Reviewer's report

Title: Health, Social and Economic Consequences of Ischemic and Hemorrhagic Stroke: A Controlled National Study Evaluating Societal Effects on Patients and Their Partners

Version: 2 Date: 6 March 2015

Reviewer: Josefine Persson

Reviewer's report:

Major compulsory revision

1. Abstract: Please clarify if the total costs per stroke type after the stroke onset is annual costs or life-time costs, as well as if you refer to the total cost per patient?

2. Method, fourth paragraph, concerning indirect cost: More information is needed concerning how indirect costs are calculated concerning use of method. If you use the human capital approach, then it should be mentioned with a description of the method.

3. Method, seventh paragraph: Please motivate why you use 2009 prices and not prices more closely to current time.

4. Method, concerning statistical analysis of survival data: please describe the statistical analysis used to analyse the survival data used in figure 1.

5. Method, sixth paragraph: As you mention the distribution of stroke types in the study is not equal to previous finding, where the proportions of ischemic stroke is approximately 85% whereas in this study only 38% of the included patients were coded as ischemic stroke. The difference is of major concern and should be analysed further. The proportion of unspecified stroke is as large as 52% in this study, is it possible to code the group of unspecified stroke into ischemic or haemorrhagic in the analysis? Otherwise, you need to validate that you have the correct composition of patients in each stroke type category. This is of major importance since you base your result on these stroke type categories. If it is not possible to code the unspecified stroke into ischemic or haemorrhagic, then I strongly recommend that you present your result for all patients in one group. This is due to lack of knowledge about the composition of stroke patients in each stroke type category, and if you cannot validate that the composition is correct the result in each stroke type category does not really say that much.

6. Discussion: It is necessary to add a paragraph were you discuss your findings compared to other cost of illness analysis made for the stroke disease. Your result is somewhat lower than previous studies and it is necessary to mention your reflections of this facts.
7. Discussion: This study does not include home nursing or nursing homes, which have been shown in previous studies being a considerable part of the total burden of stroke in the society. This may obviously vary in different health care systems, nonetheless it is necessary to mention this in the discussion and also give reflection of this fact.

Minor Essential revisions

8. Introduction, second paragraph, forth sentence: Some of those reference you refer to does not only include direct cost, but also indirect cost, i.e. loss of productivity, and also cost of informal care. Please correct statement.

9. Introduction, second paragraph, fifth sentence: Quality of life is not equal to QALY (Quality Adjusted Life Year). Please correct statement. Quality of life is a broad measurement of several dimensions in a person’s life situation in contrast to QALY which is based on an index and measures one person health status compared to 1 (full health) in each year.

10. Introduction, second paragraph, sixth sentence: A cost of illness with a societal perspective should also include relatives burden, i.e. cost of informal care, which in essence is the quantity of time relative spent on giving support or care to the patients. The time is valued into monetary terms and should be included in the total cost. This have been done before which makes your statement “No studies have evaluated the total health and social burden prior to the stroke incident” incorrect.

11. Method, concerning controls: Please clarify the description of included controls. Controls are mentioned in the second paragraph with no description, later in the fifth paragraph the description of controls is made but is could be mentioned earlier in the paragraph that it is the controls that you refer to.

12. Method, seventh paragraph: please clarify why you performed a nonparametric bootstrap analysis on data based on registries and for which cost categories.

13. Discussion, fifth paragraph: You mention that you found the stroke disease had a significant health and social effect on caregiver, however, health is not measured in this study, only social and economic consequences. Please clarify or correct sentence.

Discretionary Revisions

14. Method, sixth paragraph: Please be consistent of choice of word, patients and pts are mentioned.

15. Result, last sentence: Number of included patients in each disease category is already mentioned and unnecessary to mention again. It is preferable to present the results as “Mean (95% CI) age for patients with ischemic stroke were...” and so on.
16. Result, Survival in Stroke: Please be consistent of choice of word, (95% CI) has been mentioned in Result and in this paragraph (95% confidence interval) is mentioned.

17. Table 2. It is preferable to refer to health care consumed rather than health care received.

18. Table 3. It is necessary to give information of whom the health care costs concerns, patients or spouses?

19. Table 4. You refer to Partner in the headings and spouse in the table, please choose either of them.

20. Figure 1. Please state which figure is (A), (B) and (C).

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

**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´ below.