

Environmental Correlates of Physical Activity And Walking

in Adults and Children: A Review of Reviews

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Review undertaken for National Institute of Health and Clinical Excellence

February 2007

NICE guideline PH8 (published January 2008) has been updated and replaced by NG90.

New recommendations have been added on strategies, policies and plans to increase physical activity in the local environment (1.1.1 to 1.1.3); active travel (1.2.1 to 1.2.4 and 1.2.6 to 1.2.9); public open spaces (1.3.1 to 1.3.3). NICE has deleted some recommendations from the 2008 guideline because the evidence has been reviewed and the recommendations have been updated.

This evidence review is relevant to the updated guideline.

See the [guideline](#) for more details.

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EXECUTIVE SUMMARY

The purpose of this report is to summarise evidence on the environmental correlates of physical activity and walking. A review of reviews was undertaken to identify evidence on the strength of association between environmental factors and physical activity for both children and adults. The exposure variables were a range of measures reflecting elements of the physical environment, and the outcomes of interest were total physical activity and specifically walking behaviour.

Electronic searches were conducted using Medline Cinhal, ERIC, Psychlit and Sportsdiscus databases as well as hand searches of references list and selected key journals. The focus was to identify published papers reporting on the factors associated with physical activity in children and adult populations; these are referred to as 'correlates' or 'determinants' studies. The initial search identified over 200 papers, of which only 13 papers met the inclusion criteria and were included. These review papers varied in quality and approach taken to reviewing and presenting their results. Despite these variations some common themes were identified across the studies in terms of both results on environmental correlates and the methodological weaknesses of this field of research.

A summary table presents the key environmental factors that show consistent and statistical association with physical activity behaviour in adults. For physical activity, 11 review papers provided evidence and results across them revealed reasonably consistent associations between access to physical activity facilities, convenient and proximate access to destinations, high residential density, land use and urban 'walkability' scores. There were also reasonably consistent associations between perceived safety, exercise equipment, pavement ('sidewalks') and physical activity participation. Less clear associations were noted for aesthetic features of the environment, parks, and perceived crime. Four review papers provided evidence specific to

walking and the results showed the correlates of walking were similar to those found for physical activity in adults.

One review paper assessed the evidence on the environmental correlates of physical activity in children, it included 33 primary studies. The most consistent associations were for the provision of pavements ('sidewalks'), destinations to walk to, few intersections to cross and low road traffic hazards. Aspects of the recreation infrastructure were also found to be strongly associated with increased levels of activity, these included proximity to, and availability of to parks, playgrounds, and recreation areas. Less consistent results were found for perceived safety however some studies show crime rates may be significantly (negatively) associated with physical activity in children.

The literature for both adults and children populations was mostly from cross sectional study designs, most studies were conducted in USA or Australia using a variety of outcome and exposure measures. There were few clear differences in the results across the studies included to identify patterns by age, sex or ethnicity, in adults or children.

Limitations in this literature include the reliance on cross sectional study design, thus this temporal relationship is not known for environmental measures and it is not possible to infer a causal or true 'determinants' relationship. The lack of standardisation of measurement of environments is another limitation. Both the independent and dependent variables in this area of research pose measurement challenges. A wide variety of methods are used to collect, derive, analyse and present data. This makes the task of assessing and comparing the results across studies more difficult. Few reviews identified separately the findings by objective or subjective measurement methods yet this will remain an important issue. Future research should make an explicit attempt to do so. Limited research is available on correlates of physical activity in minority and specific sub-populations.

Research on correlates has been carried out almost exclusively in North American and Australia, with limited published literature on environmental correlates from the UK. Thus, the evidence base for understanding the role of the environment and physical activity in England is very limited. Until primary research studies are undertaken in the UK, the application of the findings to date will rely on the generalisability of the available literature.

Limitations due to the methods of this review may include limiting the review to a review of reviews, including studies published only in English between 2002-2006 and applying search terms to only title and key words.

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ISBN 978-1-4731-2913-9