

Increasing physical activity and equity in urban regeneration



The rising burden of non-communicable diseases has prompted greater consideration of the physical environment in both causing and preventing disease. WHO attributed 23% of global deaths in 2012 to the environment, including modifiable exposures such as air and noise pollution, poor-quality housing, and land use patterns.¹ The construction of new homes and communities marks an important opportunity to integrate health promoting design measures at several scales: within buildings, across a neighbourhood, and through the design of new settlements.²

The design and development of East Village (the former London 2012 Olympic and Paralympic Games Athletes' Village) was just such an opportunity. The comprehensive mixed-use regeneration scheme received planning permission from the London Borough of Newham in 2004, and further development around East Village was later brought forward through the London Legacy Development Corporation. Although this project occurred under an unusual regulatory framework, globally, there are many large-scale brownfield and greenfield development sites that have the potential to promote health through provision of high-quality housing, green infrastructure, active transport, and other features. To achieve the best possible health outcomes, policy makers and built-environment professionals need to know which design measures are most effective at promoting health through physical activity. The existing evidence base is primarily cross-sectional, but it suggests that density (such as residential and public transport density) and access to parks support physical activity.³

In *The Lancet Public Health*, Claire Nightingale and colleagues⁴ contribute to the evidence base for activity promoting design through a natural experiment that measured the physical activity and adiposity of residents before and after moving to East Village. East Village was superior to residents' previous neighbourhoods in terms of objective measures of walkability and access to parks, and subjective measures of neighbourhood quality. Nevertheless, the investigators found no evidence of a significant increase in daily steps or adiposity in the group who moved to East Village compared with the control group, after adjusting for sex, age group, ethnic group, and housing tenure. Nightingale and colleagues

also found no increase in daily duration of moderate-to-vigorous physical activity compared with the control group. However, a limitation of the study was that it was only powered to detect a 750-step increase.

There are several implications of this study for future research on physical activity and the built environment. First, researchers need to consider the relevant spatial and temporal scales at which the built environment and changes to physical activity should be measured. The well designed neighbourhood of East Village sits within a wider spatial and social context that likely affects how residents behave. Residents' activity patterns might be affected by the cost of local amenities, perceptions of social cohesion, or community severance,⁵ particularly social housing residents, who raised some of these challenges during study focus groups.⁴ Furthermore, it can take a decade or longer for those in new developments like East Village to develop a sense of identity and community. Residents are likely still developing social connections in this neighbourhood where everybody is new, which could affect activity patterns. A combination of these factors might have modified the effect of the active design measures in the East Village neighbourhood, and this study has helpfully begun to investigate such issues.

Second, the East Village case was selected because it was an atypical new neighbourhood with exceptional active design features, and thus it does not relate to most development occurring in the UK and elsewhere. Only 2% of proposed major housing (ie, of more than 50 units) in 12 English city regions where planning permission was granted between 2012 and 2015 were located within 800 m of a railway, light rail, or metro station, and 86% were more than 2 km from such services.⁶ Thus the high Public Transport Accessibility Level scores in the study by Nightingale and colleagues at baseline and in follow-up residential environments are not representative of most new housing being built elsewhere in the country, mirroring challenges in other countries globally. Built environment practitioners would benefit from evidence about the physical activity effects of moving to typical housing developments with poor public transport access. This evidence would also be important to improve health equity, as such housing is likely more affordable than housing with good access to public transport.

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Finally, the study population was already quite active, taking between 7707 and 9980 daily steps. They also did 50–70 min moderate-to-vigorous physical activity per day, compared with an average of 31 min for English men and 24 min for English women.⁷ The social housing study population was the least physically active and, overall, those tenants that moved to East Village might have reduced their physical activity, which raises important questions for research and the design of new communities. There is an urgent need to understand the complex range of factors,⁸ including built environment design, that affect physical activity in lower socioeconomic groups. The location of social housing within new development and restrictions on access to physical activity promoting environments, such as parks and playgrounds, are a topic of societal debate, particularly among built environment professionals.⁹ Further evidence could help practitioners make a stronger case for equitable design of new communities.

Helen Pineo

Institute for Environmental Design and Engineering, University College London, London WC1H 0NN, UK
 helen.pineo@ucl.ac.uk

I declare no competing interests.

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