Implementation Science Methods to Inform Nutrition Research

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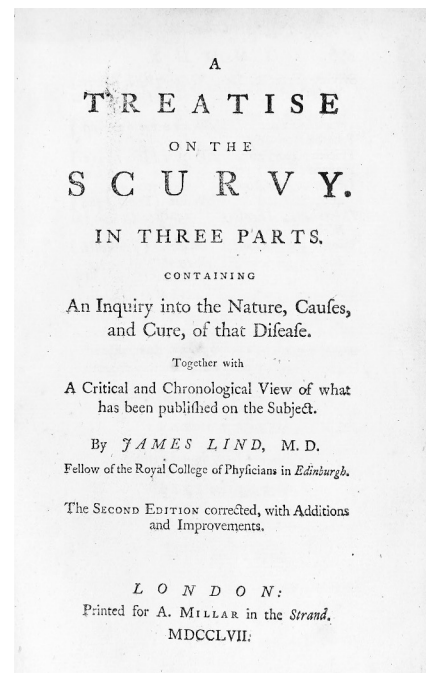Brown Research on Implementation and Dissemination to Guide Evidence Use (BRIDGE Program)

BRIDGE

Brown Research on Implementation and
Dissemination to Guide Evidence Use

A **100**-year knowledge-to-practice gap

What does an implementation scientist do?

Assess gaps related to the failure to use evidence-based interventions

Assign implementation strategies that reduce gaps between research and practice

Evaluate implementation efforts
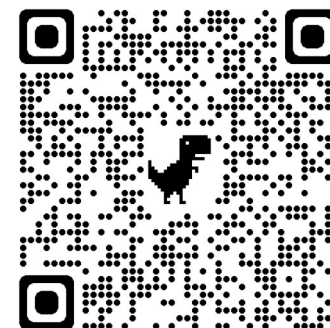
Apply theories, models, and frameworks

Implementation science made too simple: a teaching tool

Geoffrey M. Curran ✉

Implementation Science: A Quick Overview

THE THING: The intervention/practice/innovation

Efficacy and Effectiveness research: whether THE THING works

Implementation research: how best to help people/places do THE THING

Implementation Strategies: methods or techniques that help people do THE THING

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BMC
Psychology

CrossMark

An introduction to implementation science for the non-specialist

Mark S. Bauer[1,7*], Laura Damschroder[2], Hildi Hagedorn[3], Jeffrey Smith[4] and Amy M. Kilbourne[5,6]

Table 3 Intervention vs. Implementation Trial Design Perspectives: A Hypothetical Example of the Use of Motivational Interviewing (MI) for Substance Use Disorders in the Homeless Population

	Efficacy Design Principles	Effectiveness Design Principles	Implementation Design Principles
Hypothesis	MI beats control	MI beats control	MI will be adopted and sustained
Population & setting	Exclude psychosis, bipolar, anxiety; any setting with cooperative patients	Include most comorbidities; typical setting is nonspecialized practice sites	Unit of observation may be patients, providers, or clinics; typical setting is nonspecialized practice sites
Outcome measures	Health outcomes, many: "just in case…"	Health outcomes, short & sweet	Emphasize MI adoption measures
Intervention: clinicians	PhDs, MSWs hired & trained by PI	Addiction counselors hired as study staff	Endogenous addiction counselors
Intervention: fidelity	Trained to criterion, audiotaped for fidelity	Trained to criterion, QI-type monitoring as in clinical system	Formative evaluation the focus
Context	Make sure that the trial is successful, at all costs	Work within "typical" conditions	Maintain typical conditions
Research support	Crypto-case management	Research support, but "firewalled"	Research support limited; e.g., only for training
Validity emphasis	Internal > > external	External > internal	Plan to optimize protocol in real time using formative evaluation, in violation of "traditional" considerations of internal validity, while systematically documenting adaptations

