

Using Implementation Mapping to Plan or Select Implementation Strategies

14th Conference on the Science of Dissemination and Implementation in Health
December 14, 2021

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Definition and Types of Strategies

Implementation Strategies – Methods or techniques used to enhance the adoption, implementation, sustainment, and scale-up of a program or practice.

Discrete Strategy – Single action or process (e.g., reminders, audit and feedback, supervision)

Multifaceted Strategy or Implementation Intervention – Combination of multiple discrete strategies.

Implementation Strategy Types/Taxonomies

Powell *et al.* *Implementation Science* (2015) 10:21
DOI 10.1186/s13012-015-0209-1



RESEARCH

Open Access

A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project

Byron J Powell^{1*}, Thomas J Waltz², Matthew J Chinman^{3,4}, Laura J Damschroder⁵, Jeffrey L Smith⁶, Monica M Matthieu^{6,7}, Enola K Proctor⁸ and JoAnn E Kirchner^{6,9}

Waltz *et al.* *Implementation Science* (2015) 10:109
DOI 10.1186/s13012-015-0295-0



SHORT REPORT

Open Access

Use of concept mapping to characterize relationships among implementation strategies and assess their feasibility and importance: results from the Expert Recommendations for Implementing Change (ERIC) study



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Challenges in Selecting Implementation Strategies

- While some compilations exist, they may be less relevant for certain settings (clinical vs public health or community settings)
- Strategies included in compilations are broad and may represent qualitatively different things (delivery channel, assessments, processes)
- Limitations of the empirical literature in describing strategies
- Underutilization of conceptual models and theories in the literature,
- Variations related to the EBPs and the contexts in which they are implemented

Waltz, et al. 2014; Powell et al. 2017, Waltz, et al. 2019

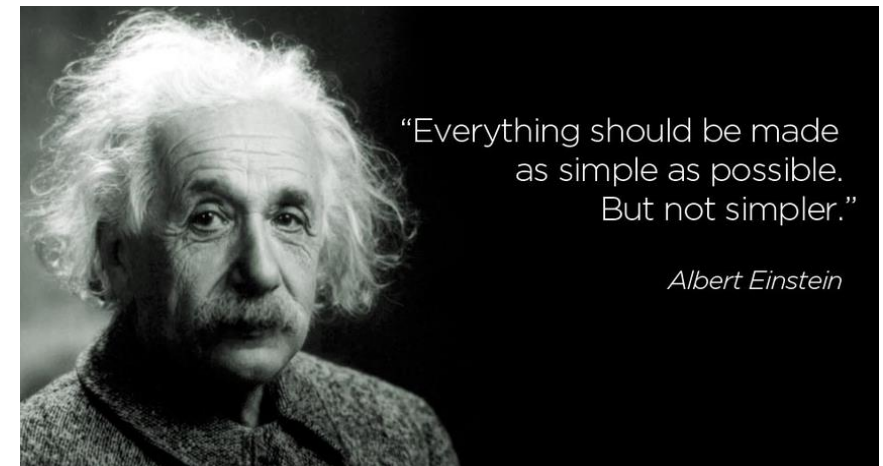
How do we select or develop implementation strategies?

- Assess factors influencing implementation processes and outcomes (e.g. characteristics of the innovation, setting, preferences of involved stakeholders, barriers and facilitators)



It's not that easy

- Develop or select and tailor strategies to address these.



Methods for Designing and Tailoring Implementation Strategies

- Group Model Building
- Conjoint Analysis
- Concept Mapping
- **Intervention Mapping**

Methods to Improve the Selection and Tailoring of Implementation Strategies

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Baker et al. (2015); Bosch et al. (2007); Colquhoun et al. (2017); Grol et al. (2013); Powell et al. (2017)

Health Promotion

“Any planned combination of educational, political, regulatory, or organizational supports for actions and conditions of living conducive to the health of individuals, groups, and communities” (Green & Kreuter, 2005).

Importance of socio-cultural and economic influences of health.

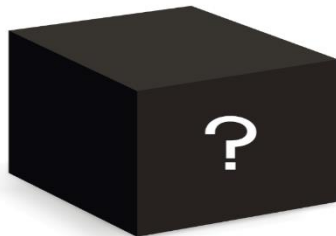
- 1) Health Behavior
- 2) Health Services
- 3) Health Policy
- 4) Community Action
- 5) Supportive Environments

History of Intervention Mapping

Stimulated by questions that include how and when to:

- Use theory?
- Apply empirical evidence?
- Collect new data?

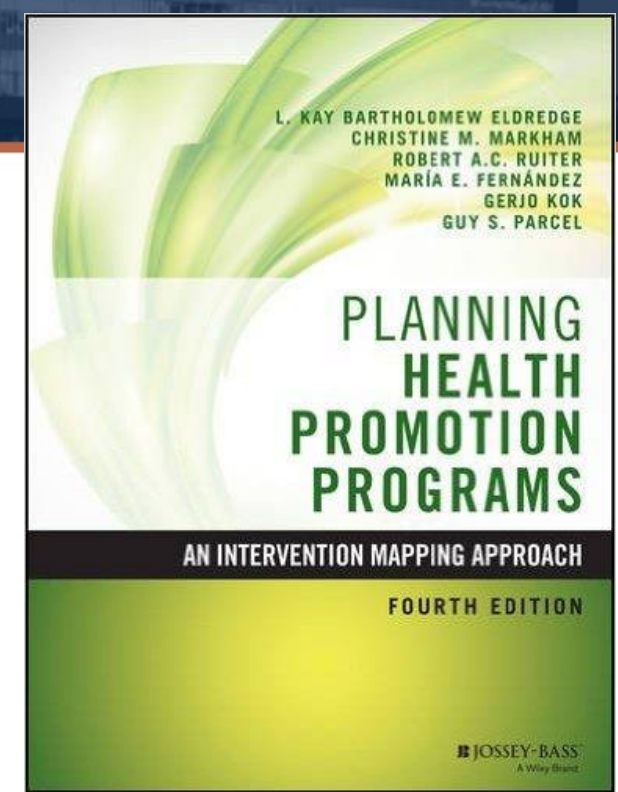
...to create effective behavior or systems change interventions



- How to take an ecological approach to program planning?
 - How to address changing the behavior of people in the environment?
 - How to address the complexity of multi-causation of problems and multi-level intervention points?

What is Intervention Mapping?

- A **systematic approach** to multilevel intervention development, implementation & evaluation
- Uses an **ecological** approach
- Provides a **framework** for decision-making at each step of development
 - Theory
 - Empirical evidence
 - New data
 - Community input
- Incorporates **community participatory** processes



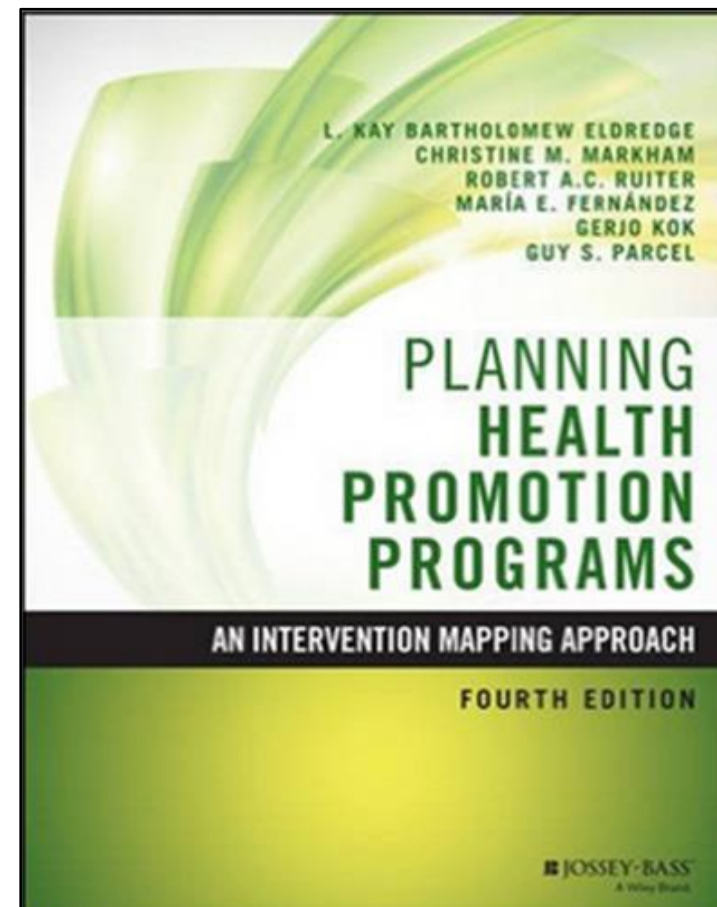
Intervention Mapping:

A Systematic Approach for Intervention Development, Implementation and Adaptation

Three ways to use IM for D&I

1. Designing multi-level interventions in ways that enhance their potential for being adopted, implemented, and sustained
2. Designing implementation strategies to influence adoption, implementation, and continuation (Implementation Mapping)
3. Using IM processes to adapt existing evidence-based interventions

Bartholomew Eldredge, LK, Markham, CM, Ruiter, RAC, Fernández, M.E., Kok, G, Parcel, GS (Eds.). Jan 201). *Planning health promotion programs: An Intervention Mapping approach* (4th ed.). San Francisco, CA: Jossey-Bass.



