Reviewer’s report

Title: The role of ‘confounding by indication’ in assessing the effect of quality of care on disease outcomes in general practice: results of a case-control study

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Reviewer: noel S weiss

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The validity of assessments of quality of care in relation to health outcomes requires the identification of relevant confounding variables and their accurate measurement in available records. This study observes that the incidence of stroke (among patients with high blood pressure) is associated with less- than –optimal management. However, this association is attenuated by control of confounding factors, and the authors suggest that residual confounding may be responsible for any remaining association. While I am not familiar with the literature dealing with the methodologic issues involved in quality of care, I suspect that this manuscript may well be a modest contribution to the field. Nonetheless, the study is limited in important ways:

1. It is not clear whether stroke cases and controls were matched in terms of the same general practitioner. I believe it would be appropriate not to do this, but whatever the authors’ strategy, it should be made explicit.
2. The study itself is very small. There were only 28 cases of stroke. The authors indicate that the participating general practitioners often “were unable to identify stroke patients from their patient register”, thus possibly influencing the representativeness of this small number as well. Also, about half the time it was necessary to use information from the physician’s memory, rather than his/her medical records. Thus, the possibly of recall bias is present.
3. At the bottom of page 6, it’s stated that “for controls, however, the panelists had asked themselves the question: “If this patient had experienced stroke, could the identified sub-optimal care have failed to prevent this stroke?” If the panelists indeed did this, the answers to the question never appeared in the analysis of the data. I suggest this sentence be deleted.
4. In the last paragraph on page eight, the authors assess the statistical significance of a relation between the number of risk factors and case/control status. The assessment of potential confounding ought not to utilize a statistical test, and so I suggest it be deleted.
5. Finally, I question the novelty of the issue that the authors have identified. They claim that they are dealing with “a previously unreported variant of confounding by indication”. I believe that it is just simply confounding by indication. They amplify on this on page 10, stating that observational studies of treatment efficacy usually find that patients “who are more in need both receive more care and have a higher risk of adverse health outcomes”. I believe that in their studies, that is exactly what has happened, but that they have simply defined “more care” as “better quality of care”.

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 limited interest