Reviewer's report

Title: Mortality in Dutch hospitals: Trends in time, place and cause of death after admission for myocardial infarction and ischemic stroke. An observational study.

Version: 1 Date: 22 July 2007

Reviewer: Michael Hill

Reviewer's report:

General

This is a strong research question and I find that the results are compelling. However, there are some sloppy features that will require re-analysis of the data.

--------------------------------------------------------------------------------------------------------------------------

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. The definition of stroke 431-434, 436 (ICD9) is really not adequate. 431 codes for intracerebral hemorrhage and 432 for non-specific hemorrhage (most often used for subdural hemorrhage). Neither are ischemic stroke. Therefore, your claim to be examining ischemic stroke only is simply not true. You need to revise and re-analyse. A useful operational definition of ischemic stroke includes: 433.x1, 434.x1, 436, 363.3

In table 1 describing characteristic of the Dutch population you use another definition of stroke 430-348. Please stick to one definition.

Similarly, stroke as a cause of death may need careful examination depending upon how it is coded. A good definition of ischemic stroke using ICD10 is: I63.x, I64.x, H34.1.

It is not possible to comment on the stroke numbers until they are revised using this definition.

2. When you discuss the increase death rate after MI associated with transfers, you need to consider that in the context of your system in the Netherlands (where PTCA is restricted to certain hospitals) that the more SEVERELY affected patients are the ones most likely to be transferred. Thus mortality associated with transfer is most likely due to case-mix more than anything else.

3. I think you need to bring the discussion back around to your introduction and focus on the misleading nature of in-hospital mortality as a relevant indicator of the quality of care. You can delete the paragraph on the feasibility of linkages - it is superfluous for the audience to whom you are aiming. The issue you raise, which is most likely true, and is relevant to health services research, and the use of league tables etc., is that in-hospital mortality as an indicator of quality must be
interpreted in context.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

**What next?**: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

**Quality of written English**: Needs some language corrections before being published

**Statistical review**: No, the manuscript does not need to be seen by a statistician.