Reviewer's report

Title: Inappropriate Medication Use among the Elderly: a Systematic Review

Version: 1 Date: 9 June 2011

Reviewer: Patrick J Barry

Reviewer's report:

Major Revisions

Title
The title suggests that this is an exhaustive systematic review of IP use in the elderly. In fact it reads as a selective review of data published on insurance and pharmacy databases. I think that the authors should consider revision of the title to reflect this.

Background
Suggest use Potentially inappropriate prescibing instead of inappropriate prescribing as this is know the most commonly used term in the literature

Page 4 paragraph 1 - Other commonly used tools are ignored such as the IPET, Medication Appropriateness Index and the STOPP/START tool.

Methodology
General
The methodology of how studies were picked is unclear; Why 90% of studies were excluded needs to be laid out more clearly in the methods section. What is a primary study and why not included; Why only secondary studies included?

I am not sure as to why only secondary databases were included and not primary studies.

Page 5, Paragraph 1 - Was Potentially IP etc included as a MESH term; should it have been?

Why does it appear that some studies utilising subsets of the Beers criteria excluded but modified Beers criteria not - is this valid? Are these altered Beers criteria validated by the original reporting authors in the source articles? If not, should these studies be excluded

Page 6, Paragraph 4 - previously tested instrument - what is this; is it precise and validated; is it available to be seen by reviewers?

Results
Recent studies using other criteria since 2005 in community dwelling older people seem to have been excluded including IPET and STOPP/START cf Ryan C et al, 2009
Use of the term IMU then becomes IM - please revise.
Discussion
Limitations of this approach are not emphasized enough
The limitations of using population based insurance and pharmacy data cannot assess issues like compliance, hospitalisation rates, use of primary care etc. Primary studies are likely to comment on this. Also there is no reference made to whether any of these tools and results have proven a clinical benefit - not to date. How complete are the databases used?
Should there be a comment about the difficulties in modifying the Beers tool, its use of many drugs no longer prescribed and also about the fact that many drug classes now used for depression etc are not included in even the 2002 criteria

Discretionary Revisions
Use of the term elderly is best avoided in the Geriatric Medicine literature - suggest replace with older adult.
The use of the term inappropriate prescribing is probably better termed 'potentially inappropriate prescribing'

Level of interest: An article of limited interest

Quality of written English: Acceptable

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