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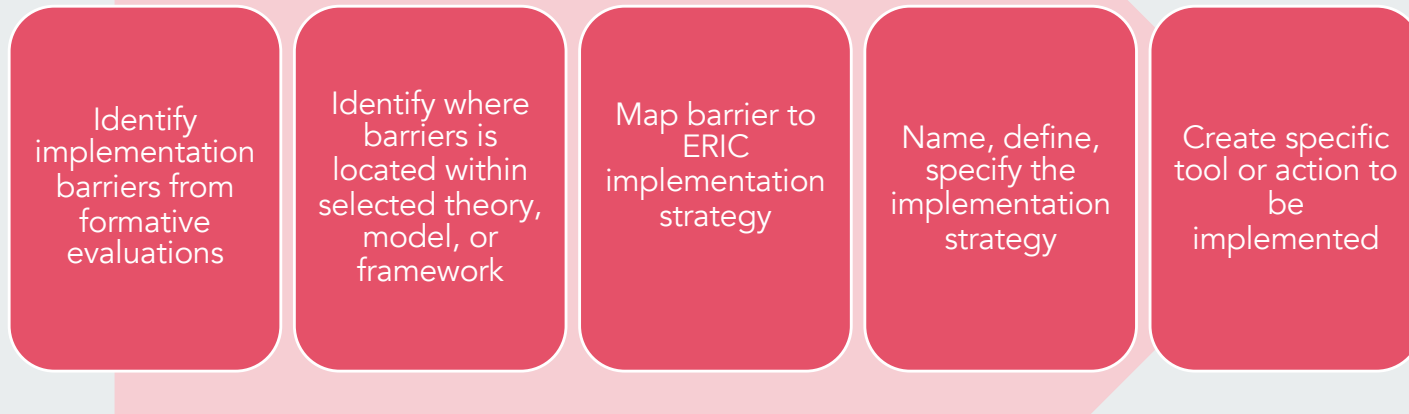Efficacy and Effectiveness research: whether THE THING works

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Implementation Strategies

| Identify implementation barriers from formative evaluations | Identify where barriers is located within selected theory, model, or framework | Map barrier to ERIC implementation strategy | Name, define, specify the implementation strategy | Create specific tool or action to be implemented |

"Methods or techniques used to enhance the adoption, implementation, and sustainability of a clinical program or practice" (Powell et al, 2015)

Implementation Strategies

Expert Recommendations for Implementation Change (ERIC) Project

Evaluation and Interactive Strategies	Interactive Assistance	Adapting and Tailoring Content
Developing Relationships	Training/Educating Partners	Supporting Clinicians
Engaging Consumers	Using Financial Strategies	Changing Infrastructure

Powell et al., 2012

Examples of matching strategies to determinants

Identified Determinants →	Implementation Strategies
Lack of knowledge →	Interactive education sessions
Perception/reality mismatch →	Audit and feedback
Lack of motivation →	Incentives/sanctions
Beliefs/attitudes →	Peer influence/opinion leaders
Systems of care →	Process redesign

Mechanisms Talk

Implementation Science

A methodology for generating a tailored implementation blueprint: an exemplar from a youth residential setting

Cara C. Lewis[1,2,3]*, Kelli Scott[2] and Brigid R. Marriott[4]

