Selecting Evidence-Based Prevention and Treatment Interventions

NCJRP Summit
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Blueprints for Healthy Youth Development
Evidence: Something that furnishes or tends to furnish proof (Webster)
In 2002, The White House encouraged all Federal Agencies to support evidence-based programs and to discontinue programs with no evidence of effectiveness.

• OMB, the President’s Management Agenda, 2002
I’m evidence-based

NO! I am evidence-based, I’m informed

ignore her! look at me!
Defining “Evidence-Based”

• Confusion About *Levels* of Evidence
  – The continuum of evidence
  – The continuum of causality confidence
Original Meaning of Term
Evidence-Based

- **Experimental evidence** from rigorous trials providing statistically significant positive effects: Evidence of a *causal relationship*
  - Society for Prevention Research (Flay, et al., 2005; Gottfredson et al., 2015)
  - American Psychological Association (APA Task Force, 1995)
  - Institute of Medicine (2015)
  - Shadish, Cook & Campbell (2001)
  - 2015 OJJDP Reauthorization Act
  - All Major Registries of EB Interventions
New Use of Term Evidence-Based

- Refers to a *continuum of evidence* justifying a “Best Evidence” selection policy
- Any level/type of evidence makes an intervention “evidence-based”
- Policy assumes doing something, any level of evidence, is better than doing nothing
- Ethical problems with *requiring* participation in programs with *unknown effects*?
Evidence Continuum

Type of Evidence

Confidence Continuum

Evidence-Based

Multiple RCT’s

High

Research Informed

RCT
Quasi-Experimental
(Control Groups)

Moderate

Pre-Post Outcome Survey
Post-Test Outcome Survey

Low

Opinion-Informed

Correlational Study

Satisfaction Survey

Very Low

Personal Experience
Testimonials
Anecdote

Blueprints
FOR HEALTHY YOUTH DEVELOPMENT
Defining “Evidence-Based”

• Confusion About *Levels* of Evidence
  – The continuum of evidence
  – The continuum of confidence

• **Tensions in Setting a Standard**
  – Lower standard, more EB programs, higher risk of failure
  – Higher standard, fewer EB programs, lower risk of failure
Current Lists of EB Justice Programs

- **Maintained Lists**
  - Model/Effective Promising

<table>
<thead>
<tr>
<th>Program</th>
<th>Model</th>
<th>Effective</th>
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<tbody>
<tr>
<td>Blueprints</td>
<td>16</td>
<td>51</td>
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<tr>
<td>Coalition for EB Policy</td>
<td>10</td>
<td>12</td>
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<tr>
<td>OJP Crime Solutions</td>
<td>89</td>
<td>270</td>
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<td>OJJDP Model Program Guide</td>
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• Tensions in Setting a Standard
  – Lower standard, more EB programs
  – Higher standard, fewer EB programs

• **Variation in Standard Across Registries**
  – Large differences in scientific standards
  – Differences in practical standards
Full Definition of “Evidence-Based”

• Programs comprised of a set of coordinated services/activities based on a logic model that have demonstrated effectiveness in research evaluations. Programs rated as such include, at a minimum, demonstrating a significant effect on outcomes based on a rigorous design (QED or RCT), a sustained effect (1 yr. minimum), successful replication (e.g., examining implementation with various populations and/or in different settings), and if possible, demonstrating cost effectiveness.
Federal Working Group Standard for Certifying Programs as Effective*

• Experimental Design/RCT
• Effect sustained for at least 1 year post-intervention
• At least 1 independent replication with RCT
• RCT’s adequately address threats to internal validity
• No known health-compromising side effects

# Registry Standards

Compared to Federal Collaboration on What Works

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Table 1:
Professional organizations and federal agencies listing evidence-based programs are failing to meet their responsibilities to protect practitioners and clients from ineffective programs and practices.

Bigland & Ogden (2008)
Practical Considerations

• Readiness

• Effect Size/ Cost-Benefit

• Iatrogenic Effects
Evidence-Based Programs: Individual “brand name” interventions (explicit theoretical rationale & change model, targeted population, program manuals, training, TA, fidelity checklists) proven effective in a systematic review of their experimental evaluations e.g., LST, NFP, MST
Evidence-Based Programs and Practices

**Evidence-based Practices:** General intervention strategies, approaches or policies proven effective, on average, in a systematic review of the experimental evaluation evidence of the group of programs using that strategy (meta-analysis) e.g., skills building, family interventions, CBT, bullying interventions, mentoring intervention.
Evidence-Based Practice

- Good estimates of expected effect size for a given type of program
- Better estimates of generalizability (if common logic model)
- Identifies general program characteristics associated with stronger effects
- Best practice guidelines for local program developers/implementers
Caution Regarding Best Practice Strategies

- Based on “bucket list” type meta-analysis of experimental evaluations (RCTs & QEDs)
- Provides an estimate of the average effect size which can be misleading
- Rarely adequate consideration of fidelity, independence and marginal vs absolute deterrence issues
- Limited Practical use when selecting a program to implement
Caution Regarding Effective Components Strategy

- Rarely based on experimental evidence: Statistical decomposition is not the same as experimental manipulation (Correlation is not evidence of causation)
- No currently proposed set has been experimentally evaluated—they are untested
- No proposed set would likely meet BP Readiness standard
How to Upgrade Public System Portfolios with EB Programs to Make them More Effective and Cost Efficient?
Four Initial Strategies

