Using Intervening Variables to Evaluate SPF SIG in Maine

SPF SIG Evaluators Meeting
Washington, DC
July 14-15, 2009
How we are using/evaluating Intervening Variables in Maine

Findings (State and Community)

Next Steps/Conclusion
Intervening Variables and Evaluation
Goal of SPF SIG in Maine

- Reduce alcohol use among youth (especially 14-18 year olds) - REQUIRED
- Reduce high risk drinking among adults (especially 18-25 year olds) - REQUIRED
- Reduce misuse of prescription drugs (especially 18-25 year olds) - OPTIONAL
Implementing SPF SIG in Maine

- Statewide implementation as part of a larger Public Health Infrastructure (Healthy Maine Partnership)
  - Collaboration between Maine Office of Substance Abuse, Maine Centers for Disease Control and Maine Department of Education
  - Tobacco, Chronic Disease, Nutrition, Physical Activity, Substance Abuse
  - 8 Public Health Districts → 16 Counties → 28 Coalitions
Maine’s Public Health Infrastructure
For the year 2007 – 2008 the HMP coalitions implemented 465 alcohol-related prevention activities across the state.

- Disseminated parental monitoring campaign through 321 channels (e.g., media outlet, doctor office, store); almost 400,000 individuals exposed to messages.
- Invited 2,098 local merchants to participate in Responsible Beverage Service; 1,018 staff trained.
- Worked with 98 police departments to enhance the effectiveness of local enforcement policies and practices; 30 model policies adopted.
Evaluating SPF SIG In Maine

- Short-term Outcomes (State and Community Level)
  - Access/availability
  - Parental monitoring/Family communication
  - Enforcement
  - Social/Community Norms

- Long-term Outcomes
  - State Level Outcome Evaluation
    - Consumption Patterns
    - Consequences
      - Motor vehicle crashes/DUIs
      - Abuse/dependence
      - Poisonings
  - Community Level Outcome Evaluation
    - Consumption Patterns
Source of Our Data

- 2008 Maine Youth and Drug Alcohol Survey
  - 340 public schools participated
  - Response rate of 81.1%, with 74,593 total useable responses
  - Responses represent grades 6 – 12
- MYDAUS data have been collected since 1998

www.maine.gov/mainesa/survey/home.php
Initial Findings
Statewide Change in Consumption Since 2004

*Previous 30-Day Use of Alcohol by High School Students, by Year*

- 2004: 42%
- 2006: 40%
- 2008: 35%
<table>
<thead>
<tr>
<th>Change in Intervening Variables Since 2004</th>
<th>2004</th>
<th>2006</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caught by Parents*</td>
<td>38%</td>
<td>39%</td>
<td>41%</td>
</tr>
<tr>
<td>Easy to Get*</td>
<td>69%</td>
<td>66%</td>
<td>63%</td>
</tr>
<tr>
<td>Parents Think Wrong*</td>
<td>82%</td>
<td>83%</td>
<td>85%</td>
</tr>
<tr>
<td>Caught by Police</td>
<td>10%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>Cool for Drinking*</td>
<td>45%</td>
<td>45%</td>
<td>41%</td>
</tr>
<tr>
<td>Community Thinks Wrong</td>
<td>68%</td>
<td>67%</td>
<td>69%</td>
</tr>
<tr>
<td>Clear Family Rules</td>
<td>80%</td>
<td>81%</td>
<td>81%</td>
</tr>
</tbody>
</table>
Looking at the Role of Intervening Variables

- Constructed simple ratios from cross-tabulations
  - Likelihood of drinking alcohol in the past 30 days by intervening variable:
    \[
    \frac{30\text{-Day Rate Alcohol EASY}}{30\text{-Day Rate Alcohol HARD}} = \text{Likelihood of Drinking in Past Month}
    \]

- Significance testing shows all results are statistically significant at the p < .05 level.
Comparative Likelihood of Past 30 Day Alcohol Use

Likelihood of Using Alcohol in the Past 30 Days, by Selected Intervening Variables

