Implementation Science and Fall Prevention

Dean Fixsen, Karen Blase, Allison Metz, Melissa Van Dyke
National Implementation Research Network
FPG Child Development Institute
University of North Carolina at Chapel Hill

National Fall Prevention Conference
Toronto
• 1 in 3 65+ Canadians fall each year
• About half suffer injury
• 20% with hip fractures die within a year
• Elderly population will double by 2035
Implementation Science

• **Letting it happen**
  – Diffusion; networking; communication

• **Helping it happen**
  – Dissemination; manuals; websites; TA

Based on Hall & Hord (1987); Greenhalgh, Robert, MacFarlane, Bate, & Kyriakidou (2004); Fixsen, Blase, Metz, & Van Dyke (2013)
Evidence Base

Comprehensive School Reforms

Every Teacher Trained

Every Teacher Continually Supported

Actual Supports Years 1-3

Fewer than 50% of the teachers received some training

Fewer than 25% of those teachers received support

Outcomes Years 4-5

Fewer than 10% of the schools used the CSR as intended

Vast majority of students did not benefit

Aladjem & Borman, 2006; Vernez, Karam, Mariano, & DeMartini, 2006
Effective Implementation

Best Data Show These Methods, When Used Alone, Do Not Result in Use of Innovations as Intended

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

5 to 15% return on investment
NECESSARY BUT NOT SUFFICIENT
Formula for Success

Effective Interventions

Effective Implementation

Enabling Contexts

= Socially Significant Outcomes
Formula for Success

Effective Interventions $\times$ People Cannot Benefit From Services They Do Not Experience $\times$ Enabling Contexts

= Socially Significant Outcomes
Impediments to Fall Prevention

1. Lack of organization and focus of staff
2. Lack of continuous data on falls as part of workflow
3. Staff turnover; HR not fill positions promptly
4. Lack of feedback to therapists; celebrate success; support improved practices
5. Lack of training on effective strategies
6. Lack of engaged leadership
7. Lack of timely supplies and support
8. Lack of supervision and support for fall prevention staff
• Sufficient data to move from **making lists** (facilitators & barriers) to **making sense**
  – **Frameworks**
    • Fixsen et al. (2005) frameworks based on a synthesis of the implementation evaluation literature
    • Meyers, Durlak, and Wandersman (2012) comparison of 25 implementation frameworks
    • Tabak, Khoong, Chambers, & Brownson (2012) review of 61 models for diffusion, dissemination, and implementation
Implementation Science

• **Letting it happen**
  – Diffusion; networking; communication

• **Helping it happen**
  – Dissemination; manuals; websites; TA

• **Making it happen**
  – Purposeful and proactive use of implementation practice and science

Based on Hall & Hord (1987); Greenhalgh, Robert, MacFarlane, Bate, & Kyriakidou (2004); Fixsen, Blase, Metz, & Van Dyke (2013)
APPLIED Implementation Science: Active Implementation Frameworks

- Usable Interventions
- Implementation Stages
- Implementation Drivers
- Improvement Cycles
- Implementation Teams
Impact

Outcomes at All Levels

When creating capacity for State education systems to make full and effective use of evidence-based programs and other innovations, outcomes are realized at several levels. Thus, within a statewide infrastructure for implementation the outcomes are:

1. Improved outcomes for students. Moving all the indicators is the ultimate prize.
2. Improved outcomes for teachers is critical to improving student success. Students cannot benefit from education best practices unless teachers use these practices in the classroom.
3. Improved outcomes for building staff (Principals, administrators, support staff, Implementation Teams) are essential to support teachers’ uses of education best practices.
4. Improved outcomes for district staff (Superintendents, administrators, support staff, Implementation Teams) are essential to support best practices in buildings.
5. Improved outcomes for regional staff (service centers and Implementation Teams to support several districts) are critical for supporting best practices in districts.
6. Improved outcomes for State staff (State leadership and units in the education system, State Transformation Team) are necessary for supporting best practices in regional units.
7. Improved outcomes for the State Implementation and Scaling up Evidence-based Practices staff are essential for supporting best practices in States across the nation.

To develop improved outcomes at all these levels, the State Implementation and Scaling up Evidence-based Practices Center begins with the State staff to create the first example of a Regional Implementation Team. Then, the work begins at the district level. The work at the district level helps to create district capacity while simultaneously helping to create Regional Implementation Team capacity. There is a lot of learning about implementation and improvement cycles during this intensive period of work.

Keeping in mind the sequence above, the outcomes will be reviewed for:

- The State Implementation and Scaling up Evidence-based Practices Center (Exploration, Installation, and Initial Implementation Stages),
- State staff (Exploration, Installation, and Initial Implementation Stages),
- Regional staff (Exploration, Installation, and Initial Implementation Stages), and
- District staff (Implementation Stage).
Formula for Success

WHAT: Effective Interventions

Effectice Implementation

Enabling Contexts

= Socially Significant Outcomes
What is “it”? 

In 1,200+ evaluations of innovations 
• 18% assessed the presence of the independent variable (“it”) 
• 7% linked essential components (fidelity) to outcomes (we know what produces desired outcomes) 
• “It” is not very clear!

