Dissemination and Implementation of Evidence-based Prevention Programs in Schools and Other Community Settings

Luanne Rohrbach, Ph.D., M.P.H.
Department of Preventive Medicine
University of Southern California
Outline of Presentation

- Conceptual framework
- Dissemination & implementation of prevention in schools
  Example: Project Towards No Drug Abuse
- Dissemination & implementation of substance abuse prevention in communities
  Example: LA County Prevention Services Initiative
Systems Framework for Dissemination and Implementation

- Funding
- Policy
- Climate

Communities

Provider Factors

Organizational Factors
(INFRASTRUCTURE)

Prevention Delivery System

EBI
ADOPTION

Prevention Support System

Effective
IMPLEMENTATION

Adapted from Durlak & DuPre, 2008
Substance Abuse Prevention: What has been accomplished

- Increased number of empirically validated prevention programs/interventions
- Efficacy has been established
  - However, less is known about effectiveness when implemented under real-world conditions
- Reviews of evidence-based programs are available and disseminated
- Local communities are encouraged to implement only “proven programs”

Spoth, Rohrbach et al., *Prevention Science*, 2013
However, there is not widespread use of evidence-based substance abuse prevention programs

- Percentage of middle schools using an evidence-based program:
  - 34.4% in 1999
  - 42.6% in 2005

- Percentage of high schools using an evidence-based program in 2005: 10.3%

Ringwalt et al., *Prevention Science*, 2008
Factors that Influence Adoption and Use of Evidence-based Prevention Programs in Schools

- **Program-related**
  - Attractive and user-friendly, easy to use, flexible, methods are familiar, perceived advantage over current practice
  - Fits with organization goals, work practices

- **Organizational**
  - Leadership, administrative support, presence of program champion, positive school climate, organizational norms, effective communication, openness to change, existing capacity

- **Implementer Characteristics**
  - Positive attitudes, comfortable with approach, skill proficiency, self-efficacy

- **Training and Technical Assistance**

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Durlak & DuPre, 2008; Rohrbach et al., 1996, 2006, in press
Key Research Questions Related to Implementation

- What are the characteristics of stakeholders most likely to implement EBIs?
- What are the most effective delivery systems for specific EBIs in different settings?
- **What are the effects of different training and technical assistance (TA) methods on implementation quality?**
- How do the amount, types, and mode of delivery of training and TA affect implementation quality?
- What are the key factors influence recruitment and participation in EBIs?
- What are the relative contributions of core intervention components?
- How do specific adaptations affect outcomes?

Spoth, Rohrbach et al., *Prevention Science*, 2013
Previous Research on Training

- Training improves implementation (fidelity, dosage) and program outcomes

- Non-experimental studies show technical assistance (ongoing) improves fidelity and sustainability

- Few studies have experimentally manipulated amounts and types of training/TA
Project Towards No Drug Abuse (TND)

- 12-session substance abuse prevention program
  - Recognized by national entities as evidence-based

- Target population: high school-aged youth

- Proven reductions in adolescent substance use across multiple trials
  - Cigarettes, alcohol, marijuana, hard drugs

Sussman et al., 2002, 2003, 2012; Rohrbach et al., 2010
TND Dissemination (5th) Trial: Primary Research Questions

1. What is the relative effectiveness of an enhanced teacher training model (comprehensive implementation support), versus standard training?

2. Is TND effective when implemented by high school teachers in “real world” settings?

Rohrbach et al., *Preventive Medicine*, 2010; funded by NIH/NIDA
TND Dissemination Trial Design

1. Standard teacher training workshop

2. Comprehensive implementation support
   - Standard workshop
   - Web-based support
   - Coaching (on-site)
   - Technical assistance

3. Delayed-intervention control
TND Dissemination: Study Sites

- Los Angeles, CA
- Sonoma County, CA
- Tucson, AZ
- Wichita, KS
- Lake Charles, LA
- Washington, DC
- Cumberland, MD
- Rock Hill, SC
- Sacramento, CA
- Boston, MA

Total=65 schools
Conceptual Framework

School Environment
1. School Context
2. Teacher Characteristics
3. Organizational Climate

Training Intervention -> Implementation Fidelity -> Changes in Mediators (Beliefs, Skills, Knowledge) -> Reduced Drug Use
## Effects of Training Condition on Implementation Fidelity

