Reviewer’s report

Title: Usefulness of Occupation and Industry information in Mortality Data in South Africa from 2006 to 2015

Version: 0 Date: 04 Feb 2019

Reviewer: Kobus Herbst

Reviewer's report:

The authors address a relevant issue in deriving an assessment of occupational disease mortality risk from national death notification data. In particular the short-comings that they identify as a consequence of their analysis provides valuable insight into improving the national death registration system. In general though the study fails in adequately contextualizing their findings by not relating their findings to the various statutory reports produced by the Dept of Mineral Resources and the National Institute for Occupational Health in South Africa (e.g. http://www.nioh.ac.za/publications/pathology-disease-surveillance-reports/). Although the statement they make in 40-43 is strictly true, they need to point out the aforementioned statutory reporting and place their study in context of these generally available reports. There is a missed opportunity in not analyzing precisely how these resources can be augmented by death registration data.

Specific comments:

1. Line 99. Clarify what the nature of the coding was that restricted the analysis to 2013-2015.

2. Line 101. Provide reference(s) for the assertion that South African mortality data are of mediocre quality.

3. Line 109. It is unclear what the final coding of occupations and industry sectors were in the analysis. Perhaps table 1 can be augmented to provide this information.

4. Line 133. How as this adjustment done?

5. Line 137. Do you mean annual mortality?

6. Line 140. Figure 1. what is the denominator for the calculated mortality rates? Should the mortality rates not be age standardized as the annual age distribution is likely changing over the period under consideration?
7. Line 147. Table 2. Row heading "Proportion who are employed, only" is unclear.

8. Line 180. Substantiate the assertion in this sentence.

9. Line 191. Table 6. The significant increased of odds to die of pneumoconiosis for nurses are not discussed.

10. Line 222. "...are many competing interests so other data sources may be used..." The meaning of this statement is unclear.

11. Discussion. The discussion can be tightened and contains material that should rather be included in the results.

Minor edits:

Line 65: ...silicosis as a type of...

Line 77: ...proportions of deaths...

Line 78: coded misspelled

Line 113: Sentence unclear/misformed.

Line 223. ...equitable and responsive...

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**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:

Needs some language corrections before being published

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?
4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?
5. Do you have any other financial competing interests?
6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal