Using the Stages of Implementation Completion Measure as a Model for Health Policy Interventions

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Policy interventions are critical to improving health behaviors
Development of policy implementation strategies is limited by a lack of measures of their effectiveness.

Limits to policy enactment as measure of success

- Is uncertain
- May takes years to achieve
- Results from many inter-related factors

Measuring intermediate outcomes overcomes these challenges.
Our Evaluation Model

Policy Implementation Strategies
- Training
- Technical Assistance
- Tools

Intermediate Outcomes (Mechanisms)
- Coordinator Self-Efficacy
- Partnership Policy Change Process Completion (PCPC)
  - Document local problem
  - Formulate evidence-informed solutions
  - Engage partners
  - Raise awareness
  - Persuade decision makers

Longer Term Outcomes
- Media coverage
- Policy drafted
- Policy proposed
- Policy enacted

Leeman, Myers, et al. 2017
Policy Change Process Completion: Measure Development

Modeled on Saldana et al.’s Stages of Implementation Completion Measure which

• Assesses movement through stages: plan, implement, sustain intervention
• Good reliability overall
• Successfully differentiates groups that did or did not receive implementation strategies
• Predicts full implementation when early stages are completed more quickly
• Broad applicability across different programs/settings

How we developed our measure of Policy Change Process Completion

1. Identified core processes
2. Conducted formative work to specify activities within each process
3. Pilot tested to refine
4. Developed proposal to assess construct and predictive validity
Kingdon's Multiple Streams Theory of Policy Change

Step 1 - Identified Core Processes

PROBLEM STREAM

POLICY STREAM

POLITICS STREAM

POLICY WINDOW

POLICY OUTPUT
Step 1 - Identified 5 Policy Change Processes Needed to Activate Kingdon’s 3 streams

- Document local problem
- Formulate policy solutions
- Engage strategic partners
- Raise awareness of problems & solutions
- Persuade decision makers

Leeman et al. 2012, 2015, & 2017
Step 1. Processes rather than stages

1. Formulate solution
2. Engage Partners
3. Raise Awareness
4. Document Problem
5. Persuade Decision makers
Steps 2-4. Partnered with Counter Tools

Counter Tools provides implementation strategies to communities in 18 states
• US tobacco industry spends $8.2 billion annually on marketing in the retail environment

• Evidence-based policy interventions are available to counter POS tobacco marketing
Policy Interventions to Counter Retail Tobacco Marketing

Laws, ordinances, or resolutions to

• Regulate tobacco advertising, price, price promotion, and placement
• Reduce retailer density
• Prohibit tobacco retailers near schools and other youth-oriented facilities
• Restrict sales of flavored products
Counter Tools provides implementation strategies to support the 5 policy change processes

- Tools to collect local data (store audit and mapper)
- Guidance on evidence-based policy solutions (interventions)
- Toolkits of activities to engage partners
- Photo galleries and communication templates to raise awareness and persuade decision makers
- Training and technical assistance
Step 2. Formative work to specify activities within each process

- One Midwestern state
- In-depth interviews with 30 individuals working to counter tobacco marketing at the point-of-sale
- Iterative meetings with Counter Tool’s staff
- Drafted lists of activities related to each process
- Developed interview guide and refined through cognitive interviews with 8 tobacco control staff

Myers et al. Unpublished evaluation report
Step 3. Pilot Tested to Refine

- 30 tobacco control coalitions in one southern state
- State provided funding for coalitions to work on POS tobacco marketing and contracted with Counter Tools to provide implementation strategies
- Phone interviews of partnerships’ completion of policy change processes at 6 and 12 months (Dec. 2015, June 2016)
- Coded activity completion (95% interrater reliability at 12 months)
Findings – Policy Change Process Completion (100% 12-month response rate)

Proportion of Activities Completed

- Document Problem: 80%
- Formulate Solution: 30%
- Engage Partners: 100%
- Raise Awareness: 30%
- Persuade: 10%
Examples of Findings – Policy Change Process Completion

- **Document problems (4 items)**
  - Completed store audits = 97%
  - Analyzed local data = 63%
- **Formulate evidence-informed solutions (4 items)**
  - Assess local policy = 80% completed
  - Draft policy proposal = 3% completed
- **Raise awareness (4 items)**
  - Participate in/hold events = 87% completed
  - Create/distribute press release = 13% completed

Leeman, Myers, et al. 2017
### Year 2 of Pilot Study – Converted interview questions to an electronic survey