<table>
<thead>
<tr>
<th>Fidelity Score(^1)</th>
<th>Standard Workshop</th>
<th>Workshop + Implementation Support</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-0.15 (1.00)</td>
<td>0.10 (0.77)*</td>
</tr>
</tbody>
</table>

\(^*\)\(p = .05\), one-tailed test

Multi-level model; \(n=99\) observations

\(^1\) Standardized score

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Rohrbach et al., *Prevention Science*, 2010
Figure 2. Potential mediation pathways for the effects of the training intervention on implementation fidelity

Notes: Standardized regression coefficients for the relationship between training condition (comprehensive vs standard) and implementation fidelity as mediated by change in self-efficacy. The standardized regression coefficients between training condition and implementation fidelity controlling for change in self-efficacy are in parentheses. *p<0.05
Effects of Training Condition on Short-term Outcomes/Mediators

- Enhanced training had stronger effects on:
  - Program knowledge ($p < .10$)
  - Substance use intentions ($p < .10$)

- Students had more positive reactions to the program in the enhanced condition ($p < .05$)
1-Year Follow-up Results

- Is TND effective when implemented by teachers in “real-world” high school settings?
  - Reduction in marijuana use ($p < .10$)
  - Reduction in hard drug use for baseline non-users only ($p < .05$)
  - No effects on cigarette or alcohol use
  - Overall, weaker effects than in previous (efficacy) trials

- What is the relative effectiveness of the enhanced teacher training model versus standard training?
  - No differences in drug use outcomes

Rohrbach et al., *Preventive Medicine*, 2010
## Sustained TND Implementation

<table>
<thead>
<tr>
<th>Condition</th>
<th>1 Year</th>
<th>2 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced</td>
<td>61.8%</td>
<td>58.8%</td>
</tr>
<tr>
<td>Regular</td>
<td>84.6%</td>
<td>61.4%</td>
</tr>
</tbody>
</table>

Note:
Lost to follow-up: 26% of sample at 1-year and 36% at 2-year follow-up.
Summary: TND Dissemination

- Large-scale TND implementation by teachers produced a program effect on marijuana use only.

- Enhanced training produced stronger fidelity and showed more positive changes in a few of the immediate outcomes on youth relative to regular workshop training.
  - However, differences between the 2 training groups in substance use outcomes were not observed at 1-year follow-up.

- Majority of teachers sustained program implementation.
Ongoing Challenges in Implementing Evidence-Based Prevention in Schools

- Focus on academic achievement
- Limited time and resources
- School reform, staff turnover, etc.
- Limited capability to monitor implementation and collect outcome data
- Complex mechanisms for decision-making about prevention
- Limited funding for sustained prevention efforts
Implementation of the SAMHSA* Strategic Planning Framework for Substance Abuse Prevention in Communities in Los Angeles

Luanne Rohrbach
Ricky Bluthenthal
Michael Cousineau
University of Southern California

Study is supported by a contract from the LA County Dept. of Public Health (#PH-002040).

* SAMHSA = Substance Abuse and Mental Health Services Administration (federal)
Block Grants: Prevention Approach

- Focus on communities at highest risk
- Relative emphasis on underage drinking
- Foster collaboration across community systems
- Implement comprehensive strategies
  - Evidence-based programs
  - Policy change
  - Environmental strategies
- Data-driven, outcomes-focused
- Use of proven planning process
L.A. County Prevention Services Initiative

• Request for Proposals due Dec. 2010
• In 2011, organizations (n=34) in 8 SPAs were funded to implement 43 projects, of 2 types:
  • Environmental-focused, or
  • Comprehensive
• Funding mechanism: contract
• Funds per project: $200,000 – 300,000
Los Angeles County Service Planning Areas (SPAs)
Strategic Prevention Framework

Step 1. Assess Needs
Step 2. Build Capacity
Step 3. Plan
Step 4. Implement
Step 5. Evaluation

Guided by principles of:
- Sustainability
- Cultural competence

SAMHSA (http://captus.samhsa.gov)
Logic Model for the Evaluation

**Inputs/Resources**
- Overall org. capacity & readiness
- Training & TA
- SAPC funding

**Activities**
- Needs Assessment
- Planning
  - Data analysis
  - Logic models
- Development of strategic plan for programs & services

**Outputs**
- Organizational capacity for delivery of prevention
- Implementation of evidence-based programs and services
- Evaluation of programs and services

