Author's response to reviews

Title: Effect of comorbidity on health-related quality of life of injury patients in the first year following injury: comparison of three comorbidity adjustment approaches

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Concerning – resubmission revised manuscript “Effect of comorbidity on health related quality of life of injury patients in the first year following injury: comparison of three comorbidity adjustment approaches”

Dear Editor,

We would like to thank you for reconsidering our manuscript entitled “Effect of comorbidity on health related quality of life of injury patients in the first year following injury: comparison of three comorbidity adjustment approaches” under the condition that we revise it as recommended by the handling editor.

We are grateful to the handling editor for the suggestions to improve the manuscript. We have addressed them as follows:

1. We agree with the reviewer that the description of the adjustment for age and sex will benefit from a more detailed description and example. We have added a more detailed description and example to the manuscript (methods section, page 6, last six lines and page 7, first two lines). Furthermore, we will provide the Dolan tariff function and UK population norms per age category and sex as a supplementary table. The Dolan tariff was used for the adjustment procedure.

2. We have explained R2 of the linear regression, which was used as a measure of goodness-of-fit more explicitly. R2 has a value between 0 and 1, with 0 indicating that there is no linear relationship between the predicted an measured comorbid disability weights and 1 indicating that the relationship is perfect. The null hypothesis was that there is no relationship between the predicted and the measured comorbid disability weights; the line through the data points is horizontal this case. We have added this to the methods section (page 9, line
9-14) and the abstract.

3. The suggestions of the reviewer regarding Table 3 have led us to analyze the data again, also because in the previous version of the manuscript the predicted comorbid disability weights were not too low compared to the observed. Comparison of the syntaxes showed that in the previous analysis we excluded patients with comorbid disease with a 2 month disability weight of 0 (i.e. if patients reported perfect health shortly after injury). In the current analysis, we have used UK population norms as baseline for the calculation of the disability weights and we excluded patients with a disability weight of # 0. We have added this to the methods section (page 7, line 2 to 4).

Exclusion of these patients yielded slightly different results and these results do not support the editors observation that comorbidities are generally super-additive.

The article is revised on the Population Health Metrics web page. The specific revisions due to the review comments have been highlighted. In case of further queries we are most willing to help.

Kind regards,

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