Approaches to Measuring Obesity-related Public Policies for Use in Quantitative Evaluations: Examples from State and Local Policy Environments

Jamie F. Chriqui, Ph.D., M.H.S.
Senior Research Scientist
Bridging the Gap Program
Health Policy Center
Institute for Health Research and Policy
University of Illinois at Chicago

Presentation for the RWJF Center to Prevent Childhood Obesity Webinar Series
December 17, 2009
Presentation Overview

• Brief overview of public policy strategies for addressing the obesity epidemic
• Factors to consider when evaluating public policies
• School district-level policy evaluation examples
• State level policy evaluation example
• Local level policy evaluation example
• Parting words
POLICY STRATEGIES TO ADDRESS THE OBESITY EPIDEMIC
Factors to Consider When Evaluating Public Policies for Use in Assessing their Impact

1. Underlying evaluation/research/surveillance purpose
   - Examples:
     • What is the impact of a certain state/community policy on community-level behavior change?
     • How responsive have districts been to a federal mandate?

2. Study scope
   - Sample size (# districts, communities, states, etc.)
   - Resources (time, $, staffing, expertise)

3. Type of data seeking
   - Quantitative or qualitative

4. Role of policy in study design
   - Type of variable: dependent, independent, control

5. Policy complexity

6. Policy jurisdiction
   - Federal, state, local, district

7. Type of Law
   - Statutory, Administrative, Case Law
Factors to Consider When Evaluating Public Policies for Use in Assessing their Impact

8. Policy Type
   - Enacted vs. pending
   - Codified vs. legislation/individual rules/regulations
   - Dealing with repealers and vetos

9. Periodicity
   - Reference date(s) for your policy data
   - Annual time points, time-series measures

10. Policy source availability
    - Challenges with historical policy collection

10. Policy data collection approach
    - Primary legal/policy collection
    - Survey
A few suggestions for systematically evaluating public policies

- Consistency, consistency, consistency
- Coding instruments/tools
- Documentation
  - Decision rules/protocols
    - Dealing with the ‘grey’ areas of policies
- Trained coders
- Reliability coding
- Linking with outcome data to assess whether the policy measurement tool(s) is working the way intended
SCHOOL DISTRICT LEVEL POLICY EVALUATION EXAMPLE
Local Wellness Policies—Nationwide Evaluation


- Executive Summary, Monograph and backup data available at:
  - [www.bridgingthegapresearch.org](http://www.bridgingthegapresearch.org)
• Ongoing **nationwide evaluation** of school district wellness policies required as of 1\(^{st}\) day 2006-07 school year under P.L. 108-265, Section 204
  – Nationally representative sample of 579 and 641 school districts, respectively, for school years 06-07 and 07-08
  – Coding nearly completed for SY 08-09 and collection underway for SY 09-10

• Primary policy collection and analysis, included wellness policy and all associated regulations/guidelines/procedures
  – Also included cross-referenced policies/models/embedded state laws
• Policies coded by grade level using adaptation of Schwartz et al. (JADA, 2009) scheme
  – Focus on required wellness policy elements:
    • Goals for nutrition education
    • School meal requirements
    • Competitive food guidelines
    • Goals for physical activity
    • Implementation plans
  – Also included provisions for physical education
• Policies evaluated using an ordinal coding scheme:
  – 0: No policy/provision
  – 1: Weak policy/provision (should, encourage, may, try, attempt)
  – 2: Strong policy/provision (must, shall, require)
• Data presented weighted to %age of students nationwide in districts with given policy provision
Wellness Policy Coding Example:
Competitive Food Content Restrictions

% Students in Districts with Policy, SY 07-08
- No policy
- Weak policy
- Strong policy

E = Elem, M = Middle, H = High

Foods: Sugar content
Foods: Fat content
Foods: Calorie content
Regular soda
Other Sugar Beverages
Fat content—milk sold outside meals
Wellness Policy Coding Example:
Physical Activity (PA) Policies are Relatively Weak

% Students in Districts with Policy, SY 07-08
- No policy
- Weak policy
- Strong policy

E = Elem, M = Middle, H = High

- FW: Goals for PA
- PA for every grade level
- PA opps. (breaks) during day
- Not using PA as punishment
- Daily recess
STATE LEVEL POLICY EVALUATION EXAMPLE
State Farm-to-School Law Evaluation
Methods

• Data Source: State Laws
  – Statutory (legislative) and administrative (regulatory) laws effective as of September 2007 were examined using the Lexis-Nexis state legal databases for each of the 50 states and the District of Columbia to determine the presence and extent of FTSP-related provisions.

