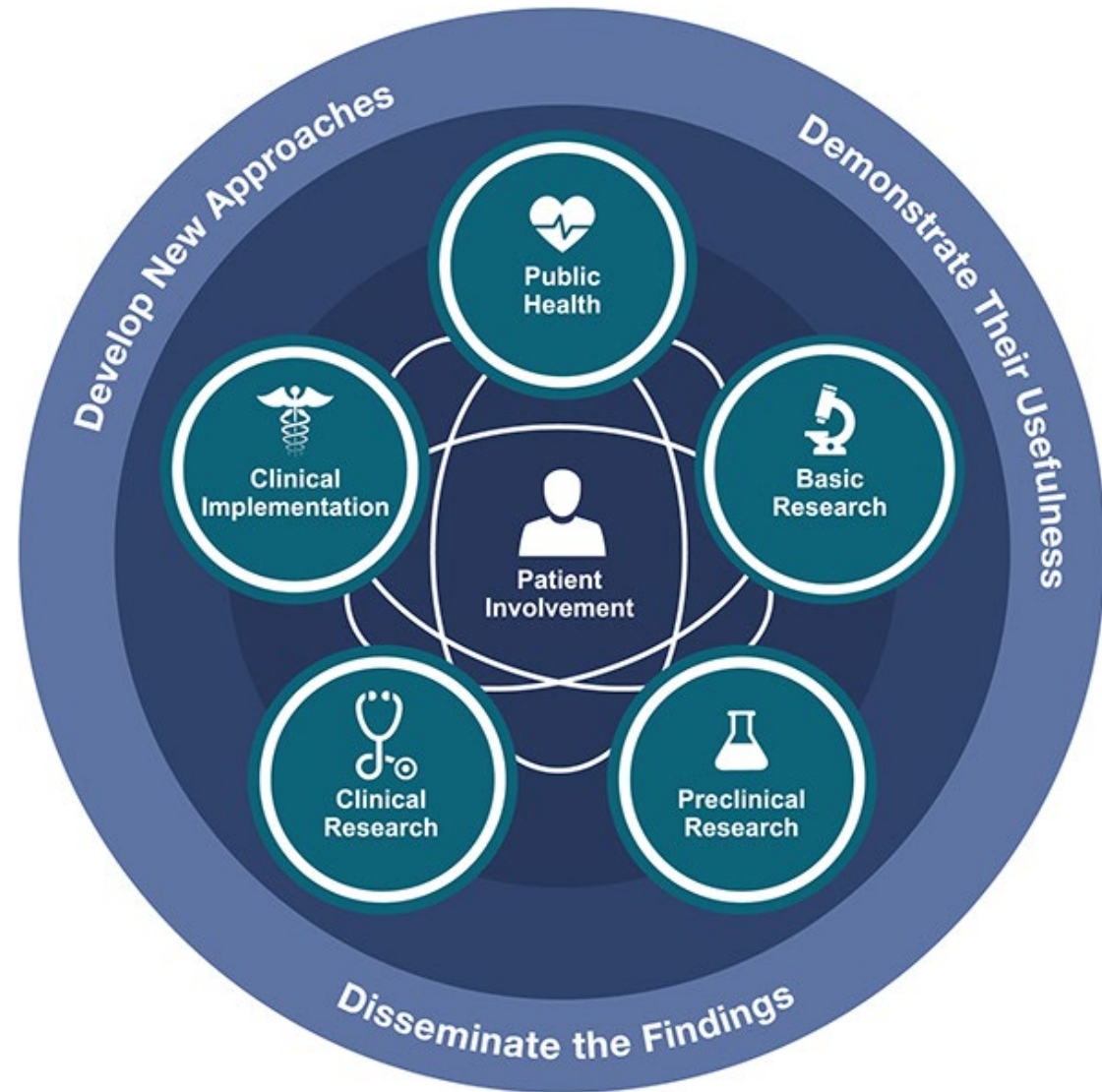


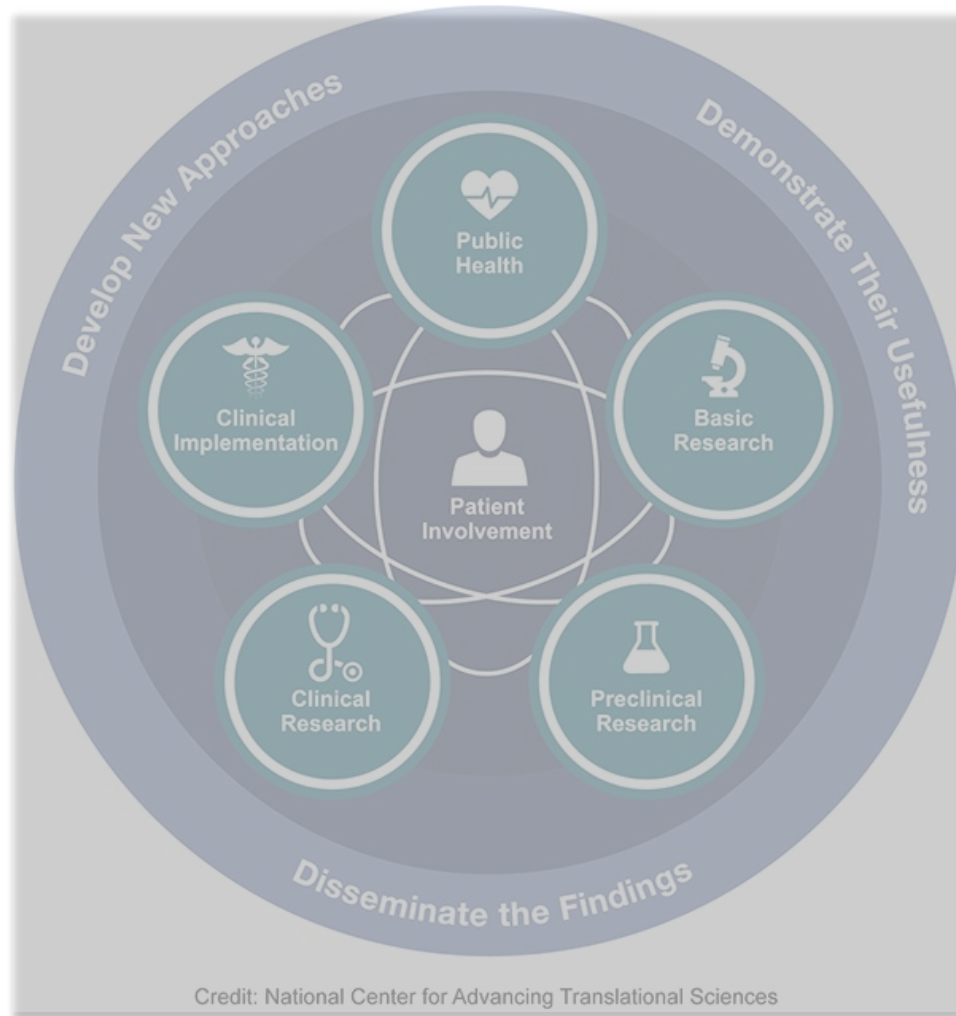
Implementation
Science –
a crash course



The translational pipeline

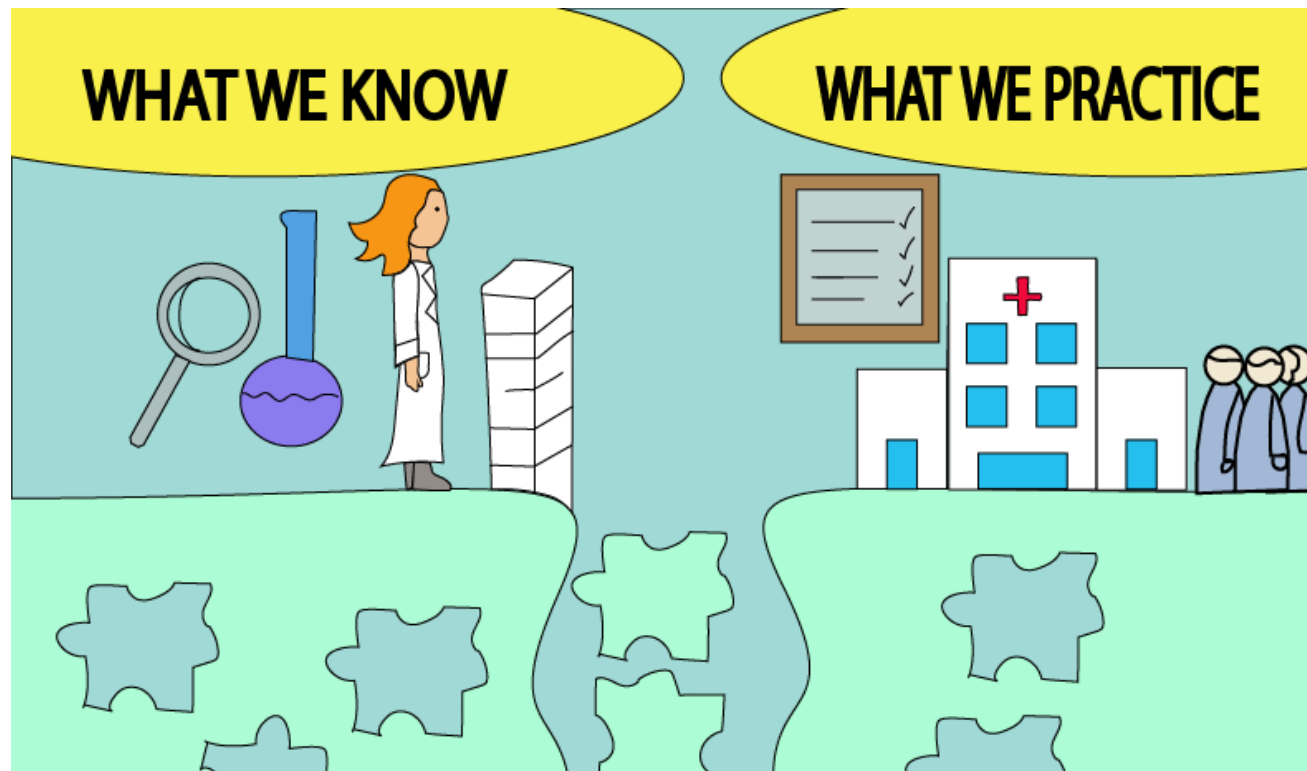


Credit: National Center for Advancing Translational Sciences



- **Clinical Implementation** — The clinical implementation stage of translation involves the adoption of interventions that have been demonstrated to be useful in a