Implementation for the Masses

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Implementation Science

- **Past – Before 2005**
- **Present – 2005-2015**
- **Future – Starts today**
Implement = Use

Implementation Science = the study of factors that influence the full and effective use of innovations in practice

The goal is not to answer factual questions about what is, but rather to produce evidence for what is required (invent the future)
Eisenhower: National System of Interstate and Defense Highways (1956)

- Goal of 21,185 miles (50%) reached in 1966

Kennedy: Decision to send astronauts to the moon and return them safely (1961)

- Goal reached in 1969

Johnson: Great Society Programs (1964)

- Goals not reached yet in 2014
Human services involve interaction-based sciences and services

• Inherently more complex than atom-based sciences

  – e.g., atom-based ingredients don’t change from one engineer to the next or change overnight or decide to quit
National Assessment of Education Progress (NAEP)

Churning Around a Mediocre Mean

Original and Revised Assessment Formats
Federal SPENDING on K-12 Education and NAEP READING Scores (Age 9)

It’s not (just) the money or top-down support!
Convergence in the new millennium

1. Innovation science
2. Implementation science
3. Improvement science
4. Complexity theory
Innovation science

• Rigor and relevance of data re

WHAT to do

– “Evidence-based” programs and innovations
A key lesson from the Great Society is that the effects of social programs in practice hover near zero, a devastating discovery for social reformers.

- Rigorous data supporting effective innovations are necessary but not sufficient

Rossi and Wright (1984)
Implementation Science (get started) and Improvement Science (get better)

- HOW to assure the full, effective, and consistent use of innovations in practice
- HOW to resolve issues of fit and function (innovation, delivery, organizations, systems) – never ends!
Implementation Science

Complexity Theory

• Interactions among moving parts
• Emergent adaptation
• Plan for the unexpected
• Large scale change in real time
E Pluribus Unum

• Summaries of literature in any domain including agriculture, business, child welfare, complexity theory, computer science, engineering, health, juvenile justice, manufacturing, medicine, mental health, nursing, social services, and others

• Summaries of best practices by experts doing implementation work successfully

• Synthesis of over 40 implementation and evaluation frameworks
Convergence

Effective Innovations × Effective Implementation × Enabling Contexts

= Socially Significant Outcomes
Convergence: Active Implementation Frameworks

- Usable Innovations
- Implementation Stages
- Implementation Drivers
- Improvement Cycles
- Implementation Teams
- Enabling Change
# Implementation Benefits

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Haphazard</th>
<th>Implementation Informed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Training Benefits</strong></td>
<td>5 - 15% use in practice</td>
<td>80 - 95% use in practice (coaching)</td>
</tr>
<tr>
<td><strong>Fidelity of use in practice</strong></td>
<td>29% EBP outcomes if low fidelity use</td>
<td>81% EBP outcomes if use meets criteria</td>
</tr>
<tr>
<td><strong>Implementation Team</strong></td>
<td>18% fidelity with no/poor Drivers</td>
<td>83% fidelity if Drivers at criteria</td>
</tr>
<tr>
<td><strong>Training + Coaching + Fidelity</strong></td>
<td>22% staff retained 3+ yrs.</td>
<td>58% staff retained 3+ yrs.</td>
</tr>
<tr>
<td><strong>Competency + Organization Drivers</strong></td>
<td>17% sustain 6+ yrs.</td>
<td>84% sustain 6+ yrs.</td>
</tr>
</tbody>
</table>
Zone of Complexity

Stacey (1996)

Implementation Teams

1. Direct
2. Change Work Processes
3. Modify Structure
4. Convene and Intervene
5. Convene
6. Examine, Describe Patterns
7. Seek Patterns
- Letting it happen
  - Recipients are accountable

- Helping it happen
  - Recipients are accountable

- Making it happen
  - Purposeful use of implementation practice 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 Science

Approaches to implementation of innovations in 376 organizations (public, private, profit, non-profit)

<table>
<thead>
<tr>
<th>Approach</th>
<th>Usage</th>
<th>Success</th>
<th>Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention/Facilitation</td>
<td>8%</td>
<td>87%</td>
<td>14</td>
</tr>
<tr>
<td>Participation/Internal Team</td>
<td>18%</td>
<td>73%</td>
<td>16</td>
</tr>
<tr>
<td>Persuasion</td>
<td>37%</td>
<td>47%</td>
<td>21</td>
</tr>
<tr>
<td>Edict</td>
<td>37%</td>
<td>35%</td>
<td>15</td>
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Nutt (2001)
## Implementation Science

Approaches to implementation of innovations in 376 organizations (public, private, profit, non-profit)

