Developing Evidence-based Programming for Delinquent Youth: The Standardized Program Evaluation Protocol

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What Is Evidence-based Practice?

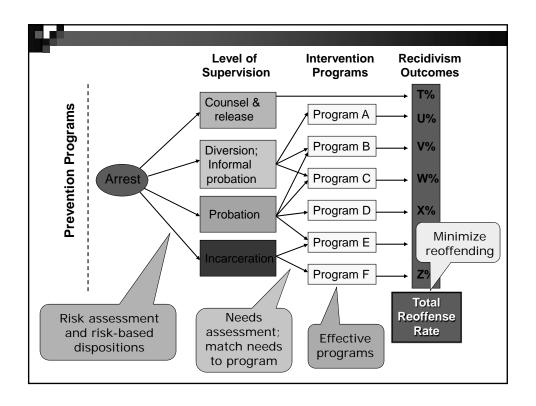A definition for JJ adapted from the origins of the concept of EBP in medicine

Evidence-based practice is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual juveniles.
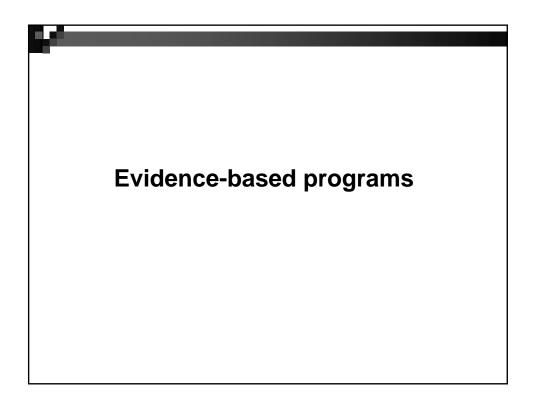The practice of evidence-based juvenile justice means integrating practitioner expertise with the best available external evidence from systematic research.

Adapted from: Sackett, D. L., Rosenberg, W. M. C., Gray, J. A. M., Haynes, R. B., & Richardson, W. S. (1996). Evidence-based medicine: What it is and what it isn't. *British Medical Journal*, 312, 71–72.

Main elements of evidence-based juvenile justice practice

- Risk assessment:
  - □ probability of reoffending
- Disposition matrix:
  - □ risk-based level of supervision
- Needs assessment:
  - □ matching of program to need
- Effective prevention, treatment, and re-entry programs:
  - □ proven to reduce recidivism
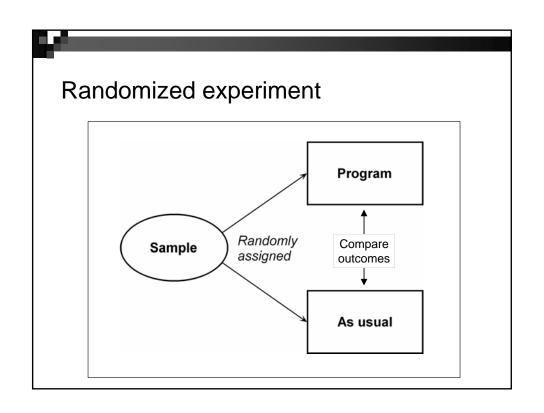
Evidence-based programs

Effective programs: What constitutes methodologically credible evidence?

Results from well executed research designs capable of producing unbiased estimates of intervention effects:

- □ Randomized experiments
- □ Quasi-experiments with well-matched comparison groups
- □ A few other rarely used specialized research designs (e.g., regression-discontinuity)

Randomized experiment

The prevailing definition of EBP:
A certified "model" program

The P part: A 'brand name' program, e.g.,
- Functional Family Therapy (FFT)
- Multisystemic Therapy (MST)
- Big Brothers/Big Sisters mentoring
- Aggression Replacement Training (ART)

The EB part: Credible research supporting that specific program certified by, e.g.,
- Blueprints for Violence Prevention
- OJJDP Model Programs Guide
- CrimeSolutions.gov
- NREPP (National Registry of EB Programs & Practices)

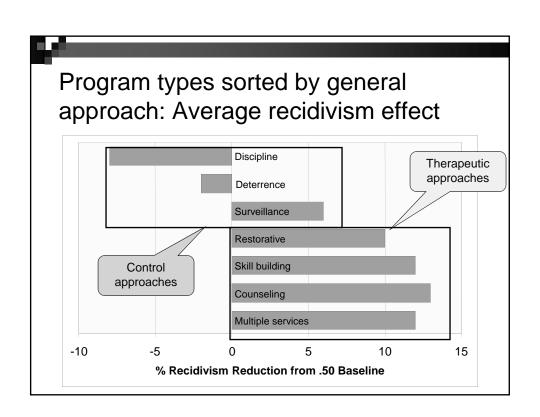## Some limitations of the model program approach

- The evidence base is often thin– relatively few studies of each model program
- Few of these programs are actually used in juvenile justice systems
- These programs present organizational challenges– cost and the ability to implement them "by the book"
- Most easily implemented as a new start-up; little utility for improving existing programs
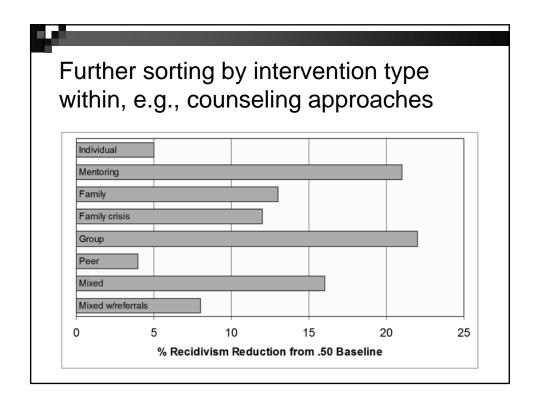
An alternative perspective on the P in EBP: Generic program "types"

- Interventions with research on effectiveness can be described by the *types* of programs they represent rather than their brand names, e.g.,
    - family therapy
    - mentoring
    - cognitive behavioral therapy

- These types include the brand name programs, but also many 'home grown' programs as well

- Viewed this way, there are many evidence-based program types familiar to practitioners

Generic Program Types that are Effective for Reducing the Recidivism of Juvenile Offenders

Meta-analysis of a comprehensive collection of existing studies of interventions for juvenile offenders

- Studies: 500+ experimental and quasi-experimental studies

- Samples: Juveniles in programs aimed at reducing delinquency

- Outcomes: Focus on the programs' effects on recidivism (reoffending)

Program types sorted by general approach: Average recidivism effect

Discipline	
Deterrence	
Surveillance	

Therapeutic approaches

Control approaches

Restorative	
Skill building	
Counseling	
Multiple services	

-10   -5   0   5   10   15

% Recidivism Reduction from .50 Baseline

7

Further sorting by intervention type within, e.g., counseling approaches

Individual
Mentoring
Family
Family crisis
Group
Peer
Mixed
Mixed w/referrals

0   5   10   15   20   25

% Recidivism Reduction from .50 Baseline

Further sorting by intervention type within, e.g., skill-building approaches

Behavioral
Cognitive-behavioral
Social skills
Challenge
Academic
Job related

0   5   10   15   20   25   30

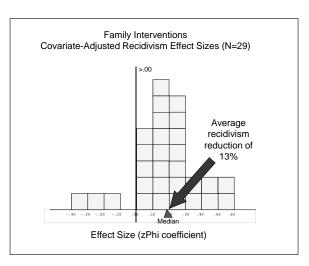**% Recidivism Reduction from .50 Baseline**

Many *types* of therapeutic interventions thus have evidence of effectiveness … but there's a catch:
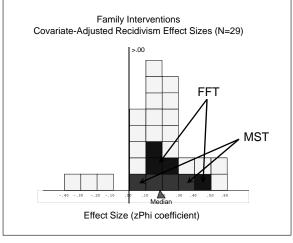
Though their *average* effects on recidivism are positive, larger and smaller effects are distributed around that average.

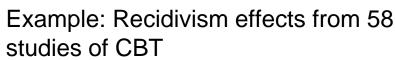This means that some variants of the intervention show large positive effects, but others show negligible or even negative effects.

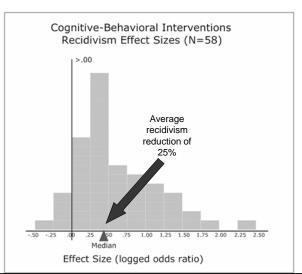Example: Recidivism effects from 29 studies of family interventions

Family Interventions
Covariate-Adjusted Recidivism Effect Sizes (N=29)

>.00

Average recidivism reduction of 13%

−.40 −.30 −.20 −.10 .00 .10 .20 .30 .40 .50 .60
Median

Effect Size (zPhi coefficient)

Where are the brand name model programs in this distribution?

