Implementation Science: The Highway to Where Again?

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Center for Health Administration Studies
What works?

How do you put something in place so that it will work in the real world?

How do you keep it working and fix what is not working?

How do spread the good?
Translation Sciences Questions

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What works?
RCTs/ESTs/
Comparative Effectiveness

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How do you put something in place so that it will work in the real world?
Implementation Science

How do you keep it working and fix what is not working?

How do you spread the good?
What works?
RCTs/ESTs/Comparative Effectiveness

How do you put something in place so that it will work in the real world?
Implementation Science

How do you keep it working and fix what is not working?
Quality Science

How do you spread the good?
Translation Sciences Questions

What works? RCTs/ESTs/Comparative Effectiveness

How do you spread the good? Dissemination Science

How do you put something in place so that it will work in the real world? Implementation Science

How do you keep it working and fix what is not working? Quality Science
Scientific study of the process of moving new practices into routine care
Key elements of implementation

• *Something “new” to be implemented*
  – The **what** (innovation, treatment)

• *Strategies for changing service delivery*
  – The **how** (implementation strategies)

• *Ways to know you changed service delivery*
  – **Measure the success** (implementation outcomes)
Implementation Science Comes Down to This

Implementation Strategies → Implementation Outcomes
### Implementation Outcomes

<table>
<thead>
<tr>
<th>Acceptability</th>
<th>Perception among stakeholders that the innovation is agreeable, palatable or satisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adoption</td>
<td>Intention, decision or action to employ an innovation</td>
</tr>
<tr>
<td>Appropriateness</td>
<td>Perceived fit of the innovation for a given setting, problem, provider, population</td>
</tr>
<tr>
<td>Feasibility</td>
<td>Extent to which an innovation can be successfully used or carried out in a setting</td>
</tr>
<tr>
<td>Fidelity</td>
<td>Degree to which an innovation is implemented as prescribed</td>
</tr>
<tr>
<td>Implementation Cost</td>
<td>Cost impact of an implementation effort</td>
</tr>
<tr>
<td>Penetration</td>
<td>Integration of an innovation within a setting</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Extent to which an innovation is maintained or institutionalized in a setting</td>
</tr>
</tbody>
</table>

Implementation Strategies

Systematic intervention processes to adopt and integrate evidence-based innovations into usual care.

Discrete implementation strategies (system of reminders)
Multifaceted implementation strategies (training + reminders)
Blended implementation strategies
Blended Models

- ARC (Glisson et al)
- TRIP (Titler et al)
- IHI Breakthrough Collaborative
- IHI Framework for Spread
- IHI Planning for Scale
- Cascade (Chamberlain)
- Improving Access to Psychological Therapies (UK)
- SAMSHA Toolkit
- QUERI (VA)
- MST D & I Model
- Ohio Centers for Excellence
- Community Development Team (Cal. MHI)
- New York State mental health dissemination effort
Menu Compilation Methods

1. Reviewed known compilations

2. Reviewed, unpacked blended models

3. Searched databases

4. Reviewed expert recommended documents

5. Final distillation & synthesis

61 - 6 = 55

14 - 4 = 10

6

3

68
• **Gather Information**
• **Build Buy-In**
• **Initiate Leadership**
• **Develop Relationships**
Educate Strategies

- Develop materials
- Educate
- Educate through peers
- Inform and influence stakeholders
Finance Strategies

• **Modify incentives for clinicians, consumers, reduce perverse incentives**

• **Facilitate financial support: place on formularies**
Restructure Strategies

- Revise roles
- Create new teams
- Change sites
- Change record systems
- Start new purveyor organization
Quality Management Strategies

• Develop systems
• Develop tools for these systems
• Audit and provide feedback
• Remind clinicians
• Develop T.A. systems

• Use experts
• Conduct cyclical small tests of change
Attend to Policy Context Strategies

• Licensure, accreditation, certification, liability
Theories and Models

- **Re-Aim (Glasgow)**
- **Green and Krueter -- Precede- Proceed**
- **Aarons -- Explore-Adopt-Activate –Sustain**
- **Aarons— Preparation, Adaptation, Delivery, Feedback**
- **Wandersman – Getting to outcomes; interactive systems framework**
- **Health behavior frameworks (see Susan Michie’s work)**
Theories and Models: Glasgow

RE-AIM Framework

- Internal Validity
- External Validity
- Reach
- Effectiveness
- Adoption
- Implementation
- Maintenance

## RE-AIM in action

The U of C healthcare intervention that will make the university rich.

<table>
<thead>
<tr>
<th>Activity</th>
<th>RE-AIM Concept</th>
<th>Public Health Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>50% of sites use treatment</td>
<td>Adoption / Reach</td>
<td>50%</td>
</tr>
<tr>
<td>50% of clinicians at these sites use the treatment</td>
<td>Adoption / Reach</td>
<td>25%</td>
</tr>
<tr>
<td>50% of the consumers agree to participate in the</td>
<td>Reach</td>
<td>12.5%</td>
</tr>
<tr>
<td>50% get the proper regimen</td>
<td>Implementation</td>
<td>6.25%</td>
</tr>
<tr>
<td>50% of those benefit</td>
<td>Effectiveness</td>
<td>3.125%</td>
</tr>
<tr>
<td>50% continue to benefit</td>
<td>Maintenance</td>
<td>1.6%</td>
</tr>
</tbody>
</table>
Integrated Dynamic, Multi-level Research-Practice-Policy Partnership Contextual

*Systems Approach*

Adapted from Estabrooks et. al. *AJPM, 2005, 31: S45*
Damschroder et al. (2009) Foster implementation of health services research findings into practice: A consolidated framework for advancing implementation science. Implementation Science, 4, 50.
Am J Community Psychol, 41,171-181
Challenges in Implementation Science

- Generalizability
- Choosing implementation strategies for testing
- Multiple levels of analysis
  - policy, organizational, medical team, practice
- Multiple stakeholders
  - payers, administrators, patients, providers, families
- Design challenges in testing effects of practice change
  - small “n;” randomization, contamination
- Selecting and measuring implementation outcomes
Handling Intense Emotions

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Known Implementation Barriers

Tailoring issues (3 target audiences, population specific)

Hard to teach soft skills people will use

Boredom

Harder to go to scale

Hard to mount simultaneous training for three groups

Booster sessions

High turnover among residential staff

Handling Intense Emotions

- Surprised
- Embarrassed
- Shy
- Suspicious
- Happy
- Overwhelmed
- Lovestruck
- Sad
- Angry
Biggest Implementation Barrier

IDEAL WORLD

REAL WORLD
IMPLEMENTATION STRATEGIES

Blended learning with didactic and interactive content available via:

- web (through a Learning Management System)
- DVD
- IPAD app (through Articulate)
Implementation Blueprint

Planning Strategies

Education Strategies

Payment Strategies

Quality Management Strategies