research environment into routine clinical care for the general population. This stage also includes implementation research to evaluate the results of clinical trials *and* to identify new clinical questions and gaps in care.

What is dissemination and implementation science?



- NIH: “... the scientific study of the use of strategies to adopt and integrate evidence-based health interventions into clinical and community settings to improve individual outcomes and benefit population health.”
- Problem: “The know-do” gap



For example... the many stewardship interventions

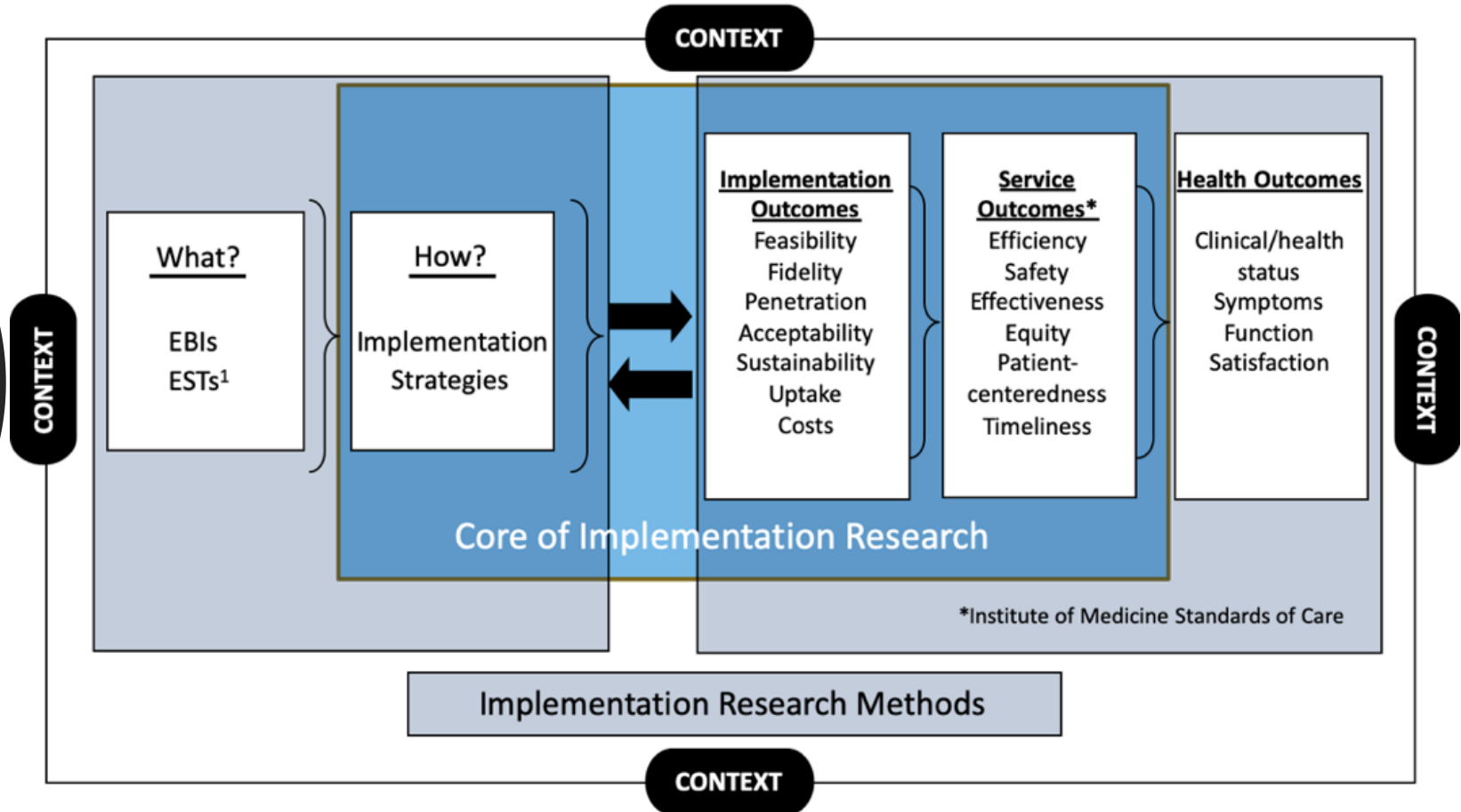
- Several systematic reviews indicating something is better than nothing
- But we don't know which of the many potential strategies are most effective, under what circumstances they work, why they work, or even exactly what they look like.

