Evidence-based programs: A failed experiment or the future of human services?

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The Golden Age

During the Golden Age of research in human services, the field has been dominated by the randomized, controlled experimental paradigm.
The Golden Age

A key lesson from the Golden Age is that the effects of social programs in practice hover near zero, a devastating discovery for social reformers.
The Golden Age

A consequence of these findings is the recognition of the importance of implementation research in overall evaluations.
The Golden Age


Teaching–Family Replications

Fixsen, Blase, Timbers, & Wolf (2001)

Cumulative Couples

Cumulative Homes


0 50 100 150 200 250 300
0

Figure 1: This figure shows the average effects of nine Follow Through models on measures of basic skills (word knowledge, spelling, language, and math computation), cognitive-conceptual skills (reading comprehension, math concepts, and math problem solving) and self-concept. This figure is adapted from Engelmann, S. and Carnine, D. (1982), Theory of Instruction: Principles and applications. New York: Irvington Press.
The "evidence-based movement" is an international experiment to make better use of research findings in typical service settings.

The purpose is to produce greater benefits to children, families, individuals, and society.
The New Golden Age

The evidence-based program movement

- Evidence-based
- Program
- Movement
Evidence-based

What defines “evidence”

Two or more high quality research studies using randomized group designs (within subject designs)

Preferably done by two or more independent research groups

Preferably summarized in meta-analyses of findings across studies
Evidence-based

For the past decade the National Institutes of Health have spent over $100 billion a year on research to develop evidence-based programs

Other federal agencies (e.g. IES; USAID) and philanthropies add to this total each year
In 2008 NIRN documented 32 websites and review articles

- Assess the quality of “evidence” by examining research methods
- Name some programs as “evidence-based” and others as promising or other

N = 700 deemed to be “evidence-based programs” based on external reviews

Blueprints website N = 11 Model Programs (out of 900 reviewed)
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The evidence-based program movement

Evidence-based

Program

Movement
What is a “program?”

Clear description of the program
- Philosophy, values, principles
- Inclusion – exclusion criteria

Clear essential functions that define the program & linked to outcomes

Operational definitions of essential components (do and say)

Practical performance assessment
- Highly correlated (0.70+) with outcomes
About 18% of outcome studies (N=1,200+) assessed the independent variable

About 7% linked essential components to outcomes

Few studies measure fidelity

Fewer yet link fidelity to outcomes

Dane & Schneider, 1998; Durlak & DuPre, 2008
Programs

359 outcome studies in 8 journals
- 32% used a treatment manual
- 22% supervised treatment agents
- 18% measured protocol adherence
- 6% did all three
- 55% did none of the above

Moncher & Prinz (1991)
Programs

-know a lot about Scientific rigor

- Rigor is not used by practitioners to impact the lives of people

-know little about Programs

- Programs are used by practitioners to impact the lives of people
The New Golden Age

The evidence-based program movement

- Evidence-based
- Program
- Movement
Movement

Letting it happen
Recipients are accountable

Helping it happen
Recipients are accountable

DO IT YOURSELF APPROACHES TO MOVING SCIENCE TO SERVICE

Based on Hall & Hord (1987); Greenhalgh, Robert, MacFarlane, Bate, & Kyriakidou (2004); Fixsen, Blase, Duda, Naoom, & Van Dyke (2010)
Movement

- Prevention programs in 5,847 schools; 2004-2005 school year
- Avg. 9 innovations per school
- 7.8% were evidence-based
- 3.5% used with fidelity

US Department of Education, 2011
Evidence-base  Actual Supports  Outcomes

Years 1-3  Years 4-5

Every Teacher Trained  Fewer than 50% of the teachers received some training  Fewer than 10% of the schools used the CSR as intended

Every Teacher Continually Supported  Fewer than 25% of those teachers received support  Vast majority of students did not benefit

Aladjem & Borman, 2006; Vernez, Karam, Mariano, & DeMartini, 2006
Past Federal Funding


- No implementation supports beyond whatever TA was offered by states
- No fidelity criteria insisted upon by the developers (e.g. Kinney, Haapala, Booth)
- National evaluation = not effective
  - Over 25% was spent on in-office interventions with parents or children (< 0 fidelity)
  - An implementation failure labeled Homebuilders as an intervention failure
Current Federal Funding

- $100 billion for innovative programs (USDE)
- $63 billion for maternal health programs (USAID)
- $4 billion for home visiting programs (ACF)
- Little/ no funding for implementation supports for these program initiatives
The New Golden Age

The “evidence-based movement” is an international experiment to make better use of research findings in typical service settings.

The purpose is to produce greater benefits to children, families, individuals, and society.
National Assessment of Education Progress (NAEP)

40 Years of Variation Around a Mediocre Mean
Best Data Show These Methods, When Used Alone, Are Insufficient:

- Diffusion/ Dissemination of information
- Training
- Passing laws/ mandates/ regulations
- Providing funding/ incentives
- Organization change/ reorganization

About 5% to 20% Realize Intended Benefits
Movement

- Focusing on methodological rigor to move science to service is not sufficient

- Relying on passive/unplanned means to move science to service is not sufficient
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Science “to” Service

SCIENCE   GAP   SERVICE
Complex Problems

Human services involve interaction-based sciences and services

Inherently more complex than atom-based sciences

e.g., atom-based ingredients don’t talk back or run away
Practitioners

🔥 In human services, the **PRACTITIONER IS THE INTERVENTION**

💡 Everyone / everything else needs to be aligned to provide effective supports so *all practitioners* can produce desired outcomes for *all recipients of services*
Implementation

Science “in” Service

SCIENCE

SERVICE

Diffusion
Dissemination
Translation

IMPLEMENTATION
Implementation

“In theory there is no difference between theory and practice; in practice, there is.”

Albert Einstein
The Challenge

Science to Service Gap

What is known is **not** what is used to help children, families, individuals, and communities.

Implementation Gap

What is adopted is not used with **fidelity** and good outcomes for consumers.

What is used with fidelity is not **sustained** for a useful period of time.

What is used with fidelity is not used on a **scale** sufficient to impact social problems.
Implementation

“Implementation has never been a national goal per se, but goals that can be reached only by effectively implementing new technology have been inherent in many national programs.”

(Hough, 1975)
Implementation Science


- Multi-disciplinary
- Multi-sector
- Multi-national
Implementation Science

Implementation Research: A Synthesis of the Literature


Download all or part of the monograph at:

http://www.fpg.unc.edu/~nirn/resources/publications/Monograph/
Formula for Success

Effective intervention \( \times \) Effective implementation = Effective outcomes

Brown & Flynn, 2002
Clancy, 2006
Implementation Science

An intervention is one thing

Implementation is something else altogether

Like serum and a syringe

- Very different evidence bases
- Each is necessary
- Neither one is useful without the other
Implementation Science

ACTIVE Implementation Frameworks and Best Practices
Implementation Science

Letting it happen and Helping it happen

MOVE SCIENCE TO SERVICE
WITH EXPERT HELP

Making it happen

- Purposeful use of implementation practices and science
- Implementation teams are accountable

Based on Hall & Hord (1987); Greenhalgh, Robert, MacFarlane, Bate, & Kyriakidou (2004); Fixsen, Blase, Duda, Naoom, & Van Dyke (2010)
Implementation Team

- **Minimum of three people** (four or five preferred) with the expertise to promote effective, efficient, and sustainable implementation, organization change, and system transformation work.

- **Tolerate turnover; teams are sustainable** even when the players come and go (Higgins, Weiner, & Young, 2012; Klest & Patras, 2011).
Implementation Team

Simultaneous, Multi-Level Interventions

- Practitioner/Staff Competence
- Organization Supports
- Management (leadership, policy)
- Administration (HR, structure)
- Supervision (nature, content)
- Regional Authority Supports
- State and Community Supports
Innovation outcomes result from adult interactions with children, families, & individuals

Capacity Development: Establishing & sustaining an infrastructure for implementation to assure full and effective uses of effective practices in all agencies
<table>
<thead>
<tr>
<th>INTERVENTION</th>
<th>IMPLEMENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective</td>
<td><strong>Impl. Team</strong></td>
</tr>
<tr>
<td></td>
<td>80%, 3 Yrs</td>
</tr>
<tr>
<td></td>
<td>NO Impl. Team</td>
</tr>
<tr>
<td></td>
<td>14%, 17 Yrs</td>
</tr>
</tbody>
</table>

Effective use of Implementation Science & Practice
Letting it Happen
Helping it Happen

Fixsen, Blase, Timbers, & Wolf, 2001
Balas & Boren, 2000

Substantial Return on Investment
Costs and Savings

Implementation Costs & Savings (Inflation Adjusted)

