

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

This paper was submitted to a another journal from BMJ but declined for publication following peer review. The authors addressed the reviewers' comments and submitted the revised paper to BMJ Open. The paper was subsequently accepted for publication at BMJ Open.

(This paper received three reviews from its previous journal but only two reviewers agreed to published their review.)

ARTICLE DETAILS

TITLE (PROVISIONAL)	Five-Year Standardised Mortality Ratios in a Cohort of Homeless People in Dublin
AUTHORS	Ivers , Jo-Hanna Hanna; Zgaga, Lina; O'Donoghue-Hynes, Bernie; Heary, Aisling; Gallwey, Brian; Barry, JM

VERSION 1 – REVIEW

REVIEWER	Dhanya Nambiar Monash University Australia
REVIEW RETURNED	03-Apr-2018

GENERAL COMMENTS	<p>Thank you for the opportunity to review this manuscript. Homelessness is a very topical issue in health and wellbeing, and will be of interest to the readership. However, I have some comments and suggestions for this manuscript.</p> <p>Overall: Please review the manuscript from an editorial perspective for typographical errors, punctuation, etc.</p> <p>Introduction: The introduction is not formatted in a standard style, the paragraph on addiction with regards to homelessness appears to have been included as a side note, and the paragraph before begins with discussing access to health but also discusses disability. Perhaps some restructuring of the introduction would help the reader through the various themes being discussed and make it more concise. For example, while the issue of drug and alcohol related deaths is highlighted in the methods and discussion, it needs more emphasis in the backgrounds in terms of why this is important and how it is relevant to this population.</p> <p>P4 para 1 (suggested insertion of a comma): The longer a person is homeless, the more likely it is that they will suffer from a medical condition, and chronically homeless individuals are far more likely to experience greater rates of chronic disease, and mental health issues [3-5].</p> <p>P4 para 3 (missing reference): In a recent study Baggett and colleagues examined changes in causes of death amongst homeless individuals over a 15year period in the US.</p> <p>Methods: The methods section should be formatted according to journal standards (ref subheadings). For examples, remove the header: patient involvement</p> <p>The calculation for the SMRs could be done using either the direct or indirect method. Which method was used and why?</p>
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	<p>Results</p> <p>P8 Cause of Death (this line was repeated in the section on SMRs): The highest ratios for women occurred in 2012, whereas the highest ratios for men were 2015.</p> <p>There is no header for Table 4. I also could not find the supplemental tables, such as the one for complete cause of death. Its unclear why the complete list of cause of death was not included in the manuscript, considering almost half of deaths were not related to drug and alcohol issues. It would be interesting to see what other health issues impact on the high SMRs identified in the study, especially as the discussion says that the reported causes of death vary widely.</p> <p>Discussion: The discussion could discuss the SMRs in relation to other comparable studies on homeless populations, such as age at death and differences by gender.</p> <p>P9 para3: This paragraph discusses drug and alcohol in the first line, then goes on to discuss circulatory disease. Considering the methods and results focus on drug and alcohol, a more comprehensive discussion of the implications of this type of death should formed.</p> <p>P9 para1 (typo): “drug and alcohol related deaths accounted for more than a third 36%...”</p> <p>P9 para2 (typo): “The median age at death for homeless people in Dublin (is) just 43 years old,...”</p> <p>Conclusions: The mention of Naloxone as an important intervention for opioid-related overdoses is relevant, however it is not mentioned in the discussion and warrants some mention considering it is noted as a conclusion of the study.</p>
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REVIEWER	Sandra Feodor Nilsson Mental Health Centre Copenhagen, Denmark
REVIEW RETURNED	30-May-2018

GENERAL COMMENTS	<p>This study examines the standardised mortality ratios by sex and year in homeless people compared in Dublin compared with the general population. It also describes the causes of death in the homeless population. The study confirms previous findings of an excess mortality in homeless people and a high proportion of death from substance use related causes of deaths. It probably is the first study within this field from Dublin. However, it is based on a relatively low number of deaths.</p> <p>The major strength of this study is that it might be the first to present such data from Dublin. However, there are some uncertainties regarding the data and the number of deaths in the homeless population is relatively few.</p> <p>Major comments: Abstract, page 2 Methods: I think that the authors should describe the calculations of SMR within this paragraph. Participants: It could be relevant to comment on the “homeless definition” used in the study. Results: I was not able to see the results on other causes of deaths than those that were substance use related. Therefore, I don’t think that this should be mentioned in the abstract. Conclusion: I don’t think that the authors based on the current data are able to</p>
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conclude on the ways to reduce the mortality in this population such as .."particularly housing.." as the evidence within this field is rather scarce.

