Making Evidence-informed Prevention Reality: Can we move prevention science to practice, at scale?

Practical Advice for Policy Makers, Providers and Organizational Leaders

Brian Bumbarger
NPN Research Conference
Oklahoma City, OK
August 2013
Today’s Agenda:

• The current landscape and the barriers to be addressed in having evidence inform policy and practice
• Describe one state’s experiences as a case-study
• Reflections on what this means for other states, communities, providers, and practitioners
• Some concluding thoughts and observations
Progress in Prevention Science

• Advances in our knowledge of epidemiology, etiology, methodology, and prevention practice

• Development and efficacy testing of a wide variety of preventive interventions

• Growing and widely-accepted “lists” of effective programs

• Significant body of cost-effectiveness/cost-benefit studies
Moving From Prevention Science . . .

Define the Problem

Identify Risk & Protective Factors

Develop & Test Interventions

Implement & Evaluate Programs

Problem

Response
...To Prevention Service

- Provide Technical Assistance
- Set & Collect Performance Measures
- Monitor Quality of Program Implementation
- Assess Public Health Impact

Response
PREVENTING MENTAL DISORDERS IN CHILDREN:

Preventive Interventions: Addressing Underage Drinking: State of the Evidence and Steps Toward Public Health Impact
Richard S purposive, Mark Greenberg and Robert Turrisi
Pediatrics 2008;121:5311-5336
DOI: 10.1542/peds.2007-2243E

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://www.pediatrics.org/cgi/content/full/121/Supplement_4/5311

Ph.D.
Ch. Ph. D.

Department of Human Development
Kean University

CMHS

Human Services
NREPP is a searchable online registry of more than 220 interventions supporting mental health promotion, substance abuse prevention, and mental health and substance abuse treatment. We connect members of the public to intervention developers so they can learn how to implement these approaches in their communities.

NREPP is not an exhaustive list of interventions, and inclusion in the registry does not constitute an endorsement. (More about NREPP).
Juveniles

Delinquency Prevention

When a juvenile commits an act that would be criminal if committed by an adult, the juvenile is determined to be delinquent. Delinquent acts may include crimes against persons, crimes against property, drug offenses, and crimes against public order. Delinquency prevention efforts seek to redirect youth who are considered at-risk for delinquency or who have committed a delinquent offense from deeper involvement in the juvenile justice system.

<table>
<thead>
<tr>
<th>Title</th>
<th>Evidence Rating</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Brothers Big Sisters (BBBS) Community-Based Mentoring (CBM) Program</td>
<td>✔️</td>
<td>A one-to-one mentoring program that takes place in a community setting.</td>
</tr>
<tr>
<td>Brief Alcohol Screening and Intervention of College Students (BASICS)</td>
<td>✔️</td>
<td>A preventive intervention for college students designed to help students make better decisions about using alcohol.</td>
</tr>
</tbody>
</table>
But....... 

• EBPs still represent the minority of prevention services being offered in communities 
• Research has shown that many (most?) aren’t being implemented with sufficient quality or fidelity 
• Few services measure or monitor implementation fidelity and quality 
• Programs are often “pull-out” and operate singularly 
• Policy work is needed to capture & redistribute dollars saved through prevention 
• Sustainability remains a challenge – insufficient infrastructure for prevention
Why don’t communities see greater success in prevention?

- Chasing money rather than outcomes
- No single guiding philosophy (many separate but disconnected efforts)
- Little accountability
- The lack of good data to drive decision-making and resource allocation
- Reliance on untested (or ineffective) strategies
- Poor implementation quality
- Inability to sustain programs
Pennsylvania: A 15-year Case Study
Creating Fertile Ground for EBPs
Risk-focused Prevention Planning
(the Communities That Care model)

1. Collect local data on risk and protective factors
2. Use data to identify priorities
3. Select and implement evidence-based program that targets those factors
4. Form local coalition of key stakeholders
5. Re-assess risk and protective factors

Leads to community synergy and focused resource allocation

Use data to identify priorities
What is CTC?

- An “operating system” to mobilize communities and agency resources
- Follows a public health model of preventing poor outcomes by reducing associated risk factors and promoting protective factors
- Coalition model that is data-driven and research-based
- Follows a specific sequence of steps
- Focuses on the use of targeted resources and evidence-based prevention strategies
How is CTC different?

• Uses local data to set priorities and focus resources

• Starts with quantifiable goals

• Engages the whole community

• Addresses youth problems by identifying their (actual) root causes, rather than dealing with them after they occur or focusing solely on behavioral outcomes

• Involves a realistic view of adolescent development and the length of time necessary to change outcomes

• Focuses on the use of proven-effective programs and practices (EBPs)

• Has a built-in process of assessment and accountability
CTC in Pennsylvania

- Adopted as a statewide initiative in 1994
- Over 120 communities trained over 16 cycles
- ~60 currently functioning CTC communities
- System of assessment & dedicated technical assistance to improve coalition functioning
- Over a decade of studying the processes of coalitions
- Persisted through 4 Governors (both parties)
<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Substance</th>
<th>Delinquency</th>
<th>Teen Pregnancy</th>
<th>School Drop-Out</th>
<th>Violence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Firearms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Laws and Norms Favorable Toward Drug Use, Firearms, and Crime</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Media Portrayals of Violence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transitions and Mobility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Neighborhood Attachment and Community Disorganization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extreme Economic Deprivation</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family History of the Problem Behavior</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Management Problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Conflict</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Favorable Parental Attitudes and Involvement in the Problem Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early and Persistent Antisocial Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Failure Beginning in Late Elementary School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of Commitment to School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual/Peer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alienation and Rebelliousness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends Who Engage in the Problem Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable Attitudes Toward the Problem Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Initiation of the Problem Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constitutional Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Pennsylvania Youth Survey

PAYS

• A voluntary survey conducted in schools every other year for youth in 6th, 8th, 10th, and 12th grades.

• Adapted from the *Communities That Care Youth Survey*, with additional questions added to gather data on areas such as gambling, prescription drug abuse and other anti-social behaviors.

• All CTC Sites are required to use it.
Graph 7: Risk Factor Scores for Centre County: Community, Family, and School Domains.
Graph 8: Risk Factor Scores for Centre County: Individual-Peer Domain and Outcome Scores.
Community and Family Risk Factors

- Low Neighbor Attach
- Community Disorg
- Transition/Mobility
- Community Laws/Norms
- Poor Family Availability
- Poor Family Supervision
- Family History
- Parental Attit ATOD
- Parental Attit Antisocial

Legend:
- 2000
- 2003
- 2005

Graph showing trends over the years.
## Progress on 5-year Targets

<table>
<thead>
<tr>
<th>Protective Factors</th>
<th>2000</th>
<th>2005</th>
<th>change</th>
<th>*priority</th>
<th>target met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Rewards</td>
<td>50</td>
<td>59</td>
<td>9</td>
<td>*priority</td>
<td>(52)</td>
</tr>
<tr>
<td>School Rewards</td>
<td>45</td>
<td>50</td>
<td>5</td>
<td>*priority</td>
<td>(50)</td>
</tr>
<tr>
<td>Religiosity</td>
<td>47</td>
<td>52</td>
<td>5</td>
<td>*priority</td>
<td>no target set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>2000</th>
<th>2005</th>
<th>change</th>
<th>*priority</th>
<th>target met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor Family Supervision</td>
<td>52</td>
<td>41</td>
<td>-11</td>
<td>*priority</td>
<td>(48)</td>
</tr>
<tr>
<td>Poor Family Discipline</td>
<td>51</td>
<td>37</td>
<td>-14</td>
<td>*priority</td>
<td>(48)</td>
</tr>
<tr>
<td>Parental Attitudes Toward ATOD Use</td>
<td>51</td>
<td>44</td>
<td>-7</td>
<td>*priority</td>
<td>(49)</td>
</tr>
<tr>
<td>Parental Attitudes Toward Antisocial Behavior</td>
<td>50</td>
<td>45</td>
<td>-5</td>
<td>*priority</td>
<td>(48)</td>
</tr>
<tr>
<td>Academic Failure</td>
<td>56</td>
<td>48</td>
<td>-8</td>
<td>*priority</td>
<td>(52)</td>
</tr>
<tr>
<td>Low School Commitment</td>
<td>58</td>
<td>49</td>
<td>-9</td>
<td>*priority</td>
<td>(53)</td>
</tr>
<tr>
<td>Sensation Seeking*</td>
<td>53</td>
<td>44</td>
<td>-9</td>
<td>*priority</td>
<td>(50)</td>
</tr>
</tbody>
</table>
Past 30-day Marijuana Use

- 6th
- 8th
- 10th
- 12th
Pennsylvania’s CTC coalitions 2013
Pennsylvania’s “Blueprints” Initiative

• Followed from earlier CTC initiative that promoted community coalitions/risk & resource assessments

• State funding for program startup, after identification of need by local community

• Nearly 200 EBP’s funded since 1998 (+~200 through other sources)

• Big Brothers/Sisters, LST, SFP 10-14, PATHS, MST, FFT, MTFC, Olweus Bullying Program, TND, Incredible Years, ART
The Menu of EBPs in PA’s Initiative*

• Olweus Bullying Prevention Program (OBPP)
• Promoting Alternative Thinking Strategies (PATHS)
• Big Brothers Big Sisters of America (BBBS)
• Multidimensional Treatment Foster Care (MTFC)
• Strengthening Families Program 10-14 (SFP)
• Project Towards No Drug Abuse (Project TND)
• Life Skills Training (LST)
• Incredible Years (IYS)
• Functional Family Therapy (FFT)
• Multisystemic Therapy (MST)
• Aggression Replacement Training (ART)
Pennsylvania’s EBP dissemination in 1999...
Pennsylvania’s EBP dissemination in 2013...
Measuring Community-level Impact

• Cross-sectional quasi-experimental study of 98,000 students in 147 communities

• Used propensity score matching to minimize potential selection bias effects

• Found youth in CTC communities reported lower rates of risk factors, substance use, and delinquency than youth in similar non-CTC communities (7x as many as by chance)

• Communities using EBPs showed better outcomes on twice as many R/P factors and behaviors (14x as many as by chance)
419 age-grade cohorts over a 5-year period: youth in CTC communities using EBPs had significantly lower rates of delinquency, greater resistance to negative peer influence, stronger school engagement and better academic achievement.

Impact on Juvenile Court Placement Rates: Comparison of Placement Rates for Counties* With and Without an EBI

Justice Reinvestment Realized

LOCAL NEWS

Youth Development Center vacated, will close Feb. 15

YDC facts
- New Castle Youth Development Center
- A secure 100-bed facility for delinquent boys
- Referrals to the center have drastically decreased over the last several years, with only 31 juveniles housed there as of Jan. 1.
- The facility costs taxpayers more than $19.4 million annually, at a cost of $725 per day per child. Closing the center and relocating its residents is expected to result in $73 million in taxpayer savings over five years.

PA Office of the Governor

News for Immediate Release
Jan. 15, 2013

Governor Corbett Invests $10 Million for At-Risk Youth and Juvenile Offenders

Harrisburg - Governor Tom Corbett unveiled a new plan today that will invest $10 million into proven prevention and intervention strategies for at-risk youth and juvenile offenders.

This strategy came out of the Justice Reinvestment Initiative, established last year to evaluate ways to enhance public safety through the most efficient and effective use of limited state resources. It focuses on the Department of Public Welfare’s Youth Development Centers.
Community Prevention Planning and EBPs are wise investments

- Communities with EBPs embedded in the context of community mobilization strategy have lower levels of youth drug use and delinquency, and better school engagement and academic achievement*

- This strategy produces an overall return of 5 to 25 dollars for every dollar invested – a return measured in tens of millions even at the county level**

---


...That's odd - Google Maps says you can't get there from here!
From Lists to Improved Public Health...

- Synthesis and translation of research to practice, (and practice to research)
- EBP dissemination, selection, and uptake
- Ensuring sufficient implementation quality and fidelity
- Understanding adaptation and preventing program drift
- Measuring and monitoring implementation and outcomes
- Policy, systems, and infrastructure barriers
- Coordination across multiple programs and developmentally
- Sustainability in the absence of a prevention infrastructure


SOCIETY FOR PREVENTION RESEARCH

STANDARDS OF KNOWLEDGE FOR THE
SCIENCE OF PREVENTION

June 2, 2011
Standards of Evidence

CRITERIA FOR EFFICACY, EFFECTIVENESS AND DISSEMINATION

Intervention Model

- The Problem: Vulnerability & Risk Factors
- Epidemiology of the Problem: Intervention Points
- Theory of Human Development
- Mechanisms of Behavior Change
- Moderators and Mediators
- Intervention Strategy
- Intervention Targets
- Implementation and Delivery
- Intervention
- Outcomes

