Reviewer's report

Title: Development and Validation of a Questionnaire for Analyzing Real-life Falls in Long-term Care Captured on Video

Version: 2 Date: 4 December 2012

Reviewer: Geoff Murray

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Major Compulsory Revisions:
1. The main measures of this study are the inter-rater and intra-rater reliability. Co-author SNR trained the observers using an instruction manual. Clearly the training and instruction manual are significant factors impacting on inter-rater and intra-rater reliability. For example the clutter had poor reliability. Is the poor reliability because the instruction manual did not clearly define clutter or is it for some other reason. I do think the authors should have included some discussion on factors that impacted on inter-rater and intra-rater reliability as these are the main numeric outcomes of the study.

2. The questionnaire included an estimate of what the observer thought was the probability of his/her answer being correct, but as far as I can see this data was not included in the results. Fairly obviously if the observers rated their probability of being correct as low, then the likelihood of good inter-rater and intra-rater reliability would be less. I do think the authors should include this data in Table 2 and their discussion.

Minor Essential Revisions: Nil

Discretionary Revisions:

1. I think the authors should state the level of care received by participants i.e. low level, high level or mixed. They should also provide base line data such as the average age of participants, M:F ratio.

2. If possible I think the authors could state the percentage of falls that were captured as a proportion of the total falls in the facilities during the period of study (A question in my mind is whether this model of analysis of falls is generalizable to other settings such as bathrooms)

3. I would like to know more information about the cameras used - were they infra red cameras for example for resolution of images recorded at night (In this regard I was wondering how lighting was actually assessed). The cameras recorded at 4 to 15 frames a second. Can the authors state the average number of frames that were analysed in each fall, and perhaps the range? How was the inter-rater and intra-rater reliability affected by the number of frames?

4. I would also like to know a little more about circumstances of filming e.g. what
was the average distance from the camera to where the fall occurred, and range of distances and perhaps how filming circumstances related to inter-rater and intra-rater reliability.

5. The authors examined 3 stages of falls - initiation, descent and impact. Presumably they had opportunity to also examine observable factors before initiation of the fall e.g was the resident’s gait or stance unsteady, where they transferring with out an aid that may have been present. The authors also presumably had opportunity to observe factors after the impact stage e.g how long before help arrived, did the residents expose themselves to risk by attempting to rise without assistance. The authors could consider this in their discussion. I noted that to some degree the authors acknowledged this limitation in the second last paragraph.

**Level of interest:** An article of importance in its field

**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.