Reviewer's report

Title: Temporal trends in hospitalisation for stroke recurrence following incident hospitalisation for stroke in Scotland

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Reviewer: Judith Lichtman

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Overall:

This is a well-written and timely study on temporal trends in recurrent stroke in Scotland.

Specific comments and suggestions:

Abstract:

Results: The statement, “patients died within five years of their incident hospitalization (not including deaths occurring after recurrent hospitalisation for stroke)” is confusing as written. This should be restated and described more clearly in the methods section of the paper.

Conclusions: The authors state that their results an “improvement in prognosis”; however, the presented results are limited to mortality and recurrent events. The term “prognosis” implies a broader range of outcomes such as quality of life or physical functioning that are not analyzed in the present data. The authors should be more concise in their word selection for this final statement of the abstract.

Methods:

The authors direct the reader to a recently published article in Circulation: Cardiovascular Quality and Outcomes to define how incident stroke and comorbidities were identified; however, the authors should provide a more detailed description in the current paper.

The data are presented for overlapping years, but this is not clearly described in the methods (1986-1989, 1998-2001).

Results:

The paper currently presents results for the total population, followed by comparisons for each of the two time periods, but the tables present data by each of the two selected time periods, followed by the total for all years. It would be a minor change to modify the table columns to match the text, making the review of the information easier for the reader. Specifically, move the “All years” data column to the left of the other two columns for each of the years.
Similarly, the text presents information that is not consistent with the order of variables presented within the tables. Please modify the order of information provided in text or tables to be consistent.

Page 9, The statement, “The risk of death was greatest in the first few months following the incident hospitalization for stroke whereas the risk of hospitalization for recurrent stroke was more constant over the follow-up period”, omits an important observation. Based on a review of the figure, the risk of death is greatest in the first few months, but also shows a gradual increase over subsequent years. This should be more clearly stated in the text.

P. 9, the authors present an interesting finding for depression, but this point is not discussed in any detail in the discussion section of the manuscript.

P. 10, did the authors consider an interaction term with age and selected comorbid conditions?

p. 10, there is a typo – should be “cumulative incidence”

p. 11, the wording “not including those deaths that occur after recurrent stroke hospitalisations” was confusing. Please clarify this statement.

The authors state that their results imply that primary and secondary prevention strategies for stroke in Scotland have both been effective. Additional discussion regarding trends in secondary prevention practices should be included in detail.

Can the authors provide additional evidence that the utilization of primary and secondary prevention strategies have improved during this time period?