

# Implementation Strategies

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National Cancer Institute*

# Overview

- What are implementation strategies?
- What is their role in implementation science?
- How are they categorized, classified, and measured?
- Example research questions
- Example project: Colorectal Cancer Screening Program in South Carolina (CCSPSC) – Dr. Heather Brandt

# NIH defines implementation research as...

“scientific study of the use of strategies to adopt and integrate evidence-based health interventions into clinical and community settings in order to improve patient outcomes and benefit population health”

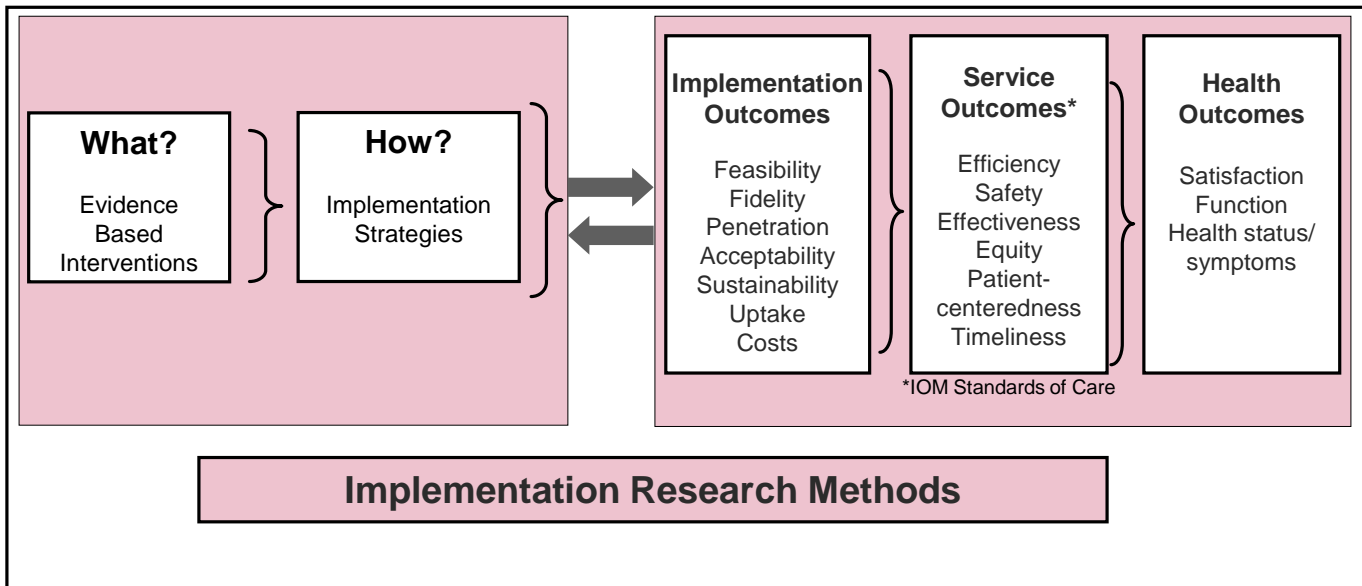
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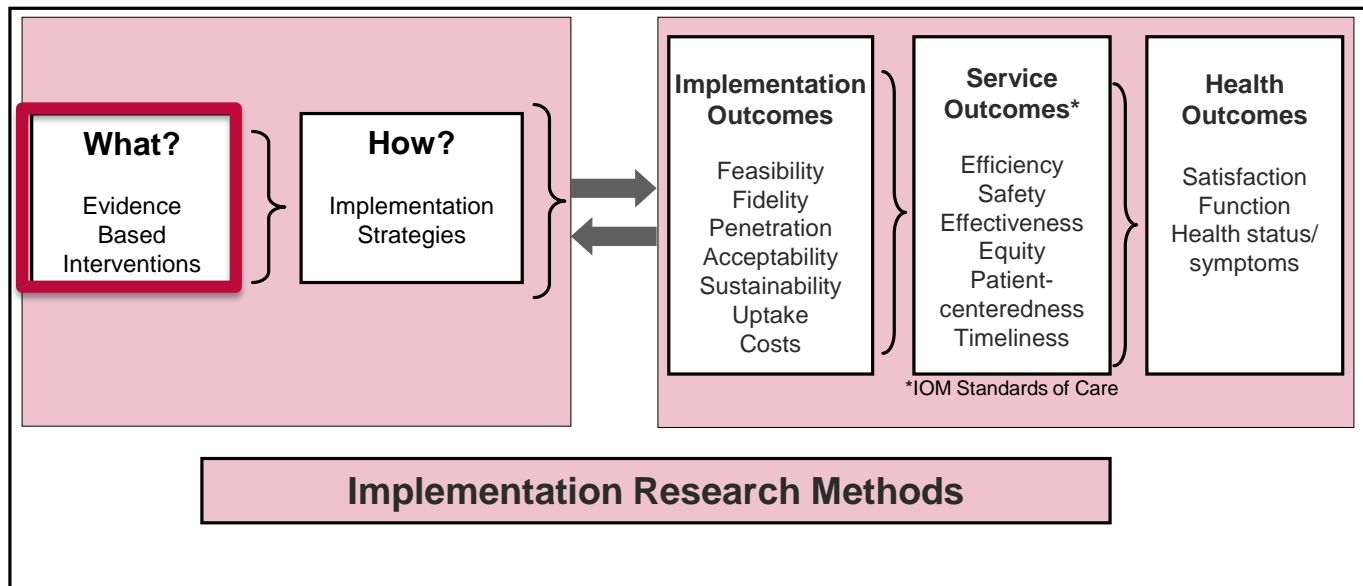
# Implementation Research Methods



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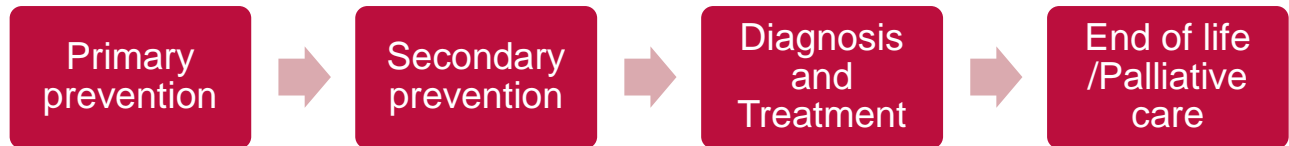


# Implementation Research Methods



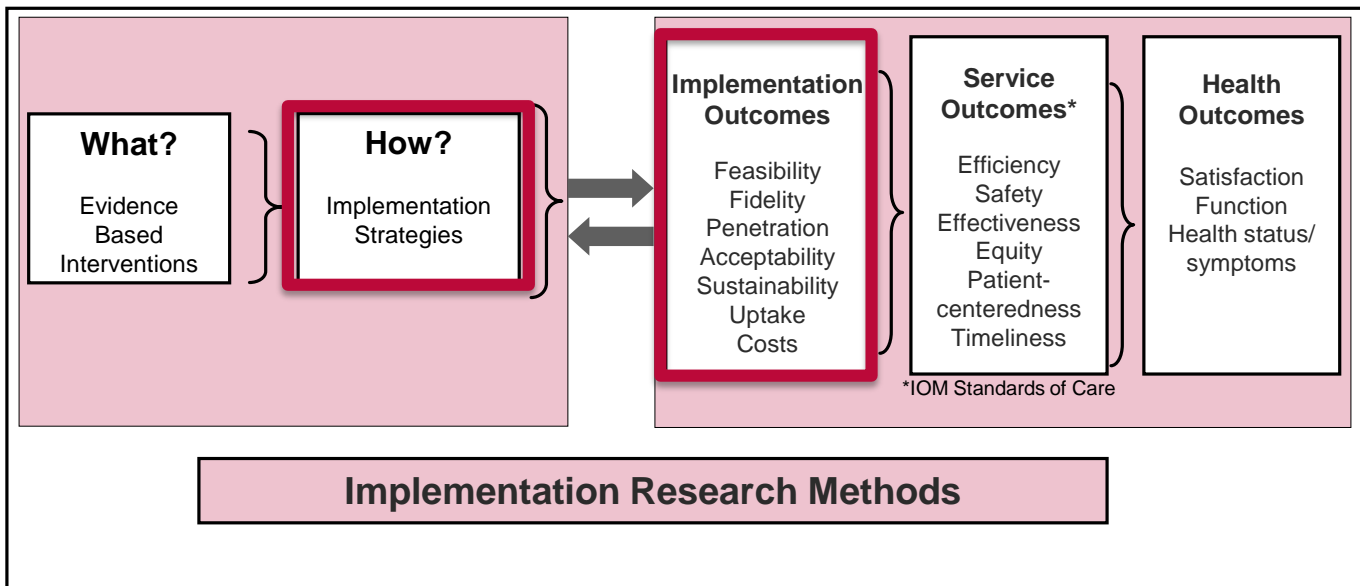
# Evidence based interventions

- Interventions that have demonstrated impact in changing health behaviors and/or health outcomes
- Intervention could include programs, practices, policies and guidelines
- Examples across the cancer control continuum





# Implementation Research Methods



# Implementation strategies are...

- “Methods or techniques used to enhance the adoption, implementation and sustainability of a evidence based program or practice”
- *Focus on improving implementation outcomes (Feasibility, Fidelity, Penetration, Acceptability, Sustainability, Uptake, Costs)*

# Resources for implementation strategies

ann. behav. med. (2013) 46:81–95  
DOI 10.1007/s12160-013-9486-6

## ORIGINAL ARTICLE

### **The Behavior Change Technique Taxonomy (v1) of 93 Hierarchically Clustered Techniques: Building an International Consensus for the Reporting of Behavior Change Interventions**

Susan Michie, DPhil, CPsychol • Michelle Richardson, PhD • Marie Johnston, PhD, CPsychol • Charles Abraham, DPhil, CPsychol • Jill Francis, PhD, CPsychol • Wendy Hardeman, PhD • Martin P. Eccles, MD • James Cane, PhD • Caroline E. Wood, PhD

## **Cochrane Effective Practice and Organisation of Care Review Group**

### **DATA COLLECTION CHECKLIST**



Implementation Science 2013, 8:32  
<http://www.implementationscience.com/content/8/1/32>

## **RESEARCH**

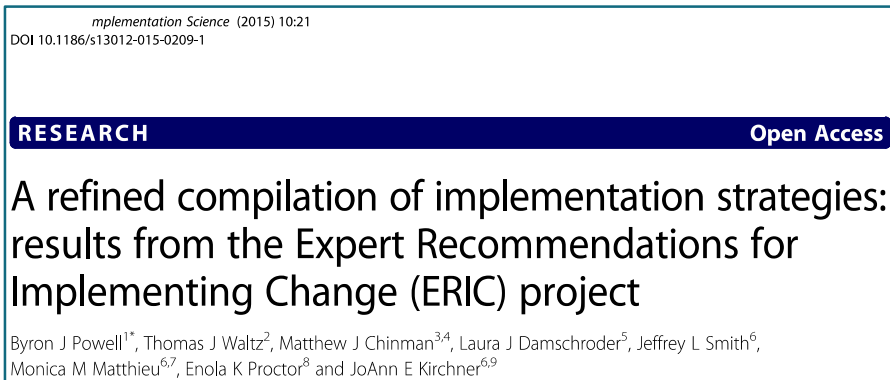
## **Open Access**

### **Refining a taxonomy for guideline implementation: results of an exercise in abstract classification**

Danielle Mazza<sup>1\*</sup>, Phillip Bairstow<sup>2</sup>, Heather Buchan<sup>3</sup>, Samantha Paubrey Chakraborty<sup>1</sup>, Oliver Van Hecke<sup>1</sup>, Cathy Grech<sup>1</sup> and Ilkka Kunnamo<sup>4</sup>

# Identifying Implementation Strategies

- Compilation (2012)
- Expert Recommendations for Implementing Change (ERIC) study
  - Expert panel - Delphi technique to generate consensus
- Refining
  - 73 strategies



# Nine categories of implementation strategies

## 1. Evaluation and iterative strategies

- Assess for readiness
- Identify barriers and facilitators
- Audit & feedback

## 2. Interactive assistance

- Facilitation
- Technical assistance
- Clinical supervision

## 3. Adapting and tailoring to context

- Tailor strategies
- Promote adaptability
- Use data experts

## 4. Develop stakeholder relationships

- Identify and prepare champions
- Inform local opinion leaders
- Build coalitions

## 5. Train/educate stakeholders

- Conduct ongoing training
- Develop educational materials
- Create learning collaborative

## 6. Supporting clinicians

- Remind clinicians
- Develop resource sharing agreements
- Revise professional roles

## 7. Engage consumers

- Involve consumers and family members
- Intervene to enhance uptake and adherence
- Use mass media

## 8. Use financial strategies

- Access new funding
- Alter incentive/allowance structures
- Develop disincentives

## 9. Change infrastructure

- Mandate change
- Change physical structures
- Start dissemination organization

# Examples of implementation strategies (contd.)

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# Why are implementation strategies important to study?

- Identifying “building blocks” of multi-level strategies for research
- Specifying “active ingredients” of what impacts implementation outcomes
- Tracking strategy use in various phases of implementation
- Highlighting under-researched strategies

# How implementation strategies are often selected



Martin Eccles  
Prof of Clinical Effectiveness  
Newcastle University (UK)

Most frequently used model of change: **ISLAGIATT** model

# How implementation strategies are often selected

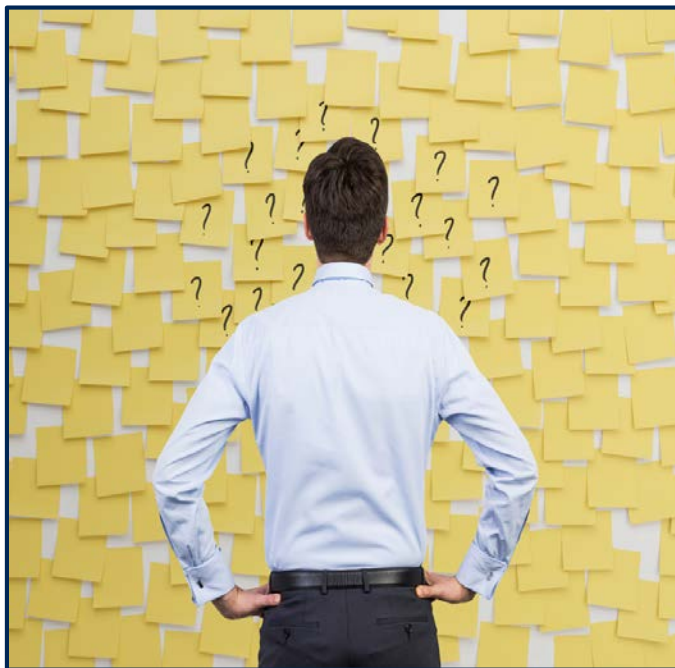


Martin Eccles  
Prof of Clinical Effectiveness  
Newcastle University (UK)

Most frequently used model of change: ***ISLAGIATT*** model

**(It Seemed Like A Good Idea At The Time)**

# How do you select strategies for your research?



# Consider...

## Context



## Stakeholders



## Theory

## Evidence



# Helpful resources for selecting strategies

- Conceptual frameworks (e.g., [CFIR](#), [EPIS](#), etc.)
- Checklist of determinants ([Flottorp et al., 2013](#))
- Methods: Literature reviews; Qualitative and qualitative methods
  - Specific approaches: concept mapping and intervention mapping ([Powell, B. et al., 2017](#))

# Beware of the mismatch...

Most studies identified barriers at team and organizational levels, but selected educational strategies...



...results suggest a mismatch between identified barriers and the interventions selected for use.

# Examples of matching strategies to determinants

## Identified Determinants → Implementation Strategies

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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



# Recommendations for specifying implementation strategies

- Name & define the strategy
- Specify the strategy (7 domains)
  - The actor (who enacts the strategy)
  - The action (use active verb statements for specific actions, steps, or processes that need to be enacted)
  - Action target ( specify targets and identify units of analysis)
  - Temporality (when the strategy is used)
  - Dosage
  - Implementation outcome affected
  - Justification

# Example of specifying and reporting

Domain	Strategy: Clinical Supervision
<b>Actor(s)</b>	Clinician who is expert in the clinical innovation and recommended by the treatment developer.
<b>Action(s)</b>	Provides clinical supervision via phone to answer questions, review case implementation, make suggestions, and provide encouragement.
<b>Target(s) of the action</b>	<p>Clinicians newly trained in the innovation.</p> <p>Knowledge about the innovation, skills to use the innovation, optimism that the innovation will be effective, and improved ability to access details about how to use the innovation without prompts.</p>
<b>Temporality</b>	Clinical supervision should begin within one week following the end of didactic training.
<b>Dose</b>	Once per week for 15 minutes for 12 weeks, plus follow-up booster sessions at 20 and 36 weeks.
<b>Implementation outcome(s) affected</b>	Uptake of the innovation, penetration among eligible clients/patients, fidelity to the protocol of the clinical innovation.
<b>Justification</b>	Research that suggests that post-training coaching is more important than quality or type of training received <a href="#">[70]</a> .

# Examples in Cancer Research

Health Psychology  
2005, Vol. 24, No. 5, 477–487

Copyright 2005 by the American Psychological Association  
0278-6133/05/\$12.00 DOI: 10.1037/0278-6133.24.5.477

## Diffusion of an Effective Skin Cancer Prevention Program: Design, Theoretical Foundations, and First-Year Implementation

Karen Glanz  
Emory University

Alana Steffen  
University of Hawaii

Tom Elliott  
Emory University

David O’Riordan  
University of Hawaii

### Theories of organizational change

#### Implementation strategies

Methods to increase organizational adoption of program

Enhanced strategies for maintenance and sustainability

Intervention to improve diffusion

Organizational predictors of implementation, maintenance, and sustainability

Systems for sustainability

Strategies and relationships to ensure sustainability

Skill training, modeling, reinforcement, persuasion

Problem solving, reinforcement, support, community linkage systems

Organizational (pool) characteristics

Environmental supports and barriers

Community-wide acceptance

Collaborative relationships

#### Process evaluation

FC logs

Process evaluation

FC and staff logs

Sustainability Index (PM survey)

Location, pool usage, staff size, and turnover (PM survey)

Parent agency support for activities, financial resources (PM survey)

Sustainability Index (PM survey)

Process evaluation: site visits and interviews

*Note.* PM = pool manager; AI = aquatic instructor; FC = field coordinator.

# Examples found at:



## Research-Tested Intervention Programs (RTIPs)

[Home](#)

[Search for Programs](#) ▼

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[Tools and Resources](#) ▼

[About](#) ▼

### Intervention Programs

## Colorectal cancer screening

# Examples found at:



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### Intervention Programs

#### Colorectal cancer screening

- Automated telephone calls improve completion of fecal occult blood testing
- Mailed brochure on appointment keeping for screening colonoscopy

# Examples of Research Questions

- Does a set of strategies work compared to another set of strategies in a particular research context?
- What are the mechanisms by which implementation strategies impact implementation outcomes?
- What implementation strategies work best for particular interventions and settings?