Author's response to reviews

Title: Spatial clusters of suicide in Australia

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Author's response to reviews: see over
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Dr. Deesha Majithia
Executive Editor
BMC Psychiatry

Dear Dr. Majithia,

Re: “Spatial Cluster of Suicide in Australia” (MS: 1247961539677552)

Thank you very much for your letter of 14 May 2012 and the attached reviews’ comments. We have revised our manuscript according to the two reviewers’ suggestions/comments, with some changes illustrated below:

In response to Reviewer 1 (Kenneth Morrison)

1. The question is clear in the introduction – “The spatial pattern of suicide clusters has not been investigated in the whole Australia to date”.

Thanks for your positive comment.

2. The methods used are reasonably appropriate and well-defined. A more detailed description of spatial cluster analysis would be helpful. An expanded age group of 15 to 49 or 15-54 would be more appropriate as suicide remains a leading cause of death of both males and females age 45-54. Better yet would be two age groups – 15-34 and 35-54 as the factors associated with suicide in these two groups may be quite different. With
so few female suicide deaths at the SLA level, the use of this methodology for female suicides is questionable. However, the greatest strength of this study is applying the method to other conditions – particularly mental health.

Please see the response to the Discretionary revision and thanks for your positive comment.

3. The data are sound with large overall N from a national source. Unfortunately, the data are dated (10 years old) and therefore of limited practicality to current targeted prevention planning.

We have addressed this limitation in the last paragraph, page 11.

4. Relevant standards for reporting are followed. The map figures with enlarged sections aid considerably with interpretation.

Please see the response to the 2nd Minor essential revision.

5. Limitations – unfortunately of which there are several – are clearly stated.

Thanks for your positive comment.

6. The authors acknowledge the previous Queensland study upon which they are building.
Thanks for your positive comment.

7. *The abstract should mention the age group presented in the findings.*

Please see the response to the Discretionary revision.

8. *The writing is clear and easily read.*

Thanks for your positive comment.

Discretionary revisions:

*Expanding the age group as noted in point 2 above.*

We have provided more detailed description of spatial cluster analysis (2nd paragraph, page 5) and expanded the age groups in the manuscript (abstract; 2nd paragraph, page 5; result section, pages 6-8; 2nd paragraph, page 10; 1st paragraph, page 11; Table 1, page 21).

Minor essential revisions:

1. *The labelling of the figures needs to be clear (at first glance).*
The labelling of the figures has been clarified (Figures 1 to 4).

2. Label Figures 2 and 3 in the same manner as Figure 1. For Figure 2, A: Radius 100 km, b: Radius 400 km; for Figure 3, A: Age 15-44, Radius 100 km, B: Age 15-44, Radius 400 km.

We have revised the labels in Figures 2 to 4 as Dr. Morrison suggested.

In response to Reviewer 2 (Tonelle Handley)

1. GIS methods are not my area of expertise, and as such I found the methods section hard to follow. It may be useful to give an overview of GIS methods in the data analysis section. Considering that, as the authors point out, GIS techniques have rarely been used in Australia; the majority of readers may be unfamiliar with this process, so it would be beneficial to provide a more non-specialist explanation. Also, the authors make the statement “descriptive analysis was conducted to explore the characteristics of each variable” but do not state which variables they are referring to. One additional issue which should be clarified is the decision to use cluster length radii of 100km and 400km – are these values meaningful, or are they selected by SaTScan? (Minor Essential Revisions)
An overview of GIS methods has been added in the last paragraph in page 4. We have referred the variables in introduction of descriptive analysis in 1st paragraph in page 5. We have clarified the decision to use cluster length radii of 100 km and 400 km in the 2nd paragraph in page 5.

2. The study uses data from some time ago (1999-2003); while I understand that there can be a considerable delay in new data becoming available, it should be acknowledged in the manuscript that this data was collected during a time when Australian suicide rates were declining after a peak in 1997, and may not represent the current patterns of suicide. There also appears to be an error in the second sentence of the Results section; it states that 8,076 suicides were aged between 15 and 44, with 5,664 males and 1,412 females. However 5,664 + 1,412 adds up to 7,076 not 8,076. (Minor Essential Revisions)

We have addressed the limitations of data in page 11 (3rd paragraph). These data represent the most recently available 5-year period of small-area mortality data spanning a census (allowing resolution of small-area boundary changes to a single census year) currently available from the ABS. The ABS is currently undergoing a review of their data access protocols and procedures in the relation to the Privacy Act, and small area data for the period past 2005 are currently not accessible in Australia. It is planned to update these analyses to the most recent period and examine trends when these data become available. The suicide number error has been corrected (1st paragraph, page 6). Thanks.
3. The introduction makes reference to a range of similar (mostly international) studies. However, as the authors have previously conducted similar Australian-based research in Queensland, it would be interesting to describe in the introduction how the current Australia-wide research builds on this. It would also improve the paper to elaborate a little more on the value of spatial analysis in an Australian context, as this is only referred to briefly in one sentence. (Minor Essential Revisions)

We have described the current Australia-wide research builds on the Queensland study in 1st paragraph, page 3. We have elaborate a little more on the value of spatial analysis in an Australian context in 1st paragraph in page 3.

4. Overall the writing is acceptable; however there are numerous grammatical errors throughout the manuscript. It would be beneficial for the authors to review the manuscript again to rectify these. Also, as a minor point, the term “SLA” is used throughout the manuscript, but no extension of this abbreviation is given in the body on the text, only in the abstract. (Minor Essential Revisions)

We have carefully checked the whole manuscript and rectified the grammatical errors. The term “SLA” has been explained in the last paragraph of page 4.

Thanks for all the positive comments from the reviewers.

We have all read and approved the contents of the revision, and have no conflict of interest associated with this manuscript.
We look forward to your decision.

Yours sincerely,

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