Strengthening the Evidence Base for Childhood Obesity Prevention: Lessons from the Guide to Community Preventive Services (Community Guide)

Shawna L. Mercer, M.Sc., Ph.D.

Director, The Guide to Community Preventive Services
Branch Chief, The Community Guide Branch
Epidemiology and Analysis Program Office
Office of Surveillance, Epidemiology and Laboratory Services
Centers for Disease Control and Prevention (CDC)

April 12, 2012
Structure for My Presentation

1. Describe the Community Guide

2. Recommended interventions for childhood obesity prevention and control

3. Evidence gaps identified by the Community Guide

4. What are the implications for childhood obesity researchers, program evaluators, and program planners?
The Community Guide consists of:

- **Systematic reviews** that:
  a) Analyze all available evidence on the **effectiveness** of community-based programs, services, and policies in public health
  b) Assess the **economic benefit** of all effective programs, services, and policies
  c) Highlight critical **evidence gaps**

- **Evidence-based findings and recommendations**
  - About the effectiveness of these programs, services, and policies
  - Developed by the Community Preventive Services Task Force
  - To help inform decision making

www.thecommunityguide.org
Community Preventive Services Task Force (Task Force)

- Nonfederal, independent, rotating body
- Internationally renowned experts in public health research, practice, policy
- Nomination process includes broad input from throughout public health, health care
- Members are appointed by CDC Director
- Members receive no pay
Complementarity of the US Preventive Services Task Force (USPSTF) and Community Preventive Services Task Force (CPSTF)
Community Preventive Services

Evaluating the effectiveness of interventions that are typically delivered:

- At the group level

- Community or population-based
  - Demographic
    - State/province, city, neighborhood
    - Age, gender, race/ethnicity, economic status
  - Organization
    - Health care system
    - Schools
    - Worksites

- By a wide range of “providers”
Types of Community Preventive Services

- **Informational, Educational**
  - Classroom-based health education focused on providing information for increasing physical activity
  - Mass media campaigns for increasing physical activity

- **Behavioral, Social**
  - Behavioral interventions to reduce screen time
  - Technology-supported interventions: multicomponent coaching or counseling interventions:
    - To reduce weight
    - To maintain weight loss
Types of Community Preventive Services (cont’d)

- **Environmental, Policy**
  - Creation of or enhanced access to places for physical activity combined with outreach activities
  - Street scale urban design (lighting, improved safety, ease of walking) in increasing physical activity

- **Health System**
  - Provider education for obesity prevention and control
  - Provider reminders for obesity prevention and control
## ~ 220 Task Force Recommendations

### The Environment

<table>
<thead>
<tr>
<th>Social Environment</th>
<th>Health Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Settings

<table>
<thead>
<tr>
<th>States</th>
<th>Worksites</th>
<th>Healthcare system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communities</td>
<td>Schools</td>
<td>Organizations</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Risk Behaviors

<table>
<thead>
<tr>
<th>Tobacco Use</th>
<th>Alcohol Abuse/Misuse</th>
<th>Other Substance Abuse</th>
<th>Poor Nutrition</th>
<th>Inadequate Physical Activity</th>
<th>Unhealthy Sexual Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specific Conditions

<table>
<thead>
<tr>
<th>Vaccine-Preventable Disease</th>
<th>Pregnancy Outcomes</th>
<th>Violence</th>
<th>Motor Vehicle Injuries</th>
<th>Depression/Mental Health</th>
<th>Cancer</th>
<th>Diabetes</th>
<th>Oral Health</th>
<th>Obesity</th>
<th>Asthma</th>
<th>Cardiovascular disease</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Current reviews**
Community Guide: How is it Intended to be Used?

- To inform decision making around:
  - Practice (initiatives, programs)
  - Policy
  - Research
  - Funding for research and programs
Community Guide Places Equal Weight on the Quality of...

- Our systematic review methods and analysis

- Our group processes
  - To help ensure that Task Force findings and recommendations are relevant to user needs, we actively engage intended users and beneficiaries in all components of our work
A Key Challenge

- Most decision makers considering community preventive services, programs, and policies want to know:
  - Are the findings generalizable across all the settings, situations and populations for which I am responsible?
  - Are the findings applicable to my specific setting, situation, or population?
Methods: We Seek to Answer Key Questions about Programs, Services, and Policies

• Do they work?
• How well?
• For whom?
• Under what circumstances are they appropriate?
• What do they cost?
• Do they provide value?
• Are there barriers to their use?
• Are there any harms?
• Are there any unanticipated outcomes?
Formal Review of Applicability

- Information is explicitly provided to Task Force on applicability
  - Considered when they make recommendations

- Information is provided to users in a refined **Rationale Statement** accompanying the Task Force Recommendation Statement

Remaining challenge: information is often limited

- Critical role for program evaluation of real world programs, services, and policies!!!
- Information can be incorporated into updates of Task Force recommendations!
- Studies assessed by Community Guide can be research-tested or practice-based
# Childhood Obesity-Related Recommendations

## Obesity Prevention and Control

### Interventions in Community Settings

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Evidence Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Media Interventions to Reduce Screen Time</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>School-Based Programs</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>Worksite Programs*</td>
<td>Recommended (Strong Evidence)</td>
</tr>
<tr>
<td>Behavioral Interventions to Reduce Screen Time</td>
<td>Recommended (Sufficient Evidence)</td>
</tr>
<tr>
<td>Technology-Supported Interventions: Multicomponent Coaching or Counseling Interventions to Maintain Weight Loss</td>
<td>Recommended (Sufficient Evidence)</td>
</tr>
<tr>
<td>Technology-Supported Interventions: Multicomponent Coaching or Counseling Interventions to Reduce Weight</td>
<td>Recommended (Sufficient Evidence)</td>
</tr>
</tbody>
</table>

