

# CONSOLIDATED FRAMEWORK FOR IMPLEMENTATION RESEARCH (CFIR): UPDATES & APPLICATION

Laura J. Damschroder & Dr. Shari Rogal

15 November 2023



CFIR has been very influential since being published in 2009

## Implementation Science

Research article

**Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science**

Laura J Damschroder\*<sup>1</sup>, David C Aron<sup>2</sup>, Rosalind E Keith<sup>1</sup>, Susan R Kirsh<sup>2</sup>,  
Jeffery A Alexander<sup>3</sup> and Julie C Lowery<sup>1</sup>

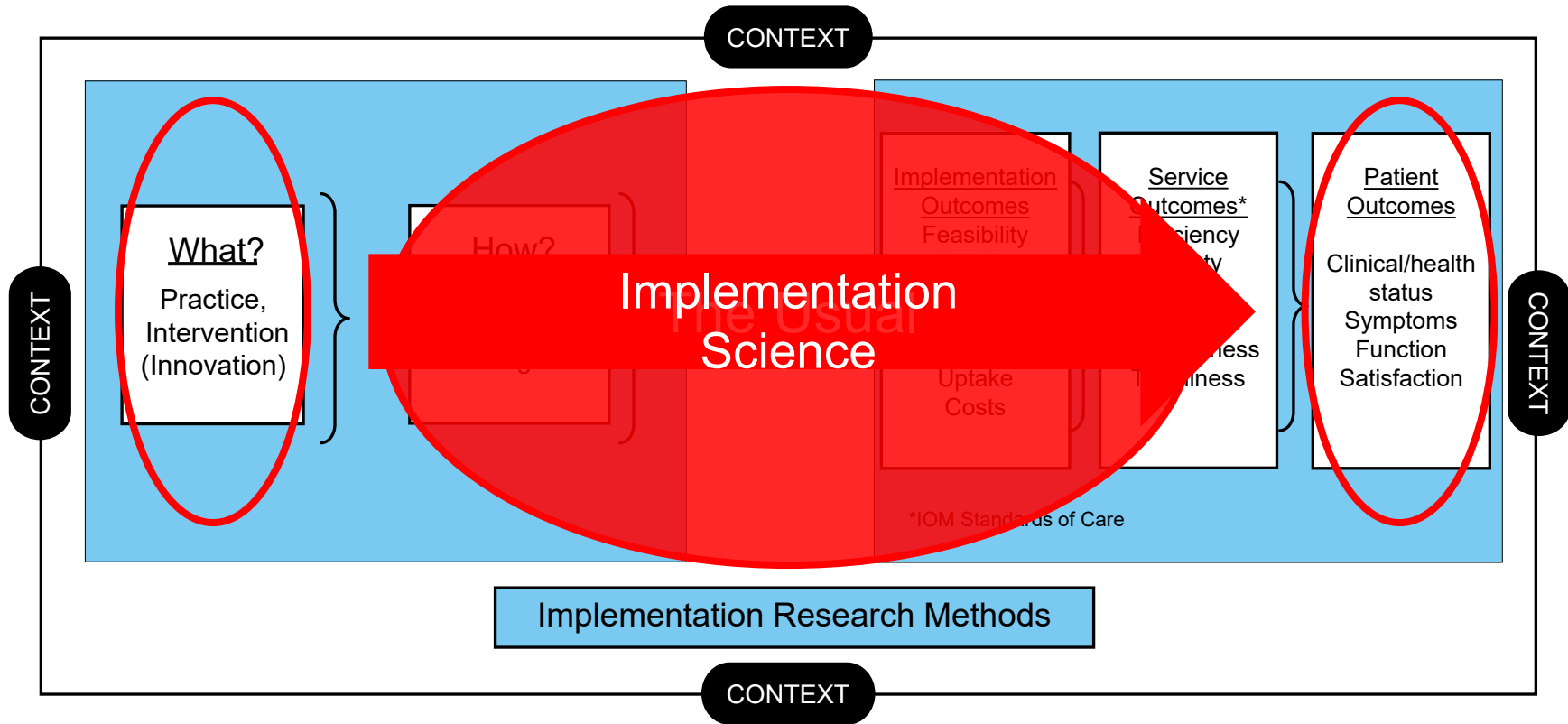


Over 10,000 citations;  
Top 10 cited in IS  
every year

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Implementation Science 2009, 4:50

*doi:10.1186/1748-5908-4-50*



# CFIR: Updated in 2022

Damschroder et al. *Implementation Science* (2022) 17:7  
<https://doi.org/10.1186/s13012-021-01181-5>


Implementation Science

DEBATE

Open Access

## Conceptualizing outcomes for use with the Consolidated Framework for Implementation Research (CFIR): the CFIR Outcomes Addendum



Laura J. Damschroder<sup>\*</sup> , Caitlin M. Reardon, Marilla A. Opra Widerquist and Julie Lowery