*“Future research should...assess different stewardship interventions and explore the barriers and facilitators to **implementation.**” (Davey et al., 2017)*

*“More robust published data is required in terms of **implementation...**so that decision-makers can make a stronger case for investing in ASPs” (Nathwani et al., 2019)*

Conceptual Model for Implementation Research

Theories and models to help...



Proctor et al 2009 Admin. & Pol. in Mental Health Services
¹ Empirically supported treatments

Adapted from the Implementation Research and Practice course at Johns Hopkins Bloomberg School of Public Health

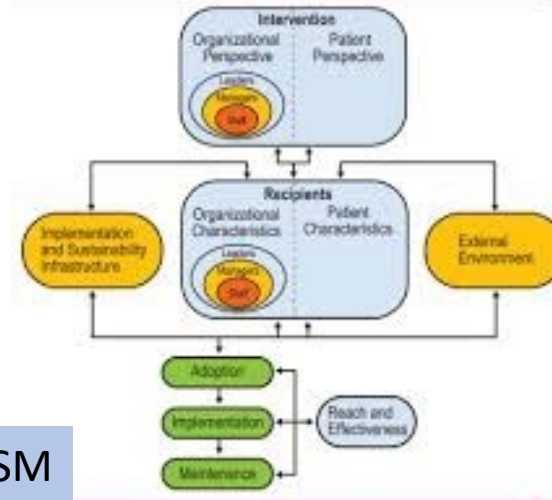
implementation science outcomes

- Decisions to adopt and implement evidence relies heavily on personal behavior, choices, and decisions, as well as perceptions of barriers and facilitators in a setting.

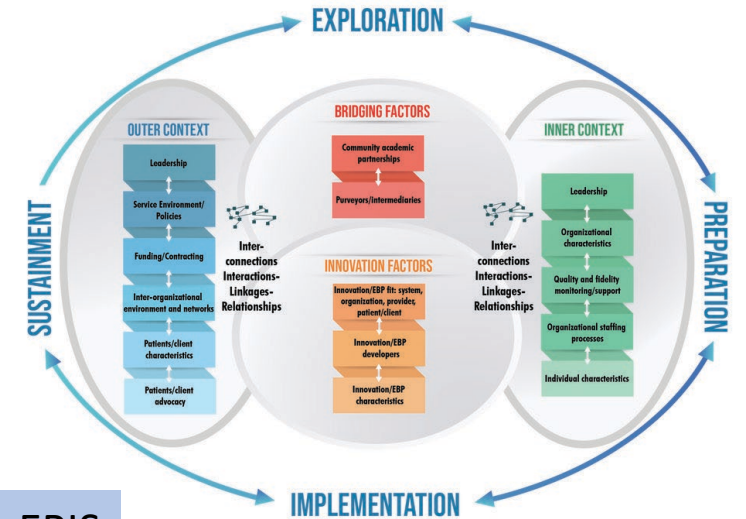
Outcomes prior	Outcomes at or after
• Acceptability	• Adoption
• Appropriateness	• Fidelity
• Feasibility	• Sustainment

Theory to conceptualize

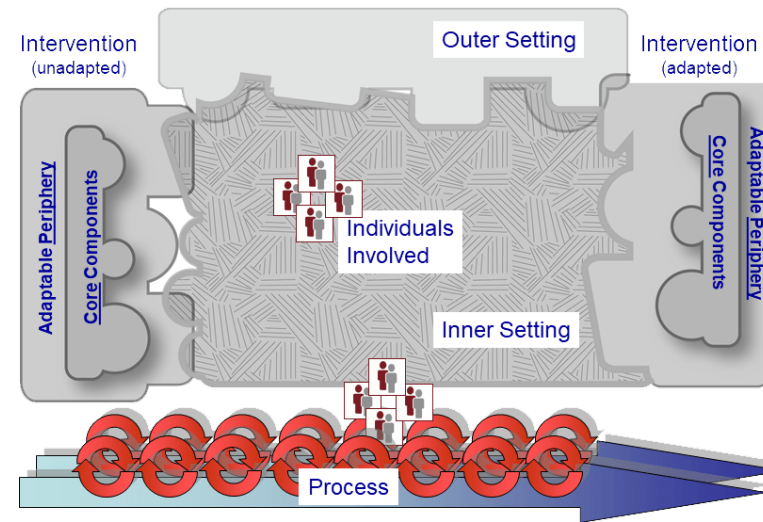
The Practical, Robust Implementation and Sustainability Model (PRISM)