Case Example 1: Starting a Vegetable Garden as a New Hobby

The Thing: Gardening

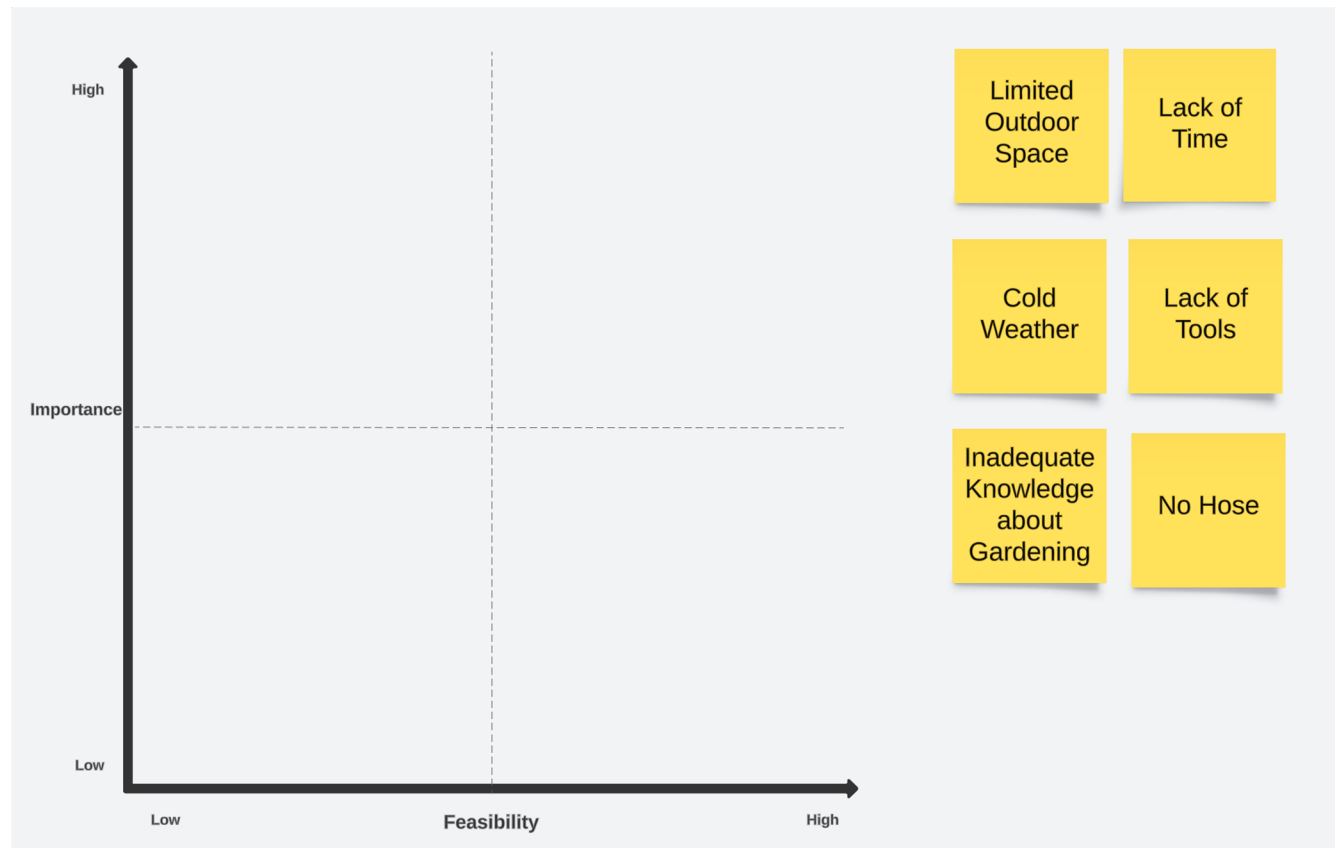**Effectiveness Outcome**: Whether I grow any vegetables

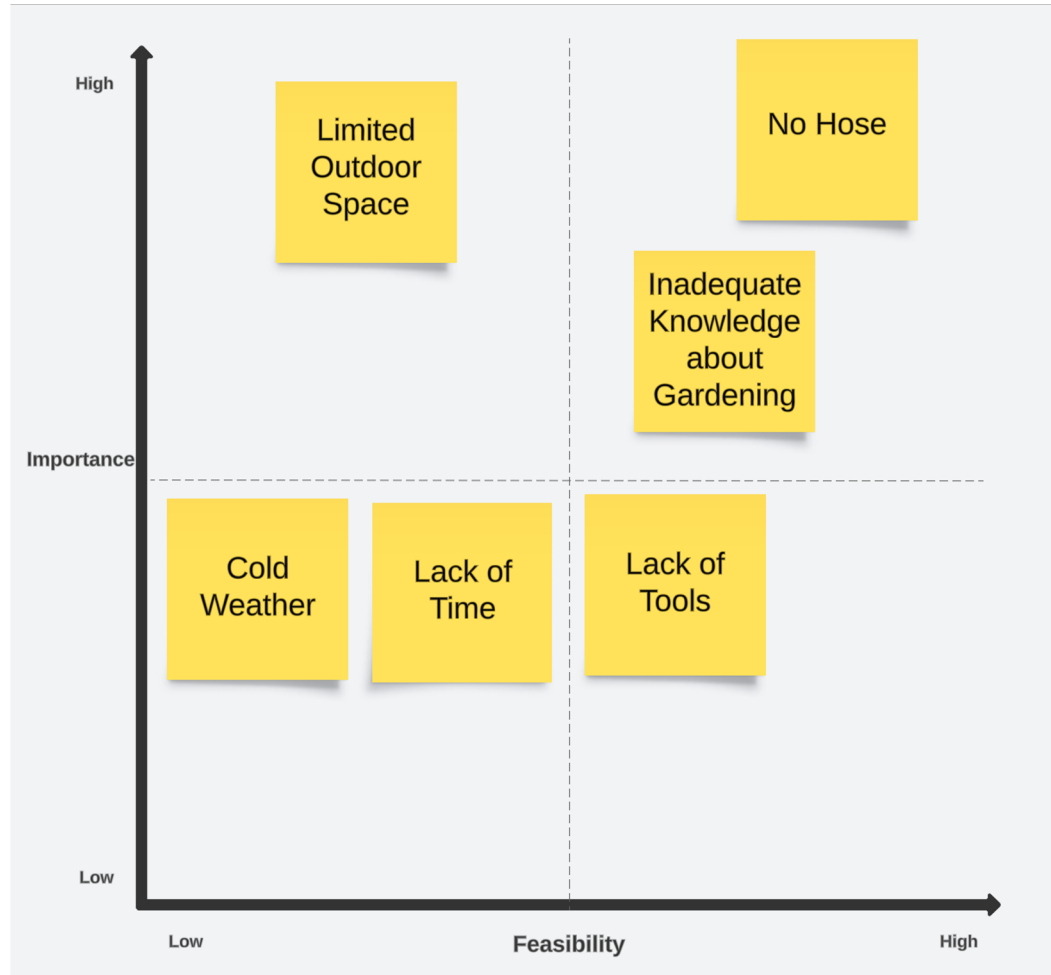**Implementation Outcome**: Whether I do any gardening

Implementation Strategies: Methods to help me do the gardening

Step A: Barrier Identification

- Qualitative interviews
  - Focus groups
  - Individual interviews
  - Rapid ethnography
- Quantitative methods
  - List barriers in a survey format
- Evidence synthesis methods
  - Rapid evidence reviews
  - Evidence scans
  - Established systematic reviews

Step B: Barrier Prioritization

Barrier Prioritization Toolkit

Step C: Implementation Strategy Prioritization

Barriers	No Hose	Inadequate Knowledge about Gardening
Strategies	Use a watering can	Attend a class on gardening
	Connect hose to sink spout	Ask a friend who is an avid gardener
	Wait for it to rain	YouTube University
	Use a pitcher that you already have	Read a book about gardening

Feasibility

Low

Connect hose to sink spout	
Attend a class on gardening	
Read a book about gardening*	
Use a watering can	

High

Use a pitcher that you already have	**Ask a friend who is an avid gardener**
Wait for it to rain*	YouTube University

Impact

Low Impact on Program Success

Wait for it to rain

Moderate Impact on Program Success

Read a book about gardening

High Impact on Program Success

Use a watering can

Connect hose to sink spout

Use a pitcher that you already have

Ask a friend who is an avid gardener

YouTube University

Attend a class on gardening

Step D: Implementation Strategy Selection

Step E: Implementation Blueprint Creation

Strategy	Action Step
Use a pitcher that you already have	Designate a pitcher that you will use on a regular basis and have readily available to water your plants
Ask a friend who is an avid gardener	Ask your friend to show you how to do initial planting and borrow their tools to do so
YouTube University	Watch videos about how to maintain a garden and when to harvest vegetables

Implementation science and NOPREN

Early Childhood Work Group, which specifically focuses on policy, systems, and environmental strategies to reach young children and their families.

- Policy
  - Implementation, dissemination, and evaluation of NOPREN-relevant programs to inform policy
  - Studying the implementation of NOPREN-consistent policies
- Systems
  - Adapting and testing theories of change based in implementation work
  - Understanding context through contextual inquiry (qualitative interviews, barrier identification)
- Environmental strategies
  - Developing implementation blueprints
  - Hybrid implementation-effectiveness studies

Discussion/questions?

- How do you see implementation science fitting into your work?
- What kind of implementation work are you already doing?
- What questions do you have for us?

How to stay in touch

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