Author’s response to reviews

Title: Factors affecting hospital length of stay and hospital charges associated with road traffic-related injuries in Iran

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Author’s response to reviews: see over
Dear Editor

Please find enclosed a revised version of our paper entitled “Factors affecting hospital length of stay and hospital charges associated with road traffic-related injuries in Iran”. We have adjusted the statistical analyses in line with the recommendation of the statistical advisor. An outline of modifications is attached.

We hope that, in its revised version, you will find the manuscript acceptable for publication.

Yours sincerely,

Hassan Haghparast-Bidgoli, Soheil Saadat, Lennart Bogg, Mohammad H Yarmohammadian and Marie Hasselberg
Outline of modifications

Statistical advisor report:

*Overall the paper has some additional major statistical problems in terms of the analytic strategies used.*

We thank the statistical advisor for these helpful comments. Except to the second comment, the rest of the advisor’s concerns have been addressed in the previous version of the paper submitted on 14th November 2012.

1) Clearly, the hospital charges and LOS have skewed distributions and therefore mean (SD) would not be appropriate measures of centre (spread) to use. The authors need to be reporting only the Median (min, max) or median (Q1, Q3).

We agree with the advisor that mean (and SD) might not be good measure of center, therefore, we have reported both mean and median (and range) in the text and Tables 2 and Table 3.

2) In the description of the analysis, replace “multivariate” with "multivariable". The latter is used to describe an analysis of single outcome as a function of multiple predictor variables, while the former refers to analysis of multiple response variables at the same time.

According to the suggestion by the advisor, now we have replaced “multivariate” and “univariate” with "multivariable" and “univariable” in the text.

3) Given the skewness of the distribution of response variables, some transformation would be needed to Normalize the distribution or they authors need to use robust regression methods. If they still choose to use ordinary regression methods, they should at least report the assessment of model assumptions.

Based on the comments received from the reviewer in October 2012, we normalized the outcome variables by transforming them to logarithmic scale and conduct multivariable (linear) regression. The results of the analysis are presented in the previous version (version 3 submitted on November 14th 2012) and the current version of the paper (version 4).
4) Please check that the units for variables are reported where appropriate. For example, the units of "Age" are not reported in the tables.

The unit of the variables used in the multivariable models now is clearly evident in Table 4 and Table 5 within the paper.

5) It seems appropriate to consider "road user" as a categorical variable.

Based on the comments received from the reviewer in October 2012, we used “road users” as a categorical variable in the multivariable model. The results of the analysis are presented in Table 5 and Table 6.