Reviewer's report

Title: Use of psychotropics, opioids, anticholinergics and antiepileptics and cognitive decline in the aged: a longitudinal population-based study

Version: 2 Date: 4 August 2011

Reviewer: Donald Labbe

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Major Compulsory Revisions:

1. The authors state that "Only baseline medications were used in the analyses."
(p. 10, 4th paragraph). They also state earlier in the paper that participants qualify as using a medication based on the week prior to interview. Given these statements, the authors appear to be concluding that specific medications alone and in combination are predictive of cognitive decline based on medication use that may have varied from 1 week to 7 or more years. Such conclusions should not be drawn from variable and possibly limited medication use.

2. Sample problems included: no men used Ops and the number of participants rated as users was lacking ranging from 4 in the BZDs +OPs group to 6 in the OPs + other group to 29 in the AChs group. These groups, particularlry the former 2, are too small to draw generalizable conclusions.

3. These small samples have large standard deviations (4.4, 7.8, 8.7) with regard to follow up MMSE scores. This suggests that there is a large spread or alot of variance in the scores whuch could result in a few very low scores that may have significantly impacted results.

Level of interest: An article of limited interest

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 interests.