Evaluation Model

- Sampling Strategy
- Data Collection
- Trial Design
- Measures
- Data Analysis
- Moderators (e.g., implementation fidelity, receptivity)
- Outcomes

Distal

Proximal
Programs/services can be placed along a continuum of confidence based on their evidence or theory

*Bumbarger & Rhoades, 2012

How confident are we that this program or practice is a good use of resources AND improves outcomes for children and families?

- **Very Confident**
  - Evidence-based: “This program has been rigorously evaluated and shown to work”
  - Research-based: “This program is based on sound theory informed by research”
  - Best Practices: “We’ve done it and we like it”
  - Promising Approaches: “We really think this will work... but we need time to prove it”

- **Ineffective**
  - “This program has been rigorously evaluated and shown to have no positive or negative effect”
  - “This program has been rigorously evaluated and shown to be harmful”

- **Promising**

- **Harmful**

---

*Bumbarger & Rhoades, 2012*
If you don’t know where you’re going, any road will get you there…

The Cheshire Cat
Multi-Agency Steering Committee (Justice, Welfare, Education, Health)

Intermediary and
State-level Prevention Support System

- Support to Community Prevention Coalitions
- Support to Evidence-based Programs/Providers
- Improve Quality of Local Innovative Programs and Practices

A unique partnership between policymakers, researchers, and communities to bring science to bear on issues of public health and public safety
**EPISCenter’s 3 Key Functions:**

- Build general prevention capacity
- Build program-specific capacity
- Facilitate interaction/communication between systems

Recommendations

• Community-specific (i.e. local) data to drive decision making and resource allocation

• Focus on underlying risk and protective factors rather than narrowly-defined behavioral outcomes

• Find a small number of things that work, and do them very well

• Collaboration creates synergy – but requires focus and support

• Build infrastructure for continuous quality improvement at every level

• Remember the Hippocratic oath: First Do No Harm!
Other “big picture” lessons...

• Some balance between evidence-based practices and practice-based evidence

• Intentional behavior change model – from extrinsic to intrinsic motivation
  – From a culture of compliance to a culture of excellence
  – Demonstrate, experience, build capacity, increase sense of efficacy
  – Greater focus on understanding, communicating and educating on logic models & theory of behavior change
Sustaining Evidence-Based Prevention Programs: Correlates in a Large-Scale Dissemination Initiative

Brittany Rhoades Cooper · Brian K. Bumbarger · Julia E. Moore

© Society for Prevention Research 2013

Abstract Over the past four decades, significant strides have been made in the science of preventing youth problem behaviors. Subsequently, policymakers and funders have begun to insist on the use of evidence-based programs (EBPs) as a requirement for funding. However, unless practitioners are able to sustain these programs beyond initial seed funding, they are unlikely to achieve their ultimate goal of broad public health impact. Despite its obvious importance, sustainability has received relatively little attention in prevention science until technical assistance and support necessary to promote the sustainability of EBPs in nonresearch contexts are also discussed.

Keywords Sustainability · Sustainment · Evidence-based programs · Prevention programs

Bridging the gap between the science and practice of youth substance use and violence prevention has come to the fore-
Welcome to the EPISC Center

We have some great new resources on our "maps" page!

The EPISC Center is a project of the Prevention Research Center, College of Health and Human Development, and Penn State University, with funding and support from the Pennsylvania Commission on Crime and Delinquency (PCCD) and the Pennsylvania Department of Public Welfare (DPW) as a component of the Resource Center for Evidence-Based Prevention and Intervention Programs and Practices. The EPISC Center supports the dissemination, quality implementation, sustainability, and impact assessment of a menu of proven-effective prevention and intervention programs, and conducts original translational research to advance the science and practice of evidence-based prevention.
Thank You!

Evidence-based Prevention and Intervention Support Center
Prevention Research Center, Penn State University
206 Towers Bldg.
University Park, PA  16802
(814) 863-2568
episcenter@psu.edu
www.episcenter.psu.edu