Physical Activity and Food Environment Assessments

Implications for Practice

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There is growing interest in the use of physical activity and nutrition environmental measures by both researchers and practitioners. Built environment assessment methods and tools range from simple to complex and encompass perceived, observed, and geographic data collection. Even though challenges in tool selection and use may exist for non-researchers, there are opportunities to incorporate these measures into practice. The aims of this paper are to (1) describe examples of built environment assessment methods and tools in the practice context; (2) present case studies that outline successful approaches for the use of built environment assessment tools and data among practitioners; and (3) make recommendations for both research and practice. As part of the Built Environment Assessment Training Think Tank meeting in July 2013, experts who work with community partners gathered to provide input on conceptualizing recommendations for collecting and analyzing built environment data in practice and research. The methods were summarized in terms of perceived environment measures, observational measures, and geographic measures for physical activity and food environment assessment. Challenges are outlined and case study examples of successful use of assessments in practice are described. Built environment assessment tools and measures are important outside the research setting. There is a need for improved collaboration between research and practice in forming partnerships for developing tools, collecting and analyzing data, and using the results to work toward positive environmental changes.

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Introduction

An understanding of how the built environment influences individuals is important for designing effective policies and interventions to improve population-level behavior.[1] Evidence linking the built environment and health has been successfully translated into policy and practice, leading to initiatives that promote physical activity and increase healthy dietary choices.[2,3] In order to illuminate the complex associations between built environment and behavior,[4] data collection needs to be valid, reliable, and cost-effective.[5] Although assessments have improved over the last decade, current challenges to both research and practice include selecting the most parsimonious and appropriate measures, needing to continually adapt and refine them, ensuring their relevance for diverse populations, and integrating measures of the built environment into public health surveillance.[6]

One strategy to align policy interests, researcher expertise, and on-the-ground practice is to coordinate efforts to collect and utilize data.[7] These data can be used in baseline assessments to provide general guidance on making changes to the built environment, monitor changes in the built environment and concomitant health behavior trends and outcomes,[6] and develop advocacy and support for replication of evidence-based interventions, programs, and policies.[7–9] Coordinating efforts can begin with raising awareness among practitioners on the importance of integrating built environment data into community design initiatives. Practitioners include a broad group of stakeholders such as public health staff, community

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development specialists, urban planners, transportation planners and engineers, those working in physical activity or nutrition advocacy, and others who have input in built environment decision making. Although there have been efforts to develop transdisciplinary communication and training about the built environment and health,[10,11] collaboration across municipal departments does not always occur.[12] The aims of this paper are to (1) describe examples of built environment assessment methods and tools in the practice context; (2) present case studies that outline successful approaches for the use of physical activity and nutrition environment assessment tools and data among practitioners; and (3) make recommendations for both research and practice.

Methods

Methods for assessing physical activity and food environments can be broadly categorized as perceived environment measures, observational measures, and geographic measures, each with varying advantages for use in community practice (Table 1).

Measures

One way to gather perceptions of the built environment is through self-administered questionnaires or surveys. For physical activity, typical surveys include questions on the perceptions of the presence and condition of sidewalks, green space, bike lanes, and accessible recreational facilities. Tools may be short or highly detailed,[13] and they may be tailored to subpopulations such as youth,[14] older adults,[15] or particular ethnic groups. In-person or telephone key informant interviews are a way to gain relevant perceptions from stakeholders. Stakeholders are those that have up-to-date information on aspects of the physical activity environment such as infrastructure and may include leaders in advocacy agencies, bicycle and pedestrian planners, and local policymakers.

Perceived environment measures are also used to assess food environments. Community food assessments (CFAs) refer to the process of examining the types of food resources in a community and the perceptions of community members of the available options. CFAs may include interviews with residents, local store-owners, and farmers as well as input from local health department leaders, city planners, and economic development agencies within or outside of government.[16,17] In-depth interviews with food retailers have been used to understand the local food environment and the factors influencing food stocking and sales decisions.[18]

Table 1. Examples of Methods to Assess Physical Activity and Nutrition Built Environment

	Physical activity	Nutrition	Advantages	Disadvantages
Perceived measures				
Surveys	Presence or condition of sidewalks, bike lanes, green space, accessibility, facilities	Food availability Food affordability Foods offered	Can combine with other data for broad scope Relatively easy to administer Validated tools exist and can be tailored	Data entry and analysis can be a challenge
Community resources				
Interviews	City planners, policymakers, community leaders	City planners, policymakers, community leaders, store owners, retail managers, farmers, residents Can be specific to organizations (e.g., farmers markets, child care)	Provides local and relevant information Can be used to identify perceived barriers to improving environment	May be difficult to know which key people from whom to gather information Qualitative analysis may be time consuming
Observational measures				
Audit tools	Streets, schools, parks, buildings	Restaurants, retail food outlets, schools, vending, drinking water resources	Tools vary in complexity Validated measures exist Virtual tools being explored as option	Involves onsite visit May require training Data entry and scoring may be challenging
Geographical measures				
Geolocalized data	Population density, land use, street patterns, availability of recreational opportunities	Restaurants, retail food venue access, per capita access	Provides a broad scope of information Can be used with other types of measures	Data collected for other purposes (e.g., taxation) and may not be complete for all regions May require training and analytic skills to combine or interpret