### Provider-Oriented Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Evidence Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multicomponent Interventions with Client Interventions</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>Multicomponent Provider Interventions</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>Provider Education</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>Provider Education with a Client Intervention</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>Provider Feedback</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>Provider Reminders</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>Childhood Obesity-Related Recommendations</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>

### Physical Activity Promotion

<table>
<thead>
<tr>
<th>Behavioral and Social Approaches</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom-Based Health Education to Reduce TV Viewing and Video Game Playing</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>College-Based Physical Education and Health Education</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>Family-Based Social Support</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>Enhanced School-Based Physical Education</td>
<td>Recommended (Strong Evidence)</td>
</tr>
<tr>
<td>Individually-Adapted Health Behavior Change Programs</td>
<td>Recommended (Strong Evidence)</td>
</tr>
<tr>
<td>Social Support Interventions in Community Settings</td>
<td>Recommended (Strong Evidence)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Campaigns and Informational Approaches</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom-Based Health Education Focused on Providing Information</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>Campaigns and Informational Approaches to Increase Physical Activity: Mass Media Campaigns*</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>Community-Wide Campaigns</td>
<td>Recommended (Strong Evidence)</td>
</tr>
</tbody>
</table>
Childhood Obesity-Related Recommendations

### Physical Activity Promotion

**Environmental and Policy Approaches**

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Evidence Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation and Travel Policies and Practices</td>
<td>Insufficient Evidence</td>
</tr>
<tr>
<td>Creation of or Enhanced Access to Places for Physical Activity Combined with Informational Outreach Activities</td>
<td>Recommended (Strong Evidence)</td>
</tr>
<tr>
<td>Point-of-Decision Prompts to Encourage Use of Stairs</td>
<td>Recommended (Strong Evidence)</td>
</tr>
<tr>
<td>Community-Scale Urban Design and Land Use Policies and Practices</td>
<td>Recommended (Sufficient Evidence)</td>
</tr>
<tr>
<td>Street-Scale Urban Design and Land Use Policies and Practices</td>
<td>Recommended (Sufficient Evidence)</td>
</tr>
</tbody>
</table>
Opportunity for Behavioral Medicine Researchers, Evaluators, and Practitioners:

- Participate in filling pertinent evidence gaps identified by the Community Guide and summarized in the Task Force’s Annual Report to:
  - Congress
  - Agencies related to the work of the Task Force

Evidence gaps can be filled by a combination of:
- Research studies
- Evaluations of real world programs, services, and policies

www.thecommunityguide.org
1. Research Gaps Related to a Task Force Finding of Insufficient Evidence

- Task Force finding of insufficient evidence when:
  - Not enough studies identified (under-studied)
  - Too few studies with comparable components or outcomes
    - Interventions/intervention components are too varied to allow meaningful overarching conclusions
    - Measured outcomes (and other variables of interest) are too diverse
  - Evidence from different studies is mixed
    - Can’t find explanation for differences in magnitude of effects
1. Research Gaps Related to a Task Force Finding of Insufficient Evidence (cont’d)

- Task Force finding of insufficient evidence when:
  - Too few high quality studies
    - Quality of individual studies is too poor
    - Problems with the body of evidence overall are too severe to allow confidence in any measured effect
    - Serious, recurring flaws in the included studies
    - Concerns over independence of included studies
  - Concerns about additional information
    - Applicability
    - Potential harms
2. Research Gaps Where the Task Force has Made a Recommendation Based on Strong or Sufficient Evidence of Effectiveness

- Evidence gaps are consistently found in:
  - Applicability of the policy, program, service:
    - To diverse populations and populations with health disparities
      - Age:
        - Elderly
        - Adolescents
      - Low income
      - Racial/ethnic minority
    - To different settings
      - Inner city
      - Rural
    - In different contexts
3. Research Gaps Related to Information Needed to Support Users in Implementing Interventions that Meet Their Needs

- Consistent evidence gaps:
  - Information on key characteristics of the intervention—does effectiveness vary by:
    - Type of provider?
    - Dose or intensity of the intervention?
    - Duration of the intervention?
  - Cost effectiveness/cost benefit/cost
  - Lack of ability to assess the extent of incremental or synergistic effects of multicomponent or comprehensive interventions
  - “How to” methods for helping users select and implement interventions
Implications for Behavioral Medicine Researchers, Evaluators, and Practitioners

- The Community Guide is a great resource for identifying evidence gaps
  - Interventions for which there is insufficient evidence
  - Refining interventions
  - Assessing external validity
    - Data is so often missing
  - Suggestions for implementation research
Implications for Behavioral Medicine Researchers, Evaluators, and Practitioners

- Design your study considering:
  - Real-world applicability
  - External validity

- Consider a range of study designs

- Consider the value of evaluation studies as important means of:
  - Assessing applicability to different settings and populations
  - Identifying and evaluating innovations from practice, to build practice-based evidence
Implications for Behavioral Medicine Researchers, Evaluators, and Practitioners

- Report enough information about your study to support its meaningful inclusion in research syntheses
  - Clear definition of intervention, variables
  - Information on settings, deliverers, etc.

- Support the development and use of common measures of:
  - Outcome
  - Effect modifiers
For More Information

Shawna Mercer, MSc, PhD
Community Guide Branch Chief
SMercer@cdc.gov

www.thecommunityguide.org

The findings and conclusions in this presentation are those of the presenter and do not necessarily represent the views of CDC.