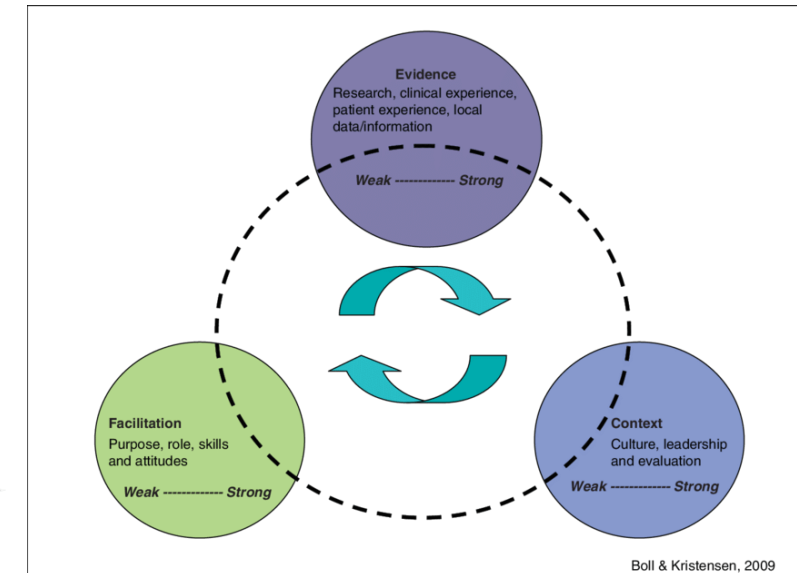
PRISM



EPIS



CFIR



IPARIHS

Strategies to test...

- Implementation strategies – “methods or techniques to enhance the adoption, implementation, and sustainability of a clinical program or practice.”

(Proctor EK, Powell BJ, McMillen JC. Implementation strategies: recommendations for specifying and reporting. Implement Sci. 2013;8:1–11)

Train & Educate Stakeholders

- Use train the trainer techniques
- Distribute educational materials

Provide Interactive Assistance

- Audit and feedback
- Remote technical assistance

Change Infrastructure

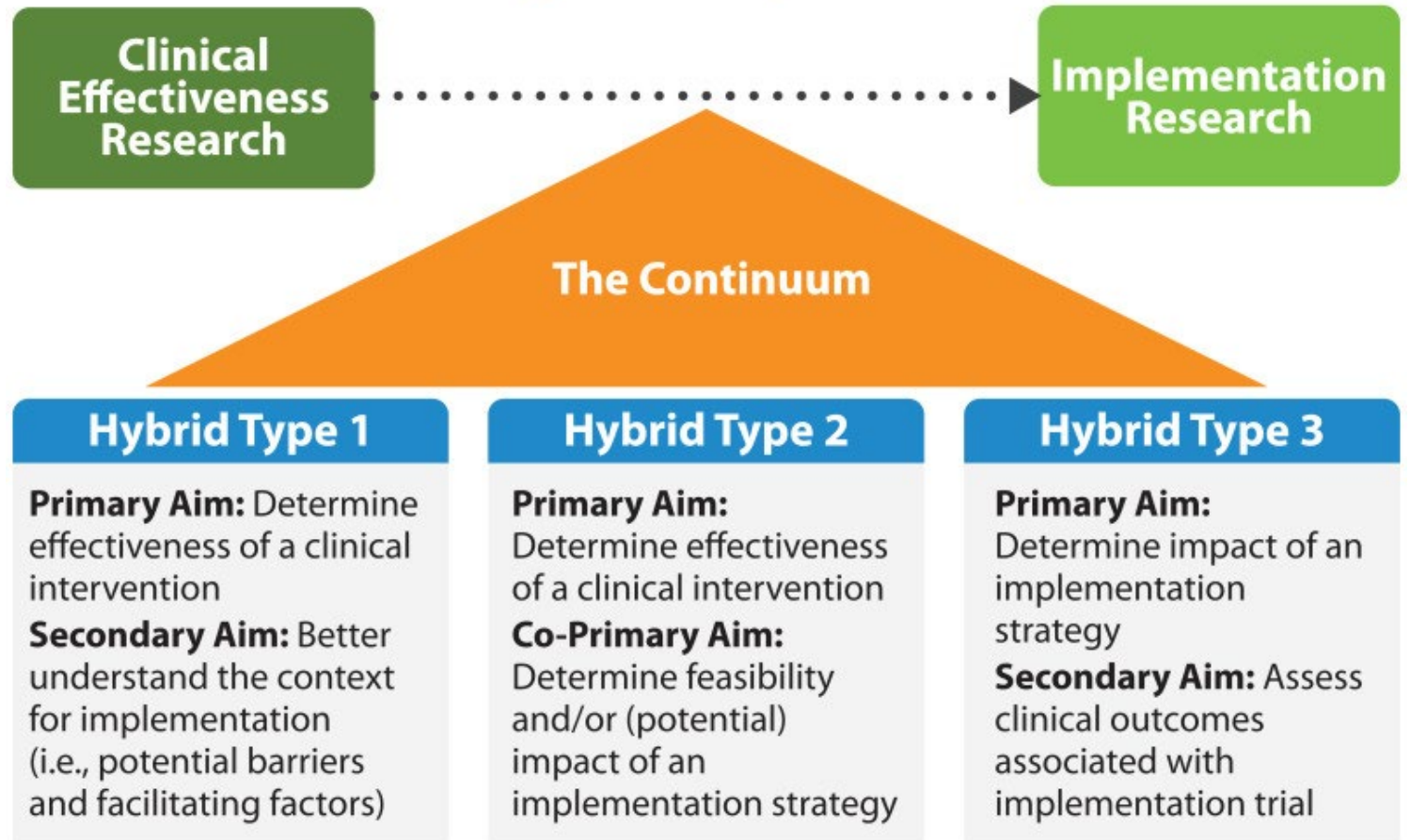
- Implement new protocols
- Change record systems

