Reviewer's report

Title: Physiological-social score (PMEWS) vs. CURB-65 to triage pandemic influenza: a comparative validation study using community-acquired pneumonia as a proxy

Version: 1 Date: 7 November 2006

Reviewer: Alberto Capelastegui

Reviewer's report:

General
The authors have performed a retrospective observational study to compare the performance of a non-disease-specific physiological-social score (PMEWS) and a disease-specific score (CURB-65) as prognostic prediction rules for patients admitted for community-acquired pneumonia (CAP). They state that the PMEWS score was a better predictor of need for admission and need of higher level care when compared with the CURB-65 score.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. The study is retrospective, and more than 15 % of the cases were lost.
2. Mortality was high (29,2%): this fact must be accounted for. The paper needs a table showing characteristics of the patients studied.
3. The physiological-social score (PMEWS) proposed by the authors did not perform well to predict mortality (AUC 0.66). This outcome (mortality) is basic to the assessment of the predictive power of severity scores for community-acquired pneumonia.
4. The CURB-65 score is simple, but does not perform well to identify severe pneumonia, as is well known from other studies as well. The new rule should thus be compared with more specific scores, such as that proposed by Ewig et al and incorporated in the ATS guidelines in 2001.
5. In addition, the new rule does not add practicality or usability. I am skeptical about the practical usability of a score that uses 10 variables, 7 of which are weighted. In contrast, both the CURB-65 and CRB-65 scores are easier to apply (venipuncture to measure serum urea in the emergency department is not problematic), and the CRB-65 score does not mandate hospital-based assessment.
6. Since the study was only carried out in one hospital, how generalizable are the data?
7. The modification of the Medical Early Warning Score, which has been previously validated (reference 7), seems arbitrary.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. The tables and figures lack some formal details (explanations at the bottom of the table are missing, the number of cases used in the different analyses are not provided, acronyms need explaining, etc.), and some errors are evident (for instance, on Table 2, CURB-65=>3, sensitivity 40%, not 100%; on Table 1, the total number of cases does not coincide with the data on the text and on Figure 2).
2. Figure 2 is confusing.
3. The percentages of missing must be provided for each variable of the patients that were studied. Did you test the rule with and without missing variables? Input? Perform sensitivity analysis?

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Discretionary Revisions (which the author can choose to ignore)

What next?: Reject because scientifically unsound

Level of interest: An article of limited interest
Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests