Evidence-based Violence Prevention:

The Challenge of Large-scale Dissemination & Implementation

Brian K. Bumbarger
Institute of Medicine
Forum on Global Violence Prevention
January, 2013
Investigators and Authors:

Brian Bumbarger           Mark Greenberg
Mark Feinberg            Brittany Rhoades
Louis Brown               Wayne Osgood
Michael Cleveland         Damon Jones
Jennifer Sartorious       Julia Moore
Brendan Gomez             Richard Puddy
Stephanie Bradley         Elizabeth Campbell

Collaborative Policy Innovators:

Mike Pennington     Clay Yeager
James Anderson      Keith Snyder

The EPISC center and research described here are supported by grants from the Pennsylvania Commission on Crime and Delinquency. Special thanks to the staff of the Office of Juvenile Justice and Delinquency Prevention (OJJDP)
We know a great deal about how youth problems develop, and how to effectively prevent and reduce them:

- Prevalence and onset
- Risk & protective factors
- Multiple domains (community, family, school, peer, individual)
- Multiple pathways (multifinality and equifinality)
- Multiple trajectories (early vs. late starters)
PREVENTING MENTAL DISORDERS IN SCHOOL-AGE CHILDREN:
A Review of the Effectiveness of Prevention Programs

EXECUTIVE SUMMARY

Mark T. Greenberg Ph. D.
Celene Demitrovich Ph. D.
Brian Bumbarger

Prevention Research Center for the Promotion of Human Development
College of Health and Human Development
Pennsylvania State University

Submitted to:
Center for Mental Health Services (CMHS)
U.S. Department of Health and Human Services

July, 1999
BRAND CAMP

A BETTER MOUSETRAP

NOW THAT WE'VE BUILT IT, LET'S SIT TIGHT AND WAIT FOR THE WORLD TO BEAT A PATH TO OUR DOOR.

NOW 5% BETTER

Build a Better Mousetrap

Make Classic Inventions, Discover Your Problem-Solving Genius, and Take the Inventor's Challenge

RUTH KASSINGER
If you build it, they will come.....or
“If you build it”

....they may never know about it
...they may not understand what it is
...they won’t know how to get there
...they won’t think it fits
...they’ll think they already have it
...they’ll see it as competition
...they’ll decide they should build their own
...they’ll adapt it into something unrecognizable
...they’ll only use the pieces of it they like

OR

...they WILL come, and love it.
Then they’ll want you to make ten more just like it in surrounding communities. Now.

the questions that keep me up at night...

• Why aren’t effect sizes seen in trials often replicated in the real world?

• Is it really about “market penetration”, saturation, or tipping points?

• Should we be focusing on practitioners, organizations, or systems?
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


Moving From Prevention Science TO . . .

Define the Problem

Identify Risk & Protective Factors

Develop & Test Interventions

Implement & Evaluate Programs

Problem

Response
...Prevention Service

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

Response
Pennsylvania’s EBP dissemination in 1999...
Pennsylvania’s EBP dissemination in 2012...
The Menu of EBPs in This Project*

- 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)
Measuring Population-level Impact

- Cross-sectional quasi-experimental study of 98,000 students in 147 communities
- Used propensity score matching to minimize potential selection bias
- 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.


---

**5 year Longitudinal Study of PA Youth**

% Change of CTC/EBP Youth Over Comparison Group

- Delinquency
- Negative Peer Influence
- Academic Performance
- School Engagement

-10.8 -10.8 33.2 16.4
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 $18.4 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.

By MARK E. CREPP Calkins Media | 1 comment

SHENANGO TWP. — With the closing of the New Castle Youth Development Center just a formality,

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.
Equifinality: Poor outcomes are associated with a combination of risk factors.

Multifinality: There are known risk factors, each of which is associated with a range of poor outcomes.
<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><strong>Community Laws and Norms Favorable Toward Drug Use, Firearms, and Crime</strong></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><strong>Family Conflict</strong></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>
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
Pennsylvania’s CTC coalitions 2012
The Cost-effectiveness of Evidence-based Prevention in Pennsylvania (measured benefits and costs per community and statewide)

