Implementation Strategies & Outcomes: Methods advances & challenges

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American Speech and Hearing Foundation
Implementation Science Summit
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Session overview:
Implementation research tools

1. Priority Q’s
2. Constructs and measures
3. Data sources
Priority Questions in Implementation Research

SIX KEY Q’S
Priority question 1: What is our repertoire of evidence-based practices?

What interventions ready for dissemination and implementation?

What is their appropriateness? Balancing discovery v roll out
When we have effective interventions, it’s time to delivery them
Priority question #2: What is the implementation gap?

What is the quality of health and educational service? To what extent are we providing evidence-based service?

*Services that “could be” vs services that “are*

Implementation gap:

\[
% = \frac{\text{number receiving EB care}}{\text{total service recipients}}
\]

\[
% = \frac{\text{number receiving EB care}}{\text{total number needing service}}
\]
Priority question #3: What is the implementation context?

Who are key stakeholders?
What are the policy and practice drivers?
Organizational climate and readiness for change?
Setting’s implementation history
Prior and current barriers
facilitators
Priority question #4: What implementation strategies/processes are effective?

Testing implementation strategies for:

- this setting
- this evidence-based program/service
Priority question #5:
How do we support settings’ capacity to implement multiple evidence-based approaches?
Delivering multiple evidence based approaches?

Reality of most service delivery:
Co-occurring conditions → Multiple EBI’s
Evidence evolves → continually adopt
Limited capacity → must de-adopt
Fit to local context → adaptation
Staff turnover→ continual training
Priority question #6:
How do we scale up and sustain evidence-based service?

Moving from “what works here” to “what works there and there?”

Evidence continues to evolve
What strategies can enable providers & organizations to implement and sustain interventions in the face of evolving evidence?
Key constructs

IMPLEMENTATION CONTEXT
IMPLEMENTATION OUTCOMES
IMPLEMENTATION STRATEGIES
Key constructs

IMPLEMENTATION CONTEXT
Implementation Research Methods

**What?**
- QIs
- ESTs

**How?**
- Implementation Strategies

**Implementation Outcomes**
- Feasibility
- Fidelity
- Penetration
- Acceptability
- Sustainability
- Uptake
- Costs

**Service Outcomes**
- Efficiency
- Safety
- Effectiveness
- Equity
- Patient-centeredness
- Timeliness

**Patient Outcomes**
- Clinical/health status
- Symptoms
- Function
- Satisfaction

*IOM Standards of Care

Proctor et al 2009 Admin. & Pol. in Mental Health Services
Conceptual Model for Implementation Research

What?
QIs
ESTs

How?
Implementation Strategies

The Core of Implementation Science

Implementation Outcomes
Feasibility
Fidelity
Acceptability
Penetration
Costs

Service Outcomes*
Efficiency
Safety
Effectiveness
Equity
Patient-centeredness
Timeliness

Patient Outcomes
Clinical/health status
Symptoms
Function
Satisfaction

Implementation Research Methods

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Conceptual Model for Implementation Research

The Core of Implementation Science

**What?**
- QIs
- ESTs

**How?**
- Implementation Outcomes
  - Feasibility
  - Fidelity

**Service Outcomes**
- Efficiency
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**Patient Outcomes**
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*IOM Standards of Care

Implementation Research Methods

Proctor et al 2009 Admin. & Pol. in Mental Health Services

CONTEXT
The Usual Implementation Science

Implementation Research Methods

*IOM Standards of Care

Proctor et al 2009 Admin. & Pol. in Mental Health Services
Constructs: Frameworks and Theories

Now: Many models!!!

109 identified models
How to choose?

Tabak, Khoong, Chambers, & Brownson (2012), Bridging Research and Practice: Models for Dissemination and Implementation
Implementation Context: Who are the key stakeholders?

Payers, Policy makers
Administrators
Researchers
Clients/ Patients, Families
Providers (clinicians, counselors, M.D.’s, nurses, OT, PT, SW)
  – Support staff (units, labs, medical records)
  – Supervisors, training teams

Where are they re: the implementation?
Implementation context

Is there a demand to implement?

Is there a push out?

Is there a pull?
Context: Consolidated Framework for Implementation Research (CFIR)

- Composed of 5 major domains:
  - Intervention characteristics
  - Outer setting
  - Inner setting
  - Characteristics of the individuals involved
  - Process of implementation

Implementation Context

Advancing measurement for contextual constructs

• Measures exist for several of CFIR’s constructs
• More information on the Wiki:

Understanding how to fit changing EB interventions into changing context*

* Dynamic sustainability framework, Chambers et al., Implementation Science, 2013
Contextual assessment

Practice change needs to aligned with Practice determinants

  Flottorp (2013, Implementation Science) checklist for practice determinants

Priorities and trends in policy ecology

  Raghavan (2009, Implementation Science)

