Reviewer’s report

Title: A predictive score to identify hospitalized patients requiring discharge to a post-acute care facility

Version: 1 Date: 21 September 2007

Reviewer: Alan Tennant

Reviewer’s report:

General

This paper seeks to develop a simple predictive score to identify patients who will require discharge to a post acute care (PAC) facility (in-patient rehabilitation or nursing home) based upon information at 1 day and day 3 after admission for an acute medical condition. Should such an estimate be available, then this would be of considerable value in the process of planning appropriate transfers, so reducing possible transfer delays which the authors point out can account for a significant proportion of hospital bed days.

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

There are some problems with the samples, viz. their adequacy for the analytical procedures (logistic regression); particularly that related to their day 1 analysis (where there are relatively few designated for PAC). Power calculations should be provided to demonstrated that their study has adequate power for each logistic regression.

The authors also fail to provide evidence that the logistic regression results are valid. Appropriate fit statistics should be reported, and possible the proportion correctly allocated by the model.

My main concern is the failure of the authors to indicate the true extent of the misclassification of patients using their algorithm. They do state that the proportion correctly classified is 71%, and also report sensitivity and specificity, but in a setting where large numbers of patients are passing through the system, then the number of false positives is of prime concern. If the authors had reported the positive predictive value of their screening test, they would have found it to be 53%. Consequently, for each person they identify as requiring PAC who subsequently required PAC, they would identify another person who subsequently would not require PAC. The number of false positive almost equals the number of true positives. This omission, and the failure to discuss the implication of this for discharge planning, represents a major weakness.

Finally, there are other studies with similar objectives, published in BMC, which the authors have failed to include and comment upon. They may wish to consider
the relevance of such papers to their own work.

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 whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests