paragraph. The authors mention ‘online guidelines’ for physicians in completing the electronic death certificate. Please elaborate on these guidelines in the methods section, as these could definitely have an important role in the differences in data quality observed from the study

5. Page 10, Discussion. The authors should include a recommendation to conduct qualitative research into the knowledge, attitudes, practices and preferences of certifying physicians in regard to electronic vs paper based cause of death certification. The findings of such research would be useful in designing broader interventions to augment the implementation of electronic death certification in France as well as in international settings

Minor essential revisions

1. Pg 6: replace ‘volunteer’ with ‘voluntary’

2. Pg 8: replace ‘affected frequently’ with ‘frequently affect’

3. Pg 10: last line of first paragraph of Discussion: .....paper DCs i.e replace 'ones' with 'DCs'

4. Pg 10; second paragraph; last line – the use of the term ‘generalise’ is unclear; please rephrase to clarify the intended meaning

5. Pg 11; last paragraph – ‘....seem harder to code’. This phrase suggests that that these deaths from external causes were coded manually, instead of being coded by the automated system. If this is so, this should be clarified in the Methods, since on pg 6 there is mention that IRIS codes all but 1% of deaths. Also, if possible, bring out the issue of the need for dual codes for injury deaths, (both external and internal causes), and whether IRIS has the facility to achieve such dual coding

6. Table 1; examples. Replace ‘cardiovascular accident’ with ‘cerebrovascular accident’; and preferably replace ‘nose cancer’ with a more common condition e.g. lung cancer

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**
I declare that I have no competing interests