Engage Stakeholders

- Media campaigns
- Involve patients/consumers in decision making

Research
designs to
study

Types of Hybrids



SYSTEMATIC REVIEW

Open Access

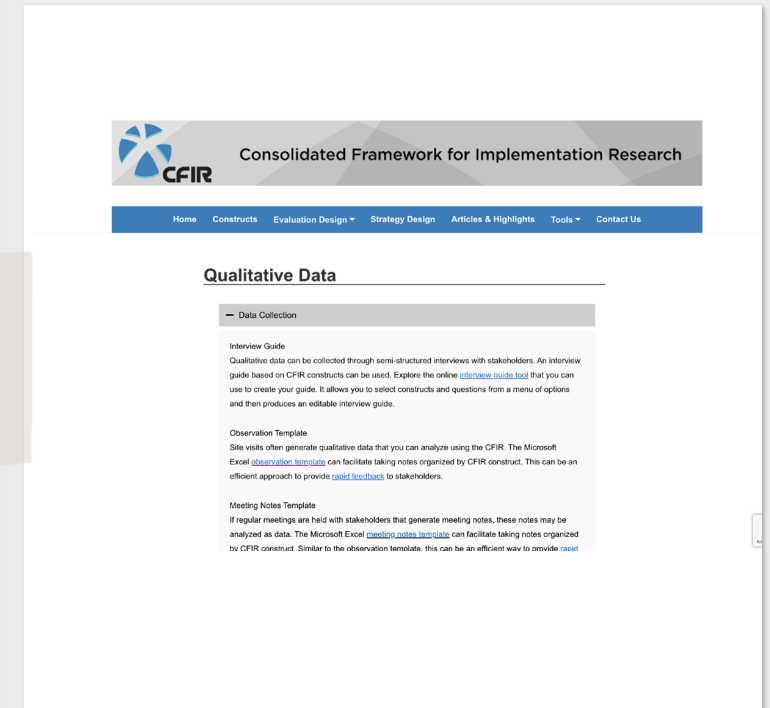
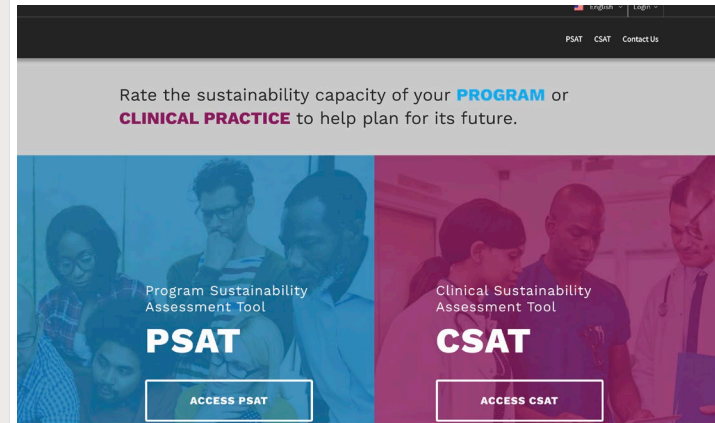
Outcomes for implementation science: an enhanced systematic review of instruments using evidence-based rating criteria

Cara C. Lewis^{1,2*}, Sarah Fischer¹, Bryan J. Weiner³, Cameo Stanick⁴, Mimi Kim^{5,6} and Ruben G. Martinez⁷

Abstract

Background: High-quality measurement is critical to advancing knowledge in any field. New fields, such as implementation science, are often beset with measurement gaps and poor quality instruments, a weakness that can be more easily addressed in light of systematic review findings. Although several reviews of quantitative instruments used in implementation science have been published, no studies have focused on instruments that measure implementation outcomes. Proctor and colleagues established a core set of implementation outcomes including: *acceptability, adoption, appropriateness, cost, feasibility, fidelity, penetration, sustainability* (*Adm Policy Ment Health Ment Health Serv Res* 36:24–34, 2009). The Society for Implementation Research Collaboration (SIRC) Instrument Review Project employed an enhanced systematic review methodology (*Implement Sci* 2: 2015) to identify quantitative instruments of implementation outcomes relevant to mental or behavioral health settings.