- Stop implementing programs known to be ineffective or harmful
- Always select EB programs when available and fit need
- When no EB programs available, adapt EB programs or develop new IV using tested theories and change models
- Commit to evaluate all non-EB programs
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<td>Increasing legal drinking age</td>
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<tr>
<td>FFT</td>
<td>Hot spot policing</td>
<td>Increasing taxes on alcohol</td>
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<tr>
<td>ART</td>
<td>RNR</td>
<td>Per se laws (BAC)</td>
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<td></td>
<td>CBT</td>
<td>Selective/random breath testing</td>
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<td>MH courts</td>
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<td></td>
<td>Drug treatment pgms</td>
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<tr>
<td></td>
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* Elliott & Fagan, *Preventing Crime* 2017
Example: Two Harmful Programs Currently Being Implemented at National Level

• Scared Straight /Beyond Scared Straight
• DARE
Scared Straight

• Known to increase the likelihood of recidivism (Petrosino et al., 2002 & 2013; DHHS, 2001)
• Negative ROI. Costs Taxpayers $200 (increased crime) for every dollar invested in this program (WSIPP, 2015)
• Promoted by A&E Network- *Beyond Scared Strait* TV Series--Currently in its 6th season
• A&E urged by U.S. Department of Justice Officials and respected Criminologists to stop promoting this harmful program, but it continues
Factors to Consider When Selecting a Program/Practice

• Evidence of Effectiveness
• Scope of the Intervention
• Program’s Fit to Need/Resources
• Return on Investment
• Social Justice and Equity Issues
• Consistent with Community Norms and Values
When No EB Programs Fit

- **Only** EB Model/Effective Programs should be taken to scale
- Local Level: Consider Adaptation of EB Program
  - Check BP for desired risk/protective factor effects
  - Adaptation must be consistent with Logic Model
  - Work with Developer on specific modifications
  - Evaluate it (add to our knowledge base)
- If Adaptation not possible, select from among Non-Certified Programs that fit:
  - Choose one with best evidence available-e.g., Research informed, e.g., SPEP
  - Chose one using a “EB practice” or proven change strategy (Meta-Analysis)
  - Evaluate it (add to our knowledge base)
Some Promising Systems- Level Implementations of EB Programs and Practices
Florida Redirection Project

- Initiated in State Dept. of Juvenile Justice in 2004. Current state funding at $9,365,000
- Redirects youth from residential commitment to MST, FFT or BSFT
- Initially limited but as of 2011 available for all youth referred by DJJ or the court; available in 18 of 20 judicial circuits
- Cost savings > $30K per youth; Total saving for state since 2004 > $211M
- 20% decrease in re-arrest; 31% in felony re-conviction; 21% in subsequent commitment to adult system
Washington State EB Systems

• 1997- Legislature directed WSIPP to identify EB/Cost effective programs in justice systems
• Based on successful implementation of EB justice programs, legislature cancelled new prison plans
• Early 2000s, directed same EB strategy for preschool, K-12, child welfare, MH, substance abuse and public health systems.
• ROI information for EB programs in these systems at www.wsipp.wa.gov/BenefitCost
Annual WA Taxpayer Costs & Benefits: Forecast with Modest Portfolio of Justice System Evidence-Based Programs
Advantages of EB Program Approach

• Increased Chances for Substantive Changes in Intervention Portfolios
• Overall Higher Probability of Effectiveness
• Greater Certainty and Consistency of Positive Effects When Going To Scale
• Bold approach: Promise of greater reach, larger effects, faster change to more effective portfolio of programs
Disadvantages of EB Program Approach

• Local Resistance to “Canned”, “Off the Shelf” Programs
• Lower Flexibility/Adaptability
• Higher Initial Costs
• Lack of Consensus on EB Standard
Why Are We Not Implementing Evidence-Based Programs?

• It’s hard to sell prevention- the focus ‘typically’ is on after-the-fact responses to negative outcomes
• Current incentives for public systems based on number of clients served, not demonstrated reductions in problem behaviors or increased positive outcomes
• Most Governments don’t know what they are funding at what cost with what results
• Real costs associated with closing down existing system programs: change in philosophy, retraining, initial costs for startup of EB pgms, fidelity demands
Why Are We Not Implementing Evidence-Based Programs?

• Confusion about what EB means, where to find EB programs & how to interpret the differences across lists
• Politics and parochial judgment often trump research
• Increasing professional resistance to EB programs/practices
• Limited investment in leadership training about value and use of EB programs
• A good, heart rending story is equal to findings from 10 RCTs for many journalists and politicians; the plural of “anecdote” is considered “evidence”
A Call to Action

• Become an advocate for evidence-based programs and practices in your agency
• Build partnerships to support EB programs
• Encourage system-level use of EB programs: e.g., Redirection strategy
• Don’t oversell: In practice, recidivism effects are modest- 20-30% reductions
• Commit to “doing no harm”; Relentlessly oppose iatrogenic programs/practices
THANK YOU

Blueprints for Healthy Youth Development

Center for the Study of Problem Behavior and Positive Youth Development
Institute of Behavioral Science
University of Colorado

Web Site: www.blueprintsprograms.com
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Table 1:
Juvenile crime reduction benefits

Change since 1990 in the U.S. and Washington State

- In 2000, Washington begins evidence-based Juvenile Justice program
- In 2003, Washington begins "full fidelity" implementation

United States: 49% lower
Washington State: 67% lower

Source: Washington State Institute for Public Policy

THE PEW CENTER ON THE STATES
MacArthur Foundation
The Ideal Evidence-Based Program*

- Addresses major risk/protection factors that are manipulatable with substantively significant effect sizes
- Relatively easy to implement with fidelity
- Causal and change rationales and services/treatments are consistent with the values of professionals who will use it
- Keyed to easily identified problems
- Inexpensive or positive cost-benefit ratios
- Can influence many lives or have life-saving types of effects on some lives

*Adapted from Shadish, Cook and Leviton, 1991:445.