Open Access

gs into  
ntation


Kirsh<sup>2</sup>,

DEBATE

Open Access

# Implementation science made too simple: a teaching tool



Geoffrey M. Curran<sup>1,2</sup> 

# TBM

ORIGINAL RESEARCH

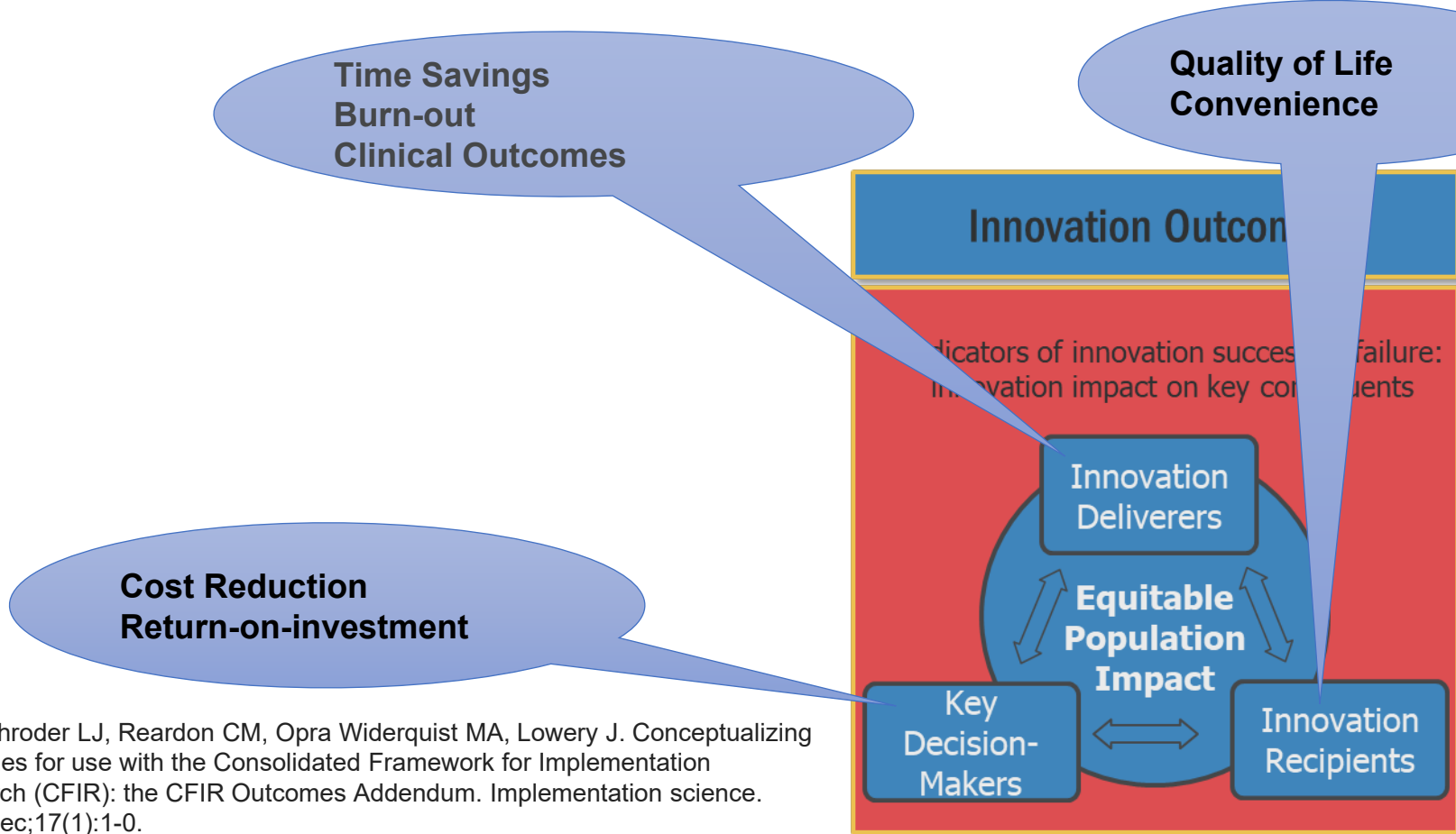


Implementation evaluation of the Telephone Lifestyle Coaching (TLC) program: organizational factors associated with successful implementation

Laura J. Damschroder,<sup>1</sup> Caitlin M. Reardon,<sup>1</sup> Nina Sperber,<sup>2</sup> Claire H. Robinson,<sup>1</sup> Jacqueline J. Fickel,<sup>3</sup> Eugene Z. Oddone<sup>2</sup>

\*THE THING\*

# Outcomes from “The Thing” (Innovation)



Damschroder LJ, Reardon CM, Opra Widerquist MA, Lowery J. Conceptualizing outcomes for use with the Consolidated Framework for Implementation Research (CFIR): the CFIR Outcomes Addendum. Implementation science. 2022 Dec;17(1):1-0.





# Implementation Determinants

## Implementation Outcomes

### ANTICIPATED Implementation Outcomes

Indicators of anticipated implementation success or failure

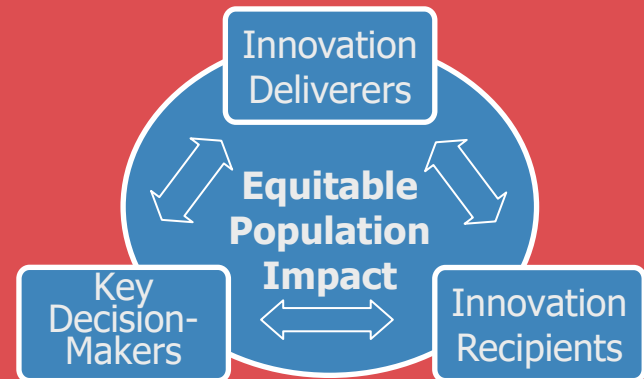
✓ Rate of referrals to TLC

### ACTUAL Implementation Outcomes

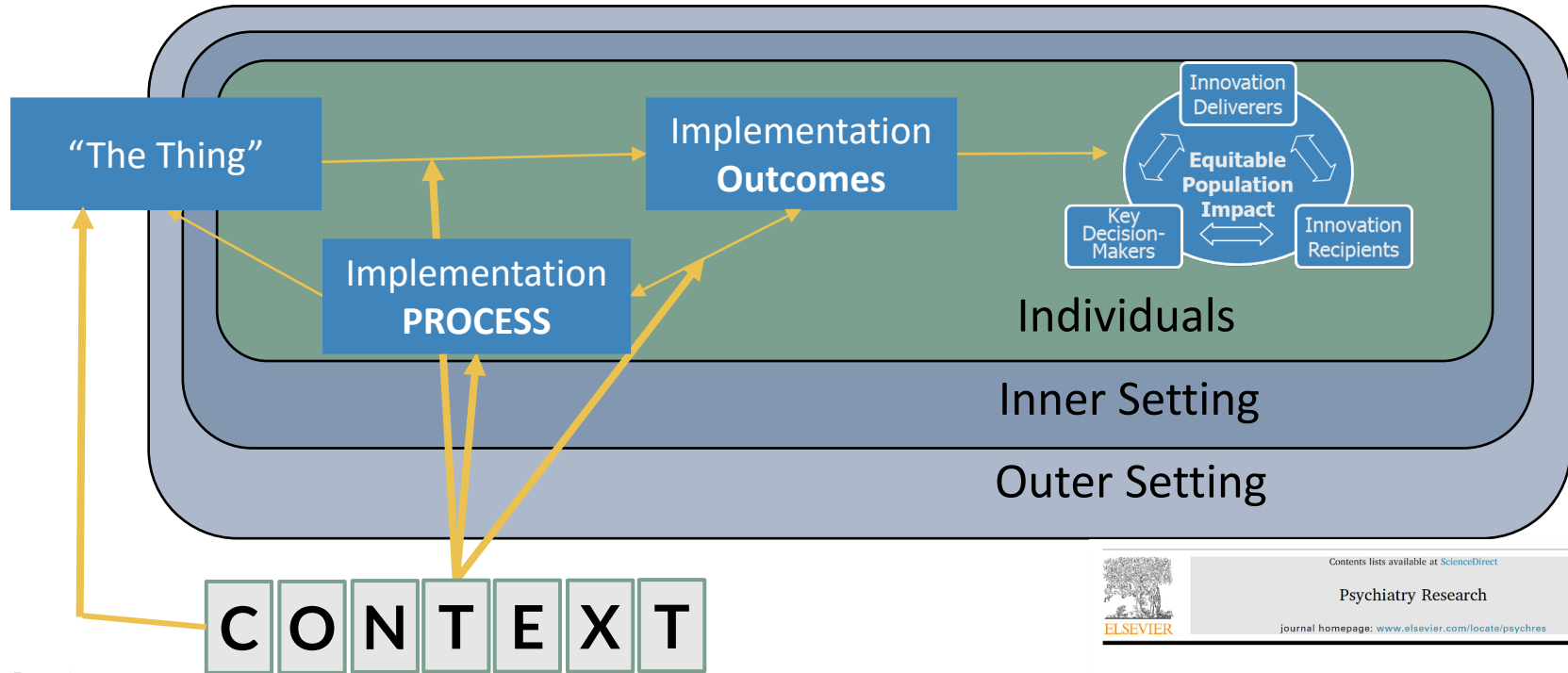
Indicators of actual implementation success or failure

## Innovation Outcomes

Indicators of innovation success or failure: innovation impact on key constituents



# Generalized Implementation Theory



Contents lists available at ScienceDirect

Psychiatry Research

ELSEVIER

journal homepage: [www.elsevier.com/locate/psychres](http://www.elsevier.com/locate/psychres)



# Research Question

What are barriers and facilitators to implementation?

# CFIR: Updated in 2022


Damschroder et al. *Implementation Science* (2022) 17:7  
<https://doi.org/10.1186/s13012-021-01181-5>

Implementation Science



DEBATE

Conceptualizing  
with the Consolidated Framework  
for Implementation Research  
Outcomes and Processes

Laura J. Damschroder\* , Caitlin M. Reardon


Damschroder et al. *Implementation Science* (2022) 17:75  
<https://doi.org/10.1186/s13012-022-01245-0>

Implementation Science

RESEARCH

Open Access

The updated Consolidated Framework  
for Implementation Research based on user  
feedback

Laura J. Damschroder, Caitlin M. Reardon\* , Marilla A. Opra Widerquist and Julie Lowery



Received a  
great deal of  
feedback



Systematic review: 376 articles



59 articles included feedback on  
the CFIR



Forty percent ( $n = 134/334$  unique  
authors) completed a survey



Positive ratings on most items  
(e.g., applicability, usability)

# Themes related to CFIR Updates



Made language more consistent “The degree to which...”

