Impacts: strategy-level behavior change

**Inputs**
- Baseline conditions
- Existing community assets
- KP assets
- Design principles

**Process**
- Effective intervention strategies
- Changes in individuals
- Health promoting system changes

**Outcomes**
- Short-term
  - Changes in community capacity
- Intermediate
  - Activity
  - Nutrition
  - Improved biometric (e.g., BMI) & physiologic measures
- Long-term
  - Health
  - Thriving, empowered communities

**Sustainability**
How do strategy level evaluations contribute to dose?

Dose = Reach × Strength

Number of lives touched × Effect size
Why did we do strategy-level evaluations?

Estimate strategy-level “strength” or effect size of the impact

- order of the magnitude
- prioritize interventions

Obtain estimates of relative impact of different strategies to estimate their dose

Overtime, refine and revise the estimates with new evaluation/research findings
Types of Strategy-Level Evaluation Methods

Pre/Post

Intercept surveys
- corner market shopper purchases

Observations
- school playground physical activity

Classroom surveys
- “hands up” transport mode to school

Provider surveys
- child care home provider practices
Example of strategy-level impacts: Safe Routes to School

**Intervention**
Active transport strategies in 12 Colorado schools (N=5500) included adding sidewalks and crosswalks, walking school bus programs, and media/promotion.

**Impacts**
- 7% increase in students walking or biking to school in the 12 schools was sustained 3 years later.
- 8 out of 11 Colorado communities with strategy level evaluation showed sustained increase in active transport.

**Data source:** Hand tallies of student’s actively transporting to/from school in 12 CO schools.
Example of strategy-level impacts: childcare centers

**Intervention**
Technical assistance provided to 17 home-based childcare practices to implement HEAL policies and practices

**Impacts**

- 19% increase in percent of the centers offering fruit
- 13% increase in percent of the centers offering vegetables
- 17% increase in percent of sites where active play time led by adult

**Percent of childcare sites that:**

<table>
<thead>
<tr>
<th></th>
<th>Served fruit</th>
<th>Served vegetables</th>
<th>Led active play time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>63%</td>
<td>31%</td>
<td>77%</td>
</tr>
<tr>
<td>Post</td>
<td>82%*</td>
<td>44%*</td>
<td>94%</td>
</tr>
</tbody>
</table>

*Data source: Pre/post surveys and observations in 17 child care homes in CA*
## School-Based YOUTH PHYSICAL ACTIVITY Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Denominator</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Median</td>
</tr>
<tr>
<td>Active Recess (n=3)</td>
<td>All children in school</td>
<td>6%</td>
</tr>
<tr>
<td>School PE (n=4)</td>
<td>All children in school</td>
<td>4%</td>
</tr>
<tr>
<td>After-school PA (n=10)</td>
<td>Children in after-school programs</td>
<td>2%</td>
</tr>
<tr>
<td>Safe Routes to School (n=13)</td>
<td>All children in school</td>
<td>1%</td>
</tr>
</tbody>
</table>

= agreement with Brennan findings on effectiveness

## School-Based YOUTH FOOD Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Denominator</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cafeteria F&amp;V strategies</strong></td>
<td>All children in school</td>
<td>Median: 6%</td>
</tr>
<tr>
<td><em>(n=6)</em></td>
<td></td>
<td>Range: 3% - 11%</td>
</tr>
<tr>
<td><strong>Cafeteria healthy food</strong></td>
<td>All children in school</td>
<td>Median: 2%</td>
</tr>
<tr>
<td><em>(n=7)</em></td>
<td></td>
<td>Range: 0.5% - 5%</td>
</tr>
<tr>
<td><strong>Cafeteria SSB removal</strong></td>
<td>All children in school</td>
<td>Median: 1%</td>
</tr>
<tr>
<td><em>(n=5)</em></td>
<td></td>
<td>Range: 0.5% - 3%</td>
</tr>
<tr>
<td><strong>Healthy snacks/rewards</strong></td>
<td>All children in school</td>
<td>Median: 0.5%</td>
</tr>
<tr>
<td><em>(n=4)</em></td>
<td></td>
<td>Range: 0.3% - 1%</td>
</tr>
<tr>
<td><strong>School gardens</strong></td>
<td>All children in program</td>
<td>0%</td>
</tr>
<tr>
<td><em>(n=2)</em></td>
<td></td>
<td>No evidence of behavior change</td>
</tr>
<tr>
<td>Strategy</td>
<td>Denominator</td>
<td>Median</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Physical activity programs (n=10)</td>
<td>Program participants</td>
<td>10%</td>
</tr>
<tr>
<td>Biking programs (n=6)</td>
<td>Program participants</td>
<td>2%</td>
</tr>
<tr>
<td>Parks (n=4)</td>
<td>People living near park</td>
<td>1%</td>
</tr>
</tbody>
</table>
## COMMUNITY FOOD Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Denominator</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food bank produce</strong></td>
<td>Food bank users</td>
<td>Median: 10%</td>
</tr>
<tr>
<td>(n=3)</td>
<td></td>
<td>Range: 2% - 19%</td>
</tr>
<tr>
<td><strong>Community gardens</strong></td>
<td>Gardeners, produce recipients</td>
<td>Median: 3%</td>
</tr>
<tr>
<td>(n=11)</td>
<td></td>
<td>Range: 0.3% - 19%</td>
</tr>
<tr>
<td><strong>Farmers markets</strong></td>
<td>Farmers market shoppers</td>
<td>Median: 2%</td>
</tr>
<tr>
<td>(n=4)</td>
<td></td>
<td>Range: 0.5% - 4%</td>
</tr>
</tbody>
</table>

*PROMISING*
Conclusions

School strategies – promising

- Especially in physical activity – PE, active recess
- Cafeteria strategies that boost healthy choices and fruit/vegetable consumption, e.g. salad bars
- Note: Safe Routes to School results are highly variable

Childcare strategies – promising

- Policies that change daily staff practices to increase healthy foods served and active play time
Conclusions

Community strategies – may be promising
  • Programs with frequent exposure—exercise programs
  • Food bank produce

Community strategies – still investigating
  • Park improvements with programs and promotion

Specific strategies – some may not be promising
  • Corner stores
  • Farmers markets
  • HEAL policies/programs in faith-based organizations
  • School and community gardens
Lessons learned about strategy level evaluations

Captures impacts directly from those touched by the intervention

Captures impacts that may be small or hard to detect across a whole population

Identifies effective or promising strategies that could be clustered and coordinated together

Community coalitions liked results from measuring direct recipients of specific strategies -- easier to understand than results across a whole population

_BUT... effective strategies are dependent on the community context and capacity to fully implement them_