

Peer Review File

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Reviewer A

Dear authors,

the manuscript is well written and covers an interesting area of research, diving deeper into spatial patterns of health and explanatory factors. Please find my comments in the following:

GENERAL

Comments	Reply
<p>- There are several repetitions (e.g. no causation) that bloat the manuscript.</p> <p>Suggest re-structuring parts of the manuscript (especially the introduction and methods) to counteract this.</p>	Edited

- The figures and tables often lack a call-out in the text and the maps and spider charts are (very) hard to read.	Edited and worked on the figures

INTRODUCTION

Comments	Reply
- lines 50-51: please provide a reference for this statement	Added reference
- lines 51-53: please provide a reference for this statement	Added reference
- lines 54-55: please provide a reference for this statement	Added reference
- lines 77-78: This logic seems difficult to follow. Why would the health status of the people living there reflect the characteristics of the areas? Rather the opposite seems to be the case, no?	Edited to “Within this analysis, the key issue is the exploration of patterns that might relate health variations, the socio-economic characteristics of residents, and the characteristics of the areas in which people live.”

<p>- lines 102-106: As this distinction comes from Macintyre (et al.), it should be properly referenced here.</p>	<p>Added reference</p>
<p>- lines 107-108: Following your statement above, a place-based approach focuses specifically on the contextual variables (i.e. characteristics), how come the place-based approaches in the literature miss out on those? Seems counterintuitive.</p>	<p>Edited/corrected</p>
<p>- lines 119-120: Above you state, that you will not investigate causation, here you talk about "how this affects that". Please clarify.</p>	<p>Edited/corrected</p>
<p>- line 132: It suggests spatial associations but not effect pathways.</p>	<p>Edited</p>
<p>- lines 136-137: How will your research help determine how place-based interventions should be designed (not the scope of your study)?</p>	<p>Edited</p>
<p>- lines 146-147: This sentence clearly summarizes your study.</p>	<p>Great!</p>

METHODS

Comments	Reply
<p>- lines 156-158: Is this level of comparison to other cities needed?</p>	<p>I think it demonstrates the scale of the area for those who don't know London. Might be useful and it doesn't harm.</p>
<p>- line 166-167: What does the map display? Green areas appear to be mapped, and the orange/brown fields are most likely built-up areas, but what is exactly shown here? AND There is no call-out in the text.</p>	<p>Edited and added information</p>
<p>- lines 187-190: Could be highlighted in the map in figure 1.</p>	<p>These are shown in Figure 2, it is hard to highlight in Figure 1 due to the nature of the 3D perspective. So, added call-out to Figure 2.</p>
<p>- lines 190-191: Where is this list and</p>	<p>Added references to reports and</p>

how was it derived?	website that uses the list of indicators
- lines 202-203: What is the rationale behind selecting these three specific indicators to display health, why not others?	Added information on this
- lines 209-210: Table heading above table AND Why are some cells shaded in different grey scales?	Moved up a heading. Explanation added to the text
- lines 211-212: The following part could be moved to supplementary material as it reads like a tourism brochure, and in my opinion, does not really help to contextualize the results presented later.	We still feel that this section is important to have a feeling of the areas for non-UK readers
- lines 246-247: Suggest to move closer to figure 1.	Moved closer to Figure 1 and to the reference to Figure 2 in the text
- line 248: "the research developed...", it is rather the authors or whoever, but not the research itself.	Edited/corrected
- line 249: Aren't contextual variables inherently spatial?	Edited/corrected
- line 249: Representative of what	Edited/corrected

exactly?	
- lines 261-262: Table heading above table.	Moved
- lines 270-271: Data source could be added to the indicators used in the table above.	Added an extra column with that information to Table 2
- lines 279-283: This should be moved to the end of the introduction (already some kind of duplication).	Moved and edited/cut.
- lines 286-291: already mentioned	Deleted
- lines 295-296: Part two of second c) sounds exactly like question a)	Edited/corrected
- line 301: Instead of "revealing" maybe rather "visualizing", why would tabular data of neighborhoods not show spatial trends?	edited