# Interpretive Approach to Context Assessment

## Construct Stem:

The degree to which [*insert construct definition*]

- Qualitative Assessments
- Quantitative Assessments

Example

“**Innovation Evidence-Base**”

The degree to which...

*the innovation has robust evidence supporting its effectiveness*

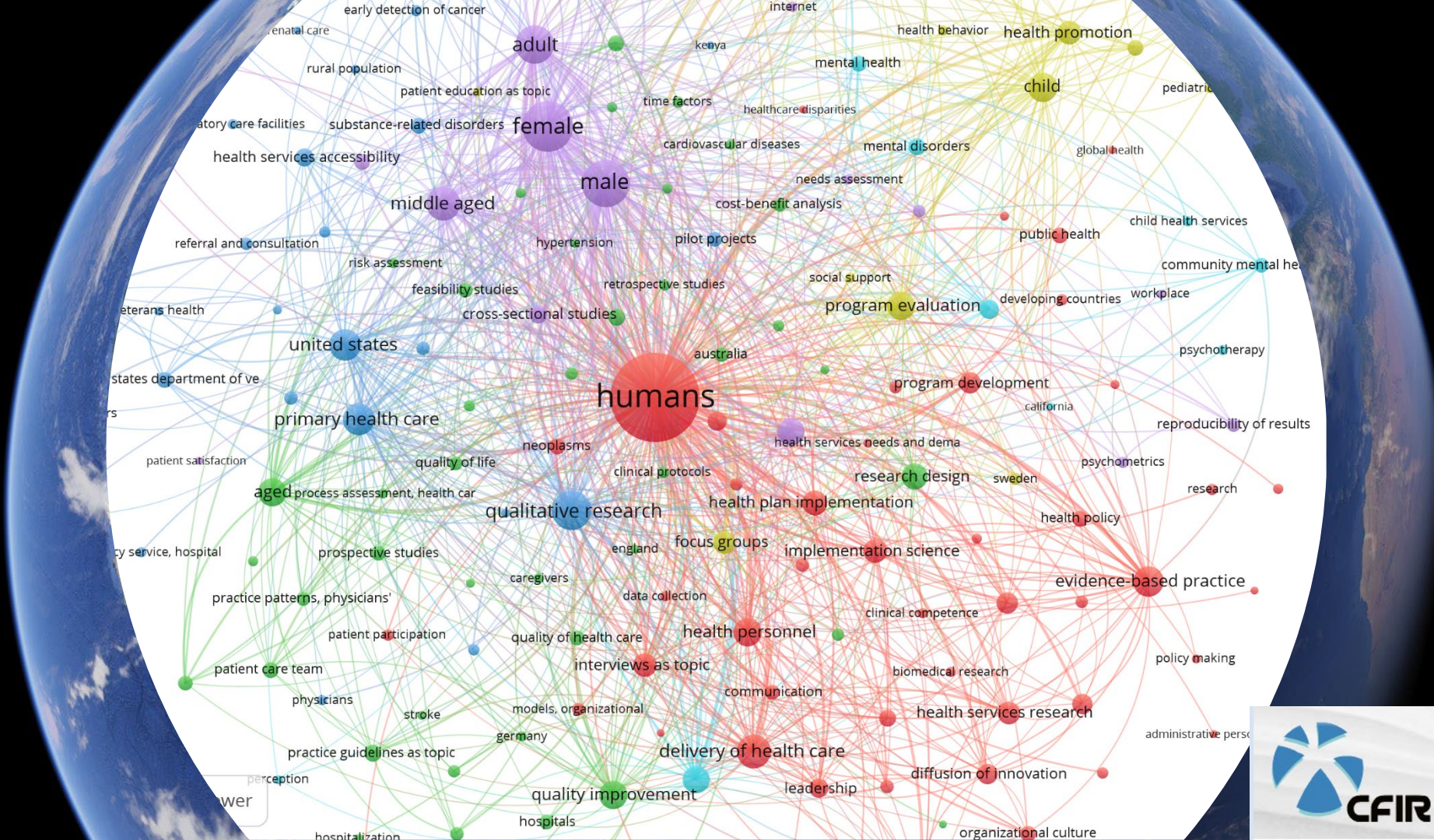
# Additional themes related to CFIR Updates



Made language more consistent “The degree to which...”



Amplify the voices of people



# Additional themes related to CFIR Updates



Made language more consistent “The degree to which...”



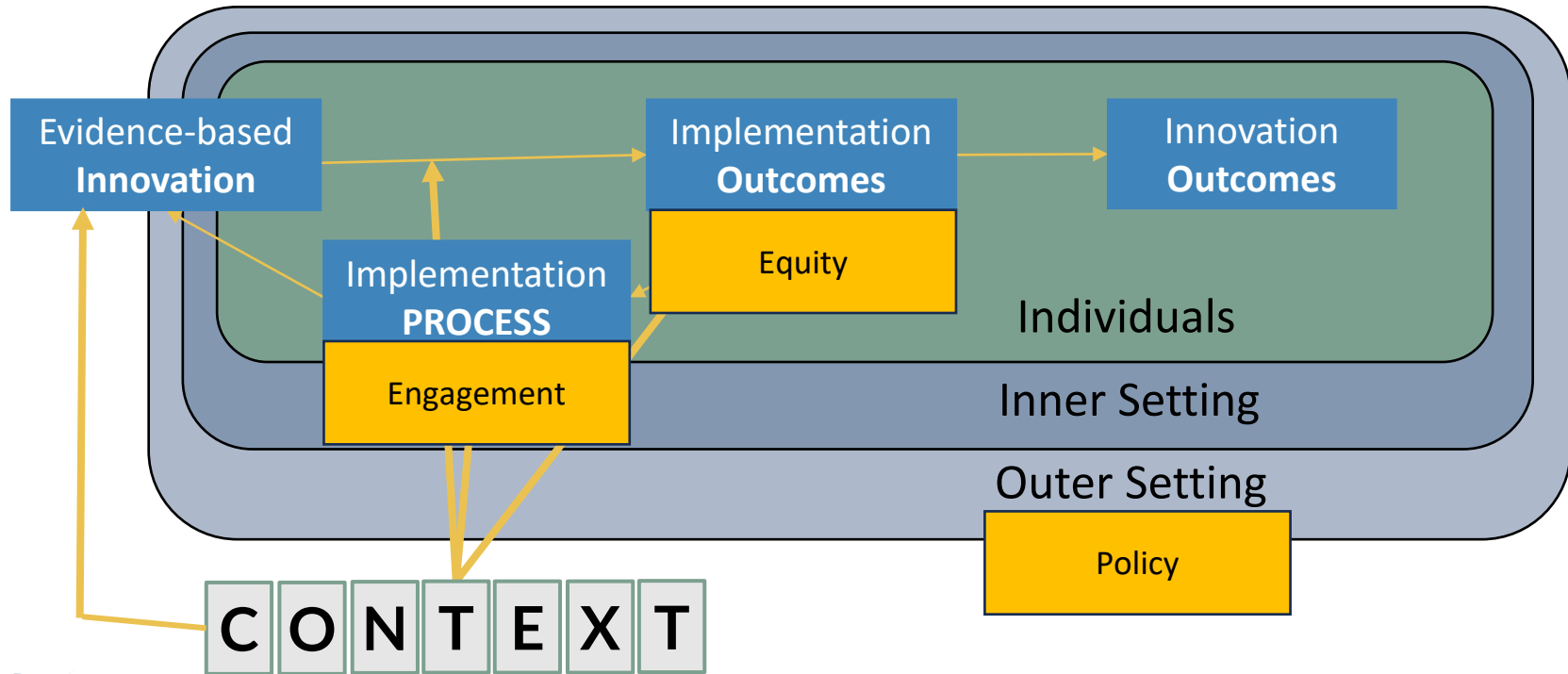
Amplify the voices of people



More intentional links to engagement, equity & policy



# Engagement, Policy, and Equity



# Additional themes related to CFIR Updates



Made language more consistent  
“The degree to which...”



