

## 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.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	What Is the Evidence for the Impact of Gardens and Gardening on Health and Wellbeing: A Scoping Review and Evidence-Based Logic Model to Guide Healthcare Strategy Decision Making on the use of Gardening Approaches as a Social Prescription. .
<b>AUTHORS</b>	Howarth, Michelle; Brettle, Alison; Hardman, Michael; Maden, Michelle

### VERSION 1 - REVIEW

<b>REVIEWER</b>	Mariana D'Amico Nova Southeastern University-Tampa Bay Regional Campus, United States
<b>REVIEW RETURNED</b>	14-Feb-2020

<b>GENERAL COMMENTS</b>	<p>Interesting well done article.</p> <p>Please monitor typos, grammar and syntax page 2 line 20; Page 5, lines 3, lines 7-8 are a bit unclear; Line 48 spell out ESRC initially</p> <p>2. Results: section in the Logic Models despite the percentage of articles reviewed supporting gardening and mental health and wellbeing-be more clear on the strength of evidence of these studies, i.e. A.....36% demonstrating strong evidence (Line 3 page 23</p> <p>3. Tables 1 &amp; 2 consider a legend underneath the tables with abbreviations identified.</p> <p>4. References: Consider putting an asterisk * next to the 77 articles reviewed and included in the scoping review to differentiate from other references.</p> <p>Nicely done.</p>
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<b>REVIEWER</b>	Dr Jonathan Kingsley Swinburne University of Technology, Australia
<b>REVIEW RETURNED</b>	27-Feb-2020

<b>GENERAL COMMENTS</b>	<p>Thank you for allowing me to review this important paper. It is well written and on an important topic, however, it is not yet at a publishable standard for a number of reasons. Some amendments for considerations in this article are as follows:</p> <ul style="list-style-type: none"><li>• Your lack of definition around what is gardening is problematic. You talk about gardening interventions, non-medical, social prescription and community based but this doesn't mean much to the reader. There is a significant amount of literature on different</li></ul>
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	<p>forms of gardening not included in your literature, e.g. community gardening, allotment gardening, therapeutic gardening, yard gardening, guerrilla gardening etc. Your question looks at the benefits of gardens? However, it clearly does not as there is significant literature missing - for example from Australia there is literature on all these forms above not covered in this paper.</p> <ul style="list-style-type: none"> <li>• I am a little confused as to why a systematic review is reviewing systematic reviews? Systematic reviews synthesis qualitative and quantitative findings or studies.</li> <li>• In your abstract you say the review is on children and adults. Why? How defined? This is not clear in your rationale and doesn't seem to be the focus of the article. Also it doesn't seem to be in the title or rationale.</li> <li>• Further, your rationale section seems to be disconnected from the topic. You talk more about long term conditions (which in Australia we call chronic diseases and needs to be acknowledged) and nature-based activities but minimally about gardening and what it is.</li> <li>• I would steer away from the point made about obesity being the major cause of chronic disease – you may not mean it but it reads like that. If you are talking about social prescription rather than medical models please consider digging deeper into the social and cultural determinants of health being a more important cause.</li> <li>• You should consider using nature-based solutions rather than nature-based activities and interventions in nature to make language more consistent.</li> <li>• Please back up statements written as fact with references (for example L. 14-17, 43-47 p. 3)</li> <li>• L. 43-47 I am unclear what you are trying to say here, and I think you are trying to justify the inclusion of systematic reviews but it's confusing as currently written. This needs to be strengthened to justify my 2nd point.</li> <li>• I feel the discussion and conclusion is just summarising what we already know rather than explain the consequences and actions that can be taken from the findings. Think about the so what question of your research?</li> </ul>
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### VERSION 1 – AUTHOR RESPONSE

Review Comments	Author Response
<p>Reviewers' Comments to Author: Reviewer: 1</p> <p>Interesting well done article.</p> <p>Please monitory typos, grammar and syntax page 2 line 20; Page 5, lines 3, lines 7-8 are a bit unclear; Line 48 spell out ESRC initially</p> <p>Results: section in the Logic Models despite the percentage of articles reviewed supporting gardening and mental health and wellbeing-be more clear on the strength of evidence of these studies, i.e. A.....36% demonstrating strong evidence (Line 3 page 23</p> <p>Tables 1 &amp; 2 consider a legend underneath the</p>	<p>Thank you</p> <p>These have now been corrected</p> <p>We have included information about the type of the studies.</p>