- Improve Effectiveness and Efficiency
- Invest in Implementation Capacity

Change in Budget (Percent)

1 Yr Pre | During | Post Year 1 | Post Year 2 | Post Year 3
Making it Happen

implementation drivers

common features of successful supports to help make full and effective uses of a wide variety of innovations
Reliable Benefits
Consistent uses of Innovations
Performance Assessment (fidelity)

Leadership Drivers
- Technical
- Adaptive

Competency Drivers
- Coaching
- Training
- Selection

Organization Drivers
- Systems Intervention
- Facilitative Administration
- Decision Support Data System

Implementation Drivers
- Consistent uses of Innovations
- Interventions meet Implementation

Integration & Compensatory

© Fixsen & Blase, 2008
Staff Training

## OUTCOMES

(% of Participants who Demonstrate Knowledge, Demonstrate new Skills in a Training Setting, and Use new Skills in the Classroom)

<table>
<thead>
<tr>
<th>TRAINING COMPONENTS</th>
<th>Knowledge</th>
<th>Skill Demonstration</th>
<th>Use in the Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory and Discussion</td>
<td>10%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>+ Demonstration in Training</td>
<td>30%</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>+ Practice &amp; Feedback in Training</td>
<td>60%</td>
<td>60%</td>
<td>5%</td>
</tr>
<tr>
<td>+ Coaching in Classroom</td>
<td>95%</td>
<td>95%</td>
<td>95%</td>
</tr>
</tbody>
</table>

Joyce and Showers, 2002
Teaching-Family Model

Bedlington, et al. (1988)

$r_s = -0.94$

Parental-Teaching With Youths

Percent

Delinquency (Outcome)

Teaching (Fidelity)

Mean Self Reported Delinquency Ratings

Homes

1 2 3 4 5 6
Functional Family Therapists (WSIPP)

Highly Competent & Competent Therapists
N=12; 204 Families
13% Recidivism

Borderline & Not Competent Therapists
N=13; 223 Families
28% Recidivism
Organization Supports

N = 100 county MH Clinics

- Best of the MH Clinics (10%)
  - Sustain EBPs for 50 months
- Rest of the MH Clinics (90%)
  - Sustain EBPs for 24 months

Organization supports matter!

Glisson et al., 2008
Organization Supports

Fixsen, Blase, Timbers, & Wolf (2001)

% Homes Open 6+ Yrs.

- Tx Unit Strategy: N = 84

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Stages of Implementation

Implementation occurs in stages:

- Exploration
- Installation
- Initial Implementation
- Full Implementation

Fixsen, Naoom, Blase, Friedman, & Wallace, 2005
<table>
<thead>
<tr>
<th>Data from Developers &amp; Implementers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assertive Community Treatment</td>
</tr>
<tr>
<td>Collaborative for Academic, Social, and Emotional Learning</td>
</tr>
<tr>
<td>Dialectical Behavioral Therapy</td>
</tr>
<tr>
<td>Functional Family Therapy</td>
</tr>
<tr>
<td>Incredible Years</td>
</tr>
<tr>
<td>Life Skills</td>
</tr>
<tr>
<td>Multidimensional Treatment Foster Care</td>
</tr>
<tr>
<td>Multisystemic Treatment</td>
</tr>
<tr>
<td>Nurse-Family Partnership</td>
</tr>
<tr>
<td>Nutrition Model Program for Elderly</td>
</tr>
<tr>
<td>Positive Behavior Support</td>
</tr>
<tr>
<td>School-based mental health</td>
</tr>
<tr>
<td>Supported Employment</td>
</tr>
<tr>
<td>Federation of Families for Children’s Mental Health</td>
</tr>
<tr>
<td>National Alliance of Multicultural Behavioral Health Associations</td>
</tr>
</tbody>
</table>

Blase et al., 2005
# N = 579 items
*(Concept Mapping; Nominal Group Process; Interviews)*