<table>
<thead>
<tr>
<th>Program</th>
<th>B-C per youth</th>
<th>Avg. Return/Community</th>
<th># Programs Statewide</th>
<th>Est. Total PA Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Brothers/Sisters</td>
<td>$54</td>
<td>$13,500</td>
<td>28</td>
<td>$378,000</td>
</tr>
<tr>
<td>LifeSkills Training</td>
<td>$808</td>
<td>$161,600</td>
<td>100</td>
<td>$16,160,000</td>
</tr>
<tr>
<td>Multi. Treatment Foster Care</td>
<td>$79,331</td>
<td>$475,986</td>
<td>3</td>
<td>$1,427,958</td>
</tr>
<tr>
<td>Multisystemic Therapy</td>
<td>$16,716</td>
<td>$2,507,400</td>
<td>12</td>
<td>$30,088,800</td>
</tr>
<tr>
<td>Functional Family Therapy</td>
<td>$32,707</td>
<td>$12,395,953</td>
<td>11</td>
<td>$136,355,483</td>
</tr>
<tr>
<td>Nurse-Family Partnership</td>
<td>$36,878</td>
<td>$4,782,976</td>
<td>25</td>
<td>$119,574,400</td>
</tr>
<tr>
<td>Strength. Families</td>
<td>$6,541</td>
<td>$872,133</td>
<td>15</td>
<td>$13,082,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$317,066,641</strong></td>
</tr>
</tbody>
</table>
Collaboration:
Do we *really* have the same mission?

- Practitioners
- Policy Makers
- Researchers
Intermediary and State-level Prevention Support System

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

Support to Community Prevention Coalitions
Support to Evidence-based Programs
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

The EPISCcenter is a project of the Prevention Research Center, College of Health and Human Development, Penn State University, and is funded by the Pennsylvania Commission on Crime and Delinquency and the Pennsylvania Department of Public Welfare as a component of the Resource Center for Evidence-Based Prevention and Intervention Programs and Practices.
EPISCenter’s 3 Key Functions

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

Prevention Support System as Infrastructure

- Infrastructure for both TA and Research (braided)
- Role of TA provider gives access to populations (scale)
- A logical cycle of research, TA, CQI
- Ensures immediacy and policy relevance of research
- Recognizing and engaging funders/policy makers as active partners, not just a “context”
- Broker and facilitator across agencies and stakeholders
Lessons, observations, epiphanies...

• EBPs are not a panacea, and rarely fill a void
• Dissemination of EBPs is a means rather than an end
• Scale-up is different than dissemination, and requires a different approach
• Dissemination and high-quality implementation are often at odds
• Development & support of Communities of practice
• State-level Intermediary as knowledge broker and convener
Final thoughts...

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

• Intentional behavior change model – from extrinsic to intrinsic motivation
  – From a culture of compliance to a culture of excellence
  – Greater focus on understanding, communicating and training on logic models & theory of behavior change
  – Data systems that promote continuous quality improvement

• Some balance between evidence-based practices and practice-based evidence
Programs/services can be placed along a **continuum of confidence** based on their evidence or theory

*Bumbarger & Rhoades, 2012*

---

**Very Confident**

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

- **Iatrogenic (Harmful)**
  - “This program has been rigorously evaluated and shown to be harmful.”

**EFFECTIVE**

- **Best Practices**
  - “We’ve done it and we like it”

- **Research-based**
  - “This program is based on sound theory informed by research”

- **Evidence-based**
  - “This program has been rigorously evaluated and shown to work”

- **Promising Approaches**
  - “We really think this will work... but we need time to prove it”

**Ineffective**

- **unknown**

**How confident are we that this program or practice is a good use of resources **AND** improves outcomes for children and families?**
The Role of a State-Level Prevention Support System in Promoting High-Quality Implementation and Sustainability of Evidence-Based Programs

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

Abstract Although numerous evidence-based prevention programs (EBPs) have been proven effective, few are being widely promoted through philanthropic dollars, few have been implemented in a manner likely to have a measurable effect on critical social problems. The Implementation Research for Dissemination and Implementation Network indicates three systems that are often barriers that prevent these programs from achieving intended public health impact. In this paper, we demonstrate the relevance of these systems in the context of a state-level prevention program.

A State Agency–University Partnership for Translational Research and the Dissemination of Evidence-Based Prevention and Intervention

Brian K. Bumbarger · Elizabeth Morey Campbell

Abstract This article describes a decade-long partnership between the Prevention Research Center at Penn State and the Pennsylvania Commission on Crime and Delinquency. This partnership has evolved into a multi-agency initiative supporting the implementation of nearly 200 replications of evidence-based prevention and intervention programs, and the emergence of this evidence base has come a concomitant shift in policy and funding to promote the use of evidence-based programs and practices (EBPs). However, we have yet to realize broad public health impact (at the population level) from this movement because the barriers of widespread adoption, high-quality implementation and fidelity, and sustainability.
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