Agency infrastructure, system antecedents

  Emmons (2011, Health Education & Behavior)
Key constructs

IMPLEMENTATION OUTCOMES
Implementation Outcomes

Distinct from client outcomes

- Could have an effective intervention, poorly implemented
- Could have an ineffective treatment, successfully implemented
Implementation Outcomes: Key Concepts

- Acceptability
- Adoption
- Appropriateness
- Feasibility
- Fidelity
- Implementation cost
- Penetration
- Sustainability
Implementation outcome measurement

- Fidelity = most frequently measured outcome
- Provider attitudes frequently assessed
- Implementation outcomes are interactive:
  - Effectiveness \(\rightarrow\) greater acceptability
  - Cost \(\downarrow\) feasibility
- We don’t know much about:
  - Sustainability
  - Scale up and spread
Measurement: Toward Standardization & Harmonization

• Seattle Implementation Research Conference Measures Project
  – http://www.seattleimplementation.org/sirc-projects/sirc-measures-project/

• Grid-Enabled Measures developed by the National Cancer Institute
Key constructs

IMPLEMENTATION STRATEGIES
Implementation *Strategies*

 ..........the ‘how to’ component of changing healthcare practice.

 ..........*Key:*

 How to make the “right thing to do” the “easy thing to do”...Carolyn Clancy
Implementation Strategies: Definition

Systematic intervention process to adopt and integrate evidence-based healthcare innovations into usual care *

Active ingredient in processes for moving EST’s and QI’s into usual care

* Powell, McMillen, Proctor et al., Medical Care Research and Review, 2012
Implementation Strategies: Complexity*

**Discrete**
- involve one process or action, such as “meetings,” “reminders”

**Multifaceted**
- uses two or more discrete strategies, such as “training + technical assistance”

**Blended**
- several discrete strategies are interwoven & packaged as protocolized or branded strategies, such as “ARC,” IHI Framework for Spread”

*Powell, McMillen, Proctor et al., 2012
** Grimshaw et al., 2001, Grol & Grimshaw, 2003
A Compilation or “menu”
68 strategies grouped by six key processes*

*Powell, McMillen, Proctor et al., Medical Care Research and Review, 2012
Plan Strategies

- Gather information
- Select strategies
- Build buy-in
- Initiate leadership
- Develop relationships
Educate Strategies

- Develop materials
- Provider training
- Inform and influence stakeholders
Restructure strategies

- Revise roles
- Create new teams
- Change sites
- Change record systems
- Structure communication protocols
Finance Strategies

• Modify incentives for clinicians, consumers, reduce disincentives
• Facilitate financial support: place on formularies
Quality Management Strategies

- Audit and provide feedback
- Clinician reminders
- Develop T.A. systems
- Conduct cyclical small tests of change
- Checklists
Policy Strategies

Licensure
Accreditation
Certification
Liability
Strategies: What do we know?

• Passive dissemination is ineffective
  – E.g. publishing articles, issuing a memo, “edict”

• Training is most frequently used strategy

• Multi-component, multilevel are more effective
Implementation Strategies: Specification & reporting*

Implementation strategies carry same demands as interventions

• Operational definitions
• Protocols & manuals
• Fidelity

Define strategies conceptually, operationally

Proctor et al. Implementation Science 2013, 8:139
http://www.implementationscience.com/content/8/1/139

Implementation strategies: recommendations for specifying and reporting

Enola K Proctor¹, Byron J Powell¹ and J Curtis McMillen²
Selecting Implementation Strategies

Implementation strategies should be:

• Theory-based presented with a logic model
• Multi-faceted and multi-level *if appropriate*
• Robust *or* readily adaptable
• Feasible and acceptable to key stakeholders
• Compelling, saleable, trialable, observable
• Sustainable, cost effective
• Scalable

... in practice (evidence) or in principle (potential)

Mittman, 2010, 2012
Data

SOURCES

TYPES
## Data sources

<table>
<thead>
<tr>
<th>Implementation participants</th>
<th>How?</th>
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<tbody>
<tr>
<td>Administrators</td>
<td>Surveys</td>
</tr>
<tr>
<td>Supervisors</td>
<td>Key informant interviews</td>
</tr>
<tr>
<td>Front line providers</td>
<td>Focus groups</td>
</tr>
<tr>
<td>Support staff</td>
<td>Group model building</td>
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<tr>
<td>Service users</td>
<td>Checklists</td>
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</tbody>
</table>
# Data sources

<table>
<thead>
<tr>
<th>What</th>
<th>How?</th>
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<tbody>
<tr>
<td>Implementation processes</td>
<td>Ethnographic observation</td>
</tr>
<tr>
<td>Implementation footprint/impact</td>
<td>Document review Charts, records Board notes Budget line items</td>
</tr>
</tbody>
</table>
Data

Qualitative

"It was great fun"

Quantitative

Discrete

Continuous

5

3.265...
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Shanti K. Khinduka Distinguished Professor of Social Work

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- Washington University
  - Institute for Public Health
  - Brown School of Social Work

Conflicts: none
Questions...

....??????????

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