Amplify the voices of people



More intentional link to equity



Pushes users to more sharply define all domains

# Sharpened domain definitions

## Innovation

What is the “**thing**” being implemented? What are **perceptions** about its properties?

## Individuals

Who are the **individuals** most likely to **influence** or have **authority** over implementation? Who will **deliver** the Innovation?

## Inner Setting

**Where** will implementation occur? From where will the Innovation be delivered?

## Outer Setting

The setting in which the Inner Setting exists. **Where** does the Outer Setting begin?

## Process

To what extent do [Roles] do the **actions** necessary for sustained implementation?

# A word about 'Innovation'...

Innovation

What is the “**thing**” being implemented? What are **perceptions** about its properties?

Doesn't ~~HAVE~~ to mean something new...could also be existing practices that are not being done up to par

# Project: Telephone Lifestyle Coaching (TLC)

## Innovation

What is the “**thing**” being implemented?

### Telephone- based Lifestyle Coaching

- Coaching to support lifestyle change for Veterans: 6 optional modules
- Up to 10 calls over 6 months
- Centralized Coaching Center

What are **perceptions** about its properties?

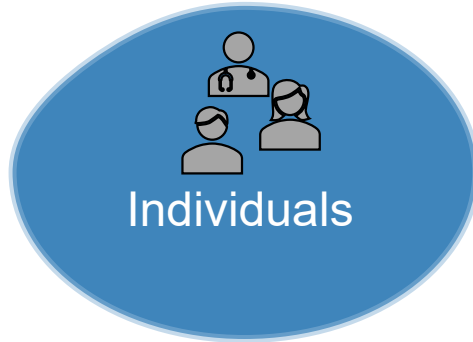
# INNOVATION DOMAIN



- Innovation Source
- Innovation Evidence-base
- Innovation Relative Advantage
- Innovation Adaptability
- Innovation Trialability
- Innovation Complexity
- Innovation Design
- Innovation Cost

# INDIVIDUALS DOMAIN

Significant  
Redesign



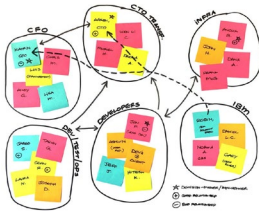
## DEFINITION

Perceptions of individuals who have influence and/or power over the outcome of implementation efforts and their **roles** and **characteristics** (*including their own role and characteristics*)

# Individuals Domain has 2 subdomains

## Roles

- ✓ Leaders
  - High-level (e.g., executive, VP)
  - Mid-level (e.g., managers, supervisors)
- ✓ Opinion Leaders
- ✓ Implementation Facilitators
- ✓ Implementation Leads
- ✓ Implementation Team
- ✓ Implementation Support
- ✓ Innovation Deliverers
- ✓ Recipients



## Characteristics

- **Need**  
Deficits related to survival, well-being, or personal fulfillment
- **Capability**  
Individual has the necessary intrapersonal competence, knowledge, and skills to fulfill the role.
- **Opportunity**  
Availability of individual(s), allocation of time, assignment of authority and other factors conferred to the [Role], needed to fulfill the [Role].
- **Motivation**  
Individual is committed to fulfilling role.



# Guiding Questions

## Innovation

### Telephone- based Lifestyle Coaching

- Coaching to support lifestyle change for Veterans: 6 optional modules
- Up to 10 calls over 6 months
- Centralized Coaching Center

## Individuals

Who are the **individuals** most likely to **influence** or have **authority** over implementation? Who will **deliver** the Innovation?

**Inner** Setting Implementation Lead:

Program Coordinator

**Inner** Setting Leaders:

Primary Care/Medical Center Directors

**Outer** Setting Leaders:

National Prevention Office Leaders

**Outer** Setting Facilitators:

National Prevention Office Staff

**Inner** Setting Deliverers:

Primary Care Providers

**Outer** Setting Deliverers:

Centralized location for coaches delivered by vendor

# INNER SETTING DOMAIN

Moderately  
changed



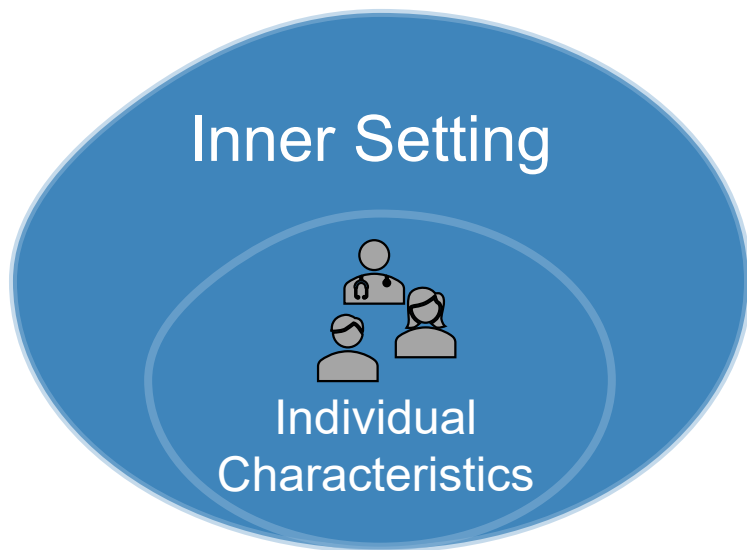
Inner Setting

## DEFINITION

Perceptions of the Inner Setting, the setting in which the innovation is implemented

- e.g., hospital, school, city.
- There may be multiple Inner Settings and/or multiple levels within the Inner Setting, e.g., unit, classroom, team.

# Inner Setting Domain



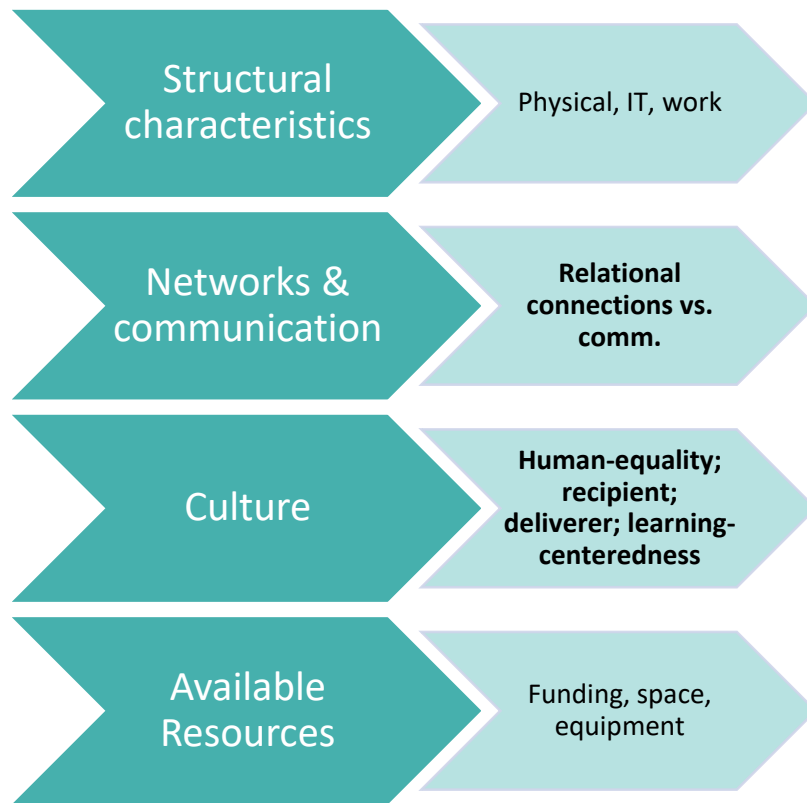
## Persistent characteristics

- Structural Characteristics
- Culture
- Relational Connections
- Communications

## Specific to implementation

- Tension for Change
- Compatibility
- Relative Priority
- Mission Alignment
- Available Resources
- Access to Knowledge & Information
- Incentives Systems

# Inner Setting Augmentations



# Guiding Questions

## Innovation

### Telephone- based Lifestyle Coaching

- Coaching to support lifestyle change for Veterans: 6 optional modules
- Up to 10 calls over 6 months
- Centralized Coaching Center

## Individuals

**Inner Setting:** Hospital Managers

**Inner Setting:** Clinicians

**Outer Setting:** WelTel Staff

**Outer Setting:** Government Officials

**WelTel Recipients:** HIV & Maternity Patients (Kenya)

## Inner Setting

**Where** will implementation occur? **Where** will the Innovation be delivered?

**Veterans Affairs Medical Centers**

# OUTER SETTING DOMAIN

Significantly  
Expanded



Outer Setting

## **DEFINITION**

Perceptions of the Outer Setting, the setting in which the Inner Setting exists.

e.g., hospital system, school district, state

# Guiding Questions

## Innovation

### Telephone- based Lifestyle Coaching

- Coaching to support lifestyle change for Veterans: 6 optional modules
- Up to 10 calls over 6 months
- Centralized Coaching Center

## Individuals

**Inner Setting:** Hospital Managers

**Inner Setting:** Clinicians

**Outer Setting:** WelTel Staff

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**WelTel Recipients:** HIV & Maternity Patients (Kenya)

## Inner Setting

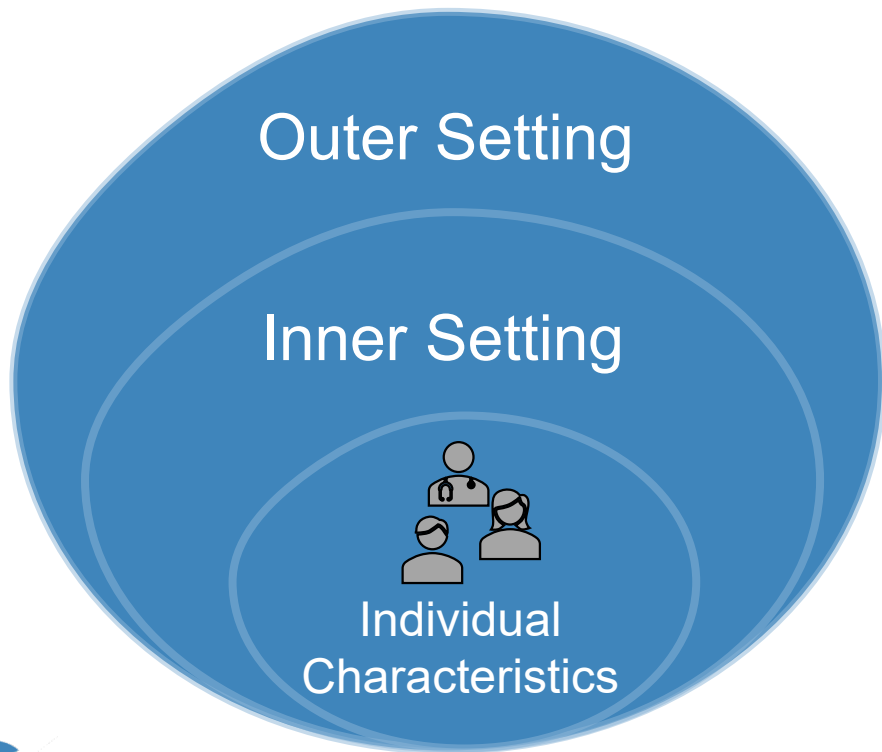
**Veterans Affairs Medical Centers**

## Outer Setting

**Where** does the Outer Setting begin?

**VHA Healthcare System**

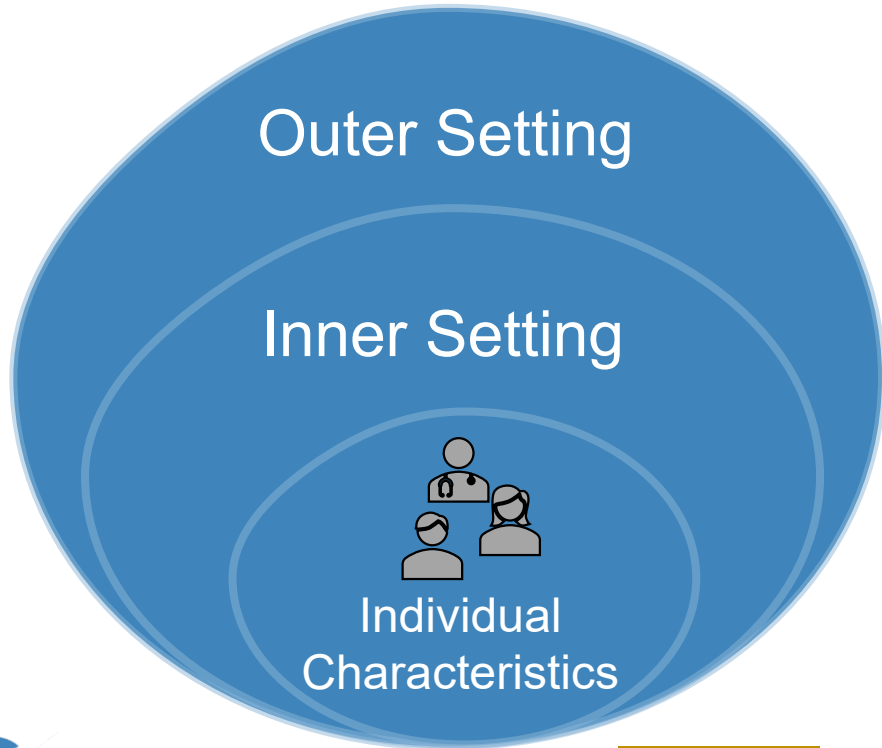
# OUTER SETTING DOMAIN



- Critical Incidents
- Local Attitudes
- Local Conditions
- Partnerships & Connections
- Policies & Laws
- Financing
- External Pressures
  - **Societal Pressure**
  - Market Pressure
  - Performance Measurement Pressure