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<th>Success</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Lead and Support</strong></td>
<td>8%</td>
<td>87%</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>18%</td>
<td>73%</td>
<td>16</td>
</tr>
<tr>
<td><strong>Tell and Sell</strong></td>
<td>37%</td>
<td>47%</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>37%</td>
<td>35%</td>
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Nutt (2001)
Minimum of three people (four or more preferred) with expertise in:

- Operationalizing innovations
- Using implementation methods effectively
- Helping organizations change

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

- Prepare Organizations
- Prepare Regions
- Work with Practitioners and Staff
- Prepare Practitioners and Staff
- Prepare Regions
- Create Readiness
- Patients and Stakeholders
- Implementation Team

CREATEING Readiness

- Assure Implementation
- Assure Intended Benefits

Prochaska, Prochaska, & Levesque (2001)

© Fixsen & Blase, 2009
Implementation Teams

Simultaneous, Multi-Level Interventions

- Practitioner/Staff Competence
- Organization Supports
- Management (leadership, policy)
- Administration (HR, structure)
- Supervision (nature, content)
- National Authority Supports
- State/Community Supports
- Federal and National Supports

Creating Alignment
Implementation and Innovations

Rapid cycle (PDSA) problem solving
- Shewhart (1931); Deming (1986)

Usability testing
- Rubin (1994); Nielsen (2000)
Improvement Cycles

Nielsen (2000)

Teams

Number of Test Users

Usability Problems Found

0% 3 6 9 12 15

0% 25% 50% 75% 100%
Usability Testing

- A **planned series** of tests of an innovation or of implementation processes.
- Use proactively to test the **feasibility and impact** of a new way of work prior to rolling out the innovation or implementation processes more broadly

More is learned from 4 cycles with 5 participants each than from 1 pilot test with 20 participants
# Implementation Teams

## Implementation & Innovation

<table>
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<tr>
<th>Effective Use of Implementation Science &amp; Practice</th>
<th>Letting it Happen</th>
<th>Helping it Happen</th>
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<tbody>
<tr>
<td><strong>Expert Impl. Team</strong></td>
<td>80%, 3 Yrs</td>
<td></td>
</tr>
<tr>
<td><strong>NO Impl. Team</strong></td>
<td>14%, 17 Yrs</td>
<td>Balas &amp; Boren, 2000</td>
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<tr>
<td></td>
<td></td>
<td>Green, 2008</td>
</tr>
<tr>
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<td>Saldana &amp; Chamberlain, 2012</td>
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Source:
- Fixsen, Blase, Timbers, & Wolf, 2001
- Balas & Boren, 2000
- Green, 2008
- Saldana & Chamberlain, 2012
"All organizations [and systems] are designed, intentionally or unwittingly, to achieve precisely the results they get.”  ...R. Spencer Darling

Human Services are not improving as fast as problems are changing.
Innovative practices do not fare well in existing organizational structures and systems (crushed by established routines)

Organizational and system changes are essential to successful use of innovations
  – Expect it
  – Plan for it
Enabling Contexts

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

- Cannot change everything at once (too big; too complex; too many of them and too few of us)
- Cannot stop and re-tool (have to create the new in the midst of the existing)
- Cannot know what to do at every step (we will know it when we get there)
- Many of the outcomes are not predictable (who knew!?)
Creating Enabling Contexts

“External” System Change Support

Policy Makers & Administrators

♦ Look for Faulty Assumptions & Errors; ♦ Make Needed Changes; ♦ Invite System to Respond

Implementation Team

Practitioners

Innovations

Children/Families

“The fault cannot lie in the part responsible for the repair.”
Ashby (1956)
Creating Enabling Contexts

- Implementation
- Team
- Policy Makers & Administrators
- Practitioners
- Innovations
- Children/Families
- System Change

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

“The fault cannot lie in the part responsible for the repair.”
Ashby (1956)
“The fault cannot lie in the part responsible for the repair.” Ashby (1956)
State and Regional Capacity Assessment

State Capacity Assessment: Fixsen, Duda, Blase and Horner, 2009
System Reinvention

• Stop wasting time and money on things that don’t work (and never have!)
  – Sugai’s Law: For every new initiative, stop two current ones that have poor outcomes
  – De-scale; Avoid layering and fragmentation
• Set aside 20% of funds for implementation
• Require quarterly reports of fidelity data
A fundamental truth:
• People cannot benefit from innovations they do not experience
Active Implementation Frameworks

- Usable Innovations
- Implementation Stages
- Implementation Drivers
- Improvement Cycles
- Implementation Teams
- Enabling Change
Leverage Visible Improvements!

National Assessment of Education Progress (NAEP)

Original and Revised Assessment Formats
There is sufficient information to support a rapidly evolving science of implementation.

On the verge of creating a virtuous circle where evidence-based implementation practice improves implementation science that improves implementation practice ...
For More Information

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www.scalingup.org
www.globalimplementation.org
Implementation Science

Implementation Research: A Synthesis of the Literature


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