Reviewer's report

Title: Reduction in young male suicide rates in Scotland: an epidemiological study

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Reviewer: Jane Pirkis

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This is a relatively well-written paper which reports the findings of an epidemiological study examining recent trends in rates of suicide and undetermined intent deaths among males aged 15-29 in Scotland. The study found that rates among this group fell by 43% between 2000 and 2004, reversing the increasing trend of the 1980s and 1990s, and contrary to continuing increases in males aged 30-44. The decrease was largely accounted for by a reduction in deaths by hanging. The relationship between deprivation and suicide has remained relatively constant for 15-29 year old males during the observation period.

The paper provides a useful update on suicide rates among young males, particularly given that the reductions mirror similar trends being observed in many other Western countries. Having said this, there are several ways in which the paper could probably be improved.

Firstly, the epidemiology is fairly rudimentary. Suicide is a major public health problem, but fortunately the absolute numbers of deaths by suicide in any given year in a country the size of Scotland are relatively small. For this reason, it could be argued that the fluctuations described in the paper might be due to chance. Formal trend analyses, or at least some confidence intervals around the rate estimates, would strengthen the interpretation of the data. In addition, it would be helpful to the reader if some reference was made to the total number of suicides (overall, and for the age/sex group of prime interest). The authors might also consider reporting three-year moving averages, rather than point estimates of rates for individual years.

Secondly, although the paper claims to be about young male suicide rates, it is in fact about suicide among all age/sex groups. I realize that the authors have included other age/sex groupings to put the findings for the group of interest in context, but it is easy to forget this when confronted by data from across the board in each set of analyses.

Thirdly, there are too many figures. It must be possible to rationalize some of them.

Fourthly, the Method section would benefit from a brief mention of how methods of suicide were recorded and analysed. This is a minor point, but information is provided on the data available in terms of age/sex groupings and deprivation, and since method of suicide is the other primary variable of interest, it would be useful to have a bit more information about it. In addition, the Method section should provide a little more information about the Carstairs Index scores and how deprivation quintiles are used to examine the association between deprivation and suicide rates. Also, the Method section would benefit from a brief reference to the data analysis that was undertaken (particularly if the authors choose to use some of the more sophisticated analyses described above).

Fifthly, the interpretation of the findings in the Discussion section could be strengthened. The authors quite reasonably posit that some of the initiatives that have been put in place since the late 1990s to combat youth suicide may have had a particular impact for males in the 15-29 year old age bracket, but are appropriately cautious about drawing causal inferences here. They then basically argue, however, that the focus should now shift to males aged 30-44, for whom suicide rates have continued to rise, which seems to assume previous prevention efforts have been effective with the younger group. An alternative argument might be that, if previous prevention efforts have been effective, it might be worth continuing them. On a related note, I would be interested to see a little more development of the argument that one explanation for the findings is a cohort effect (i.e., males who were difficult to reach and had high rates in the 80s and 90s when they were 15-29 have now just got older and are in the current 30-44 year old group).

In essence, I think the paper could make a valuable (albeit probably not earth-shattering) contribution to the literature, with some more sophisticated analyses and some minor refinements to the text.

What next?: Accept after minor essential revisions
Level of interest: An article of importance in its field

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.