

Reviewer's report

Title: Overweight and Obesity, Physical Activity, and Factors in the Urban Environment: Identifying Gaps in Research

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Reviewer: Jason Corburn

Reviewer's report:

General

This paper is well written and very readable. It covers the important topic of research framing, and raises new questions for investigating the relationships between the urban built environment, physical activity and obesity. Research articles tend to focus on analytic methods and interpreting findings, but rarely ask whether the right questions are being asked to solve the problem at hand. In this regard, this article makes an important contribution. In addition, the article extends most research in the field of built environment-human health research by including topics and questions related to the social, economic and political dimensions of urban health. These qualities make this article an important contribution to the field of environmental health. This article offers some new research questions that ought to be raised when exploring the causes of urban health disparities and pays attention to the need for a multi-domain, multi-level, and multi-sited research approach.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

1) The first is the challenge of choosing the appropriate scale at which to measure built environment impacts on human health. The authors do not grapple with how urban environmental health researchers ought to define the geographic boundaries of "inner-city" neighborhoods. What are the advantages of using existing political boundaries versus statistical measures of "clusters" versus subjective definitions offered by local residents? Temporal scale is also given little attention. The authors mention some historic public policies that they claim contributed to today's urban health disparities, but fail to offer a set of questions or research approaches for incorporating historical research with modern-day data gathering. Time may also play a role in the built environment's influence on populations, as in measures of tenure living in a particular neighborhood, but this dimension is not addressed.

2) A second research challenge the article could have addressed pertains to public involvement in science, data gathering and devising interventions. The authors note the importance of the environmental justice movement in health disparities research and the "special knowledge of community-based institutions," but do not offer any specific research questions for how professionals ought to engage with these movements and organizations. Should urban environmental health research be left entirely to professional experts? Are there a set of critical research questions regarding public participation and professional accountability to disenfranchised population groups that ought to be asked at the same time as the built-environment-physical activity data gathering questions? What role can lay knowledge have in research into urban inequalities and the impact of the urban built and social environments on human health?

3) A third research question not addressed by the article is how to weigh different evidence found at different scales in order to inform interventions. While this challenge is not unique to built environment research, the issue is particularly challenging when gathering multi-level spatial data and considering social determinants of health. For example, if a lack of local jobs is found to influence physical activity and obesity, should interventions target the economy of the neighborhood, the entire city, the metropolitan region, the globe?

Attention to how these persistent study design challenges might be addressed through newly conceived built-environment and inner-city health research questions could have strengthened this paper.

What next?: Accept after discretionary revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.