Reviewer’s report

Title: Indicators for early assessment of palliative care in lung cancer patients: a population study using linked health data

Version: 0 Date: 15 Dec 2017

Reviewer: Rebecca Wilson

Reviewer’s report:

I would like to congratulate the authors on making good use of routinely collected data to highlight the demographic and clinical differences between short and long term survivors of lung cancer patients. The authors provide a good rationale for their work and highlight its relevance to palliative care. However, I would recommend some revisions.

My main concern with this manuscript is what is defined as the main aim of the study. Whilst the authors have described an aim on page 5 (line 23), this is not what the study achieves and I think this is more a possible implication of the study and in the fact the paper would benefit from having a focused, measurable aim, such as that described here as the objective (line 28-36). What this analysis aimed to do was to identify the correlates of short/long term survival (there would be implications of this that can be discussed further). Identifying this as the aim will help provide a structure for the manuscript and interpretation of the results. Specifying how this was measured can then form the objectives (eg, specifying demographic/clinical factors etc). Reorganising the aim and objectives would give the results and discussion sections better structure and would lead to a stronger conclusion. With this in mind, I would suggest rewording the conclusion drawn from the results, both in the abstract and on page 13. Keep the focus on what the results have shown and then suggest the potential implications of these results, this will give the paper a stronger message.

The methods section would benefit from restructuring. Whilst most of the detail appears to be there, it doesn't appear to be in an organised format. (What is missing is a section on the sample. Although diagnostic and date of death criteria are given on page 6, describe in more detail - possibly in a sub-headed section - what were the inclusion/exclusion criteria, where the sample were from, etc.) Follow some sort of structure to systematically describe the outcome variable, the descriptors, the methods, etc.

Although how the diagnostic episode is derived, practically, is well explained (on page 7, line 11), it is not clear how this variable was conceptually formed. Is there a reference that can be provided for where/when it has been used before? If not, how were the date thresholds used decided on? Even if it is arbitrary, provide some sort of justification as to why this is an appropriate way of identifying the diagnosis episode. Why were the hospital episode statistics from the actual date of diagnosis not used? Explain to the reader if this was not possible.
In the results tables, pre- and post-diagnosis variables are distinguished between but there is no mention of this in the methods. Describe why these variables are considered separately, this may form an objective.

Other comments:

The introduction has some structural issues. Whilst most of the main points are there, this section would benefit from some restructuring to improve the flow and story-telling to prelude the study.

Provide a reference for ICD-03 (page 6, line 47).

Although the discussion addresses the 30-day cut-off for short-term survival, this could be mentioned earlier in the manuscript, to provide the reader with some understanding of why this cut-off is used. Report if there is a clinical rationale for using this cut-off and if not, provide some justification.

Mention only variables used in analysis, there is no need to mention SES (page 7, line 51) as it's not relevant to the study.

Chi-square does not infer likelihood (Page 10, line 7), be aware of inferring causality and comment only on associations.

Define 'clinically less well characterised' (page 10, line 48).

Use some kind of structure when discussing the results (in the discussion), either by objective, or type of variable (demographic/clinical, or pre/post diagnosis)

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.

Yes

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

No

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 am able to assess the statistics

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