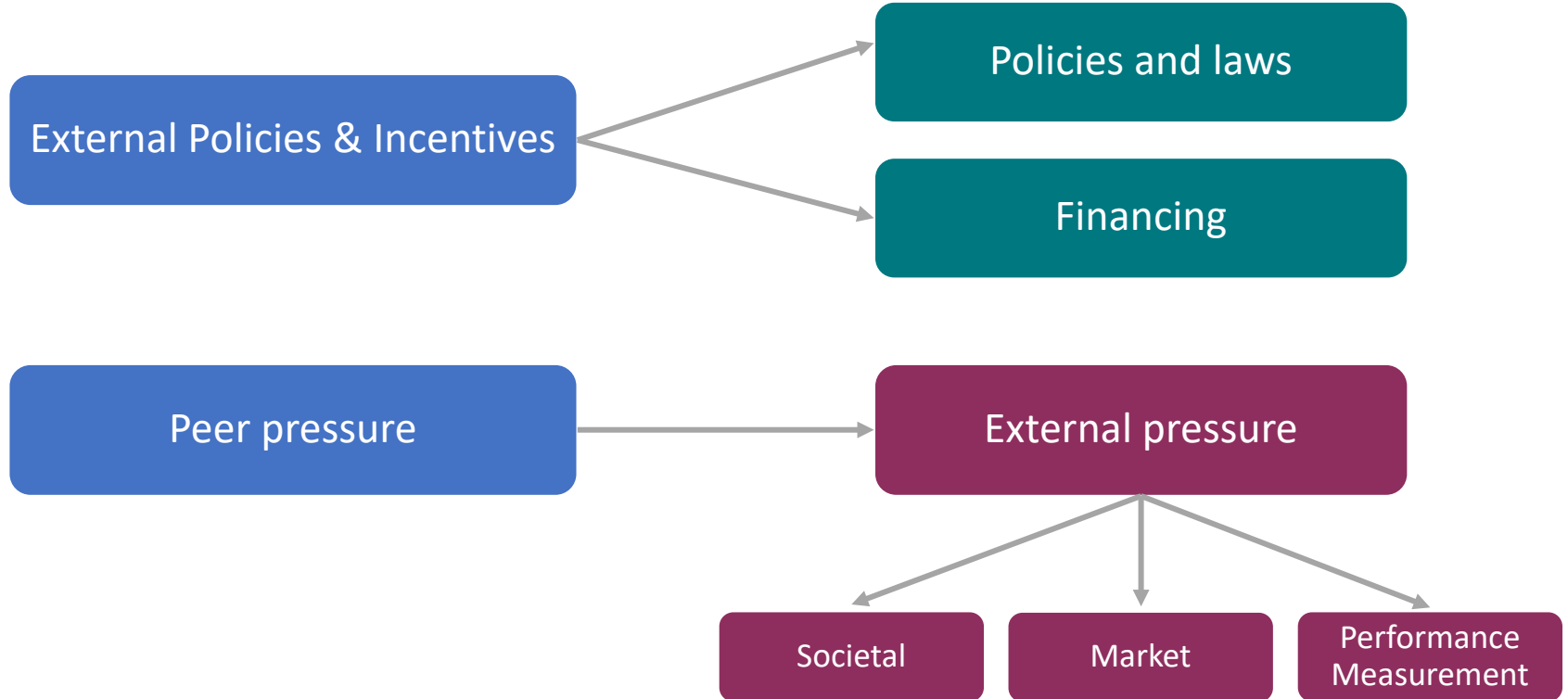


# OUTER SETTING DOMAIN



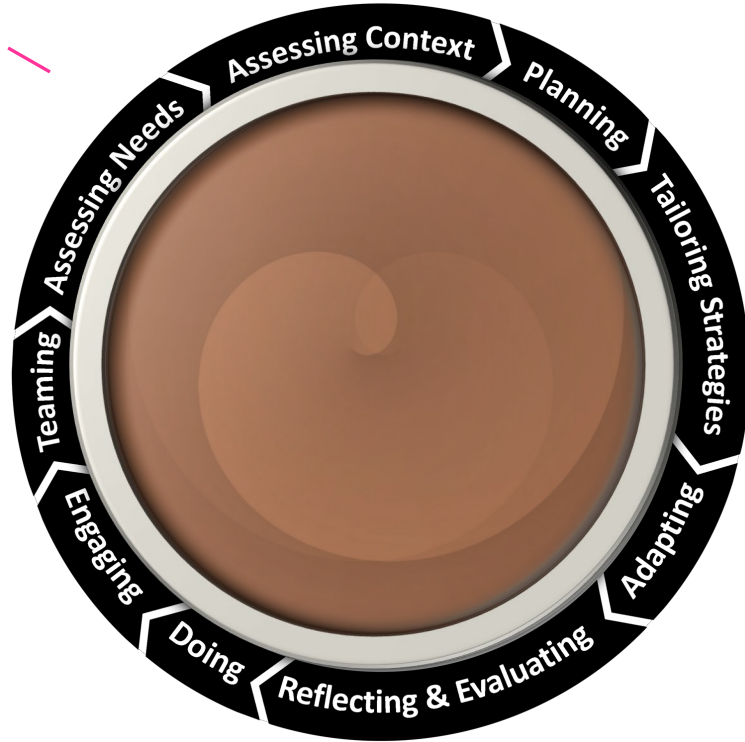
- Critical Incidents
- Local Attitudes
- Local Conditions
- Partnerships & Connections
- Policies & Laws
- Financing
- External Pressures
  - Societal Pressure
  - Market Pressure
  - Performance Measurement Pressure

# Outer Setting: Redesigned constructs



# IMPLEMENTATION PROCESS DOMAIN

Significantly  
Expanded



## DEFINITION

The implementation process includes all the activities and strategies used to implement the innovation.

# CFIR pulls in key strategies from ERIC

Waltz *et al.* *Implementation Science* 2014, **9**:39  
<http://www.implementationscience.com/content/9/1/39>



STUDY PROTOCOL

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## Expert recommendations for implementing change (ERIC): protocol for a mixed methods study

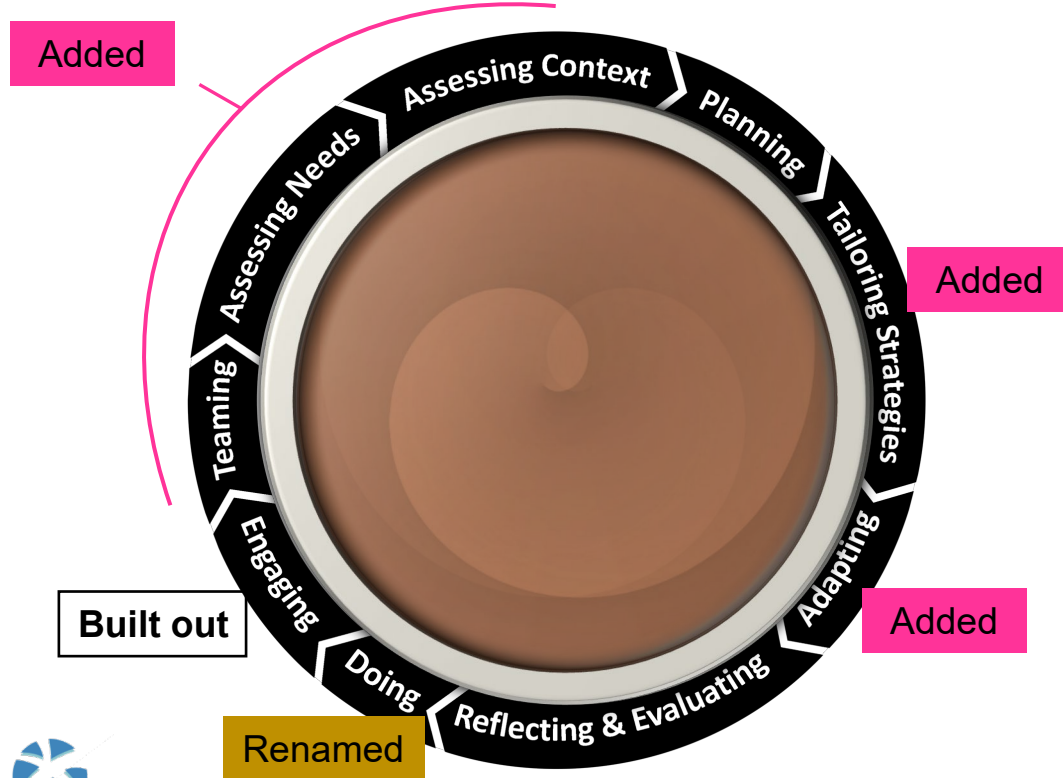
Thomas J Waltz<sup>1,2\*</sup>, Byron J Powell<sup>3,4</sup>, Matthew J Chinman<sup>5,6</sup>, Jeffrey L Smith<sup>1</sup>, Monica M Matthieu<sup>7</sup>, Enola K Proctor<sup>3</sup>, Laura J Damschroder<sup>8</sup> and JoAnn E Kirchner<sup>1,9</sup>

