Reviewer's report

Title: Prevalence of inappropriate medication using Beers criteria in Japanese long-term care facilities

Version: 3 Date: 2 November 2005

Reviewer: Sally K Rigler

Reviewer's report:

General

Additional editing could further improve language use and grammar.

---------------------------------------------------------------------------------

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The 2003 Beers criteria contain many new medications and many changes compared to the 1997 criteria, so this indeed could have influenced your findings even if prescribers were mostly unaware of these criteria, simply because many currently used drugs have now been pulled into the inappropriate list. So I'm not sure that the reason you give in the paper for selecting the 2003 criteria rings true. I think it is fine to use the 2003 criteria as you have done, but I think you must express more clearly that it was for the purpose of establishing the current prevalence of inappropriate medication use in Japanese facilities, using current guidelines--but NOT for the purpose of determining whether prescribers in 2002 were following the then-current guidelines from 1997. (If that had been your goal, you should have used 1997 guidelines which are the only ones prescribers could have been expected to comply with at the time your data were generated in 2002.)

The added explanations of the types of facilities, voluntary MDS completion, lack of pharmacy review, and convenience sampling were very helpful.

The top section on page 13 entitled "validity of beers criteria" seems misleading. Cross-section data from 3 months prior on a small subset of patients seems insufficient to be deemed a longitudinal examination of use. You really can't tell anything about drug tolerability or reason for use from this analysis, so I would suggest eliminating this section entirely, or at the very least, modifying that subheading.

I continue to think that you should eliminate the bottom section of page 13 regarding adverse outcomes/falls, given the very small sample size.

---------------------------------------------------------------------------------

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

The abstract needs to mention that you did a regression analysis if you are trying to make the point that you were looking at predictors of inappropriate medication use, and not just prevalence.

Page 7, paragraph 1 and 2, could be reduced to simply refer to Table 1 which shows how many drugs were excluded and why. You could eliminate some duplication between text and tables in this area, and also in the area of demographic results on page 9.
Page 9, Results, second paragraph should be moved to Methods. It is methodologic information about how you dealt with external preparations, rather than Results.

Discussion page 11, first paragraph, second sentence is an incomplete sentence.

Conclusions section, page 16; This should be more clear that your regression analysis looked at risk factors only for unconditionally inappropriate medications (those that are inappropriate without regard to presence or absence of other diseases or conditions.) You don't report having done a similar regression analysis for conditionally inappropriate (based on presence of a disease or condition), so the writing needs to be very clear about which type of inappropriate medication use you are referring to here.

Discretionary Revisions (which the author can choose to ignore)

Background, page 3, first paragraph: 'clear criteria' might somewhat overstate the description of the Beers criteria; they are expert opinion-based, and thus, have been subject to controversy from clinical realms.

Page 7, how was 'abnormal laboratory test' defined? Which drug groups were included in psychoactive drug use?

Under limitations, the issue of potential racial differences in drug metabolism seems beyond the scope of this discussion.

I am puzzled by the Table 4 data for 'stress incontinence', with n/N shown as 89/1028. For your overall sample of 1669, it seems improbable that 1028 actually had clearly established stress incontinence only. Could this term instead have been intended to mean a broader classification for incontinence in general which indeed would be this highly prevalent in this population? If urge, overflow, stress, functional, and mixed incontinence were all combined, this rate seems to make more sense. It might be worth checking how this MDS variable is actually used in practice in these facilities, and consider changing the wording from 'stress incontinence' to just 'incontinence' if that were warranted by the data.

What next?: Accept after minor essential revisions

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

Declaration of competing interests:

I declare that I have no competing interests.