Methods: Full details of the enhanced systematic review methodology are available (*Implement Sci* 2: 2015). To increase the feasibility of the review, and consistent with the scope of SIRC, only instruments that were applicable



Measures to assess

Frontiers...and funding

Dissemination and Implementation Research in Health (R01 Clinical Trial Optional) PAR-22-109

- Studies on the implementation of multiple evidence-based interventions within community or clinical settings (including community clinics, FQHCs, and primary care clinics) to meet the needs of complex patients and diverse systems of care.
- Studies of influences on the creation, packaging, transmission, and reception of evidence for effective health interventions.
- Studies testing dissemination or implementation strategies to eliminate health disparities and improve quality of care in underserved populations (based on their racial or ethnic group, religion, socioeconomic status, gender, age, mental health, cognitive, sensory or physical disability, sexual orientation or gender identity, geographic location (place/context) or other characteristics historically linked to discrimination or exclusion).
- Longitudinal and follow-up studies on the factors that contribute to the sustainability of evidence-based interventions in public health and clinical practice.
- Studies on reducing or stopping ("de-implementing") the use of clinical and community practices that are ineffective, unproven, low-value, or harmful.

Frontiers...and funding

AHRQ Research Priorities

- Research to Improve Health Care Patient Safety
 - Design, implementation, dissemination and spread, and evaluation of interventions to improve patient safety for example:
 - Demonstration, dissemination, and evaluation of strategies and approaches for prevention and reduction of HAIs.
 - Research regarding adoption and implementation (including sustainment, spread, and scale-up) of evidence-based approaches for prevention of HAIs.
- Special emphasis notices – which includes 4 R01 type mechanisms
 - HAIs and combating antibiotic resistant bacteria research



How to get support
here at Wash U



Dissemination & Implementation Research

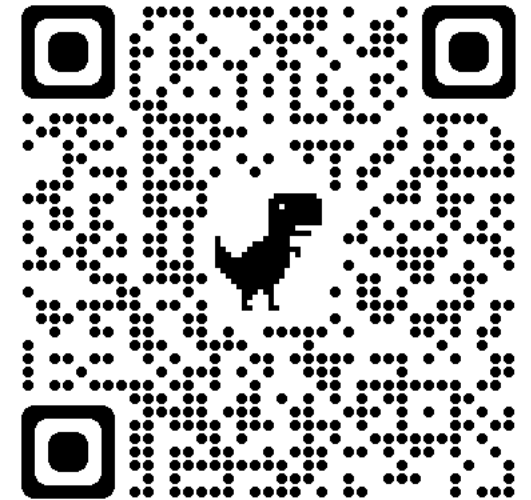
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WashU is growing the community of scientists who use D&I research to advance public health