### Abstract

**Background:** Identifying feasible and effective implementation strategies that are contextually appropriate is a challenge for researchers and implementers, exacerbated by the lack of conceptual clarity surrounding terms and definitions for implementation strategies, as well as a literature that provides imperfect guidance regarding how



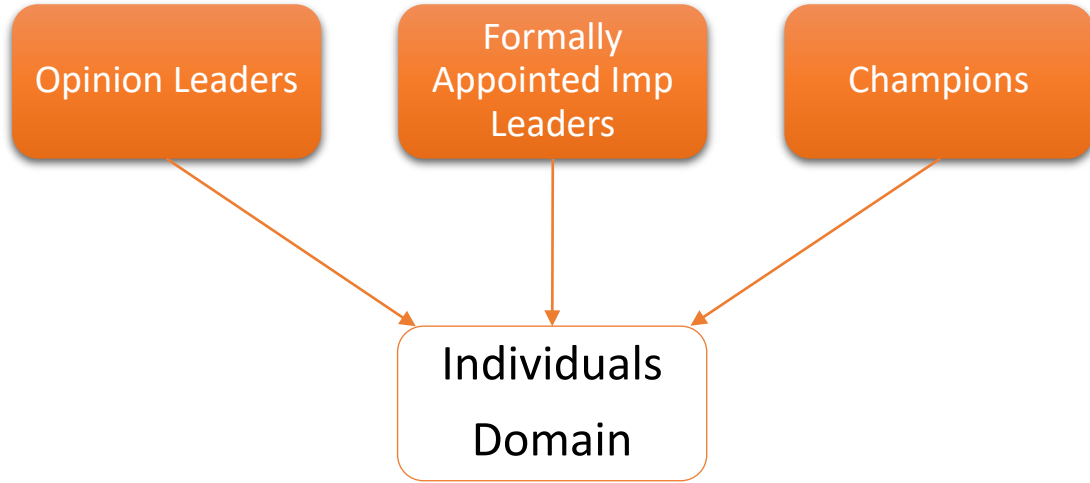
# IMPLEMENTATION PROCESS DOMAIN



## DEFINITION

The implementation process includes all the activities and strategies used to implement the innovation.

# 3 constructs were moved



# Guiding Questions

## Innovation

WelTel 2-way Texting → Improve treatment adherence for better HIV and Maternal Health Outcomes ([www.weltel.org](http://www.weltel.org))

## Individuals

**Inner Setting:** Hospital Managers  
**Inner Setting:** Clinicians  
**Outer Setting:** WelTel Staff  
**Outer Setting:** Government Officials  
**WelTel Recipients:** HIV & Maternity Patients (Kenya)

## Inner Setting

Kenya: Isiolo District Hospital & Kiberia Community Health Centre  
(Also, Canada)

## Outer Setting

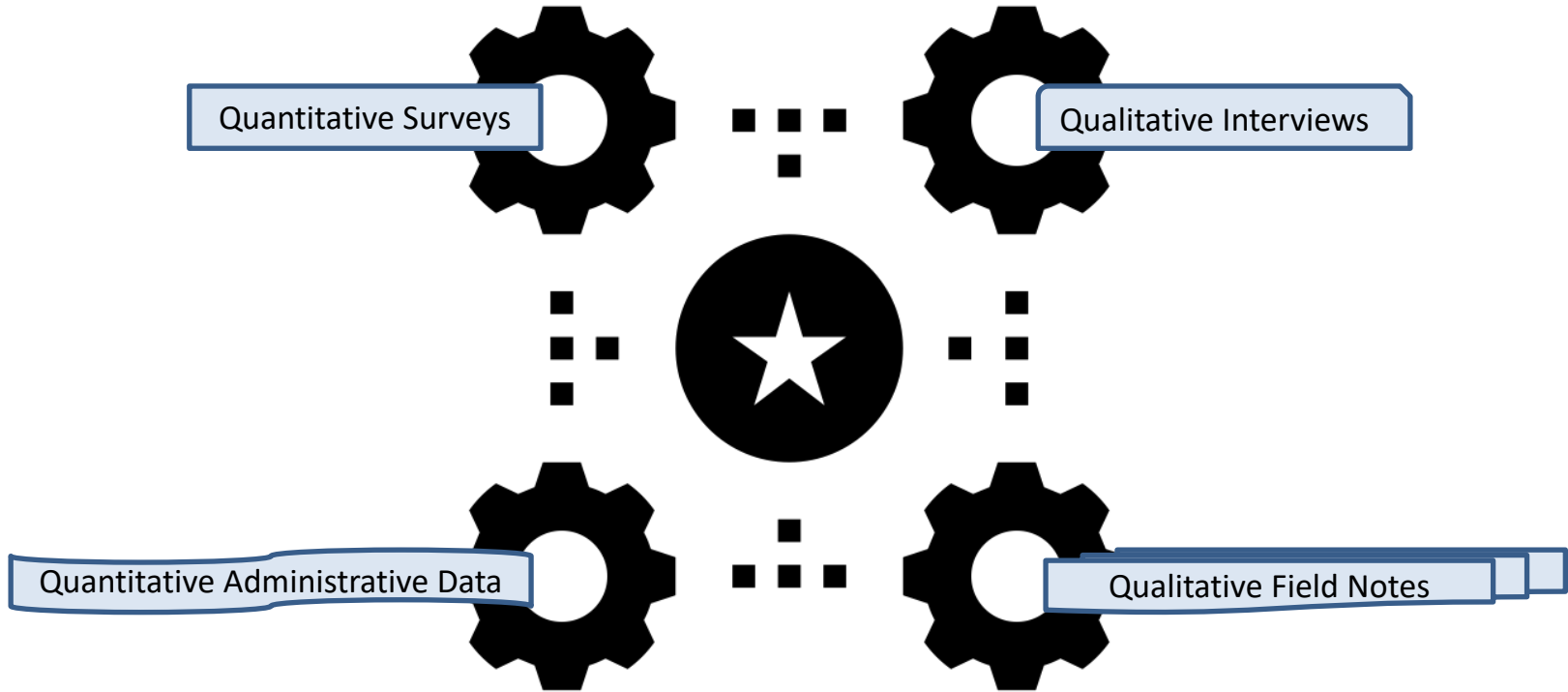
Northern Arid Lands, Isiolo County, Kenya

## Process

To what extent do [**Roles**] do the necessary **actions** for sustained implementation?