Strengths and limitations

I don't think that this section is clear to the reader. The strengths and limitations should be made clearer to the reader in this section.

Introduction

I think that the Introduction Section is a bit too long and not clearly focused on explaining why this study was important. I think that this section should be written more clearly.

I get the impression that the reference list is not updated. I miss several important including some rather newly published studies relevant for this field that could be used in the Introduction as well as in the Discussion Section e.g.

- A Nationwide Danish study including SMR by Nielsen et al. Lancet, 2011

- A Review of health in homeless people by Fazel et al. Lancet, 2014

- A Nationwide study of homelessness and mortality presenting SMRs and MRRs by Feodor Nilsson et al. SPPE, 2018

- Meta-analysis by Aldrige et al. Lancet 2017

Page 4, Section 5: I don't agree with the authors that "the past decade has yielded few studies on mortality...".

Page 5, Section 1: "Of the available studies, the data are quite dated and often lack information about the exact cause of death". I think the authors should add the newest references and I'm not fully agreed with this statement.

Methods

Page 5: I think that the authors lack to define homelessness in the Method Section.

It is not clear to me whether the authors have full access to data from 2015 as these are only shown for deaths in homeless people in Supplementary Table 2 – why not for the other supplementary tables?

I think that the SMR calculations should be described in the Method Section.

Results

As mentioned in the Method Section, it is not clear to me why the authors present data from 2015, but not in the Supplementary Tables.

It might be relevant to calculate an overall SMR for the entire period.

Discussion

Page 9, section 1:

As far as I can see, the statement: "The causes of death for homeless individuals are different from those of the general population" does not refer to the Result Section as these data have not been presented.

Page 9, section 2:

This section should be rewritten as some of the sentences refer to rates and numbers in the general population that are not presented as far as I can see.

Page 9-10, Section 4

This section is a bit difficult to follow as the reader. This should be reformulated.

Page 10

I think the manuscript could be strengthened by elaborating on the strengths and limitations. The authors should also comment on the implications of the limitations to the results.

It would be relevant to discuss the homeless population in this study. How representative is it expected to be according to all homeless people. Are some homeless people likely to be excluded?

The discussion would be strengthened by including a section comparing the results of the excess mortality in homeless people with the existing evidence.

Conclusion

I think that the authors should focus on the results from the study and remove the comments on the general population as well as the concrete prevention and treatment suggestions as this has not been presented nor discussed in the manuscript earlier.

Tables

Table 1:

As far as I can see is table 1 a part of Supplementary table 1. Thus, I think it would be better to use Supplementary table 1 only.

Table 3:

I think that this is the main table and I would suggest placing it prior to table 2.

Supplementary table ?

Page 8, Cause of death section: I cannot see this table and it has not been specified?

Reference list

There are several important studies that are lacking.

The list should be checked e.g. 23, 26

Minor comments:

Strengths and limitations of this study, page 3

To my opinion, the literature within the field of homelessness and excess mortality has been extended also in European countries, so I think that this should not be mentioned as an argument. However, it might be okay to say that studies from the UK and Ireland are scarce within this field.

I think that the authors should reformulate: "the study provides evidence of..." to "the study confirms the previous findings of.." as there is not much new in the findings except from the fact that it is based on data from Dublin – which might be the primary strength of the study.

Introduction

Page 4, Section 2, line 5: "suggestions that mortality among homeless population is much higher..." should be reformulated as there exists rather clear evidence on this prior to the current study.

Page 4: I think that the authors should add references in the text for instance line 2 after "families" and Section 2 last sentence.

Page 5, section 1: There should be references behind the statements on mortality studies with updated references.

Page 4, section 5: Could the authors present data on the extent of homelessness in Ireland/Dublin?

Methods

Page 5, section 1: I suggest not writing the objective again in the Method Section.

Maybe it would be relevant to mention how long the DRHE has

	<p>existed and how many homeless services and which types of services that are included. I would suggest moving the last sentence in this paragraph to the limitation section in the Discussion Section. Page 7, section 2: "Central Statistics Office" lacks its abbreviation (CSO).</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Overall: Please review the manuscript from an editorial perspective for typographical errors, punctuation, etc. JOE AS AGREED YOU ARE ADDRESSING THIS

Response: thank you for the feedback. we apologies to the reviewer for this. The paper has been proofed.

