BUILT ENVIRONMENT AND HEALTH: ANALYSIS OF NEIGHBOURHOOD ENVIRONMENT WITHIN 5- AND 10-MINUTE WALKING DISTANCE OF THE HOME

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Background and Aims: Recent research has highlighted the potential importance of the individual-neighbourhood interaction in determining population health and physical activity. Environment has often been considered on a relatively large scale, but there is increasing interest in the influence of 'neighbourhood' environment. This is often defined as the area within walking distance of people's homes, but inconsistency in how this is defined (Smith et al. 2010) has implications for environmental measurement and possible relationships with health.

Methods: A representative random adult sample from 10 neighbourhoods in Stoke-on-Trent, UK, participated in a computer-assisted personal interview, including health (SF12) and physical activity (IPAQ) outcomes. Geographical Information Systems were used to: geocode participants' homes and create two network buffers around each to represent 5- and 10-minute walking distances (400m and 800m respectively): create individual-level environmental indices for each participant (e.g., connectivity; land use mix; transport; traffic; safety and crime) for each buffer size. Multiple linear regression and multi-level analysis will be used to examine the effects of using the different neighbourhood definitions on relationships between health and neighbourhood environment.

Results: Productive interviews were obtained from 761 adults (49% response; 16+ years; 55% women). Most were overweight (65%), of low educational attainment (72%), and on modest income, consistent with much of the city. Self-reported health data were comparable with available normative data for England and were linked to perceived environment (Gidlow et al. 2010). Proposed analysis will explore the relative importance of individual-level environmental indices that capture GIS-defined environment indictors within 5- and 10-minute walking distances of individuals' homes.

Conclusions: Findings from novel analyses exploring differences in the relationships with health of a range of environmental indicators calculated using two commonly used neighbourhood definitions will be presented.

References:
Gidlow, C., Cochrane, T., Davey, R. C., Smith, G. and Fairburn, J. 'Relative importance of physical and social aspects of perceived neighbourhood environment for self-reported health', Preventive Medicine, 2010: 51(2), 157-163.

Smith, G., Gidlow, C., Davey, R. and Foster, C. 'What is my walking neighbourhood? A pilot study of English adults' definitions of their local walking neighbourhoods', International Journal of Behavioral Nutrition and Physical Activity, 2010: 7(1), 34.