Reviewer’s report

Title: The influence of age, gender and socio-economic status on multimorbidity patterns in primary care. First results from the MultiCare Cohort Study

Version: 3 Date: 6 February 2012

Reviewer: Andrew W Murphy

Reviewer’s report:

Introduction:
The authors are to be congratulated for conducting a very large prospective observational cohort study of 3,189 multimorbid patients aged 65 and over from 150 separate general practices. Particular features to commend are the prior publication of a protocol, the impressive battery of allied tests such as the Barthel index, the complex and careful statistical analysis which included allowance for random effects at study and practice centres. The paper is also discussed within the context of other literature.

I will now make comments in chronological order as the paper is read. I consider all these revisions to be minor discretionary revisions.

Abstract:
It would be helpful, in the background section, if the multimorbidity patterns referred to in the paper were specified.

Introduction / Third Paragraph:
‘Recent Research’ includes reference to a paper from 2003 which does not appear so recent!

Methods: Data Collection:
Reference is made to “ICD 10 Diagnoses, from patients’ charts, in the electronic documentation system of the GP”. Reliability information regarding this crucial aspect of the study needs to be provided.

Data Collection: Final Paragraph:
Reference is made to CASMIN classification with an associated reference. It would be helpful if some detail was provided on this for readers, like myself, not familiar with this scale.

Discussion:
Reference is made to ‘practice sharing’. Again this may not be familiar to non-German readers and could be explained.

Discussion: Strengths and Weaknesses:
It is noted that there was a statistically significant increase in the proportion of
patients with intestinal diverticulosis and psoriasis who did not respond. It is perhaps not surprising that from 29 groups, two comparisons would be significantly different. This could be noted.

Discussion: Strengths and Weaknesses:
Again the authors are to be commended for planning future replication in analyses of longitudinal data.

Overall comments:
This is a long and somewhat complex paper which is, at times, dense to read and comprehend. Consideration should be given to addressing this.

The key findings are simply that female gender is not associated with a higher morbidity, socio economic status is and increasing age is only so associated to a small degree. The authors note the female gender finding may be confounded due to age.

From a daily clinical perspective, the lack of strong association with age is surprising as is lack of protection from marital status. Placing of the findings in the context of routine daily practice, would be helpful.

This study will be helpful for baseline reference and as a platform for future research.

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

**Declaration of competing interests:**
'I declare that I have no competing interests'