Reviewer’s report

Title: Multi-morbidity and falls in community-dwelling Canadians over 65 years old: A population-based study exploring associations with number and pattern of chronic diseases

Version: 1
Date: 22 October 2013
Reviewer: Trang Vu

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Major Compulsory Revisions

Methods:
Page 5: The authors should provide key details about the Canadian Community Health Survey – Healthy Aging so readers can understand how the study population was selected, how the sampling was done and how data quality was assured.

Page 6: Readers unfamiliar with cluster analysis would benefit from having the terms “centroid”, “average linkage” and “Ward’s clustering method” explained. This will enhance their understanding of the approach used to validate different clustering solutions detailed on page 7.

Page 7: Age and gender were included as covariates in the logistic regression model. Did the authors consider other covariates? For example, limitation in activities of daily living, use of walking aids, number of medications, use of psychotropic medications and living alone.

Results
Page 8: Influence of specific chronic disease patterns on falls: Would it be possible to include the dendrogram of the final clustering solution?

Table 1: Please spell out abbreviations such as ADL in table footnotes.

Table 2: Please spell out abbreviations such as COPD in table footnotes. Also, are the labels for the last two columns accurate?

Table 3, first column: Please provide full label instead of “# CCs”.

Table 4: The cluster labels should be in the top row. Also, are differences between groups statistically significant? I think the “Heart disease” cluster should be labelled “Heart disease and hypertension cluster” because the prevalence of hypertension was quite high in this cluster (84.5%).

Discussion
Page 9: Last sentence in the first paragraph: Suggest the authors revise this sentence once the issue of `other covariates’ (see my comments for the Methods
section) is addressed. Also, could the authors please comment on the clustering structure in terms of the degree of overlap?

Page 9: Second paragraph starting with “Indeed, while our cluster analysis”: Suggest the authors revise this paragraph once the issue of ‘other covariates’ is addressed.

Page 12: The study population in Cornell et al (2007) is veterans affairs patients (95% males) and as such might not be comparable to a community-dwelling population. I suggest the authors consider revising the sentence.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests