Identifying and Selecting Evidence-Based Prevention Interventions

What Works Evidence-Based Summit
September 30, 2015

Del Elliott, Ph.D., Founding Director
Blueprints for Healthy Youth Development
Evidence: Something that furnishes or tends to furnish proof (Webster)
Defining “Evidence-Based”

• Confusion About *Levels* of Evidence
  – The continuum of evidence
  – The continuum of causality confidence
I’m evidence-based

NO! I am evidence-based

ignore her! look at me!

I’m not evidence-based, I’m evidence-informed
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)
Defining “Evidence-Based”

• Confusion About *Levels* of Evidence
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  – 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 Programs

- **Maintained Lists**  Model/Effective Promising
  - Blueprints  14  43
  - Coalition for EB Policy  10  9
  - OJP Crime Solutions  75  189
  - OJJDP Model Program Guide  46  116
  - What Works Clearinghouse  23  108
  - BEE  24  34
Defining “Evidence-Based”

• Confusion About *Levels* of Evidence
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• Tensions in Setting a Standard
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  – Higher standard, fewer EB programs

• **Variation in Standard Across Registries**
  – Large differences in scientific standards
  – Differences in practical standards
Practical Considerations

- Readiness
- Effect Size/ Cost-Benefit
- Iatrogenic Effects
Continuum of Evidence

Exemplary (Evidence-Based)
- Research Design: At least 1 RCT\(^1\) plus another rigorous study\(^2\), both with positive findings
- Replication: Replicated with positive findings
- Sustainability: Outcomes are sustained for at least a 1 year

Effective
- Research Design: At least 1 rigorous study\(^2\), with positive findings
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Promising
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Emerging
- Based in theory, collecting quality data, has logic model, and monitoring fidelity with positive findings

Innovative Practice
- Cannot Rate

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\(^1\) RCT — Randomized Controlled Trial
\(^2\) Rigorous Study — Randomized Controlled Trial or Quasi-Experimental Study
Federal Working Group Standard for EB Model Certification*

- 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

Hierarchical Program Classification*

• I. *Model:* Meets all standards
• II. *Effective:* Lacks independent RCT replication
• III. *Promising:* Lacks a RCT replication
• IV. *Inconclusive:* Contradictory findings or non-sustainable effects
• V. *Ineffective:* Meets all standards but with no statistically significant effects
• VI. *Harmful:* Meets all standards but with negative main effects or serious side effects
• VII *Insufficient Evidence:* All others

# EB Certification Standard by Registry

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Definition of “Evidence-Based”

A scientifically proven program or practice demonstrated by rigorous experimental evaluations to be effective in reducing problem behavior or promoting positive behavior (Blueprints)
Definition of “Evidence-Based”

• Programs comprised of a set of coordinated services/activities that demonstrate effectiveness based on research. 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. **Exemplary Rating** (Children’s Services Council of Palm Beach County)

• A program or practice that 1) is demonstrated to be effective when implemented with fidelity, 2) is based on a clearly articulated and empirically supported theory, 3) has measurable outcomes, and 4) has been scientifically tested through randomized control studies or comparison group studies. **Crime Solutions: Effective Rating** (July 2015 Draft of the Juvenile Justice and Delinquency Act Reauthorization Bill)
A significant proportion of evidence reviews lack scientific rigor and fail to address client, practitioner, and funder needs for current, trustworthy information about a program's effectiveness.

(IOM Report on Healthcare, 2008)
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
- 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

• Not based on experimental evidence: Statistical decomposition is not the same as experimental manipulation (Correlation is not evidence of causation)

• No proposed set has been experimentally evaluated—they are untested

• No proposed set would meet BP Readiness standard
How to Upgrade Public System Portfolios with EB Programs to Make them More Effective and Cost Efficient?
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
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
Example: Two Harmful Programs Currently Being Implemented at National Level

- Scared Straight /Beyond Scared Straight
- 21st Century Community Learning Centers
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
21st Century Community Learning Centers

• National evaluation revealed negative effects on multiple types of behavior (suspensions, disciplinary actions, etc.) and no differences on academic outcomes (James-Burney, et al, 2005)*. Replicated by 2 other studies.

• Program serves an average of 1 Million students per year and has been funded every year, 1998 thru 2014.

• Average Federal authorization after 2005 = $1 billion/year

*Students in program did feel safer at school
Some Promising Community and Systems-Level Implementations of EB Programs and Practices
Communities That Care

- A community-level EB program delivery system
- Partnership of public systems, schools, community, & families; building capacity, commitment to data-based decision making
- RCT: By 12th grade- 32% lower initiation any drug
- 18% lower initiation delinquent behavior
- 14% lower initiation violent behavior
- ROI = $5.30; Fidelity = 90%
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 pre-school, 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

- Existing Program Manuals, Protocols, etc.
- Available Support: TA, Training, Data Collection/Management Systems and Fidelity Assessment Tools
- Faster Start-Up
- Lower Risk of Program (Change Model) Failure
- Lower Need for Outcome Evaluations
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
- Potentially Lower Sustainability
- Higher Initial Costs
- Lack of Consensus on EB Standard
- More Limited Generalizability
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
- 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 Call to Action

• Become an advocate for evidence-based programs and practices in your agency or community
• Build partnerships to support EB programs
• Encourage system-level use of EB programs: Redirection strategy
• Don’t oversell: In practice, effects are modest
• Commit to “doing no harm”; Relentlessly oppose iatrogenic programs/practices
• Promote Blueprints as a Consumer Reports or FDA type registry of evidence-based programs
• Partner with The Blueprint Policy Team
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
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.
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Blueprint Model Programs

- Nurse Family Partnership
- Promoting Alternative Thinking Strategies
- Multisystemic Therapy
- Functional Family Therapy
- Life Skills Training
- Treatment Foster Care
- Toward No Drug Abuse
- Brief Alcohol Screening and Intervention
- Positive Action
- Brief Strategic Family Therapy
- Parent Management Training
When No EB Programs Fit

• **Only** EB Model 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
  – Chose one using a “best practice” or proven change strategy (Meta-Analysis)
  – **Evaluate it (add to our knowledge base)**
Evidence Continuum

- Experimentally Proven
- Research Informed
- Opinion-Informed

Confidence Continuum

- Multiple RCT’s
- RCT
- Quasi-Experimental (Control Groups)
- Correlational Study
- Pre-Post Outcome Survey
- Post-Test Outcome Survey
- Satisfaction Survey
- Personal Experience
- Testimonials
- Anecdote

- High
- Moderate
- Low
- Very Low
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