**Short-term Outcomes**
- Decreased:
  - --access rates
  - --availability rates
  - --social influences
  - --exposure to ads
  - --neighborhood tolerance
  - --nuisance locations

**Long-term Outcomes**
- Changed social norms
- Changed community conditions

**Ultimate Goal**
- Decreased retail/social access & availability
- Decreased underage drinking, illicit drug use, & misuse of legal products
Evaluation Objective #1

- Determine extent to which and how well providers implement steps 1-3 of SPF (needs assessment, capacity building, planning)

Research questions:
- What is the quality of the needs assessment, logic models, and work plans?
- What factors are associated with quality?
- To what extent do providers build capacity for effective AOD prevention?
- In what ways might the planning and assessment processes be improved?
Evaluation Objective #2

- Determine extent to which and how well providers implement steps 4-5 of SPF (implementation, evaluation)

**Research questions:**

- What is the quality of implementation of prevention strategies?
- Coalitions: comprehensiveness of membership, level of functioning, role on projects, accomplishments?
- How are short-term outcomes measured? To what extent are short-term objectives achieved?
- Role of local evaluator
Project Activities, 2011 – Present

• Needs assessment (2011-2012)
  • Archival data review
  • Media coverage review
  • Political record review
  • Environmental scan
  • Surveys of youth, young adults, adults
  • Focus groups
  • Key informant interviews

• Planning (2012)
  • Logic model (theory of change)
  • Work plan with strategies, objectives, and outcomes

• Implementation of Strategies (2013-2015)
## Funded Organizations

<table>
<thead>
<tr>
<th>Type of Organization</th>
<th>Number of Organizations</th>
<th>Years of Prevention Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community-based service organization (AOD/social/human services)</td>
<td>19</td>
<td>22.6 (14.6)</td>
</tr>
<tr>
<td>Community coalition or partnership</td>
<td>8</td>
<td>21.1 (2.8)</td>
</tr>
<tr>
<td>AOD treatment organization</td>
<td>4</td>
<td>6.3 (4.6)</td>
</tr>
<tr>
<td>Health department, clinic, or hospital</td>
<td>1</td>
<td>24.0 (--</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>32</td>
<td>20.3 (12.5)</td>
</tr>
</tbody>
</table>
Evaluation Methods

• **Surveys** (web-based) and **interviews** (face-to-face) with key staff in each funded organization
  • Post-planning (2013)
  • Mid-implementation (2015)
• Review and **Coding** of:
  • Prevention plans
  • Evaluation reports
• **Observation** of meetings (contractor-wide; SPA coalitions)
<table>
<thead>
<tr>
<th>Item</th>
<th>% Agree or Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs assessment is necessary to understand local problems</td>
<td>97.1</td>
</tr>
<tr>
<td>We learned a lot</td>
<td>55.9</td>
</tr>
<tr>
<td>Needs assessment may not always lead to the right conclusions about community AOD problems</td>
<td>64.7</td>
</tr>
<tr>
<td>Funds were adequate</td>
<td>38.2</td>
</tr>
<tr>
<td>Time was adequate</td>
<td>29.4</td>
</tr>
<tr>
<td>The data captured community AOD problems in our community well</td>
<td>29.4</td>
</tr>
</tbody>
</table>

N=32 organizations
Needs Assessment Challenges

• How to define target “community”?
  • Eliminating overlap among provider organizations
  • Mapping boundaries of target community with existing data sources, policy jurisdictions, etc.

• Multiple assessment methods
  • How do we interpret inconsistent findings?
  • Relative value of secondary vs. primary data

• Pace of process! Took 1 year to collect data and develop plans

Note: Themes identified in interviews
## Capacity of Prevention Organizations

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean (Std.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am confident we can do a good job</td>
<td></td>
</tr>
<tr>
<td>implementing implement individual-focused strategies</td>
<td>3.76 (0.50)</td>
</tr>
<tr>
<td>implementing environmental-based strategies</td>
<td>3.44 (0.86)</td>
</tr>
</tbody>
</table>

### We have organizational capacity for:

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Mean (Std.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building relationships</td>
<td>3.82 (0.39)</td>
</tr>
<tr>
<td>Cultural competence in service delivery</td>
<td>3.67 (0.48)</td>
</tr>
<tr>
<td>Implementing individual-focused strategies</td>
<td>3.56 (0.62)</td>
</tr>
<tr>
<td>Data collection</td>
<td>3.22 (0.71)</td>
</tr>
<tr>
<td>Implementing environmental-focused strategies</td>
<td>2.97 (0.90)</td>
</tr>
</tbody>
</table>