Top-down support with goals and time-delimited milestones with mixed levels of necessary actions

# Mixed Methods





# Distinguishing Constructs

	High Referral	Low Referral
Structural Characteristics: Work Infrastructure	Preventive services report to same boss	Unfilled positions PCMH Changes
Relational Connections	High respect and relationships - teams	Weak/no links in primary care
Compatibility	Clinical initiatives Existing programs	Only PCPs refer Could not access notes
Implementation Lead(s)	Enthusiastic, capable leaders	Missing leaders
Engaging: Deliverers	Multi-faceted communications	Poor communications
Planning	"JIT" planning	Roll out to smaller rural clinics first

# Choosing Strategies to Address Barriers

*Which strategies best address which barriers?*

Waltz et al. *Implementation Science* (2019) 14:42  
<https://doi.org/10.1186/s13012-019-0892-4>

Implementation Science

RESEARCH

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## Choosing implementation strategies to address contextual barriers: diversity in recommendations and future directions

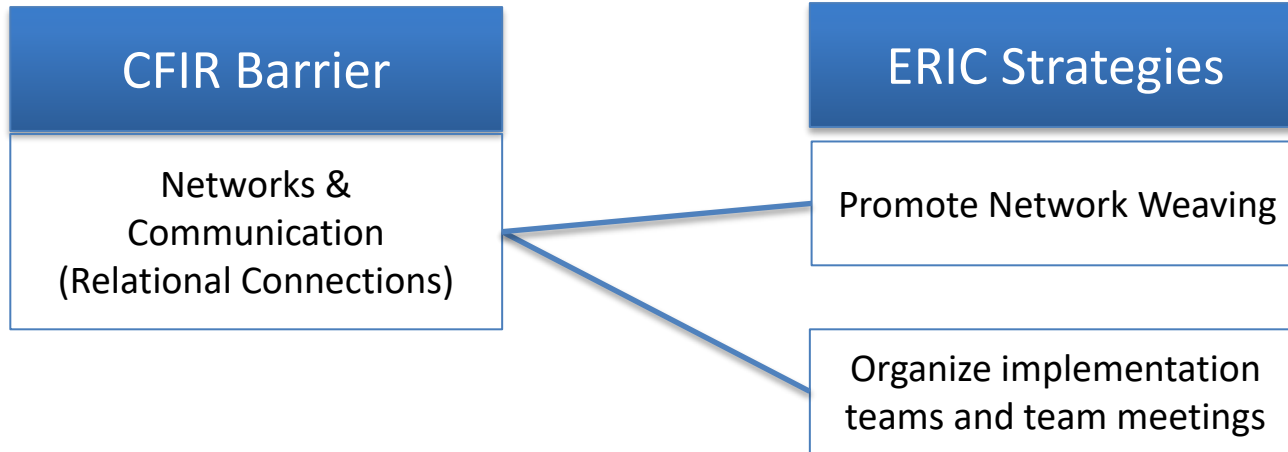


Thomas J. Waltz<sup>1,2</sup>, Byron J. Powell<sup>3</sup>, María E. Fernández<sup>4</sup>, Brenton Abadie<sup>1</sup> and Laura J. Damschroder<sup>2\*</sup> 

### Abstract

**Background:** A fundamental challenge of implementation is identifying contextual determinants (i.e., barriers and facilitators) and determining which implementation strategies will address them. Numerous conceptual frameworks (e.g., the Consolidated Framework for Implementation Research; CFIR) have been developed to guide the identification of contextual determinants, and compilations of implementation strategies (e.g., the Expert Recommendations for Implementing Change compilation; ERIC) have been developed which can support selection and reporting of implementation strategies. The aim of this study was to identify which ERIC implementation strategies would best address specific CFIR-based contextual barriers.

# Example: Linking Strategies to Barriers



- Perry CK, Damschroder LJ, Hemler JR, Woodson TT, Ono SS, Cohen DJ. Specifying and comparing implementation strategies across seven large implementation interventions: a practical application of theory. *Implementation Science*. 2019 Dec;14(1):32.



# Consolidated Framework for Implementation Research

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## Strategy Design

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IMPLEMENTATION STRATEGY  
**SELECTION TOOL**

2009 CFIR

DEBATE

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# Implementation strategies: recommendations for specifying and reporting

Enola K Proctor<sup>1\*</sup>, Byron J Powell<sup>1</sup> and J Curtis M

**Table 2 Specification of two implementation strategies**

Domain	Strategy: clinical supervision	Strategy: clinician implementation team
Actor(s)	Clinician who is expert in the clinical innovation and recommended by the treatment developer.	A team of clinicians who are implementing the clinical innovation.
Action(s)	Provides clinical supervision via phone to answer questions, review case implementation, make suggestions, and provide encouragement.	Reflect on the implementation effort, share lessons learned, support learning, and propose changes to be implemented in small cycles of change.
Target(s) of the action	Clinicians newly trained in the innovation. 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.	Clinicians newly trained in the innovation. Knowledge about how to use the innovation in this context, intentions to use the innovation, social influences.
Temporality	Clinical supervision should begin within one week following the end of didactic training.	First meeting should be within two weeks of initial training.
Dose	Once per week for 15 minutes for 12 weeks, plus follow-up booster sessions at 20 and 36 weeks.	Once monthly for one hour for the first six months.
Implementation outcome(s) affected	Uptake of the innovation, penetration among eligible clients/patients, fidelity to the protocol of the clinical innovation.	Uptake of the innovation, penetration among eligible clients/patients, fidelity to the protocol of the clinical innovation, sustainability of the innovation.
Justification	Research that suggests that post-training coaching is more important than quality or type of training received [70].	Cooperative learning theory [71].

## Example Strategy Operationalization

Operationalization	Detailed Description
Name it	Conduct local consensus discussions
Define it	<p>Include local providers and other stakeholders in discussions that address whether the chosen problem is important and whether the clinical innovation to address it is appropriate.</p> <p><i>Powell et al. 2015. DOI: 10.1186/s13012-015-0209-1</i></p>
Actor	Implementation leader
Actions	<p>Reach out to Chief-of-Staff to get buy-in</p> <p>Get on staff agenda</p> <p>Identify primary care champions</p> <p>Co-develop detailed strategy</p> <p>Etc...</p>
Action Targets	Primary Care Providers/Leaders
Timing/Dose	Pre- and during implementation, as needed
Outcomes expected	Increased buy-in of TLC by PCPs → Increased Referrals to TLC
Justification	Engagement of providers is key determinant → more referrals

# Potential TLC Implementation Strategies

Implementation Determinant	Implementation Strategy (Example)
Structural Characteristics: Work Infrastructure	Change physical structure and equipment
Relational Connections	Organize Implementation Team Meetings
Compatibility	Conduct cyclical small tests of change
Planning	Develop an implementation blueprint Conduct local needs assessment
Implementation Leads	Identify and prepare champions
Deliverers: PCPs who refer	Conduct local consensus discussions

TBM

ORIGINAL RESEARCH



Implementation evaluation of the Telephone Lifestyle Coaching (TLC) program: organizational factors associated with successful implementation

Laura J. Damschroder,<sup>1</sup> Caitlin M. Reardon,<sup>1</sup> Nina Sperber,<sup>2</sup> Claire H. Robinson,<sup>1</sup> Jacqueline J. Fickett,<sup>3</sup> Eugene Z. Oddone<sup>2</sup>



# The updated Consolidated Framework for Implementation Research based on user feedback

Laura J. Damschroder, Caitlin M. Reardon<sup>\*</sup>, Marilla A. Opra Widerquist and Julie Lowery

The updated Consolidated Framework for Implementation Research based on user feedback

Additional file 1. Literature Review Methods.

## Additional file 1.

Literature Review Methods.

## Additional file 2.

Consolidated Framework for Implementation Research User Survey.

## Additional file 3.

Literature Review Articles.

## Additional file 4.

Original CFIR (2009) to Updated CFIR (2022): Construct Mapping.

## Additional file 5.

User Feedback & CFIR Updates.

## Additional file 6.

Updated CFIR Domains and Constructs: Short Definitions and Detailed Descriptions.



# THANK YOU!

Questions? Email: [VHAANNhsrdCFIR@va.gov](mailto:VHAANNhsrdCFIR@va.gov)