What is Implementation Mapping?

The Use of the Intervention Mapping Protocol for planning Implementation Strategies (Implementation Interventions).

Implementation Science + Intervention Mapping = **Implementation Mapping**



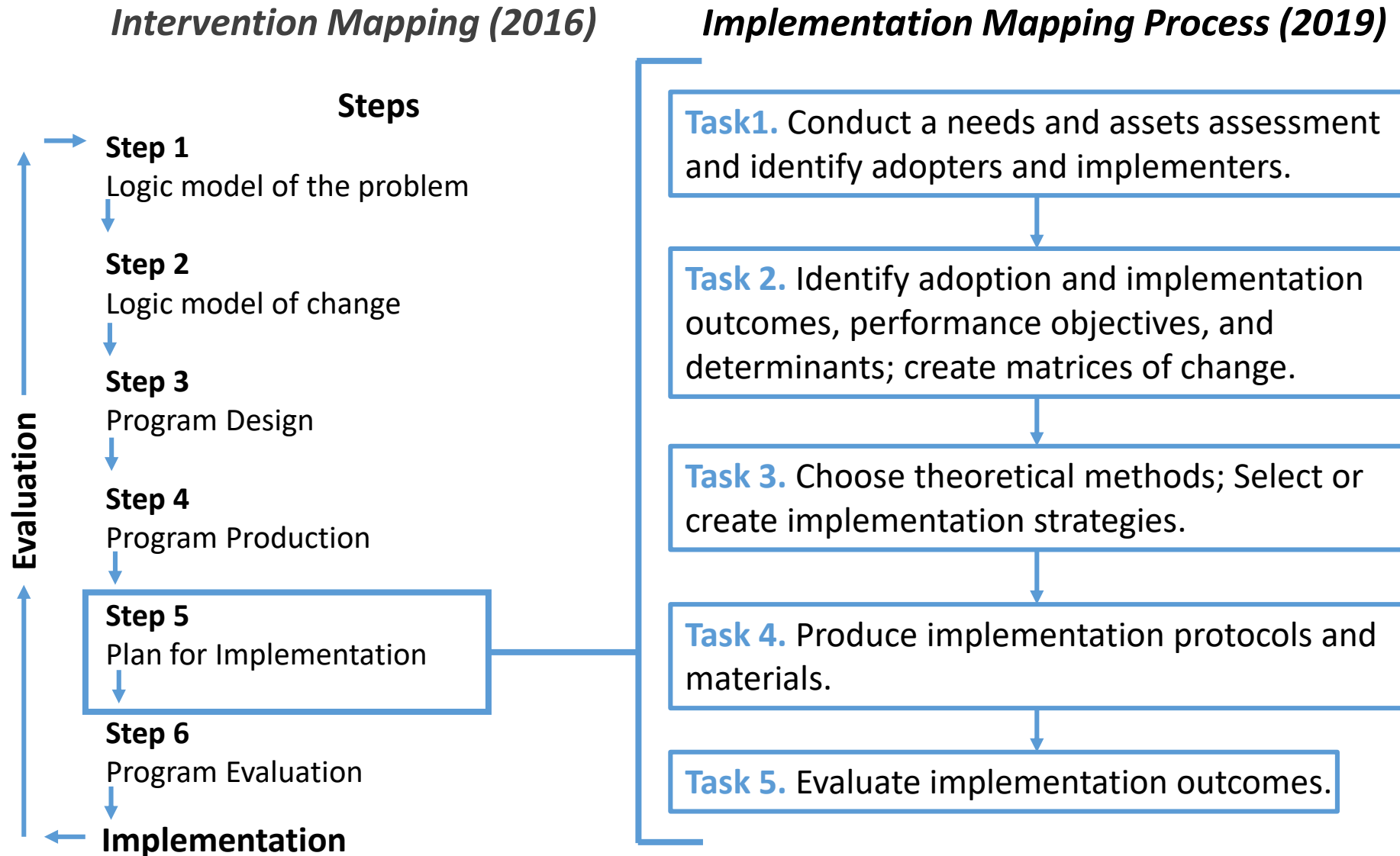
Implementation Mapping: Using Intervention Mapping to Develop Implementation Strategies

Maria E. Fernandez^{1*}, *Gill A. ten Hoor*², *Sanne van Lieshout*³, *Serena A. Rodriguez*^{1,4}, *Rinad S. Beidas*^{5,6}, *Guy Parcel*¹, *Robert A. C. Ruiter*², *Christine M. Markham*¹ and *Gerjo Kok*²

