Measures Registry User Guide: Physical Activity Environment Fact Sheet

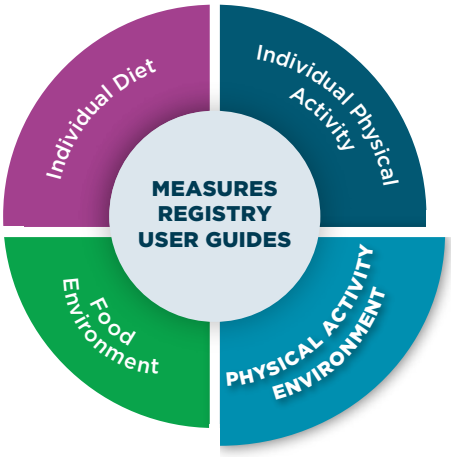
Measurement is a fundamental component of all forms of research and it is certainly true for research on childhood obesity. A top priority for the National Collaborative on Childhood Obesity Research (NCCOR) is to encourage consistent use of high-quality, comparable measures and research methods across childhood obesity prevention and research.

NCCOR's Measures Registry—a free, online repository of articles about measures—helps achieve this aim. It is widely recognized as a key resource that gives researchers and practitioners access to detailed information on measures in one easy-to-search location. The Registry's measures focus on four domains that can influence childhood obesity on a population level (see Figure below).

Even with this resource, however, it can be challenging for users to choose the most appropriate measures for their work. To address this need, NCCOR developed the Measures Registry User Guides designed to:

- Provide an overview of measurement
- Describe general principles of measurement selection
- Present case studies that walk users through the process of using the Measures Registry to select appropriate measures
- Direct researchers and practitioners to additional resources and sources of useful information

Figure: NCCOR Measures Registry User Guides



NCCOR: WORKING TOGETHER TO REVERSE CHILDHOOD OBESITY

NCCOR is a partnership of the four leading funders of childhood obesity research: The Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), the Robert Wood Johnson Foundation (RWJF), and the U.S. Department of Agriculture (USDA). These four leaders joined forces in 2008 to continually assess the needs in childhood obesity research, develop joint projects to address gaps and make strategic advancements, and work together to generate fresh and synergetic ideas to reduce childhood obesity. For more information about NCCOR, visit www.nccor.org.

Overview of the Physical Activity Environment Measures Registry User Guide

The goal of this User Guide is to help researchers and practitioners

- Make informed decisions when selecting, processing, and interpreting measurement tools for physical activity environments
- Understand the measurement issues that should be considered when selecting and using physical activity environment measures for research and practice purposes
- Navigate the Measures Registry by offering examples and tips

The Measures Registry User Guides are available at www.nccor.org/mruserguides. An informational webinar describing the Individual Physical Activity and Physical Activity Environment Guides is available at www.nccor.org/archived-webinars/mruserguides.

CASE STUDY IMPROVING STREETSCAPES AND PARKS AROUND SCHOOLS

The following case study has been designed to illustrate considerations influencing the selection of the most appropriate measure(s) for a given study based on the research aim/question, study design, and other characteristics. (See the full User Guide for additional case studies.)

Background

A local bicycle and pedestrian advocacy organization is working with the city planning department to improve environments around schools to support active living. The organization plans to apply for grant funding to support specific environmental improvements and would like the improvement targets to be identified through a community needs assessment. Their goal is to identify specific locations and types of improvements for which to seek funding.

Considerations

The organization is interested in environmental attributes that would be feasible to modify during the two-year grant period. They do not have much influence over home, school, and other building environments, but they have some influence over neighborhood and park environment modifications through their partnership with the city planning and parks departments.

The organization also wants to assess neighborhood and park environments, but not to use GIS-based measures because community design attributes available in GIS are at the macro-level and not easily changed (e.g., residential density and land use mix). The organization considers using self-reports but ultimately rejects that idea because (1) they do not have expertise in community surveys, and (2) audit tools are more specific with regard to identifying areas and attributes to target for improvement. Thus, both streetscapes and park audit tools appear to be well-suited for this project. Because the organization wishes to involve community members in the project, they need brief tools that will require little training, pinpoint modifiable features in need of improvement, and produce simple results metrics that can be easily communicated to the grant funder.

Measure Selection

In looking for a streetscape tool, the organization selects the Measures Registry filter options "Physical Activity Environment" and "Environmental Observation," and types "street" into the search field. Approximately 15 results are shown. Some results are immediately ruled out for various reasons (e.g., Google Street View tool, rural tool, senior tool). About 10 tools are compared using the "Compare" check box. The organization narrows the results to the tools that have the instrument available in the Registry, approximately five tools. Based on the content desired, the organization considers the Active Neighborhood Checklist, Microscale Audit of Pedestrian Streetscapes-Mini (MAPS-Mini), Pedestrian Environmental Quality Index (PEQI), and Systematic Pedestrian and Cycling Environment Scan (SPACES). PEQI is ruled out because little evidence for reliability and validity is available. SPACES is ruled out because it is too lengthy.

The organization uses the same search parameters to identify park audit tools, and "park" is typed into the search box. About 15 results are provided but some are immediately ruled out because they are not exclusively focused on parks and thus lack the detail the organization desires. Using the "Compare" check box, the organization narrows the candidates to the Bedimo-Rung Assessment Tool, Environmental Assessment of Public Recreation Spaces (EAPRS), Physical Activity Resource Assessment (PARA), and Community Park Audit Tool (CPAT). PARA is ruled out because it lacks the level of detail desired.

For the streetscape audit tool, the organization selects the Active Neighborhood Checklist because it is brief, includes a codebook and training materials, has been previously used by practitioners, and has evidence of reliability and validity. They strategically select street blocks to audit near elementary schools to represent points of pedestrian access to each school. The CPAT park audit tool is selected because of its previous use by practitioners and evidence of reliability and validity. However, CPAT includes 140 items, and the organization is concerned about resources and time burden. Thus, they select a subset of items based on community input and published evidence of reliability and validity of the subscales.