RESULTS

Comments	Reply
- line 311: What are positive and negative measurements?	Edited
- lines 316-317: Please improve the resolution AND No call-out in the text.	Done and worked on the image
- lines 327-328: Why not all 22? If the other 6 are not relevant, why include them in the first place?	Edited/explained
- lines 339-340: Not readable at all. Needs improvement.	Worked on the image
- lines 342-344: Based on the provided figure, I cannot assess that.	Worked on the figure

DISCUSSION

Comments	Reply
- lines 398-399: Already mentioned in the first sentence.	Edited
- line 418: "directly inform urban policies", this was mentioned as one of	Edited/corrected

your objectives in the introduction.	
- line 428: Why is 300 maps an indicator for a valid and useful data analysis?	Deleted

Reviewer B

Thank you for the opportunity to review this paper. It was an interesting read. It was especially fascinating for someone who has never visited London. I would support publication if the relevance to policy is clearer and details in the methods section are provided as discussed below. Some deep proofing also needs to be done. I hope the following comments will be helpful.

General:

This paper is characterized by numerous grammatical errors, which will be left to copy editors to resolve. Consider using an English editor prior to paper submissions in future.

<p>Abstract:</p> <p>Lines 22-25 contain two sentence fragments, which do not really add to the meaning of the abstract and should be cut.</p>	<p>Edited/partially cut</p>
<p>Keywords:</p> <p>Consider adding GIS mapping or Geographic Information System mapping to the list of keywords for</p>	<p>Done</p>

readers with a specific interest in that method.	
Key Findings:	
<p>The first bullet contains an incomplete sentence, so the meaning is unclear.</p> <p>Do you mean health outcomes differ within two contiguous boroughs due to varying socio-economic and environmental factors? If so, add a verb and cut the phrase following the comma, which is redundant.</p>	Done
<p>Second bullet is also an incomplete sentence. Do you mean poorer health outcomes are associated with overcrowding and deprivation?</p>	Edited
<p>Third bullet: Consider cutting the incomplete sentence at the end for conciseness and clarity.</p>	Done
What is known and what is new:	
<p>GIS and comparing visual data are not new in the study of health and other disparities, if that is what is meant by a</p>	Edited

<p>new approach. What may be new is the granular approach to the selection of geographical areas to study. Looking at side-by-side neighborhoods containing large populations of immigrants may be new.</p>	
<p>Considering the role of private green spaces, sports and play facilities may be new, as well, or little studied.</p>	<p>Done</p>
<p>What is known is that health and socio-economic factors are associated.</p>	<p>Edited</p>
<p>What is the implication and what should change now:</p>	
<p>Both bullet points seem to be suggesting more research is needed, but that could be said of anything.</p> <p>What is asked is, what should change?</p> <p>The statements in this section should be specific and clear. For instance, the authors suggest later in the paper that new, more comprehensive indicators should be used in urban planning.</p> <p>Stating exactly what those indicators</p>	<p>Edited accordingly</p>

<p>could include would be appropriate in this section. The paper also supports specific initiatives like increasing access to green spaces, building more playgrounds, and constructing more sports facilities.</p>	
<p>Introduction</p> <p>Para 1: It is hard to interpret ‘new,’ which might be read as a form of sarcasm. Do you mean renewed?</p>	<p>Edited</p>
<p>Literature review</p>	
<p>Line 102. The topic sentence is confusing. If you need to define terms, consider inserting a section for term definitions. Avoid trying to define multiple terms in a single complex sentence.</p>	<p>Edited.</p>
<p>Line 106. This incomplete sentence does not appear to relate to any other sentence. Consider cutting.</p>	<p>Edited to integrate with the next sentence</p>
<p>Lines 102-124. This paragraph needs to</p>	<p>Edited</p>

<p>be revised to be more concise and clearer. Try to simplify and consider what the message of this paragraph really is. The content from line 102 – 108 could be cut without serious harm if the sentence beginning on line 108 is rewritten.</p>	
<p>In general, the unnecessarily complex sentence structures in the lit review result in a fragmented feeling for the entire section. Consider streamlining this section by judicious cutting and focusing more narrowly to make the whole section more cohesive.</p>	<p>Edited</p>
<p>Methods</p>	
<p>First paragraph states the two boroughs studied were chosen because of their contrasting characteristics, but the text that follows describes similar attributes, such as similar population sizes, similar histories, similar central location and orientations, similar</p>	<p>Edited</p>

