Reviewer's report

Title: Patterns of HIV Portuguese hospitalizations: a hierarchical survival model

Version: 1 Date: 16 March 2009

Reviewer: Kamil Barbour

Reviewer's report:

The authors have done an adequate job of explaining their objectives and analyzing the data. However, the manuscript still requires revision in certain areas.

Major Compulsory Revisions

1. I would remove the first paragraph of the discussion. It is not strongly related to the aim of the study. It is always best to summarize the results of the study in the first paragraph of the discussion to get your main point across.

2. In the discussion please provide interpretations and citations for why you think gender, type of DRG, number of hospital beds, and central hospital were associated with mortality and why catchment area was not.

3. In the conclusion section try to do a better job of mentioning why these results are important and how we can intervene to lower HIV-related mortality.

4. In the KM analysis age is defined as categorical. However, in the Cox model age is continuous as you interpreted it as per every 1 year increase in the results section. Age variable needs to be defined consistently throughout the analyses.

5. The use of the term intra-hospital mortality is confusing to the readers. You are analyzing mortality among different hospitals not just within a hospital on its own. I would remove intra from the term intra-hospital mortality in your manuscript.

Minor Essential Revisions

6. In the background you mentioned that HIV is one of the major reasons for death in Portugal however the prevalence is only between 0.1 and 0.6%. This seems contradictory to the readers. Please rephrase this statement.

7. I would remove from the last sentence of the Background, "context of cost cutting". This paper is emphasizing mortality not costs.

8. The first sentence of the results section should be in the methods section. Also remove the headings that state figure 1 insert here or table 1 insert here.

9. Remove the Peto Test. This test is similar to the log rank test. There is no need to have both.

10. In the second and third paragraphs of page 13 you repeat why a hierarchical
model is better than a single level model. This sounds redundant as it is mentioned earlier in the last paragraph of page 4 background. I would remove the initial explanation in the background and mention this as a strength of your study in the discussion.

Discretionary Revisions

11. Last sentence of Background change giving to given.

12. Please change whilst to while for paragraph 1 of the methods section.

13. For study population criteria state the criteria in a sentence or 2. Remove headings a), b), c), etc.

14. In paragraph 4 of results I would rephrase this sentence. In the exploratory analysis with KM, older age, being male, urgent admission, and medical DRG were associated with a quicker progression to death.

15. First paragraph of page 10 rephrase. Patients with tuberculosis had a significantly higher LOS than those without.

16. Last paragraph of page 10 instead of as regards state in regards.

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.