Introduction: The introduction is not formatted in a standard style, the paragraph on addiction with regards to homelessness appears to have been included as a side note, and the paragraph before begins with discussing access to health but also discusses disability. Perhaps some restructuring of the introduction would help the reader through the various themes being discussed and make it more concise. For example, while the issue of drug and alcohol-related deaths is highlighted in the methods and discussion, it needs more emphasis in the backgrounds in terms of why this is important and how it is relevant to this population.

Thank you for these insightful comments, and we agree with the reviewer’s summary of the introduction. We have substantially reorganised the introduction. The points that the reviewer has raised above are now included in the introduction and discussion. Also, the abstract has been altered in light of these comments.

P4 para 1 (suggested insertion of a comma): The longer a person is homeless, the more likely it is that they will suffer from a medical condition, and chronically homeless individuals are far more likely to experience greater rates of chronic disease, and mental health issues [3-5].

Response: accepted and amended

P4 para 3 (missing reference): In a recent study Baggett and colleagues examined changes in causes of death amongst homeless individuals over a 15year period in the US.

Response: accepted and amended

Methods: The methods section should be formatted according to journal standards (ref subheadings). For examples, remove the header: patient involvement

Response: we have unformatted headings with the exception of the Patient involvement one as per editors suggestion. "Please DO NOT remove the 'patient involvement' heading from your methods section as suggested by reviewer #1"

The calculation for the SMRs could be done using either the direct or indirect method. Which method was used and why? The method was direct and is now updated in manuscript

Results

P8 Cause of Death (this line was repeated in the section on SMRs): The highest ratios for women occurred in 2012, whereas the highest ratios for men were 2015.

Response: accepted and amended

There is no header for Table 4. I also could not find the supplemental tables, such as the complete cause of death. It's unclear why the complete list of cause of death was not included in the manuscript, considering almost half of the deaths were not related to drug and alcohol issues. It would be interesting to see what other health issues impact on the high SMRs identified in the study, especially as the discussion says that the reported causes of death vary widely. Response: accepted and amended. Cause of death table added to supplemental tables

Discussion: The discussion could discuss the SMRs in relation to other comparable studies on homeless populations, such as age at death and differences by gender.

Response: accepted and amended

P9 para3: This paragraph discusses drug and alcohol in the first line, then goes on to discuss circulatory disease. Considering the methods and results focus on drug and alcohol, a more comprehensive discussion of the implications of this type of death should be formed.

Response: once again thank you for these insightful comments. We agree with reviewers summary this paragraph has been rewritten to reflect feedback.

P9 para1 (typo): "drug and alcohol related deaths accounted for more than a third 36%..."

Response: accepted and amended

P9 para2 (typo): "The median age at death for homeless people in Dublin (is) just 43 years old,..."

Response: accepted and amended

Conclusions: The mention of Naloxone as an important intervention for opioid-related overdoses is relevant. However it is not mentioned in the discussion and warrants some mention considering it is noted as a conclusion of the study.

Response: accepted and amended we have introduced earlier in discussion.

Reviewer: 2

Major comments:

Abstract, page 2

Methods:

I think that the authors should describe the calculations of SMR within this paragraph. ? This point is accepted, and relevant changes reflected in the manuscript

Participants:

It could be relevant to comment on the "homeless definition" used in the study

Reviewers point accepted. The definition has now been added to the manuscript

Results:

I was not able to see the results on other causes of deaths than those that were substance use related.

Therefore, I don't think that this should be mentioned in the abstract.

As per reviewer 1 suggestion, a table detailing COD has been added thus this has now been addressed

Conclusion:

I don't think that the authors based on the current data are able to conclude on the ways to reduce the mortality in this population such as .."particularly housing.." as the evidence within this field is rather scarce.

Response: As per reviewer 1 suggestion to redraft the discussion and elaborate this point has now been addressed

Strengths and limitations

I don't think that this section is clear to the reader. The strengths and limitations should be made clearer to the reader in this section.

Response: accepted and amended

Introduction

I think that the Introduction Section is a bit too long and not clearly focused on explaining why this study was important. I think that this section should be written more clearly.

I get the impression that the reference list is not updated. I miss several important including some rather newly published studies relevant for this field that could be used in the Introduction as well as in the Discussion Section e.g.

- A Nationwide Danish study including SMR by Nielsen et al. Lancet, 2011
- A Review of health in homeless people by Fazel et al. Lancet, 2014
- A Nationwide study of homelessness and mortality presenting SMRs and MRRs by Feodor Nilsson et al. SPPE, 2018
- Meta-analysis by Aldrige et al. Lancet 2017

Response: Thank you for discerning comments and we agree with the reviewer's summary of the introduction. We have substantially redrafted the introduction and as suggested updated with suggested references.

