Reviewer's report

Title: Falls on snow and ice in England: calculating the cost of emergency hospital admissions during winter

Version: 1 Date: 1 February 2011

Reviewer: Paul Wilkinson

Reviewer's report:

General comments

This is a clearly written paper that provides useful evidence on the burden and health service costs of emergency hospital admission for falls on snow and ice in England. However, there are several important points that I recommend be addressed.

Major compulsory revisions

(1) While the paper provides some useful quantification, it was disappointing that it was not more analytical. That there should be a negative correlation between the number of falls and mean winter temperature and with weekly temperature, is not particularly surprising and not as useful as having more precise evidence on the risks of falls on days of ice, for example. The authors comment on the use of mean weekly temperature as a limitation in the discussion session, but don't really justify why daily data were not used, including of snow and ice. Even if more detailed analysis is not possible, additional text should be included to explain why.

(2) The description of the approach to statistical analysis (of falls vs weekly temperatures) is not sufficiently detailed, and raises some questions. The text refers to temperature as the only explanatory factor, without any account of time trends, for example, or of how regional data (and the correlations between them) were handled. I also do not fully understand the justification for the choice of log(rate) as the outcome. While it may be reasonable, the explanation seems to be only that the relationship for the un-logged analysis did not appear to be linear. The statistical analysis, or at least its description, should be amplified.

Discretionary revisions

(3) Much of the text is very specific to England (e.g. in relation to changes in the health service, government budget pressures etc), which, though relevant, is less meaningful to an international audience. (I guess no-one outside the UK would understand 'The Big Society' reference, for example.) I also found some of the comments on fears about litigation and some other discussion points somewhat 'throw-away'. It would be worth going through the discussion again.

(4) The authors make comments about wider costs of falls (e.g. from sickness
absence), and I would have found it interesting to see some further estimates of this.

(5) I wasn’t convinced of the explanation for the difference in falls between men and women as being entirely due to age structure. This probably accounts for some difference in number, but not I doubt the substantially different curves. Plotting rates would help clarify this.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**
I declare that I have no competing interests