Reviewer's report

Title: Falls in advanced old age: recalled falls and prospective follow-up of over-90-year-olds in the Cambridge City over-75s Cohort study

Version: 1  Date: 3 September 2007

Reviewer: M. Clare Robertson

Reviewer's report:

General

This study reports falls recalled in the previous year in a representative sample of 90 women and 20 men aged 91 to 106 years (Abstract, 105 years Results) gathered from an interview, and prospective monitoring of all falls for the following 12 months using fall calendars and telephone follow-up. The follow-up rate was excellent given the age group, and the method used for prospective monitoring is considered the gold standard. As the authors point out, the epidemiology of falls in this detail has previously not been available for this particular age group. Therefore the paper makes a very valuable contribution to the falls prevention literature.

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

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

1. The wording of the Abstract could be clearer regarding the fact that the fall events recorded by the two different methods were in two different time periods (two consecutive years) – for example, the second of the two objectives in the Background section and the Design section of the Methods.

2. Also in the Abstract, the authors appear to imply that the two sets of fall events were compared directly and any differences attributed to the method of recording falls, rather than a combination of the method used and the fact that the time frame was different. For example, statements such as “recall methods may underestimate numbers of repeated falls but not the proportion of fallers” and that the proportion reported to have fallen was lower using one of the two methods, are potentially misleading given that the fall events being compared were in two different time periods. The wording in the Results and Discussion text concerning the use of the recalled data to predict fallers and number of falls in the year of prospective follow up, is entirely appropriate.

3. As the authors point out, the extent of the discrepancy between retrospective
recall and prospective monitoring for fall events in the same time period has been addressed in only a few studies but this particular study does not directly address this discrepancy. Please can the authors clarify whether the examples of such trials discussed on page 17 (Discussion) record falls in the same or consecutive time periods?

4. The Methods section mentions use of negative binomial regression but it is not quite clear which analyses were conducted using these models, for instance in Tables 1 and 2. Negative binomials regression models can also be used when adjusting for confounding variables. Likelihood ratio tests are mentioned in the Methods but again it is not quite clear in which regression models these tests were used.

5. Figure 1: Please provide a legend for this graph so that the reader can interpret the line and the bars without referring to the text.

Discretionary Revisions (which the author can choose to ignore)

1. I feel the term “prevalence” is best avoided when reporting falls, as falls are events, not a disease state or attribute.

2. ProFaNE (Prevention of Falls Network Europe) suggest that the rate of falls should be reported as falls per person year (not per 100 person years) (see Lamb SE et al. JAGS 2005;53:1618:22).

3. The data used in the survival analysis models in this study were time to a first fall. However, the “time to first fall” is not a particularly good interpretation of a hazard ratio (heading of last column in Table 2 and title of Figure 3). A hazard ratio (or relative hazard) can be thought of in a similar way to a relative risk – the ratio of the estimated risk of a fall at all time points (over the 12 month period) for the two subgroups being compared.

4. Table 1 and 2: Does “Each additional year” of age start at 91 years or 94 years?

5. Figures 1 and 2: I suggest that the number of participants should be placed on the top of each bar, and the graph also indicate the total number of participants in this breakdown.

6. Figure 3: Please can the confounding variables used in the adjusted models be provided in a footnote so that the graph provides stand alone information for the reader.

7. References:
Replace capital letters with lower case in the titles of references 4, 10, and 11. Some journal names are abbreviated and some provided in full.
What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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.