N=32 organizations
## Beliefs about Evidence-based Programs (EBPs)

<table>
<thead>
<tr>
<th>Item</th>
<th>% Agree or Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The EBP we have developed is likely to be effective</td>
<td>94.1</td>
</tr>
<tr>
<td>The EBP we have developed will be difficult to implement</td>
<td>61.8</td>
</tr>
<tr>
<td>Many EBPs would never work in our community</td>
<td>35.3</td>
</tr>
<tr>
<td>EBPs are likely to be better for our community than prevention we’ve done previously</td>
<td>29.4</td>
</tr>
<tr>
<td>Most EBPs are impractical</td>
<td>23.5</td>
</tr>
<tr>
<td>Researchers who develop EBPs don’t always know what it takes to reduce AOD in our community</td>
<td>64.7</td>
</tr>
</tbody>
</table>

N=32 organizations
## Implementation: Prevention Activities, 2013-14

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>% of Work Plans or Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Substance/Goal</strong></td>
<td></td>
</tr>
<tr>
<td>Alcohol use</td>
<td>95% of work plans</td>
</tr>
<tr>
<td>Marijuana use</td>
<td>75%</td>
</tr>
<tr>
<td>Prescription or other drug misuse</td>
<td>&lt;1%</td>
</tr>
<tr>
<td><strong>Short-term Objective</strong></td>
<td></td>
</tr>
<tr>
<td>Decrease retail access</td>
<td>58% of contracts</td>
</tr>
<tr>
<td>Decrease social access</td>
<td>48%</td>
</tr>
<tr>
<td>Decrease social influences</td>
<td>28%</td>
</tr>
<tr>
<td>Increase parent communication</td>
<td>28%</td>
</tr>
<tr>
<td><strong>Approach</strong></td>
<td></td>
</tr>
<tr>
<td>Curriculum/individual-focused program</td>
<td>68% of contracts</td>
</tr>
<tr>
<td>Policy development</td>
<td>50%</td>
</tr>
<tr>
<td>Multi-component (individual + community)</td>
<td>45%</td>
</tr>
<tr>
<td>General education (media, raise awareness)</td>
<td>30%</td>
</tr>
<tr>
<td>Enforcement/retailer education</td>
<td>28%</td>
</tr>
<tr>
<td>AOD-free activities</td>
<td>3%</td>
</tr>
</tbody>
</table>

N=226 work plans from 40 organizations
## Most Common Strategies Selected for Implementation

<table>
<thead>
<tr>
<th>Environmental</th>
<th>Comprehensive</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Responsible Beverage Service education with alcohol retail outlets</td>
<td>• Curricula on alcohol and marijuana (e.g. Life Skills Training, Project Alert)</td>
</tr>
<tr>
<td>• Social Host Ordinance</td>
<td>• Community meetings to raise awareness of underage alcohol and marijuana use</td>
</tr>
<tr>
<td>• Assessing community support</td>
<td>• Responsible Beverage Service outreach and education with alcohol retail outlets</td>
</tr>
<tr>
<td>• Increasing community awareness of the need for SHO</td>
<td></td>
</tr>
<tr>
<td>• Meeting with key officials</td>
<td></td>
</tr>
</tbody>
</table>

Most Common Strategies Selected for Implementation
Selected Findings

- **Planning**
  - Organizations increased capacity to conduct needs assessment
  - Some program plans (~15%) were not data driven
  - Quality of plans has improved over time
  - Challenges in understanding the County’s expectations, protocols

- **Implementation**
  - Shift from treatment approaches and prevention that is health education-oriented, to environmental strategies/policy work, has been challenging
    - Clear need for training/technical assistance
    - Some resistance to use of evidence-based programs
      - (Do they fit in our communities? Why are they better than what we’ve been doing?)
Our next step.....
Evaluation Objective #3

- Collect data relevant to LA County goals (to reduce AOD use among youth and young adults)
- Method
  - School-based survey of youth aged 12-17
Conclusion

To move dissemination and implementation research forward we need:

- Innovations in design, methodology, theory
- **Infrastructure** to support both interventions and research
- Synthesis of findings across studies (e.g., meta-analysis)
- Better exchange of knowledge that comes from research and practice

Spoth, Rohrbach et al., *Prevention Science*, 2013