<p>population components (large numbers of immigrants), similar concentrations of social housing, and so forth. I am missing the contrasts. It would be more understandable if the boroughs were chosen because of their similarities, including intra-borough diversity. Later in the paper, contrasts in neighborhoods were explored well</p>	
<p>Consider inserting a subsection for measures. Line 192 specifies that a “variation of deprivation” was one of the measures used in the study and Figure 2 mentions a “multiple deprivation score.” Please describe this measure in more detail. Is this a scaled tool? How could readers find this tool? Other measures should also be described – how was ethnic diversity measured? How was social housing measured?</p>	<p>Edited and added</p>
<p>What is the definition of</p>	<p>Edited and added column</p>

<p>“overcrowding?” And so forth.</p> <p>Consider a new heading (Measures) to describe briefly how each of your independent variables were actually measured. This might be as simple as identifying public databases or established tools. If all the measures were part of MSOA databases, say this. If not, identify other sources of data. For instance, did the data for the “variation of deprivation” come from public databases of survey information? Possibly both the definitions of the measures and the sources could be included in a third column of the table labeled, “figure 2.” Some are very simple (such as counts), and others might require a bit more explanation. In any case, each of the variables in that table need to be defined.</p>	
The content that begins with line 274	Moved below to results

<p>should be moved out of the methods section.</p>	
<p>The conceptual model is a result and the comments about what can be done with the results and relevance of the project belong in the discussion or conclusion.</p>	<p>Moved below to results</p>
<p>On line 286 verbs change to future tense. Suddenly the readers wonders if this project has been completed or if this paper is a proposal/protocol. Tense changes again in line 318 deepening the confusion.</p>	<p>Edited</p>
<p>Spider charts at line 338 suggest the project was undertaken and we have actual results. The charts need to be enlarged or the information needs to be presented differently.</p>	<p>Worked on the image</p>
<p>Line 345-351 essentially seems to be</p>	<p>Edited</p>

<p>saying that smaller neighborhoods have better health indicators. The results section is not the place to tell the reader the relationship is not causal. Lay out the results and then discuss them in the next section.</p> <p>Please remove discussion material from the Results section. It is not necessary to tell the reader repeatedly that the relationships discovered here are not causal. Use language that makes that plain and caution the reader only once about inappropriate attribution of causation – and not in the results section.</p>	
<p>Line 355 to 357 tell the reader that some factors “seem to be important.” Try to say specifically what the result was for these factors and do not speculate in the results section. This happens several times in this section.</p>	<p>Edited</p>

Instead of speculating and suggesting, please state the result plainly. Where there are magnitudes, supply them. If results are based solely on the authors' visualization of the maps, then state that. For instance, the authors state:

“Tree density is the indicator that seems less directly related to health outcomes. 375 Even though trees have an important impact on health, pollution, and street attractiveness.”

Instead, try something like, “The researchers' interpretation of tree density on the maps is that tree density is not directly related to health outcomes.” Or, if available, provide the percentage of area covered with trees and relate percentage of tree coverage to health outcomes so there is a magnitude. In either case, the second, and incomplete, sentence is not necessary in a results section.

Discussion	
<p>The second bullet point in the discussion has nothing to do with health outcomes but tells the reader what is well-established, i.e., central locations provide better access to public space and transportation services. This needs a link to health.</p> <p>Point out the findings in this project that are different from what we already know about health and the environment. The first bullet point represents relatively fresh information.</p> <p>The association between deprivation and health outcomes is hardly news.</p>	<p>Edited</p>
<p>In summary, the article is more a celebration of the joys of GIS modeling than a serious attempt to shed light on relationships between health outcomes</p>	<p>Edited slightly – as the article brings many of these together.</p>

<p>and socio-environmental factors. It could benefit from a more polished focus on what the take-away message really is. Is the message the authors want to convey 1) that spatial modeling is a fantastic way of gaining insight into the nature of neighborhoods or 2) that this analysis uncovered relatively fresh information about factors that affect health outcomes in London?</p>	
<p>Going back to the “what should change heading” – is there anything in this work that could inform policy? If so, what is it?</p>	<p>Edited</p>