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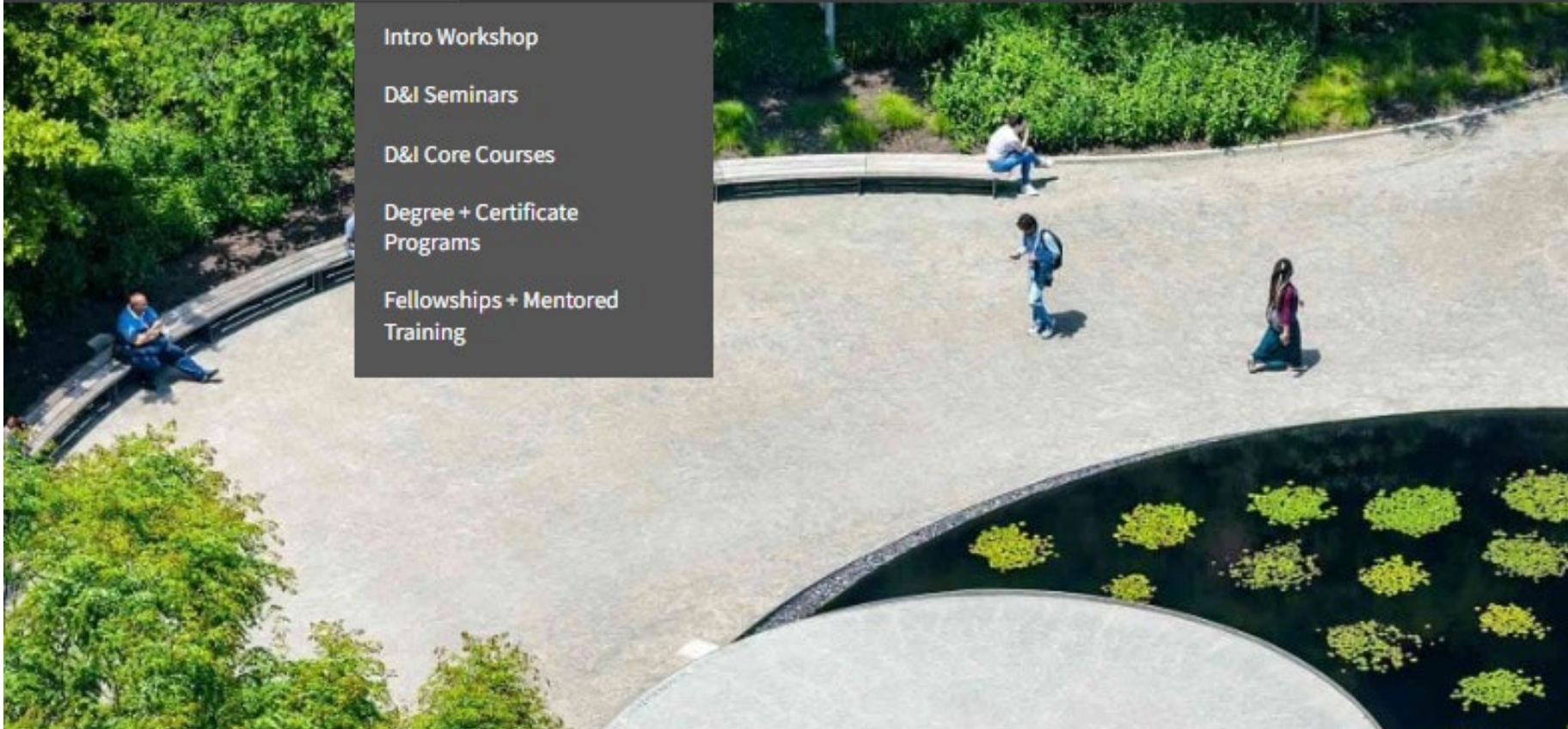
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1 - 12 of 15

Share

MAISY Example #1
Adaptive School-based Implementation of CBT (ASIC)
EBP: Cognitive Behavioral Therapy in Michigan Schools Developer: Amy Kilbourne

21 A school with school professionals who do not have training in CBT or have never provided CBT to any of their students.

1:23:53

Multi-level Adaptive Implementatio...

WUSTL Public Health

Multi-level Adaptive Implementation Strategies (MAISYs):
Design Principles, Optimization Questions and Choosing t...

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FOR CANCER CONTROL EQUITY

The Role of Policy in Implementation Science and Health Equity
Karen M. Emmons, Ph.D.

57:57

The Role of Policy in Implementati...

WUSTL Public Health

The Role of Policy in Implementation Science and Health
Equity is presented by Karen Emmons, PhD, as part of the...

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Looking for project development and manuscript support? Access the expertise you need.

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Infectious Disease – Dissemination and Implementation Science Initiative

Aims to **improve evidence-based prevention and treatment** in three areas:



Antimicrobial Stewardship & Infection Prevention



Sexually transmitted infections & HIV



COVID-19

Offers **research support and collaboration, pilot grants, community**



IDDI lead
Ginger McKay, PhD

CDI funding streams

*Seed funding**

Pilot
grants

Small
grants

- Up to \$40k (pilot) and \$7.5k (small) in direct costs
- Prepare projects to compete for external funding
- Annual RFA (Spring)

Review Grants

Conceptual and
Methodological
Review Grants (CAM)

- Up to \$20k
- Supports the conduct of scoping, systematic, or other review methods
- Due August 15, 2023

*Rapid add-on funding**

Rapid
Add-on
funding
(RADD)

Methods
Add-on
funding
(MMADD)

- Up to \$20k (RADD)
- Up to \$30k (MMADD)
- Allows current or proposed projects to expand rapidly and add on D&I components
- Rolling deadline

*Collaboration & event support**

D&I symposium

- \$10k to support costs associated with one-day symposia that will advance D&I research
- Rolling deadline, we aim to fund 2 per year
- Event chairs will plan and execute event, with some technical assistance provided by CDI

**Applicants of these mechanisms must be an IPH Faculty Scholar*



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28

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- » Consultations with D&I experts
- » Teams of up to four

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You must be a WashU employee to submit. Teams may consist of collaborators from other organizations.



October 9th, 2023 | 9am - 4pm

Washington University St. Louis | Exact location TBD



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