Reviewer’s report

Title: A generic nomogram for multinomial prediction models: theory and guidance for construction

Version: 0  Date: 11 Oct 2016

Reviewer: David Muller

Reviewer’s report:

van Smeden and co-authors present a general method for creating nomograms for multinomial logistic regression models. The manuscript is well written and describes the approach clearly.

Major issues:

1. My main concern is whether this method in particular and nomograms in general are actually likely to be used in practice. In the case of nomograms for multinomial models, there is considerable burden placed on the user, which could be easily avoided by simply providing the user with a small, pre-programmed software application or spreadsheet. The authors cite recent examples of nomogram development, but if there is any recent evidence that nomograms are used in practice, it would greatly strengthen the rational for the method.

2. The description of the method is very clear, nevertheless the authors could provide example code for creating the nomogram. A simple working example would help the reader to apply the method. As it stands, it is considerably less labour intensive to write a small software calculator for a multinomial prediction model than it is to apply the presented method to create a nomogram.

3. There is no discussion of limitations of the approach. This might include the above referenced burden on the user (relative to a software calculator), as well as the difficulty of handling continuous interactions.

4. In table 1, exponentiated regression coefficients are labelled as "odds ratios". Given that this is a multinomial model the label "relative risk ratio" is more appropriate.

Level of interest
Please indicate how interesting you found the manuscript:

An article of limited interest

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable
**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license ([http://creativecommons.org/licenses/by/4.0/](http://creativecommons.org/licenses/by/4.0/)). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.