<p>tables with abbreviations identified.</p> <p>References: Consider putting an asterisk * next to the 77 articles reviewed and included in the scoping review to differentiate from other references.</p> <p>Nicely done.</p>	<p>Thank you – we have added a legend to both tables</p> <p>We have now highlighted the 77 papers using * throughout.</p> <p>Thank you for your comments.</p>
<p>Reviewer: 2</p> <ul style="list-style-type: none"> <li>• Your lack of definition around what is gardening is problematic. You talk about gardening interventions, non-medical, social prescription and community based but this doesn't mean much to the reader. There is a significant amount of literature on different forms of gardening not included in your literature, e.g. community gardening, allotment gardening, therapeutic gardening, yard gardening, guerrilla gardening etc. Your question looks at the benefits of gardens? However, it clearly does not as there is significant literature missing - for example from Australia there is literature on all these forms above not covered in this paper.</li> <li>• I am a little confused as to why a systematic review is reviewing systematic reviews? Systematic reviews synthesis qualitative and quantitative findings or studies.</li> <li>• In your abstract you say the review is on children and adults. Why? How defined? This is not clear in your rationale and doesn't seem to be the focus of the article. Also it doesn't seem to be in the title or rationale.</li> <li>• Further, your rationale section seems to be disconnected from the topic. You talk more about long term conditions (which in Australia we call chronic diseases and needs to be acknowledged) and naturebased activities but minimally about gardening and what it is.</li> <li>• I would steer away from the point made about obesity being the major cause of chronic disease – you may not mean it but it reads like that. If you are talking about social prescription rather than medical models please consider digging deeper into the social and cultural determinants of health being a more important cause.</li> <li>• You should consider using naturebased solutions rather than nature-based activities and</li> </ul>	<p>Thank you – the challenges to define gardens was significant from the outset. We undertook an initial search to explicate this and located a range of terms (over 100+) that described 'gardens' and 'gardening'. To address this, we consulted policy documents that had focused on gardens and gardening and experts in the field and arrived at a broad definition – by Buck which we included in the paper. This definition has been used by the Kings Fund to provide parameters which enabled us to locate a number of papers (over 8000+) of which, the garden types that you site were located in the scoping but not included if they did not meet the inclusion and exclusion criteria. We have further defined the concept of gardening on page 3.</p> <p>The terminology has been amended, it is a scoping review – an explanation has been added that scoping reviews use a systematic and rigorous approach to answer broad questions and can incorporate a range of evidence</p> <p>Thank you. We have amended this and rewritten the abstract – apologies for any confusion.</p> <p>Thank you, this is very helpful. We have amended the rationale and ensured that we relate to chronic conditions as well as LTC – to highlight the difference in terminology used globally.</p> <p>Thank you - We have also included a concept definition of gardens and gardening and referred to the wider social determinants that influence health and wellbeing and contextualised this within the wider social prescribing movement in communities.</p> <p>Thank you – we have corrected this throughout. There are some places in the paper where we refer to activities specifically as it denotes the</p>

<p>interventions in nature to make language more consistent.</p> <ul style="list-style-type: none"> <li>• Please back up statements written as fact with references (for example L. 14-17, 43-47 p. 3)</li> <li>• L. 43-47 I am unclear what you are trying to say here, and I think you are trying to justify the inclusion of systematic reviews but it's confusing as currently written. This needs to be strengthened to justify my 2nd point.</li> <li>• I feel the discussion and conclusion is just summarising what we already know rather than explain the consequences and actions that can be taken from the findings. Think about the so what question of your research?</li> </ul>	<p>actual activity of gardening as opposed to a health or wellbeing solution. We have now included a reference for line 14-17.</p> <p>Thank you, we have removed lines 46-47 as this was confusing and toned the latter down as the sentence was predicated on grey literature.</p> <p>The conclusion has been toned down and we have re-structured and developed the discussion to focus on the likely implications and consequences of the findings. This includes implications for clinicians and researchers.</p>
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**VERSION 2 – REVIEW**

<b>REVIEWER</b>	Mariana D'Amico Nova Southeastern University-Tampa Bay Regional Campus, Clearwater, Florida, USA
<b>REVIEW RETURNED</b>	03-Apr-2020

<b>GENERAL COMMENTS</b>	Over all the manuscript is better organized with more clarity in the results and discussion sections and abstract. Abstract: Data Sources:... were searched in select data bases including...
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<b>REVIEWER</b>	Jonathan Kingsley Swinburne University of Technology, Australia
<b>REVIEW RETURNED</b>	17-Apr-2020

<b>GENERAL COMMENTS</b>	<p>Thank you for allowing me to review this important paper. It has come a long way since the last draft so congratulations. I have only minor feedback on the manuscript to add as highlighted below:</p> <p>P. 2 L. 21: fix reference  P. 2 L 48-49: Introduction sentence needs a reference  P. 3, Table 2: Be consistent with “,” and write journals in full  P. 3, L 4: By the logic of 25 years shouldn't the search have gone from 1990 to 2015? I might be confused here but I just want to clarify this as read it like that.  P. 5. L56 and 57: who are these partners and key stakeholders and how do they differ?</p> <p>Document:</p> <ul style="list-style-type: none"> <li>• Can you include some limitation of the study in as there are a few.</li> <li>• I am unsure what A&amp;E is? Can you elaborate</li> </ul>
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## VERSION 2 – AUTHOR RESPONSE

### Reviewer Responses:

Thank you for reviewing our amended paper. We have made all the amendments to the paper – and highlighted these in red within the marked copy. We hope that these changes are to your satisfaction.

- P. 2 L. 21: fix reference:
  - o We have now removed the WHO 2013 reference
- P. 2 L 48-49: Introduction sentence needs a reference:
  - o we have included a reference here to support this.
- P. 3, Table 2: Be consistent with “,” and write journals in full.
  - o Thank you – we have amended table 2 and written all journals in full.
- P. 3, L 4: By the logic of 25 years shouldn't the search have gone from 1990 to 2015? I might be confused here but I just want to clarify this as read it like that..
  - o Thank you – we have amended this and removed the 25 year parameter, as we actually searched for papers over a longer period of time.
- P. 5. L56 and 57: who are these partners and key stakeholders and how do they differ?
  - o We made clear that these were the local and national nature-based organisations.

### Document:

- Can you include some limitation of the study in as there are a few –
  - o we have added this in red to the discussion section.
- I am unsure what A&E is? Can you elaborate –
  - o we have amended this to say 'Accident & Emergency' in the paper.