Reviewer’s report

Title: Stroke awareness in the general population: knowledge of stroke risk factors and warning signs in older adults

Version: 1 Date: 15 December 2008

Reviewer: Mathew J Reeves

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This population based survey was designed to quantify the stroke awareness of older community-living adults in Ireland. The awareness of risk factors and warning signs were compared across demographic factors and across 2 regions/countries (NI vs. Eire). Consistent with other studies this survey found that stroke awareness was lacking and was worse among those with lower education, other risk factors and in residents of NI. More details are required on the survey design methods and several inconsistencies in the results section need to be resolved. However, the most significant limitation is related to the fact that complex survey analytical methods were not used in this study.

Note that:

[MCR] = major compulsory revisions
[MER] = minor essential revisions
[DR] = discretionary revisions

Background section:

1. 2.5 pages is probably too long --- suggest you reduce some of the information on stroke risk factors (2nd paragraph) and the details of the prior studies (3rd paragraph) – better to summarize the relevant prior findings and leave details of the methods to the discussion section if required. [DR]

2. It would be helpful to include more specific information on what “effective strategies for improving awareness” are available (see end of 3rd paragraph) [DR]

Methods section:

3. I would like to see much more information on the survey procedures. First, who sponsored the surveys? Were the Eire and NI surveys done by the same agency? Second, what were the primary goals of the two surveys? (I assume not just stroke) Third, apart from the different sampling frames for Eire and NI, were the two survey identical in all other respects (training, respondent contact, the survey instrument etc). Fourth, how were respondents initially contacted – door-to-door?, letter?, phone? Who were the interviewers? How were they trained? What was the survey instrument length? – what other subjects did it cover?, is it available to review? Finally, you mention in the analysis section that
the data were re-weighted. If this is the case then this sounds like a complex survey design was used involving, perhaps, over-sampling and/or the use of cluster or multi-level sampling (as opposed to a simple random sample). Such details of the survey design need to be clearly explained. [MCR]

4. How exactly were the respondents instructed to identify the warning signs and risk factors. Were they given the list to look at, or were they asked to say yes, no, not sure to a specific list of potential responses that was read to them? Were any incorrect foils used? [MER]

5. Why did you choose to define adequate knowledge as 2 responses as opposed to the 1 response used by Schneider? (Note that 3 responses have been used in other similar studies). What was the total maximum number of responses? [MER]

6. Analyses section: By re-weighting are you referring to post-stratification? Do you mean age group rather than age cohort? [MCR]

7. How did the analysis take into account the weighting and survey design? If this is a true complex survey then the survey design effects, stratification variables and weighting must be included in the analysis (using a package such as SUDAAN, STATA or SAS Surveyreg). Not accounting for the survey design and weighting leads to incorrect estimates. [MCR]

8. Please indicate what outcomes variable was used in the logistic regression model. How was it specified? [MCR]

Results:

9. Are the %’s reported in the tables weighted or unweighted (raw) %’s? [MCR]

10. What were the response rates for the two surveys? [MCR]

11. Are the demographic differences between the NI and Eire populations in this data (older, less educated in NI) to be expected? So do these represent the underlying true differences between the 2 countries or is this a reflection of how the surveys were conducted? (or perhaps it represents survey bias?). [MCR]

12. Table 1: Smoking should be tested as a 3 level variable (none, former, current) [MCR]

13. Table 2: Weakness and numbness are often confused and it is interesting to note that the difference between NI and Eire for these 2 variables go in opposite directions. Perhaps these two factors could also be combined i.e., numbness or weakness? [MER]

14. Page 12 and Table 3: It would be easier to understand the results if the text description followed the way the analysis was performed. So an OR of 1.9 should be described as indicating a higher level of knowledge (about 2 fold) in those with higher level of education (and not a lower level in those with primary education
as currently described). [MCR]

15. It's not clear to me why Table 3 and 4, which represent MAJOR findings of your study, are buried as supplemental tables. Why are they not in the body of the paper? [MCR]

16. Page 13. Are you sure about the data on socio-economic group (by which I assume you mean social class). Why would lower SES be associated with higher knowledge of risk factors? Why would this be opposite to the warning sign results? How was social class defined? [MCR]

17. Have you considered the strong potential for interaction effects between education and social class. Is it even correct to have both variables listed in the model concurrently? What is the correlation between the two? – does the model show evidence on multi-collinearity problems? [MCR]

18. Table 4: Smoking should be specified as a 3 level variable. The smoking data is confusing as awareness of warning signs and risk factors are opposite to one another. How do the crude estimates for smoking change after adjusting for education and/or social class? The footnote is not clear – why are the 2 models adjusted for different things? [MCR]

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

**Declaration of competing interests:**

I declare that I have no competing interests