Advances in Physical Activity and Nutrition Environment Assessment Tools and Applications

Recommendations

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Introduction: In the past 15 years, researchers, practitioners, and community residents and leaders have become increasingly interested in associations among built environments and physical activity, diet, and obesity. Numerous tools to measure activity and food environments have been developed but vary in quality and usability. Future progress depends on aligning these tools with new communication technology and increasing their utility for planning and policy.

Methods: The Built Environment Assessment Training Institute Think Thank was held in July 2013. Expert participants discussed priorities, gaps, and promising opportunities to advance the science and practice of measuring obesity-related built environments. Participants proposed and voted on recommended future directions in two categories: "big ideas" and additional recommendations.

Results: Recommendations for the first "big idea" involve developing new, simplified built environment assessment tools and deploying them through online trainings and easily accessible web-based apps. Future iterations of the tools would link to databases of key locations (e.g., parks, food stores); have built-in scoring and analysis; and provide clear, simple feedback to users. A second "big idea" addresses dissemination of results from built environment assessments and translation into policies including land use and food access planning. Additional recommendations include (1) improving multidisciplinary collaborations; (2) engaging stakeholders across sectors; (3) centralized data resource centers; (4) increased use of emerging technologies to communicate findings; and (5) advocating for expanded funding for measurement development, training, and dissemination.

Conclusions: Implementing these recommendations is likely to improve the quality of built environment measures and expand their use in research and practice.

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Introduction

In the past two decades, the role of the built environment in physical activity, diet, and obesity has been extensively researched[1] and used to inform practice and policy.[2,3] However, there has been great heterogeneity in study designs, measures used, and findings of associations among environments, behaviors, and obesity.[1,4,5] Systematic reviews and commentaries have pointed to the complexity of conceptual frameworks, design limitations, context specificity of studies, and the need for greater clarity in results that can drive policy change and, ultimately, health behavior change and health improvements.[1,3,4,6–8]

Advances in our understanding of the built environment and changes in such environments and health-related behaviors and outcomes depend on the availability and usability of high-quality, practical assessment tools to measure the environment and on the

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interests of qualified scientists to use these methodologies in well-designed research.[9] Reviews[10–12] of available measures and systems (e.g., databases)[13] to assist researchers in identifying measurement and surveillance tools are helping to move the field forward. Because many measures are observational, training programs also are essential to progress. Beginning in 2008, the Built Environment Assessment Training (BEAT) Institute has provided didactic and hands-on field training and train-the-trainer experiences in assessment to more than 150 researchers and practitioners.[14]

In 2013, the BEAT Think Tank brought together 29 leading experts to identify priorities for future research, application of measures, and training. One of the key goals of the BEAT Think Tank was to develop recommendations and set an agenda for the future of the field. This article describes the process for developing the recommendations and summarizes the resulting recommendations.

Method for Generating Recommendations

Before the Think Tank, each participant was asked to identify one or two "big ideas" for the future of built environment measurement and to bring those ideas to the meeting. Participants were then instructed to write their ideas on index cards, which were collected on the first morning. The facilitator sorted the ideas and posted them. The ideas were discussed, and expanded or combined where appropriate, later in the day. The next morning, the "big idea" clusters were posted, and each participant was given two colored stickers to vote for their preferred ideas out of the ten top ideas that had been proposed. Results were presented to the entire group near the end of the Think Tank and each participant was invited to give final thoughts about the top-ranked recommendations.

The 2-day Think Tank agenda included breakout sessions on four key issues: (1) tools for measuring food and activity environments; (2) advancing technology use; (3) designing measures for dissemination and advocacy; and (4) using built environment measures for policy change and surveillance. The 2-hour sessions that covered each of these issues allowed time for discussion of recommendations and future priorities. The discussions were audio recorded and notes were taken, and the top recommendations identified in each session were brought back to the larger group for discussion. Those discussions refined the recommendations and identified additional foci, including the topics for the four papers in this Theme Issue.

Recommendations for "Big Ideas"

Each of the "big ideas" that was strongly endorsed by Think Tank participants was modified, expanded, and combined during discussion. The large group discussion revealed that these ideas were multifaceted and complex but could be grouped around a set of core actions. Two ideas received the majority of votes (Table 1).

The first "big idea" recommendation involves a cluster of advances needed to develop new, simplified built environment assessment tools and to expand their use in research and practice. This recommendation stemmed from the awareness that many of the existing tools were designed for and still only most applicable and used in the research context. These tools are lengthy and still primarily paper based and involve separate scoring

Table 1. "Big Ideas" Recommendations From the 2013 BEAT Think Tank

Idea cluster	Actions and areas for development
New assessment tools, simplified measures, online training, and apps	Adaptations of the best measures available Simplified, practical observational measures Online trainings and web-based/mobile apps for accessing tools and implementation guidance Built-in scoring, analysis, data displays Databases of key locations that can be merged into measurement database Links to GIS/mapping to locate place-based measures Standard definitions Continual updating of source databases
Dissemination and translation of findings from built environment assessments	Frame research-to-action translation as short, medium, and long term Identify multiple relevant stakeholders in various sectors of government, industry, education, medicine and nonprofits Use optimal communication media—both "push" and "pull"—webinars, podcasts, specialized sessions at professional meetings Work with multiple disciplines through collaborations between their professional organizations (e.g., American Planning Association and American Dietetic Association)

BEAT, Built Environment Assessment Training.