<table>
<thead>
<tr>
<th>Process</th>
<th>Activity</th>
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<tbody>
<tr>
<td>Engage Partners</td>
<td>1. Created a team or subcommittee to work on promoting POS tobacco EBPIs</td>
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<td>2. POS tobacco EBPI is on meeting agenda of prevention or tobacco coalition or partnership</td>
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<td>3. Volunteers have participated in collecting local data on the problem (e.g., store audits)</td>
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<td>4. One-on-one meetings have been held to engage additional partners (e.g., churches)</td>
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<td>5. Presentations have been made to groups to engage additional partners</td>
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<tr>
<td>Document local problem</td>
<td>6. Data compiled on community health behaviors and related death and disease rates</td>
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<td>7. GIS methods used to map local access (e.g., number and locations of tobacco retailers)</td>
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<td>8. GIS methods used to assess relationships between access data and demographics</td>
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<td>9. Audit methods used to document availability/marketing of healthy/unhealthy options</td>
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<td>10. Local data from all sources summarized and integrated</td>
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<td>Formulate Evidence-Informed Solution</td>
<td>11. Assessed existing local and state policies</td>
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<td>12. Consulted with legal or policy experts to understand existing policy</td>
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<td></td>
<td>13. Consulted with legal or policy experts to select best EBPI solutions</td>
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<td>14. Assessed local officials’ opinions of EBPI solutions</td>
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<td>15. Assessed community members’ opinions of EBPI solutions</td>
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<td>16. Selected one or more EBPI solutions</td>
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<td>17. Drafted a policy proposal</td>
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<td>Raise awareness</td>
<td>18. Planned or participated in events to raise awareness of local problem/solution</td>
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<td>19. Generated a press release and/or other media contact</td>
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<td>20. Made presentations to groups describing the local problem/solution</td>
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<td>21. Employed other communication strategies (e.g., promotional materials, social media)</td>
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<td>Persuade decision makers</td>
<td>22. Developed a strategic plan</td>
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<td>23. Created a policy brief</td>
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<td>24. Consulted with state-level leadership about elements of policy proposal/strategic plan</td>
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<td>25. Met with local policymakers</td>
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Step 4. Proposal to assess construct and predictive validity

- Prospective, longitudinal design
- Collect data from 150 community partnership coordinators in 18 Counter Tools’ states that have contracts with Counter Tools at four time points (baseline, 12, 24, and 36 months)
Aim 1. Establish measure’s factor structure, reliability, and pragmatic value

- Categorical confirmatory factor analysis (CFA)
- CFA selected over item response theory (IRT) because better fits structural equation modeling (SEM) and study’s relatively small sample (N=150)
- SIC used Rasch models to address challenges related to assessing time required to complete each “stage”
- PCPC assesses completion speed as proportion of activities completed at each time point (for each process and overall)
Pragmatic value

- Relevant to stakeholders
- Actionable findings
- Limited burden
- Sensitivity to change
- Broad applicability

Glasgow & Riley, 2013
Aim 2. Determine measures’ concurrent and predictive validity

- Structural Equation Modeling: Higher-order factors of self-efficacy and PCPC fit to series of cross-lagged panel models to assess effects on long-term outcomes (media coverage, policy drafted, policy proposed, policy enacted)

- Control variables
  - Coordinator turnover
  - State’s tobacco retail policy
  - State
  - Partnership funding diversity

Figure 3. Path diagram of the full cross lagged panel model.
Aim 2. Determine measures’ concurrent and predictive validity

• Assess whether completion of specific PCPC processes is associated with specific long-term outcomes and fit logistic regression models separately to test association of
  – “formulate evidence-informed solution” (process) to strong policy drafted (outcome)
  – “raise awareness” (process) to media coverage (outcome)
  – “persuade decision makers” (process) to policy proposed (outcome)
Practice implications of research findings

• Develop a pragmatic, broadly applicable measure to identify
  – Which policy change processes are key to success
  – Where gaps persist in those processes
  – What implementation strategies are most effective at closing the gaps
• Use to target, tailor, and refine implementation strategies for a range of health supporting policy interventions (e.g., smoke free spaces and access to healthy foods and places for physical activity).
References to our most relevant work

• **Leeman, J., Myers, A., Grant, J., Wangen, M., & Queen, T. (2017).** The effects of implementation strategies to promote community-engaged efforts to counter tobacco marketing at the point of sale. *Translational Behavioral Medicine.* Epub ahead of print
