Reviewer’s report

Title: The socio-environmental determinants of railway suicide: a systematic review

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Reviewer: Georgina R Cox

Reviewer’s report:

This systematic review aimed to identify the socio-environmental determinants of railway suicide. Broadly, it concludes that the strongest predictor of railway suicide is irresponsible media reporting. The authors suggest further research is needed in this area using analytic study designs such as case-control methods. This paper contributes to our knowledge on the variables associated with train suicides worldwide and is likely to be a well accepted and cited paper.

The introduction is generally well written, and sound methodology has been used to identify and select articles relevant to the research question. The grammar used throughout the paper needs to be improved, however this is a minor point that should be addressed at proofing, and it does not detract from the overall quality of the paper and research question.

A few points are below and are Major Compulsory Revisions:

Method: I am unsure why the article by Matsubayashi et al (2013) has been included. The inclusion criteria states that: We included studies with an outcome variable of fatal (suicide) and non-fatal (suicide attempt) railway suicide, and exposure variables of socio-environmental factors. In terms of socio-environmental factors, we speculated geographical, economic and social characteristics for railway suicide such as: track length, train frequency, socio-economic of population, presence of media reporting on railway suicide and so forth. Installation of blue lights does fall under an environmental intervention, however this type of factor needs to be made clearer in the inclusion criteria. It is also a direct intervention to reduce suicide, whereas the other articles look at causal factor related to suicide, therefore I am not sure how the authors are able to directly compare them. Please comment.

Discussion: The authors note that they did not search conference abstracts. Given the difficulty in conducting studies in this area, I would recommend that this is done, as it is commonly part of a systematic review process. Only conference abstracts relevant to the suicide area need to be searched.

Discussion: I would also recommend that the authors re-think their inclusion criteria in terms of studies that examined temporal variations; given that they appear to have obtained at least one, and this is highlighted in the discussion, it seems a shame to leave this out of the general review. It could be argued that the authors have amended their inclusion criteria as they progressed through the
review, given that only 2 articles were found relating to media reporting, and these have been included.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**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