



## Residential greenspace and health: quantity or quality?

We read with interest the recent publication in *The Lancet Planetary Health* by Samantha Hajna and colleagues.<sup>1</sup> The authors made a commendable effort to explore associations between proximity measures (ie, quantity, access, and size) of residential greenspaces and mortality in a large cross-sectional sample from London, UK. Their investigation identified the presence of both positive and negative effects of greenspace access on mortality, underscoring the complex means through which exposure to residential greenspaces might influence health outcomes.

Although we share the authors' emphasis on the importance of greenspace quantity and access in relation to the effects on health, it is equally crucial to recognise the key role of greenspace quality (ie, park design, features, safety, aesthetics, and equipment). Some evidence suggests that the health-beneficial effects of greenspaces are not solely attributed to their quantities, but rather to their qualities.<sup>2-4</sup> In particular, behavioural mechanisms, such as promoting physical activity and social interactions, linking greenspaces to mortality might show a pronounced relationship with the qualities of greenspaces. Additionally, the effects of greenspace quantity and access on health behaviour could be variable when the quality of those greenspaces is also introduced. For example, Sugiyama and colleagues<sup>4</sup> found that the availability of large parks within neighbourhoods—when considering park quality—was supportive of encouraging people to reach sufficient physical activity levels for benefiting health. The absence of greenspace quality measures might partially account for the inconsistent associations observed by Hajna and colleagues.<sup>1</sup> Finally,

the prominent value of greenspace quality lies in its capacity to specifically target modifiable attributes of the environment compared with greenspace quantity and access. Urban areas, particularly in large cities, often face a shortage of available open lands for creating new greenspaces. Street layouts are also more firmly established in urban areas. Due to logistical and legal complexities, it is thus challenging (or even impossible) to radically change street layouts and land use patterns to improve proximity to or quantity of public greenspaces.

Nevertheless, despite its benefits, we acknowledge the challenges in including greenspace quality in the analysis. Abundant tools and examples exist, but there is a lack of consensus regarding standardised measurement of the quality of greenspaces. The difficulty is that such tools should be context-specific and culturally adapted, which—even once developed—require substantial cost and time for data collection and analysis. Furthermore, there should be enough consideration to incorporate residents' perceived evaluations of the greenspaces' quality into these tools. Further development in geospatial artificial intelligence<sup>5</sup> might provide a feasible solution to measure and analyse the quality of greenspaces in large cohort studies on urban design and health. Meanwhile, the authors should be commended for their valuable contribution to this important topic.

We declare no competing interests.

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