Page 4, Section 5: I don't agree with the authors that "the past decade has yielded few studies on mortality..."

Response: accepted and amended

Page 5, Section 1: "Of the available studies, the data are quite dated and often lack information about the exact cause of death". I think the authors should add the newest references and I'm not fully agreed with this statement.

Response: accepted and amended

Methods

Page 5: I think that the authors lack to define homelessness in the Method Section. Following reviewer 1s comments this is now defined.

It is not clear to me whether the authors have full access to data from 2015 as these are only shown for deaths in homeless people in Supplementary Table 2 – why not for the other supplementary tables?

Response: this was a residual error from earlier iteration all supplemental tables have been updated

I think that the SMR calculations should be described in the Method Section.

Response: this has been previously flagged by the reviewer and is now amended in the manuscript Results

As mentioned in the Method Section, it is not clear to me why the authors present data from 2015, but not in the Supplementary Tables. See above This was residual error from earlier iteration all supplemental tables have been updated

It might be relevant to calculate an overall SMR for the entire period. Response: thank you this has now been added to the reviewer manuscript.

Discussion

Page 9, section 1:

As far as I can see, the statement: "The causes of death for homeless individuals are different from those of the general population" does not refer to the Result Section as these data have not been presented. Response: accepted and amended in manuscript

Page 9, section 2:

This section should be rewritten as some of the sentences refer to rates and numbers in the general population that are not presented as far as I can see.

Page 9-10, Section 4

This section is a bit difficult to follow as the reader. This should be reformulated.

Page 10

I think the manuscript could be strengthened by elaborating on the strengths and limitations. The authors should also comment on the implications of the limitations to the results. .

Response: accepted and amended

It would be relevant to discuss the homeless population in this study. How representative is it expected to be according to all homeless people. Are some homeless people likely to be excluded? The discussion would be strengthened by including a section comparing the results of the excess mortality in homeless people with the existing evidence.

Response: in addressing reviewer 1 comments we have updated the manuscript and are confident that we addressed this comment. Thank you.

Conclusion

I think that the authors should focus on the results from the study and remove the comments on the general population as well as the concrete prevention and treatment suggestions as this has not been presented nor discussed in the manuscript earlier.

Reviewer 1 had asked for a couple of amendments which we addressed and now feel this comment could stay?

Tables

Table 1:

As far as I can see is table 1 a part of Supplementary table 1. Thus, I think it would be better to use Supplementary table 1 only. Response: accepted and amended

Table 3:

I think that this is the main table and I would suggest placing it prior to table 2. Supplementary table ?

Response: accepted and amended

Page 8, Cause of death section: I cannot see this table and it has not been specified?

Response: table has been added to supplemental

Reference list

There are several important studies that are lacking.

The list should be checked e.g. 23, 26 Response: accepted and amended.

Minor comments:

Strengths and limitations of this study, page 3

Response: accepted and amended

To my opinion, the literature within the field of homelessness and excess mortality has been extended also in European countries, so I think that this should not be mentioned as an argument. However, it might be okay to say that studies from the UK and Ireland are scarce within this field.

I think that the authors should reformulate: "the study provides evidence of..." to "the study confirms the previous findings of.." as there is not much new in the findings except from the fact that it is based on data from Dublin – which might be the primary strength of the study.

Response: we accept the reviewer's opinion manuscript amended to reflect same.

Introduction

Page 4, Section 2, line 5: "suggestions that mortality among homeless population is much higher..." should be reformulated as there exists rather clear evidence on this prior to the current study.

Response: following the suggested redrafting of introduction this has been addressed

Page 4: I think that the authors should add references in the text for instance line 2 after "families" and Section 2 last sentence. Following the suggested redrafting of introduction this has been addressed

Page 5, section 1: There should be references behind the statements on mortality studies with updated references. Following the suggested redrafting of introduction this has been addressed

Page 4, section 5: Could the authors present data on the extent of homelessness in Ireland/Dublin?

Methods

Page 5, section 1: I suggest not writing the objective again in the Method Section.

Response: accepted and amended

Maybe it would be relevant to mention how long the DRHE has existed and how many homeless services and which types of services that are included.

Response: accepted and amended

I would suggest moving the last sentence in this paragraph to the limitation section in the Discussion Section. Response: accepted and amended

Response: accepted and amended

Page 7, section 2: "Central Statistics Office" lacks its abbreviation (CSO).

Response: accepted and amended