Determinants of Implementation (Barriers/Facilitators)

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Opinions are mine, not official positions of the National Cancer Institute, the National Institutes of Health, or the U.S. federal government.
Overview

- What are implementation determinants and why are they important?
- What are some examples of determinants (CFIR model)?
- How can determinants be measured?
What are Implementation Determinants?

Why are they Important?
Implementation Pathway

What? Evidence-based Interventions

How? Implementation Strategies

Implementation Outcomes
Acceptability
Adoption
Fidelity
Penetration
Sustainability

Service Outcomes*
Efficiency
Safety
Efficacy
Patient-centeredness
Timeliness

Health Outcomes
Satisfaction
Function
Symptomatology

*IOM Standards of Care

Implementation Research Methods

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

- Factors that support or inhibit implementation of evidence-based interventions.

- Multi-level, context-specific barriers and facilitators.

- Present, absent, static, time-varying, predictors, moderators, mediators.

- Identifying determinants can inform how, when, and where to deploy strategies to achieve implementation outcomes.
Identifying and Measuring Determinants

- Identify determinants at baseline → inform selection and use of strategies

- Assess determinants over time → inform changes to strategies, moderators, mediators

- Qualitative data (e.g., interviews, focus groups, observation)

- Quantitative measures (e.g., surveys)
Qualitative Data

- Interviews with health practitioners, patients, directors of community-based organizations, clinic leadership, clinical care teams, community health workers
- Focus groups with community educators, patients
- Observation of setting (clinic, public health department, hospital, community organization) where intervention will be implemented
Quantitative Measures

- Informational surveys

- Social network analysis

- Validated instruments/measures
  - Organizational culture, climate
  - Implementation leadership
  - Attitudes towards evidence-based practice

- Summary of measures of barriers
  - Washington University in St. Louis, D&I Barriers and Facilitators Measurement Toolkit (2016)
CFIR-based Determinants & Example Measures
Implementation Determinants: CFIR Model

**Outer Setting**
Patient needs and resources
Cosmopolitanism
Peer pressure
External policies & incentives

**Intervention Factors**
Intervention source
Evidence strength & quality
Relative advantage
Adaptability
Trialability
Complexity
Design quality & packaging
Cost

**Process**
Engaging, Planning, Executing, Reflecting & Evaluating

**Inner Setting**
Structural factors
Networks, communication
Culture
Climate
Readiness

**Individual Factors**
Knowledge, beliefs
Self-efficacy
Stage of change
Identification with organization
Other personal attributes

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Intervention Characteristics

- **Intervention Source**
  - Perception of key stakeholders about whether the intervention is externally or internally developed.

- **Evidence Strength & Quality**
  - Perception of the quality and validity of evidence that the intervention will impact outcomes.

- **Relative Advantage**
  - How does the intervention compare to other similar programs already being used in your setting?

[https://cfirguide.org/evaluation-design/qualitative-data/](https://cfirguide.org/evaluation-design/qualitative-data/); Rogers, 1995
# Intervention Characteristics

- **Trialability**
  - Will the intervention be piloted prior to full implementation?

- **Complexity**
  - How complicated is the intervention?

- **Design Quality and Packaging**
  - What supports (e.g., online resources, marketing materials, toolkits) are available to help you implement and use the intervention?

- **Cost**
  - What costs will be incurred to implement the intervention?

https://cfirguide.org/evaluation-design/qualitative-data/; Rogers, 1995
Intervention Characteristics

- **Adaptability**
  - What kinds of changes or alterations do you think you will need to make to the intervention so it will work effectively in your setting?

https://cfirguide.org/evaluation-design/qualitative-data/; Rogers, 1995
Intervention Adaptations

- *What* content changes were made to the intervention?
  - Adding elements, removing elements, shortening, reordering

- *Why* were adaptations made to the intervention?
  - Reduce cost, increase satisfaction, improve fit

- *When* did the modifications occur?
  - Pre-implementation, during implementation?
  - Input from providers? Feedback from leadership?

Wiltsey Stirman et al., 2019
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**Intervention (Unadapted)**
- Core components
- Adaptable periphery

**Intervention (Adapted)**
- Core components
- Adaptable periphery

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Individual Factors: Providers

- Self-efficacy
- Beliefs
- Behavioral skills
- Competing demands
- Communication skills
- Scope of work
- Roles/responsibilities
- Commitment/identification with organization
- Attitudes
Individual Factors: Providers’ Attitudes

- Evidence-based Practice Attitude Scale (EBPAS-15, -36, -50; Aarons et al.)
- I like to use new types of interventions to help my clients.
- Research based interventions are not clinically useful.
- I don’t have time to learn anything new.
- How likely would you be to adopt a new intervention if it was being used by colleagues who were happy with it?

Aarons et al., 2004, 2012, 2017; 0 = Not at all, 4 = Very great extent
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Inner Setting

- Structure (size, age of organization)
- Networks (communication, advice, information, trust, respect)
- Organizational culture (norms, values)
- Implementation climate (tension for change, organizational incentives, learning climate, priority)
- Readiness for implementation (leadership, resources, knowledge/information)
Inner Setting: Implementation Leadership Scale

- What characteristics of a leader support (or hinder) implementation of evidence-based practices?
  - Knowledgeable (ability to answer questions about practice)
  - Proactive (develop plan, remove obstacles)
  - Supportive (recognizes and appreciates employee efforts)
  - Perseverant (addresses and overcomes challenges)

- How does one train and develop leaders to support implementation?

Aarons, Ehrhart, & Farahnak, 2014
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Outer Setting

- Patient needs and resources
  - How well does the organization know patients’ needs?

- Cosmopolitanism
  - How well is the organization connected with other organizations?

- Peer pressure
  - Competitive edge, similar others are implementing practice

- External policies and incentives
  - Mandates, public reporting
Outer Setting: National HIV/AIDS Strategy

- Goals:
  - Reduce new infections
  - Increase access to care and improve health outcomes for PLWH
  - Reduce HIV-related health disparities and health inequities
  - Achieve a more coordinated national response to the HIV epidemic

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Process

**Planning**
- Preparation for implementation
- Identify and outline process
- Resources, personnel
- Anticipate potential push-back and ways to address
- Manuals, support documents

**Engaging**
- How does one obtain buy-in and support for the intervention?
- Who needs to be involved in the implementation?
  - Opinion leaders (credible, trustworthy)
Process

- Executing
  - Accomplishing implementation
  - Ongoing process, anticipate setbacks, anticipate adaptations

- Reflecting & Evaluating
  - Ongoing during implementation (execution)
  - Qualitative and quantitative
  - Shared experiences of implementers, stories
  - What is working? What isn’t? How can problems be fixed?
Summary

- Complex, multi-level barriers and facilitators for implementation.

- Important to identify and select specific strategies to overcome specific barriers.

- Early work to identify barriers and facilitators:
  - Literature, lessons learned, experiences from colleagues
  - Many barriers—can’t address them all.
  - Identify barriers that are most problematic.
Thank You!
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