- More likely
- Less likely

-5.0 -4.0 -3.0 -2.0 -1.0 0.0 1.0 2.0 3.0 4.0 5.0

Caught by Parents
3.5

Parents Think Wrong
-2.3

Caught by Police
-2.3

Cool for Drinking
2.1

Community Thinks Wrong
-2.1

Clear Family Rules
-1.7

Easy to Get
2.5
At the Community Level
Community Level Change in Consumption Since 2004

Previous 30-Day Use of Alcohol by High School Students, by Year and District

- York PHD
- Cumberland PHD
- Western Maine
- Mid-Coast
- Central Maine
- Penquis
- Downeast
- Aroostook PHD

Year:
- 2004
- 2006
- 2008
<table>
<thead>
<tr>
<th></th>
<th>Caught by Parents</th>
<th>Easy to get</th>
<th>Parents Think Wrong</th>
<th>Caught by Police</th>
<th>Cool for Drinking</th>
<th>Community Thinks Wrong</th>
<th>Clear Family Rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>York PHD</td>
<td>6%</td>
<td>-2%</td>
<td>4%</td>
<td>13%</td>
<td>-7%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Cumberland PHD</td>
<td>3%</td>
<td>-4%</td>
<td>-1%</td>
<td>1%</td>
<td>-6%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Western Maine</td>
<td>6%</td>
<td>-3%</td>
<td>2%</td>
<td>1%</td>
<td>-8%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Mid-Coast</td>
<td>8%</td>
<td>-7%</td>
<td>2%</td>
<td>21%</td>
<td>-12%</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>Central Maine</td>
<td>5%</td>
<td>-6%</td>
<td>2%</td>
<td>15%</td>
<td>-10%</td>
<td>4%</td>
<td>1%</td>
</tr>
<tr>
<td>Penquis</td>
<td>10%</td>
<td>-4%</td>
<td>5%</td>
<td>6%</td>
<td>-15%</td>
<td>6%</td>
<td>1%</td>
</tr>
<tr>
<td>Downeast</td>
<td>7%</td>
<td>-8%</td>
<td>1%</td>
<td>29%</td>
<td>-6%</td>
<td>4%</td>
<td>-1%</td>
</tr>
<tr>
<td>Aroostook PHD</td>
<td>9%</td>
<td>-4%</td>
<td>3%</td>
<td>3%</td>
<td>-12%</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>Maine</td>
<td>3%</td>
<td>-3%</td>
<td>1%</td>
<td>4%</td>
<td>-8%</td>
<td>2%</td>
<td>1%</td>
</tr>
</tbody>
</table>
Consumption Rates and Getting Caught by Parents

Past Month Use of Alcohol, by Perceived Risk of Getting Caught by Parents

- York PHD: 49% Not Caught, 14% Caught
- Cumberland PHD: 50% Not Caught, 16% Caught
- Western Maine: 48% Not Caught, 14% Caught
- Mid-Coast Maine: 52% Not Caught, 16% Caught
- Central Maine: 47% Not Caught, 12% Caught
- Penquis: 45% Not Caught, 14% Caught
- Downeast: 47% Not Caught, 16% Caught
- Aroostook PHD: 49% Not Caught, 14% Caught
- Maine: 49% Not Caught, 14% Caught
Consumption Rates and Access

Past Month Use of Alcohol, by Perceived Ease of Access

<table>
<thead>
<tr>
<th>Location</th>
<th>Easy</th>
<th>Hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>York PHD</td>
<td>44%</td>
<td>18%</td>
</tr>
<tr>
<td>Cumberland PHD</td>
<td>47%</td>
<td>21%</td>
</tr>
<tr>
<td>Western Maine</td>
<td>45%</td>
<td>17%</td>
</tr>
<tr>
<td>Mid-Coast</td>
<td>49%</td>
<td>20%</td>
</tr>
<tr>
<td>Central Maine</td>
<td>43%</td>
<td>15%</td>
</tr>
<tr>
<td>Penquis</td>
<td>42%</td>
<td>17%</td>
</tr>
<tr>
<td>Downeast</td>
<td>44%</td>
<td>17%</td>
</tr>
<tr>
<td>Aroostook PHD</td>
<td>44%</td>
<td>13%</td>
</tr>
<tr>
<td>Maine</td>
<td>45%</td>
<td>18%</td>
</tr>
</tbody>
</table>
Consumption Rates and Getting Caught by Police

