Reviewer's report

Title: The effectiveness of very early rehabilitation for acute stroke patients in Japan: a nationwide cross-sectional survey

Version: 1 Date: 1 April 2010

Reviewer: Michael Leathley

Reviewer's report:

Major compulsory revisions

1. The title needs to be altered. A cross sectional survey cannot really assess effectiveness. It could explore associations. The title should also consider the sample. Yes it is acute stroke patients but it those with moderate disability on admission. It is also only ischemic stroke patients.

2. The introduction needs to be re-written, particularly with regards to the AVERT2 trial. The study cited is a feasibility study and as such it is disingenuous to write that it lacks robustness and generalizability. There are then further negative comments around other studies - a small sample with lack of generalizability: yes this is likely but it is not just the sample size that leads to lack of generalizability. Then a study with 1,716 is also criticised because of "selection bias" but there is no information about how there was bias. More detail is needed around the observed and unobserved clinical characteristics on which the use of VEI appears to depend. There could be more detail here on how VI compares with other methods - what makes it so good? - why is it a "proper statistical method". The study will not allow assessment of efficacy (see comments on effectiveness).

3. Some further clarity around how many hospitals provided data would be useful - is it 975 or 294 and if the latter, were they biased because of the voluntary agreement to join?

4. There is mention of speech therapy on page 8, but not on page 9 - if a patient received speech therapy was this counted as VEI?

5. A comment around how patients are diagnosed would be informative. One can be confident of diagnosis where patients are diagnosed by a stroke physician or neurologist and entered onto a stroke register. If the sample is identified from hospital discharge information - how certain can we be that they are all stroke patients.

6. There is no mention about length of hospital stay being used in the analysis. Status at discharge could be related to length of stay.

7. The modified Rankin is not really a useful measure in hospital because it questions a person's ability to self care. It is not possible to know if hospital how well a person looks after themself because they are being looked after by other
people. It is appreciated that this measure cannot be changed but it should be discussed. It is more a measure of participation than ADL.

8. It is unclear why and how the 2 independent summary scores are created.

9. Table 1 is unclear and needs to be revised.

10. The statistics employed are difficult to penetrate. Could the authors simplify the statistics or make them clearer to the average reader?

11. Remove the negative comments about AVERT2 in the discussion. They are inappropriate given that it is a feasibility study.

Minor Essential Revisions
1. The data are presumably in electronic rather than electric format.

2. The symbol for functional severity needs to be in the Table.

Discretionary Revisions
1. I'm not sure how useful/relevant the information about the rat studies is.

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

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'