Reviewer’s report

Title: External validation of a Cox prognostic model: principles and methods

Version: 1 Date: 4 September 2012

Reviewer: Ruth Pfeiffer

Reviewer’s report:

Major Compulsory Revisions

1. The example data are somewhat limited. The validation data were restricted to match the development data as closely as possible. While this makes the validation easier, it also avoids a practically relevant issue, that of dealing with different definitions of covariates. In the breast cancer example grade was defined differently in both datasets. However, if grade is an important predictor, and not assessed in the exact same way in the validation data, guidance should be given on how to address that problem, instead of just pointing to the fact that it is a problem.

2. Please give more detail on how the standard deviation relates to explained variation (page 6 second paragraph)

3. Please comment more on what types of data are needed for the validation. It seems that discrimination could also be assessed in case-control data, while calibration needs prospective data

4. Please comment on how censoring is handled in the validation, and what assumptions are needed about censoring in the derivation and validation data.

5. On page 11 you say “not all pairs are evaluable’ please explain that statement better.

6. Page 14: are there statistical tests to assess the similarity of the superimposed curves?

7. How would one use the score in a clinic? What assumptions that ensure the transportability of cut-points are needed?

8. Why are there differences in the predicted curves between validation and derivation data set in Figure 4? Because of differences in covariate distributions?

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