Family Interventions
Covariate-Adjusted Recidivism Effect Sizes (N=29)

Effect Size (zPhi coefficient)

Example: Recidivism effects from 58 studies of CBT

Cognitive-Behavioral Interventions
Recidivism Effect Sizes (N=58)

Average recidivism reduction of 25%

Effect Size (logged odds ratio)

Mix of brand name and home grown programs

Cognitive-Behavioral Interventions
Recidivism Effect Sizes (N=58)

> .00

R&R
MRT
ART
SOP

-.50 -.25 .00 .25 .50 .75 1.00 1.25 1.50 1.75 2.00 2.25 2.50
Median

Effect Size (logged odds ratio)

Effect sizes analyzed as a function of study and program characteristics

Study methods
e.g., design, measurement

Sample characteristics
e.g., age, gender, ethnicity, risk

Juvenile justice control
e.g., diversion, probation, incarceration

Type of program
e.g., intervention philosophy, treatment type

Program implementation
e.g., amount of treatment, completion rates, quality of implementation

Effect sizes for recidivism outcomes

Key Findings

Type of program matters

- Programs using control approaches on average have small or even negative effects on recidivism

- Programs using therapeutic approaches on average have positive effects

- Within the therapeutic category, program types differ widely in their average effects with some notably more effective than others

Service amount and quality matters

Effects on recidivism associated with:
- Duration of service
- Total hours of service
- Quality of implementation
  - Explicit treatment protocol
  - Personnel trained in that treatment
  - Monitoring of treatment delivery
  - Corrective action for drift in delivery

Some characteristics of the juveniles matter

Effects on recidivism associated with:
- Delinquency risk (better outcomes)
- Aggressive history (somewhat less positive outcomes)

Effects on recidivism <u>not</u> associated with:
- Mean age
- Gender mix
- Ethnicity

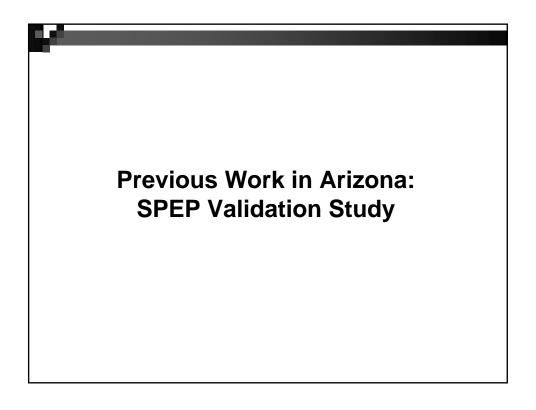## JJ supervision doesn't matter much (with risk controlled)

With risk accounted for, effects on recidivism <u>not</u> associated with:

- ☐ No JJ supervision (prevention programs)
- ☐ Diversion
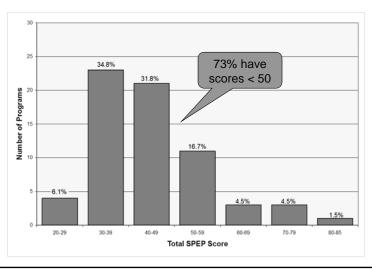- ☐ Probation/parole
- ☐ Incarceration

To have good effects, interventions should be implemented to match the most effective practice as found in the research

- ■ Program type: Therapeutic approach and one of the more effective intervention types

- ■ Dose: Amount of service that at least matches the average in the supporting research

- ■ High quality implementation: Treatment protocol and monitoring for adherence

- ■ Risk: Larger effects with high risk juveniles

Slide 1

Points assigned proportionate to the contribution of each factor to recidivism reduction

Target values from the meta-analysis (generic) OR program manual (manualized)

