Reviewer's report

Title: Age- and Gender-related Prevalence of Multimorbidity in Primary Care: the Swiss FIRE Project

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Reviewer: Helena Britt

Reviewer's report:

This study reports findings on the prevalence of multimorbidity in Swiss primary care, using three different methods of counting morbidities:
# counting each ICPC-2 rubric once (and multimorbidity as 2+ rubrics; or 3+ rubrics)
# counting each chapter of ICPC-2 only once (2+)
# counting each specialty (did they define how they did this? (2+)

This paper reads very well. It is clearly described. The objective is reasonably basic – to get some measure of multimorbidity in the GP attending population in Switzerland.

Authorship: you can only put the Fire group on the author list if every individual has signed it off. Otherwise change it to 'on behalf of the Fire Group'.

1. Introduction:
1.1 a little light. I would have liked to see a bit more introduction about ‘the way you count’ as this is a major part of this study yet you make light of it throughout the introduction and discussion.

2. Methods:
2.1 Did you adjust for the cluster? If not go back and do it. If you did, tell me so in the methods. Adjusting for the cluster sample study design will broaden all your CIs which may or may not make a difference to your conclusions. If you did not, this is a MAJOR revision. If you have already adjusted it is only a MINOR revision. Otherwise I am happy with the statistical approach.

2.2 How did you define ‘by specialty”? I assume you went through the ICPC-2 rubrics and reclassified according to specialty. You need to have an appendix made available so that others could apply the same method would be interested to see what affect this has on others data, so you need to supply the classification list to allow other’s work to be comparable. MAJOR revision

2.3 Tell me here that the data were de-identified. It is mentioned later in the paper, but is an important basic piece of information about the data source. Minor revision.
3. Results.
In general these read well.
3.1 However, the presentation of Figure 2 is incredibly confusing. It needs to be in two figures which are described separately. One is the original ICPC-2 rubric count of 1+, 2+, or 3+. The other figure should show the comparison of 2+ in each of the methods: rubric, chapter and then specialty. Essential revision.

4. Discussion
Very honest assessment of limitations. Very clear
You miss a couple of things:
4.1 By counting ICPC-2 rubrics you still do not count individual diseases and this would have some limited effect in reducing the prevalence estimates of multimorbidity, compared with others who count each disease as 1.

4.2 CIRS. There is no reason why you could not have used CIRS without the severity. It is merely then a different way of classifying (grouping) the diseases (see Britt et al, 2008 multimorbidity in Australia).

5. For consideration: Overall I was somewhat disappointed that you did not carry through the 3+ count to the Chapter method and the Specialty method, because Fortin has been suggesting that perhaps a 3+ count may be better, rather than a 2+ count. If you apply the 3+ count to methods 2 and 3, I think you would get very different results (i.e. while the results for 2+ are not very different across the three methods, I think you would see the effect far more than 3+). Ideally I would like this to be added to the paper, but you may prefer to just respond as to Why not?

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’