Reviewer's report

Title: Patterns of multi-morbidity in working Australians

Version: 1 Date: 12 November 2010

Reviewer: Martin Fortin

Reviewer's report:

Thank you for inviting me to review this interesting paper. I think some more work is required but I'm confident that the authors will be able to provide the additional required information.

Major Compulsory revisions

1. Title is misleading because the paper is more about comparing two methods to identify non random clusters of multi-morbidity and not to report on the results for the Australian working population.

2. Introduction should be improved. Third paragraph starting with: The study of patterns... should be completely re-written to clearly identify the rationale of doing this study, to justify the need of this study.

Third sentence starting with "These methods...": it's not clear which methods the authors are referring to.

Be sure not to include elements that should go in the methods section like the sentence: "We chose to use exploratory..."

3. Objective: I would suggest reformulating the two last sentences of the introduction like: The objective of this study was to identify non-randomly occurring clusters of multi-morbid health conditions by using two different methods...

4. Methods: For the purpose of coherence, the authors should avoid giving results in the methods section. One could argue that those results (n, response rate...) belong to another study and should be presented in the methods section but the authors chose to give some of the results in the results section. I can't see any good raisons to present the results of the former study in two different sections.

5. The authors should also avoid mixing the sections. The results section is somewhat contaminated with elements of discussion particularly p.7 at the end of the results section.

6. The discussion should be strenghtened and should include a discussion of the contribution of this study to the body fo knowledge on multimorbidity and its measure. The comparison with the Cumulative Illnesse Rating Scale is interesting but need some more thoughts and connections with the objective of
7. The last paragraph of the discussion is about psychological distress. The authors should suggest potential reasons to explain their findings.

8. The clinical content of the discussion could be improved.

9. A section on limitations is required and should include a discussion about the extremely low response rate and its potential impact.

10. The conclusion should be directly in line with the objective which is not exactly the case at this time.

11. One possible way to strengthen the discussion would be to put compare the result with a publish study by Cornell JE. MULTIMORBIDITY CLUSTERS: CLUSTERING BINARY DATA FROM MULTIMORBIDITY CLUSTERS: CLUSTERING BINARY DATA FROM A LARGE ADMINISTRATIVE MEDICAL DATABASE. Applied Multivariate Research, Volume 12, No. 3, 2007, 163-182.

Minor essential revision:

12. The authors should review the verb tenses used in this paper. The use of the present and the simple past is not always appropriate particularly in the sub-section of the methods presenting the Statistical analysis.

13. The authors should number the tables in the same order that they appear in the text. Table 2 is referred to for the first time after the table 3.

14. Results: The author should avoid repeating in the text information already present in the tables unless they want to bring attention to an important result. (ex. description of characteristics of the sample).

15. The sentence starting with: Figure 1 is a dendrogram... reads funny. The authors should consider reformulation.

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

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

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interest