

## Cover letter detailing changes

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Dr. XXXXXXX

Editor-in-Chief

*International Journal of  
Environmental Research  
and Public Health*

January 19, 2021

Dear Editor,

Thank you very much for a fast review process and valuable comments from three experts in the field. We have now carefully considered the reviewers' feedback and rectified the shortcomings that have been pointed out to us, and are hereby pleased to re-submit the original research article entitled "Understanding the Wicked Problem of Providing Accessible Housing for the Ageing Population in Sweden" by Oskar Jonsson, Joakim Frögren, Maria Haak, Björn Slaug and Susanne Iwarsson for consideration in *International Journal of Environmental Research and Public Health*.

This manuscript has not been published and is not under consideration for publication elsewhere. We have no conflicts of interest to disclose.

Thank you for your consideration.

Sincerely,

Oskar Jonsson

### Oskars övergripande kommentarer:

- Vi kan överväga att benämna "key actors" för "contributors" och "participants" för "individuals involved" så som vi gör i manus om user forum. Kan klargöra och minska risken för felaktiga antaganden

### Reviewer 1

The article addresses the original and actual topic of understanding variables for decision-making about accessible housing provision for the ageing population focusing on Sweden. The method of analysis is very accurate, the review suggests few modifications in the introduction and in the last part of the article in order to better highlight the result of the study. The suggestions are related to articles to make them as clear as possible.

<i>Comment from reviewer 1</i>	<i>Changes made by the authors</i>
In the <b>introduction</b> , I suggest to insert a specific sub-paragraph about Sweden context taking information from 'Housing Accessibility', since this topic is also cited in the titled of the article.	Line 79. New sub-paragraph inserted: 2.1.1. Housing accessibility in a Swedish context
In ' <b>materials and methods</b> ' section, when you cite for the first time the research circle (RC) methodology, I suggest to explain it at least with a sentence, in addition to the reference.	Line 266-267. A short explanation has been added.
The study reveals that there is a lack of evidence on how housing accessibility impacts on individuals and society's health and well-being. For this reason, I suggest to clearly state this concept in the <b>discussion</b> section and to propose a practical way to find evidence in further research (e.g. pre and post design assessment of housing accessibility variables to measure the impacts on people's health).	Line 580-586. A proposal for a practical way to realize actions to improve housing accessibility and find evidence, based on the suggested article has been added.  Line 597. Now we clearly state that there is a lack of evidence.
In the reviewed article emerges that there is a lack of systematic information about the state of housing accessibility, but the use of the five dimensions was helpful in visualizing the critical variables for decision-making about accessible housing provision. However, one of the limitations, as stated in the discussion, might be the stringency of the analysis process. In this regard, for further studies I suggest to	Line 673-675. The approaches suggested by the reviewer, has been considered and proposed to use in further studies.

consider Multicriteria Analysis approach (Roy,2013; DCLG, 2009), which can be used to structure and solve complex decisions and planning problems involving multiple qualitative and quantitative criteria and the analysis and comparison of the full range of aspects related to a project. This can be done also by involving different stakeholders (Ferretti, 2016).	
<p>In relation to this, I suggest to consult the following article which describes how to apply Multicriteria analysis involving different stakeholders for creating a decision support system formed by dimensions, criteria and indicators, similar to dimensions and variables of the reviewed study.</p> <p>Dell'Ovo et al (2017) Multicriteria decision making for healthcare facilities location with visualization based on FITradeoff method DOI: 10.1007/978-3-319-57487-5_3</p>	Line 684-689. Another article by the suggested authors has been consulted and proposed to use in further studies.
<p>Furthermore, the current study focuses on 'wicked problems', however I suggest for further research to consider as variables both negative and positive features of the built environment through a performance based approach. In relation to this, I suggest to consult the two following articles, the first one about a performance-based decision support system for housing renovation, in relation to sustainability and Universal Design, the second one about healthcare facilities for dementia</p> <p>Kapedani H., Herssens J., Verbeeck G. (2018) The ComfortTool - Assessing perceived indoor environmental comfort improvements in four deep energy home renovations</p> <p>Brambilla A., Maino R., Mangili S., Capolongo S. (2020) Built Environment and Alzheimer. Quality Evaluation of Territorial Structures for Patients with Dementia. <a href="https://doi.org/10.1007/978-3-030-52869-0_15">https://doi.org/10.1007/978-3-030-52869-0_15</a></p>	Line 651-655. A section in the discussion have been added where the suggested articles are brought up.
Finally, the <b>references</b> should be related to the numbers within the article text.	OJ 19/1

## Reviewer 2

Thank you for the revisions. Unfortunately, you have missed a few essential points which you must be aware of. In the following, I will take up these points again. Please revise these points before submitting the manuscript again.

