Reviewer’s report

Title: Interventions to reduce suicides at suicide hotspots: A systematic review

Version: 2 Date: 17 December 2012

Reviewer: Annette Beautrais

Reviewer’s report:

This paper poses a question – “What interventions exist to reduce suicides at hotspots, and what is the evidence for the effectiveness of these interventions?” The authors attempt to answer this question by reviewing studies available on Medline. A total of 19 papers describing 14 studies at 13 sites formed the basis of the review. Analysis of these studies identified four intervention approaches:

i. restricting access to means of suicide

ii. promoting help-seeking by signage, and, sometimes also, provision of telephones

iii. increasing opportunities for intervention by increasing surveillance and gatekeeper training;

iv. adherence with media reporting guidelines for suicide incidents.

There was relatively strong evidence of effectiveness for the first approach, restricting access to means, but less evidence, and less strong evidence, for the three other interventions. I have the following comments. All relate to discretionary revisions:

1. The question is somewhat interesting, but the findings are predictable and add little new knowledge. It is to be expected that the evidence for effectiveness of intervention for suicide hotspots is exactly that which pertains for suicide interventions in general: strongest evidence for means restriction; some (much less evidence; fewer studies), and much weaker evidence, for the other interventions.

2. Assessing the effectiveness of interventions is complicated by difficulties of definition: It is difficult to define ‘hotspot’, and also, what constitutes a clear, unadulterated ‘intervention’ (not potentially contaminated by other concurrent interventions), an appropriate research design, and adequate evidence of effectiveness.

3. There are relatively few published studies in total. The authors note that there may be a publication bias, in that negative findings have not been published. However, there may be many instances where means restrictions have been implemented, with effect, which have not been reported. For example, barriers on bridges to reduce suicides are now quite common, and often the consequent reductions in suicides are unreported in the scientific literature, as they are expected and regarded as not novel.
4. If the goal of the paper is to provide data to inform policymakers it might almost have been more useful to strengthen the published evidence base for means restriction at suicide hotspots by trying to obtain data from unreported instances of interventions: Amassing more and stronger evidence to support means restriction would be more useful. As it is there are no effect sizes, no quantifiable data, and the conclusions are hedged in fairly general terms.

5. The authors intent is to document evidence of effectiveness but they report (page 10) that staff on the Clifton Bridge ‘were positive’ about the intervention – this does not seem to be a useful outcome measure to be aggregated with reductions in suicides as an indication of effectiveness.

6. Also, as the authors note, in a number of studies, a number of approaches are introduced simultaneously (eg. Signage plus phones plus gatekeeper training) and it is not possible to isolate the specific contribution of a specific approach from the overall impact of the package of interventions, or from the specific contributions of other interventions.

7. Findings are aggregated for discussion from different types of studies; not all are the findings of intervention studies. For example, data from observational studies such as the closure of a road access to a hotspot, or removal of bridge barriers. These are essentially opportunistic studies, which support the findings of studies in which interventions are specifically designed to restrict access, such as barriers on subway trains. While this reflects the sparseness of the literature and the difficulty of designing ethically acceptable studies, it is perhaps a distinction that might usefully be drawn.

8. The table lists papers by author surname. Since the thrust of the paper is the identification and discussion of four different types of interventions, it might be more helpful to organise the table by type of intervention, putting all the papers on means restriction together, for example.

9. The conclusion that there is a need for better designed studies is very generic. It would be useful to have more discussion of the practical and ethical difficulties of designing interventions at hotspots, while responding to the multiple legal, funding, and public opinion constraints that often exist.

10. In terms of practical implications for policymakers, the evidence is strongly for means restrictions. The alternative approaches can not be recommended in place of means restrictions - the evidence for them is so much less compelling. However, these alternatives often appeal to policymakers because they tend to be far less expensive than interventions focussing on means restrictions, such as bridge barriers, and less intrusive for the general public. The authors need to draw a stronger conclusion regarding policy implications.

**Level of interest:** An article of limited interest

**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 I have no competing interests.