Past Month Use of Alcohol, by Perceived Risk of Getting Caught by Police

- Not Caught
- Caught

York PHD: 37% Not Caught, 17% Caught
Cumberland PHD: 40% Not Caught, 18% Caught
Western Maine: 37% Not Caught, 15% Caught
Mid-Coast: 40% Not Caught, 20% Caught
Central Maine: 35% Not Caught, 14% Caught
Penquis: 35% Not Caught, 13% Caught
Downeast: 36% Not Caught, 20% Caught
Aroostook PHD: 36% Not Caught, 18% Caught
Maine: 37% Not Caught, 16% Caught
Consumption Rates and Parental Attitudes

Past Month Use of Alcohol, by Parental Attitudes Toward Alcohol Use

<table>
<thead>
<tr>
<th>Location</th>
<th>Not Wrong</th>
<th>Wrong</th>
</tr>
</thead>
<tbody>
<tr>
<td>York PhD</td>
<td>70%</td>
<td>32%</td>
</tr>
<tr>
<td>Cumberland PhD</td>
<td>70%</td>
<td>35%</td>
</tr>
<tr>
<td>Western Maine</td>
<td>69%</td>
<td>31%</td>
</tr>
<tr>
<td>Mid-Coast Maine</td>
<td>75%</td>
<td>34%</td>
</tr>
<tr>
<td>Central Maine</td>
<td>67%</td>
<td>29%</td>
</tr>
<tr>
<td>Penquis</td>
<td>70%</td>
<td>28%</td>
</tr>
<tr>
<td>Downeast</td>
<td>72%</td>
<td>29%</td>
</tr>
<tr>
<td>Aroostook PhD</td>
<td>72%</td>
<td>29%</td>
</tr>
<tr>
<td>Maine</td>
<td>70%</td>
<td>31%</td>
</tr>
</tbody>
</table>
Consumption Rates and Community Norms

Past Month Use of Alcohol, by Community Attitudes Toward Alcohol Use

- **Not Wrong**
- **Wrong**

<table>
<thead>
<tr>
<th>Community</th>
<th>Not Wrong</th>
<th>Wrong</th>
</tr>
</thead>
<tbody>
<tr>
<td>York PHD</td>
<td>55%</td>
<td>27%</td>
</tr>
<tr>
<td>Cumberland PHD</td>
<td>57%</td>
<td>31%</td>
</tr>
<tr>
<td>Western Maine</td>
<td>54%</td>
<td>25%</td>
</tr>
<tr>
<td>Mid-Coast</td>
<td>57%</td>
<td>28%</td>
</tr>
<tr>
<td>Central Maine</td>
<td>52%</td>
<td>24%</td>
</tr>
<tr>
<td>Penquis</td>
<td>52%</td>
<td>23%</td>
</tr>
<tr>
<td>Downeast</td>
<td>51%</td>
<td>24%</td>
</tr>
<tr>
<td>Aroostock PHD</td>
<td>56%</td>
<td>22%</td>
</tr>
<tr>
<td>Maine</td>
<td>54%</td>
<td>26%</td>
</tr>
</tbody>
</table>
Next Steps for Analysis
Next Steps (Planned)

- Test relationship between the strategies implemented and the change seen in intervening variables at the Community level.

- Test the relationships among the strategies, intervening variables and the changes in State-level Consequences.
Intervening variables can be evaluated as shorter-term outcome measures.

Intervening variables are critical to local/community-level evaluation, especially when consequence data are not useable/available.

Data suggest that strategies selected to address intervening variables impact consumption patterns.
CONTACTS

Sarah Goan, M.P.P.
Hornby Zeller Associates, Inc
373 Broadway
South Portland, ME 04106
(207) 773-9529
SGoan@hornbyzeller.com
www.hornbyzeller.com

Anne Rogers, M.Ed., CHES
SPF SIG Coordinator
Office of Substance Abuse
207-287-4706
Anne.Rogers@maine.gov
www.maineosa.org

Hornby Zeller Associates, Inc.