Reviewer's report

Title: Application of Disability-Adjusted Life-Year to Predict the Burden of Injuries and Fatalities due to Public Exposure to Engineering Technologies

Version: 2 Date: 4 March 2013

Reviewer: Ronan Lyons

Reviewer's report:

1. Is the question posed by the authors new and well defined?

Unsure. The question is somewhat vague. The application of DALYs to safety assessment of engineering technologies would be novel if the methodology proves to be robust.

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?

No.

3. Are the data sound and well controlled?

Impossible to determine as insufficient detail on key aspects of methodology are missing.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

No.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

No.

6. Do the title and abstract accurately convey what has been found?

No.

7. Is the writing acceptable?

The writing quality is acceptable.

In reviewing the revised manuscript, please consider whether the authors have answered your points sufficiently well to allow their manuscript to be published. As before, we would like you to divide your comments into the following three categories:

Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached).
The revised paper and authors’ response to the reviewers’ comments are disappointing. The reviewers went into considerable detail into the changes needed for the paper to be acceptable. However, in many cases the response from the authors lacks sufficient depth and clarity to convince me that anything has changed.

Reading the resubmitted paper leads me to wonder whether this paper is at all suitable for Population Health Metrics. It barely deals with population metrics other than using the DALY concept to get to the concept of fatality-equivalents, the real focus of the authors’ interest.

The authors conclude, in the results section of the abstract, that the proposed model is generic and yet no metrics are provided to justify this conclusion.

Reviewer Kavi Bhalla raised very pertinent questions as to how the TSSA specific injuries were mapped to the disability weights in the Australian BOD study. The authors’ response was to mention a spreadsheet in a reference. This is not good enough. I would expected to have seen a detailed cross-tabulation of each TSSA injury with the corresponding disability weight from the Australian BOD study, and detailed discussion of which fitted exactly or if not why the proposed metric was the best fit.

The abstract is very unusual. There is a results section but this does not contain any numerical results but a number of assertions and some detail on methodology. For example, it states that DALYs are converted to fatality-equivalents but nowhere in the paper is the formula for this given. (Page 10 includes mention of the median life expectancy of ‘victims’ in Ontario being 44.4 and that this is used in scaling but no detail of the exact method is provided).

Essentially this paper fits more with the concept of a viewpoint or thought piece based around a case-study rather than a demonstration of the validity of a novel approach to population health metrics.

It is impossible for the reader to determine the internal validity of the approaches used as so much of the necessary detail is not included in the text or tables. There appears to be several assumptions included at every stage. How such assumptions compound one another is not discussed. I am far from convinced of the validity of the approach adopted let alone the assertion that the proposed model is ‘generic’ without any supporting evidence.

**Level of interest:** Reject as not of sufficient priority to merit publishing in this journal

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

'I declare that I have no competing interests'