• State Law Evaluation Topics (and coding levels: 0=no, 1=sugg., 2=req.)
  – Establishment of FTSP* (yes/no)
  – Initiatives to source locally grown F&V in schools* (0/1/2)
  – Funding/grants for FTSP (0/1/2; $)
  – FTSP includes nutrition education (0/1/2)
  – Training for food service personnel (0/1/2)
  – Establishment of FTS council (0/1/2)
  – Establishment of contact person b/w DOE and DOA (0/1/2)
  – TA to districts to establish FTSP* (0/1/2)
  – Requirement of district to report to state on FTSP (0/1/2)
  – State Evaluation and reporting on FTSP (0/1/2)

*Focus at the state level
## Coding Example: State FTS Laws

<table>
<thead>
<tr>
<th>Topic</th>
<th>0=Not mentioned</th>
<th>1=Suggested</th>
<th>2=Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other state F&amp;V initiative (not FTS)</td>
<td>7</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Funding/incentives to support FTS programs</td>
<td>6</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>FTS includes nutrition education</td>
<td>10</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Training for food svc on local sourcing</td>
<td>10</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>FTS council established</td>
<td>12</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>TA to districts to implement FTS</td>
<td>7</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Requires district reporting to state</td>
<td>14</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>State evaluation and reporting on FTS</td>
<td>11</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>
LOCAL POLICY EVALUATION EXAMPLE
Local Policy Evaluation: Example from the Bridging the Gap Study

• Component of the Bridging the Gap nationwide evaluation of the relationship between state laws, local policies, community environments, school practices and secondary school student attitudes, behaviors and weight outcomes

• Types of policies being collected
  – State laws, plans
  – County/municipal codes, ordinances, and non-codified (executive) policies

• Policies related to the built environment and food environment

• Advisory panel for developing policy evaluation tools
### Local Zoning Code Example: Markers of Walkability—\*in development\*

<table>
<thead>
<tr>
<th>MARKERS OF WALKABILITY</th>
<th>Design standards/guidelines specifically address pedestrian access, bicycles/lanes, trails, street connectivity, etc.</th>
<th>Walking/biking/pedestrian provisions (oriented to active-living)</th>
<th>Strength of walkability marker relative to district/zone</th>
<th>Terms used to determine “walkability” (e.g., pedestrian, pedestrian/street furniture, bicycle, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>District/Zone/Type of Development</strong></td>
<td><strong>YES</strong></td>
<td><strong>NO</strong></td>
<td><strong>Not Appl.</strong></td>
<td><strong>YES</strong></td>
</tr>
<tr>
<td>a. Transect zones/districts</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Public/civic/gvt. use districts</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Schools/education districts</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Park district</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Forest (preserve) district</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Open space</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Recreation</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Residential</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Commercial</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Mixed-use</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Pedestrian-oriented district</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Pedestrian-oriented dev. (POD)</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Planned unit dev. (PUD)</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Tradl. neighborhood dev. (TND)</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Transit-oriented dev. (TOD)</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. New urbanism dev./dist.</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Downtown district (see protocol)</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Shopping district (see protocol)</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>
### BTG Local Zoning Markers of Walkability

**Pilot Coding Example**

<table>
<thead>
<tr>
<th>MARKERS OF WALKABILITY</th>
<th>Design standards add. walkability</th>
<th>Walking/ biking/ Ped. provisions (oriented to active-living)</th>
<th>Strength of walkability marker relative to district/zone</th>
<th>Terms used to determine “walkability” (e.g., pedestrian, pedestrian/street furniture, bicycle, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># YES</td>
<td># YES</td>
<td># NO</td>
<td># REQ.</td>
</tr>
<tr>
<td>a. Transect zones/districts</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>a. Public/civic/gvt. use districts</td>
<td>10</td>
<td>2</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>a. Schools/education districts</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>a. Park district</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>a. Forest (preserve) district</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>a. Open space</td>
<td>30</td>
<td>9</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>a. Recreation</td>
<td>9</td>
<td>2</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>a. Residential</td>
<td>40</td>
<td>1</td>
<td>39</td>
<td>0</td>
</tr>
<tr>
<td>a. Commercial</td>
<td>39</td>
<td>4</td>
<td>35</td>
<td>4</td>
</tr>
<tr>
<td>a. Mixed-use</td>
<td>18</td>
<td>10</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>a. Pedestrian-oriented district</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>a. Pedestrian-oriented dev. (POD)</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>a. Planned unit dev. (PUD)</td>
<td>29</td>
<td>9</td>
<td>20</td>
<td>6</td>
</tr>
<tr>
<td>a. Tradl. neighborhood dev. (TND)</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>a. Transit-oriented dev. (TOD)</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>a. New urbanism dev./dist.</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>a. Downtown district (see protocol)</td>
<td>7</td>
<td>7</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>a. Shopping district (see protocol)</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

N=53 communities

Do not cite or circulate without permission
Parting Words....

- Policies are complex
- Policies can be quantified beyond simple yes/no measures
- Multiple sub-scales/measures can be combined to form policy indices
- The nature of the policy evaluation will rest largely on the nature of the study question and research design
- Systematic approaches to policy evaluation are essential
- Have fun!!!
For more information:

www.bridgingthegapresearch.org

www.impacteen.org

jchriqui@uic.edu

The work presented herein has been conducted under the Robert Wood Johnson Foundation-supported Bridging the Gap Project.