## Implementation Stages

<table>
<thead>
<tr>
<th>Impl Team Activities</th>
<th>Explore</th>
<th>Install</th>
<th>Init Impl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>97%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Planning</td>
<td>20%</td>
<td>32%</td>
<td>48%</td>
</tr>
<tr>
<td>Selection/Training</td>
<td>3%</td>
<td>31%</td>
<td>66%</td>
</tr>
<tr>
<td>Coaching</td>
<td>8%</td>
<td>6%</td>
<td>86%</td>
</tr>
<tr>
<td>Evaluation</td>
<td>3%</td>
<td>23%</td>
<td>73%</td>
</tr>
<tr>
<td>Org Development</td>
<td>11%</td>
<td>16%</td>
<td>73%</td>
</tr>
<tr>
<td>System Intervention</td>
<td>37%</td>
<td>30%</td>
<td>33%</td>
</tr>
</tbody>
</table>

**N = 579 items**

**Implementation Stages**

- **Assessment**: 97% Explore, 1% Install, 2% Init Impl
- **Planning**: 20% Explore, 32% Install, 48% Init Impl
- **Selection/Training**: 3% Explore, 31% Install, 66% Init Impl
- **Coaching**: 8% Explore, 6% Install, 86% Init Impl
- **Evaluation**: 3% Explore, 23% Install, 73% Init Impl
- **Org Development**: 11% Explore, 16% Install, 73% Init Impl
- **System Intervention**: 37% Explore, 30% Install, 33% Init Impl
Outcomes of EBPs

Effective Intervention Practices

Implementation Performance Assessments (fidelity)

Implementation Teams

Exploration
Installation
Initial Implementation
Full Implementation

Practitioners
Staff
Administrators
Boards

Implementation Processes

Implementation

WHAT

Integration & Compensatory

Competency Drivers

Organizational Drivers

Leadership

Technical

Adaptive

Facilitative Administration

Decision Support Data System

Systems Intervention

Coaching

Performance Assessment (Fidelity)

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Implementation

WHA

WHO
“All organizations are designed, intentionally or unwittingly, to achieve precisely the results they get.”

...R. Spencer Darling

Systems trump programs!

...Patrick McCarthy, Annie E. Casey
System Supports

- Innovative practices do not fare well in existing organizational structures and systems

- Organizational and system changes are essential to successful use of innovations
  - Expect it
  - Plan for it
The Challenge

Systems are fragmented and are characterized by highly variable, often ineffective, and sometimes harmful services to consumers.
System Supports

Supply side: Effective programs go where they are most welcome

- Let it happen; Help it happen
- Islands of excellence

Demand side: Effective programs go where they are most needed

- Make it happen
- A sea of change
System Supports

Existing System

Effective Innovations Are Changed to Fit The System

Existing System Is Changed To Support The Effectiveness Of The Innovation

Effective Innovation
Compliance and Crises, Urgent, Time Sensitive!!

- Services not meeting Standards
- Deal with urgent and high profile issues

Best Practices Implemented Fully With Good Outcomes Disturb the System

System Supports & Stability
- Mandates, System Supports, Foundational Policies & Regulations

Leadership Responsibilities and Leverage Points

System Supports & Stability
- Regulatory roles
- Basic Data Systems
- Financing and Fiscal Accountability
- Accreditation/ Licensing Standards
- HR rules and regulations
- Safety Standards
- Work with Legislature
- Inclusion of Stakeholders

Thanks to Tom Bellamy
System Reinvention

Adaptive Challenges
- Duplication
- Fragmentation
- Hiring criteria
- Salaries
- Credentialing
- Licensing
- Time/scheduling
- Union contracts
- RFP methods
- Federal/State laws

“External” System Change Support

Policy Enabled Practice

Implementation Team

State Management Team

Practice Informed Policy

Practitioners Innovations Children, Families
Capacity Building

Implementation Teams
Organization Change
System Reinvention

YEARS
AMOUNTS
Funding
Capacity
Challenges

Children, families, and individuals cannot benefit from services they do not experience.

For the EBP Movement to be successful, we must implement evidence-based programs and sustain/improve their benefits on a socially significant scale.
For More Information

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www.implementationconference.org
Implementation Science

Implementation Research: A Synthesis of the Literature


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Thank You for your Support

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- William T. Grant Foundation (implementation literature review)
- Substance Abuse and Mental Health Services Administration (implementation strategies grants; national implementation awards)
- Centers for Disease Control & Prevention (implementation research)
- National Institute of Mental Health (research and training grants)
- Juvenile Justice and Delinquency Prevention (program development and evaluation grants)
- Office of Special Education Programs (Scaling up Capacity Development Center)
- Administration for Children and Families (Child Welfare Leadership; Capacity Development)
- Duke Endowment (Child Welfare Reform)