Reviewer's report

Title: Multimorbidity prevalence and patterns across socioeconomic determinants: a cross-sectional survey

Version: 1 Date: 6 November 2011

Reviewer: Helena Britt

Reviewer's report:

This paper uses patient reported morbidity from 5010 adults, in the Health Quality Council of Alberts Patient Experience Survey., to measure prevalence of multimorbidity.

In general the paper is good, however it suggests some carelessness.

Major compulsory revisions

Overall I think the major issues that need to be addressed (detiled below) are:

A. A little more thought in the discussion about the implications for your results. of ‘low recall, knowledge etc of morbidity through patient self report.

B. Inclusion of some consideration of implications of the ‘missing reported morbidity’ and some indication in the results of the size of this data loss.

C. Investigation of the presentation and statements on 65+ Table 5 – are they the wrong way round perhaps… other wise something weird is going on. – sort out Table 3 and Table 5 on this issue.

Minor essential revisions

There are many smaller issues addressed below.

1. Abstract:

Methods:

1.1 It is important to include self reported” before ‘multimorbidity’ and add ‘by telephone interview’. These are essential parts of the Methods. Correct (‘over 18 years’), to read (‘18 years and over’.)

2. Background:

2.1 Para 1: you give the impression that obesity is now included in the definition. This is Starfield’s approach but has not been taken up much elsewhere. Need to make it clear it is Starfield, not all multimorbidity researchers.

2.2. Page 4: Para 2: First sentence. You fail to report that Fortin’s was in adults, Britt was in the population, and I don’t know off had what ref 11 used. Of course you will get different results with different age groups. Please add a bit more detail.
2.3 Page 5 last para: Line 1: While ref 25 was published in 2010, it was hardly ‘recent,’ as it compared 2005 CCHS data with 2003 Fortin data. Leave out ‘recent’.

Line 3: Are you sure it wasn’t “25 years and over, rather than over 25 years? Check please.

Methods

3.1: I don’t think you need Figure 1. It adds little to the paper.

3.2: You included an additional 2 diseases. I can understand this due to their prevalence. However, I wonder the exclusion of all other chronic conditions from the data (those extra listed conditions that were not included in the multimorbidity) affected the results. Don’t you wonder? There is no report of how many chronic conditions were excluded, so it is hard to have any hypothesis as to the effect.

3.3 Page 7: line 2 – delete the word ‘defined’. They were not ‘defined’; they were included in the study.

3.4: Last para: You describe the selection of factors for inclusion in the regression, but never list them as included in it. The results could be cleared if you specified the ones you included at the beginning of the multivariate result.

4. Results

4.1 Page 9: Para 1: It is not clear in para 1 that the results you present are age and sex standardised. Please say so.

4.2 Last par page 9-on to page 10.

..’70.2% of those with multimorbidity were aged less than 65 years”. There are no data presented by which I could check this statement. (though you reference it to Table 1 in line 2 Page 10.) Do you need to add another column? Or say (results not tabled at the end of that sentence and give the Table 1 ref twice in the para.

Further, Table 1 does not include any data for income yet it is presented in Figure 2 and is included in the Multivariate analysis. It needs to be added to Table 1 as well, so we have the descriptive result.

4.4. Correlates:

It seems to me that NOT living with children was the significant predictor – you incorrectly state that it is ‘living with children’. Are you sure the Table has the results the right way round?


4.6 Page 11 para 2, second sentence: The result for 60,000 – 99999 is marginal or not significant (depending on your view of statistics – I would vote for not significant. I would leave that one out and rewrite to the 60,000 cut off.

4.7 Page 11 para 2 last sentence. This statement does not agree with the results.
30-59,999 was NOT significant and <30,000 is either marginal or not different (see comment above). Correct this statement.

5. Discussion
5.1 Page 12 para 1: 3rd sentence: these were the most imports of those that were measured – many things weren’t, so add a statement to that effect.

5.2 Page 12 para 1: last sentence. This is a presentation of new results. I can’t calculate it from Table 2, and you haven’t reported this in the results section. Either add the results with per cent ages and CIs in the result, or take this out.

5.3 Page 13 lline 2- replace ‘indicating’ with suggesting that people think’ or something like that.

5.4 Page 13 para 2 third sentence: add, rather than as a disease in its own right.

5.5 Page 13 last para: Same problem as earlier: this (according to your data should read NOT living with children

5.6 Page 14 line 1: you can’t say the idea is ‘novel’ then reference someone else who has done it. Try ‘the influence of family structure has received little attention in the past’ (or something)

5.7 Page 14 para 2: last sentence ‘broader’ than what?

5.8 Page 14 last para: line 1 (presents – change to prevents).

5.9 Page 15: line 3 – again – they were not ‘defined – see comment above.

5.10 Page 15 last para: this does not scan.

5.11 You need to bring into the limitations, the fact that you did not include (how many?) other conditions reported by the patients, and consider the implications of this.

5.12 IN Table 5 Note the very wide CIs on the OR for 65+ not living with children. I would have thought that the proportion of 65+ living with <16 year olds would be small, and that the wide CIs would be on ‘Living with children’. This further suggests to me that the

6. Conclusion: OK

Tables: and graphics
Remove Figure 1 – not needed.

2. Table against Table 5, on 65+ living with children does not add up (see above).

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