Moncher & Prinz, 1991; Gresham, et al., 1993; Dane & Schneider, 1998; Durlak & DuPre, 2008
Usable Intervention Criteria

- Clear description of the program
  - Philosophy, values, principles (guidance)
  - Inclusion – exclusion criteria (beneficiaries)

- Clear essential functions that define the program (core components)

- Operational definitions of essential functions (practice profiles; do, say)

- Practical performance assessment
  - Highly correlated (0.70+) with desired outcomes
Formula for Success

WHAT: Effective Interventions

HOW & WHO: Effective Implementation

Enabling Contexts

= Socially Significant Outcomes
Reliable Benefits

Consistent uses of Innovations by Practitioners

Performance Assessment (fidelity)

Coaching

Systems Intervention

Selection

Facilitative Administration

Training

Decision Support Data System

Selection

Leadership Drivers

Competency Drivers

Integrated & Compensatory

Technical

Adaptive

© Fixsen & Blase, 2008
Competency Drivers and Practitioner Turnover

Aarons et al., 2009

N=153

Percent of Clinicians Retained after 36 months

- EBP + Monitoring: 58%
- EBP No Monitoring: 22%
- TAU + Monitoring: 27%
- TAU No Monitoring: 16%

Aarons et al., 2009
Organization & Leadership Drivers

Fixsen, Blase, Timbers, & Wolf (2001)
# Fidelity Assessment: Diagnostic

<table>
<thead>
<tr>
<th></th>
<th>High Fidelity</th>
<th>Low Fidelity</th>
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<tbody>
<tr>
<td><strong>Good Outcomes</strong></td>
<td>Celebrate!</td>
<td>Re-examine the intervention and Modify the fidelity assessment</td>
</tr>
<tr>
<td><strong>Poor Outcomes</strong></td>
<td>Modify the intervention</td>
<td>Start over</td>
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Direct limited resources to solving the right problems!
Higher Fidelity Therapists
N=12; 204 Families
13% Recidivism

Lower/ No Fidelity Therapists
N=13; 223 Families
28% Recidivism

Control Group: 22% Recidivism

Functional Family Therapists (WSIPP)
WHO: Implementation Team

Minimum of three people (four or five preferred) with:

- Expertise to operationalize innovations
- Expertise in implementation content knowledge and use in practice
- Expertise in organization/system change

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

Prepare Organizations

Prepare Practitioners and Staff

Prepare Regions

Work with Researchers

Parents and Stakeholders

Assure Implementation

Assure Intended Benefits

Create Readiness

80%

20%

Prochaska, Prochaska, & Levesque (2001)
Implementation Team

Simultaneous, Multi-Level Interventions

- Practitioner/Staff Competence
- Organization Supports
- Management (leadership, policy)
- Administration (HR, structure)
- Supervision (nature, content)
- Regional Authority Supports
- Provincial/Community Supports
- Federal and National Supports
<table>
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<tr>
<th>INTERVENTION</th>
<th>IMPLEMENTATION</th>
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<tbody>
<tr>
<td>Effective</td>
<td>Expert Impl. Team</td>
</tr>
<tr>
<td></td>
<td>NO Impl. Team</td>
</tr>
<tr>
<td></td>
<td>Effective use of Implementation Science &amp; Practice</td>
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<tr>
<td></td>
<td>Fixsen, Blase, Timbers, &amp; Wolf, 2001</td>
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<td>Saldana &amp; Chamberlain, 2012</td>
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Formula for Success

WHAT: Effective Interventions

HOW/WHO: Effective Implementation

WHERE: Enabling Contexts

= Socially Significant Outcomes
"All organizations [and systems] are designed, intentionally or unwittingly, to achieve precisely the results they get."

R. Spencer Darling
Existing System

Effective Innovations
Are Changed to
Fit The System

Existing System Is
Changed To Support
The Effectiveness Of
The Innovation

Effective Innovation
Creating Enabling Contexts

Policy Makers & Administrators

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

System Change

Implementation Team
- Practitioners
- Innovations
- Children/Families

"The fault cannot lie in the part responsible for the repair.”
Ashby (1956)

"External" System Change Support

Practice Policy Loop

Creating Enabling Contexts
State and Regional Capacity Assessment

SMT = State Management Team
RIT = Regional Implementation Team

State Capacity Assessment: Fixsen, Duda, Blase and Horner, 2009
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<td>Effective</td>
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<tr>
<td>NOT Effective</td>
<td>Inconsistent; Not Sustainable; Poor outcomes</td>
</tr>
<tr>
<td>Effective</td>
<td>Actual Benefits</td>
</tr>
<tr>
<td>NOT Effective</td>
<td>Poor outcomes</td>
</tr>
<tr>
<td>NOT Effective</td>
<td>Poor outcomes; Sometimes harmful</td>
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Canada?
www.globalimplementation.org
For More Information

Melissa Van Dyke  
melissa.vandyke@unc.edu

Allison Metz  
allison.metz@unc.edu

Frank Porter Graham Child Development Institute  
University of North Carolina  
Chapel Hill, NC

http://nirn.fpg.unc.edu/  
www.scalingup.org  
www.globalimplementation.org

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- Administration for Children and Families (Child Welfare Leadership; Capacity Development Center)
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