<i>Comment from reviewer 2</i>	<i>Changes or comments made by the authors</i>
Introduction: Missing information about the benefits of this study	Line 771-775 has not been changed. Describes the benefits of the study.
Experimental design: please, try to explain better the procedure. I find it confusing.	No change made. The authors has not used the term experimental design. The authors avoid to term the method as a type of design, because it can be confusing for researchers with a design background.
Was there inclusion or exclusion criteria in your experiment or study?	Line 234-235 has not been changed. Describes the selection criteria used to reach heterogeneity.  Line 237-238. Describes now describes an exclusion criterion for key actors that should not be included.
Line 211 to 220: How large were effect sizes assumed? Was a sample size calculation done?	Paragraph 4.2 has not been changed, because the qualitative approach, did not allow estimation of the effect size and sample size calculations.
Line 230 to 232: Please provide more information about the informed consent.	Line 258-259. Detailed information has been added.
Limitations must be reported in the discussion section. If the study protocol was not previously, it must be declared as limitation.	Line 691-699. Limitations has been added to the discussion section.

## Reviewer 3

This is a well-constructed qualitative study on different types of barriers to the availability of accessible houses to older subjects in Sweden. The clear introduction is supported by relevant references and essential to the comprehension of the framework in which this study was conducted. Results are presented in a clear way and well discussed in the following sections. Conclusions, however, are a bit vague, but it seems inevitable for a wicked problem.

<i>Comment from reviewer 3</i>	<i>Changes made by the authors</i>
The abstract could be improved, providing a more structured summary of results and conclusions	OJ 18/1
Please check reference list, as it does not provide reference number, and it is bothersome to consult.	OJ 19/1

Please revise manuscript for English language, use of repetitions and adverbs mostly. Moreover, in my opinion translation of transcripts could be much improved (feels a little bit strange and sometimes is not fully clear)	SI  Paragraph 5 and all subparagraphs: The translations of the transcripts have been improved.
Introduction - lines 34-36. The sentence "In addition, poor housing conditions, inequalities and inequity put individuals who belong to one of the above-mentioned groups at risk of ending up in the other groups." sounds a bit rude and might convey a discriminatory message	Line 34-36. The sentence has been deleted. Housing context and conditions can be rude and discriminatory. However, the authors do not want to convey a discriminatory message.
Paragraph 2.1 - lines 85-86: the use of withhold in this sentence is unclear; line 99: please extend CEO acronym	Lines 87-88. "Withhold" has been clarified with the use of "draw and adapt" and the sentence has been further detailed. CEO acronym has been extended.
Paragraph 3.1 - lines 134-136: this sentence is not so clear when I read it.	Lines 134-136. The long sentence is now divided into two and the language has been simplified.
Paragraph 4.2 - lines 212-213: please specify the "different academic backgrounds" of three researchers; lines 217-219: please specify how key actors benefited from research on housing accessibility (grants? other measures?) if this could be perceived as potentially biasing their role in the RC, this should be discussed in the limitations section, as well as the fact that all key actors were highly selected ("had competence, knowledge, experience of and opinions to issues related to housing and health"), so might not represent the "prototype" of stakeholder for accessible housing.; line 230: please check the number 12, since you included 15 key actors	Line 217. The researchers' academic background has been added.  Line 222. The fact the key actors potentially could benefit from new knowledge produced from research on housing accessibility, has been specified.  Line 682-684. A sentence about that the key actors may not represent the prototypical individuals that potentially could benefit from new knowledge on accessible housing, has been added.  Line 236. The number of participants has been clarified.
Table 3: please specify which National public authority the key actor was affiliated with.	Table 3. The National public authority as well as the organisation the business developer represent has been specified.
Paragraph 4.3 - Please discuss further (here and/or in the limitations section) why academics were both RC active participants and researchers (an independent moderator and/or researcher could be of some use? is this a limitation or a strength of the study?); line 236: JF participated in only one session but the request of participating to all three	Paragraph 4.2 Line 224-227. The researchers' role as participants involved in the RC in added.  Line 681-682. The approach to include researchers as RC participants is now discussed as a strength.

sessions was not a prerequisite of inclusion in the RC?	Line 234. JF was not employed as a PhD student at the time for the first and second RC sessions. The prerequisites and inclusion criteria only concerned the key actors.
Paragraph 4.4 - lines 249-250: please provide reference for GDPR.	Line 259: reference provided.
Table 4: please modify the layout since in the present form the table is difficult to read; moreover, Categories and clinical variables provided in the table are extremely vague and should be improved to give the reader a clear "summary" of main findings.	Table 4: Categories have been given more clear names
Paragraph 5 and all subparagraphs: please uniform transcript presentations (with/without quotes). It could be informative to have at least quoted transcript for all subparagraphs; moreover, the manuscript could benefit from a better balance between the representation of different key actors in the transcripts (the National senior citizen organizations' representative is highly under-represented in my opinion). I also think that quote in lines 384-385 should be longer to really refer to "counter-productive construction projects".	<p>Paragraph 5 and all subparagraphs:</p> <p>The transcripts are now presented in a more uniform way with quotes.</p> <p>All subparagraphs now have at least one quoted transcript</p> <p>The national senior citizen organizations' representative is now represented with more quoted transcripts and the balance between the representation of different key actors have improved</p> <p>The quote in lines 384-385 is now longer</p>
Paragraph 5.5: i find it lacking a little bit of depth and worth a longer discussion.	Paragraph 5.5: Rewritten with more depth
Reference 1 - line 713 please provide relevant link	Line 723. Link added.
References: for all links please update date last accessed (I personally checked and are all accessible as of today, Jan 5th 2021.	Thank you! All links are now updated.