Reviewer's report

Title: Stratification of the severity of critically ill patients with classification trees

Version: 4 Date: 7 September 2009

Reviewer: Michael Racz

Reviewer's report:

Major Compulsory Revisions

I appreciate all the work that has gone into this manuscript and my only primary interest is in the correctness of the logistic regression. If my logic is correct and the SMR is 1.00 for the development group and the observed mortality rate is 30.7, this means the expected mortality rate (EMR) is 30.7 because the SMR is OMR/EMR. For the validation group the SMR is 1.22 and the OMR is 32.8. Therefore, the EMR must be 26.9. I would just like to know if I'm interpreting the definition of SMR correctly. If I am, I find it hard to believe that the expected mortality rate for the two groups would be that far apart given the balance seen in Table 2. All I'm really asking for is to confirm that I'm correct. As long as the difference in EMRs have been checked as correct, even though I find it hard to believe, my recommendation will be to accept.

Level of interest: An article of importance in its field

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