Reviewer’s report

Title: Age, gender and disability predict future disability in the elderly: the Rotterdam Study

Version: 1 Date: 23 September 2010

Reviewer: Catherine Sherrington

Reviewer’s report:

This study sought to develop a model to predict future disability in community-dwelling older people. 5027 participants were included. The study addresses a very useful question and appears to be have been well conducted. Strengths of this study include the large sample size, the population-based recruitment strategy and the longitudinal nature of the study.

Major compulsory revisions

1. The “what this study adds” section states that the model is to predict an increase in disability but this does not seem to be the case. The outcome seems to be disability per se rather than increased disability.

2. The term “the elderly” should be avoided as many find this offensive. “Older people” or “seniors” or “people over the age of x years” should be used instead. This is particularly important as the sample includes those over the age of 55.

3. The introduction would be benefit from a better justification for the study. Prediction of disability is suggested to be useful for the identification of high risk groups for intervention yet the interventions quoted as examples are all in particular clinical groups rather than at a population level. The best way to target these interventions would seem to be to seek people with this diagnosis rather than screen the general population of people over 55.

4. In the analysis section the meaning of “predictors which in earlier regression models have proven to be significantly associated” is not clear and needs explanation. Also, which interaction terms were included?

5. I would be interested to see the number of people in each of the outcome categories at baseline (currently this is just presented as the average score). This seems a way of assessing the extent of worsening of disability over time and could help the reader assess the additional information provided by the prediction model.

6. In the results, predictors section the attempt to assist the reader in interpreting the odds ratio is a good idea but I feel the wording needs more work as “An OR on a continuous variable, like the Disability Index, should be interpreted that with every point increase on the Disability Index the risk increases with that OR” does not seem quite right.

7. The most recent International Classification of Functioning, Disability and Health from the World Health Organisation uses the term disability more broadly
than the way it is used in this study. I suggest that this be addressed in the discussion.

8. In Table 3, why is there a “+” after the constant in the “severe disability” column.

9. I suggest the footnote on Tables 3 and 4 be modified to give a clearer explanation to the reader on how the probabilities could be calculated in practice. Perhaps along the lines of the “The probability of each outcome for an individual can be estimated by adding the scores for each characteristic. The sumscore represents the predicted probability of each outcome category”.

Level of interest: An article of importance in its field

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