		Points Possible	Points Received
Standardized Program Evaluation Protocol (SPEP) for Services to Juvenile Offenders© Recalibrated version, 2013			
Primary and Supplemental Service Types [Identified according to definitions derived from the research]			
Primary Service Type for Program Being Rated Group 1 services (5 points) Group 4 services (25 points) Group 2 services (10 points) Group 5 services (30 points) Group 3 services (15 points)		30	
Supplemental Service Type Qualifying supplemental service used: Yes (5 points) No (0 points)		5	
Quality of Service Delivery [Determined from a systematic assessment of the relevant features of the provider and provider organization]			
Rated quality of services delivered: Low (5 points) Medium (10 points) High (20 points)		20	
Amount of Service [Determined from data for the qualifying group of service recipients]			
Duration [Target number of weeks specified for each service type] % of youth who received at least the target weeks of service: 0% (0 points) 60% (6 points) 20% (2 points) 80% (8 points) 40% (4 points) 99% (10 points)		10	
Contact Hours [Target number of hours specified for each service type] % of youth who received at least the target hours of service: 0% (0 points) 60% (6 points) 20% (2 points) 80% (8 points) 40% (4 points) 99% (10 points)		10	
Risk Level of Youth Served [Determined from risk ratings on a valid instrument for the qualifying group of service recipients]			
% of youth with medium or high risk scores (greater than low): 0% (0 points) 75% (7 points) 30% (2 points) 85% (10 points) 50% (5 points) 95% (12 points)	% of youth with high risk scores (greater than medium): 0% (0 points) 25% (8 points) 15% (3 points) 30% (10 points) 20% (5 points) 35% (13 points)	25	
Provider's Total SPEP Score		100	(Insert Score)

Slide 2

Previous Work in Arizona: SPEP Validation Study

Distribution of SPEP scores across 66 Arizona probation programs

73% have scores < 50

(Chart: bar chart of Number of Programs vs. Total SPEP Score)

- 20-29: 6.1%
- 30-39: 34.8%
- 40-49: 31.8%
- 50-59: 16.7%
- 60-69: 4.5%
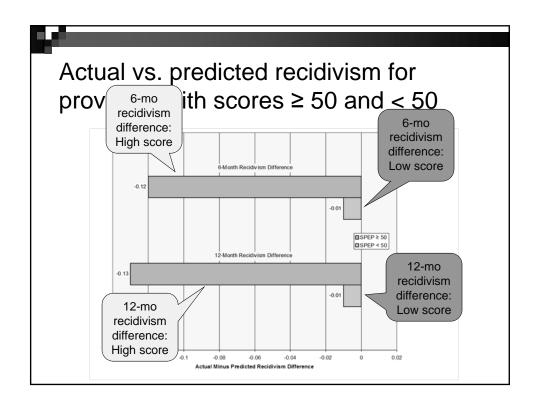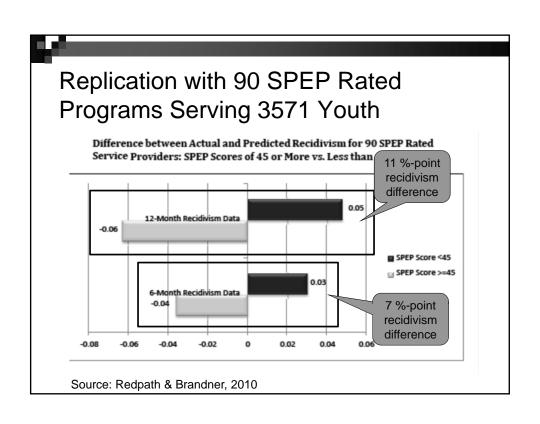- 70-79: 4.5%
- 80-85: 1.5%

Estimate expected recidivism for AZ programs with SPEP scores based on pre-existing risk factors

Recidivism predicted from archival data on:

- number and nature of prior offenses
- risk rating by probation officers
- age, sex, race, county
- number of prior service events

Actual recidivism: .27 at 6 mo, .44 at 12 mo

Actual vs. predicted recidivism for providers with scores ≥ 50 and < 50

Replication with 90 SPEP Rated Programs Serving 3571 Youth

Source: Redpath & Brandner, 2010

Summary

- No one approach to EBP: There are different definitions of practice with correspondingly different bodies of evidence.

- Meta-analysis can be used to develop evidence-based practice profiles for generic interventions with wider applicability than the model program approach.

- Real world programs that better match those EBP profiles do indeed show better outcomes.

More generally …

- We currently have sufficient research and evidence-based tools to improve the outcomes and cost-effectiveness of most JJ systems.

- The main barriers are organizational– implementing and sustaining evidence-based tools and practices in routine JJ operations.

Thanks!

Questions & comments?

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