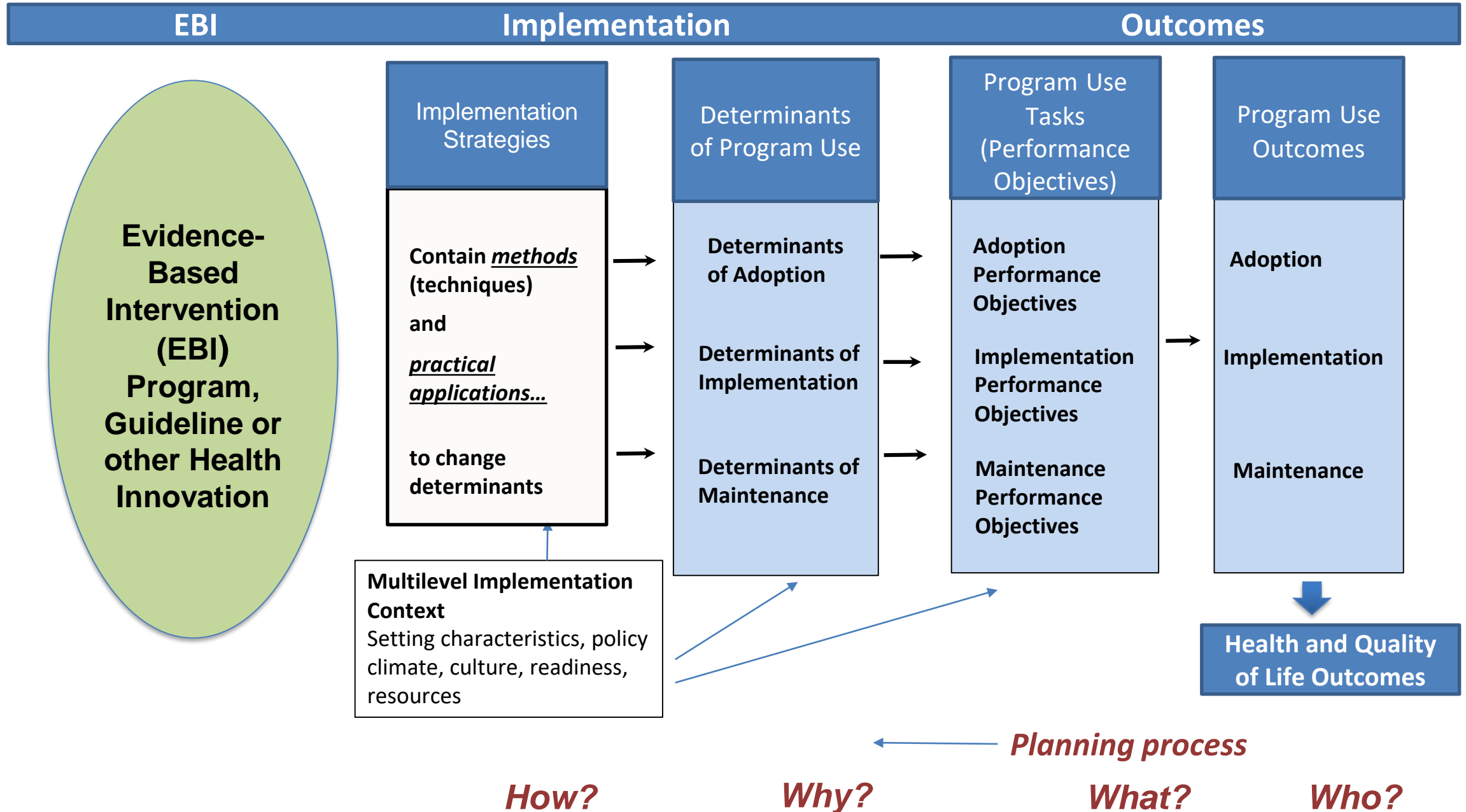
¹ Center for Health Promotion and Prevention Research, University of Texas Health Science Center at Houston School of Public Health, Houston, TX, United States, ² Department of Work and Social Psychology, Maastricht University, Maastricht, Netherlands, ³ Department of Public Health, Amsterdam UMC, University of Amsterdam, Amsterdam, Netherlands, ⁴ Department of Population and Data Sciences, University of Texas Southwestern Medical Center, Dallas, TX, United States, ⁵ Department of Psychiatry, University of Pennsylvania, Philadelphia, PA, United States, ⁶ Department of Medical Ethics and Health Policy, University of Pennsylvania, Philadelphia, PA, United States

Fernández ME, et al. Implementation Mapping: Using Intervention Mapping to Develop Implementation Strategies, *Frontiers in Public Health*, 2019, 7:158. doi: 10.3389/fpubh.2019.00158. eCollection 2019. PMID: 31275915; PMCID: PMC6592155.

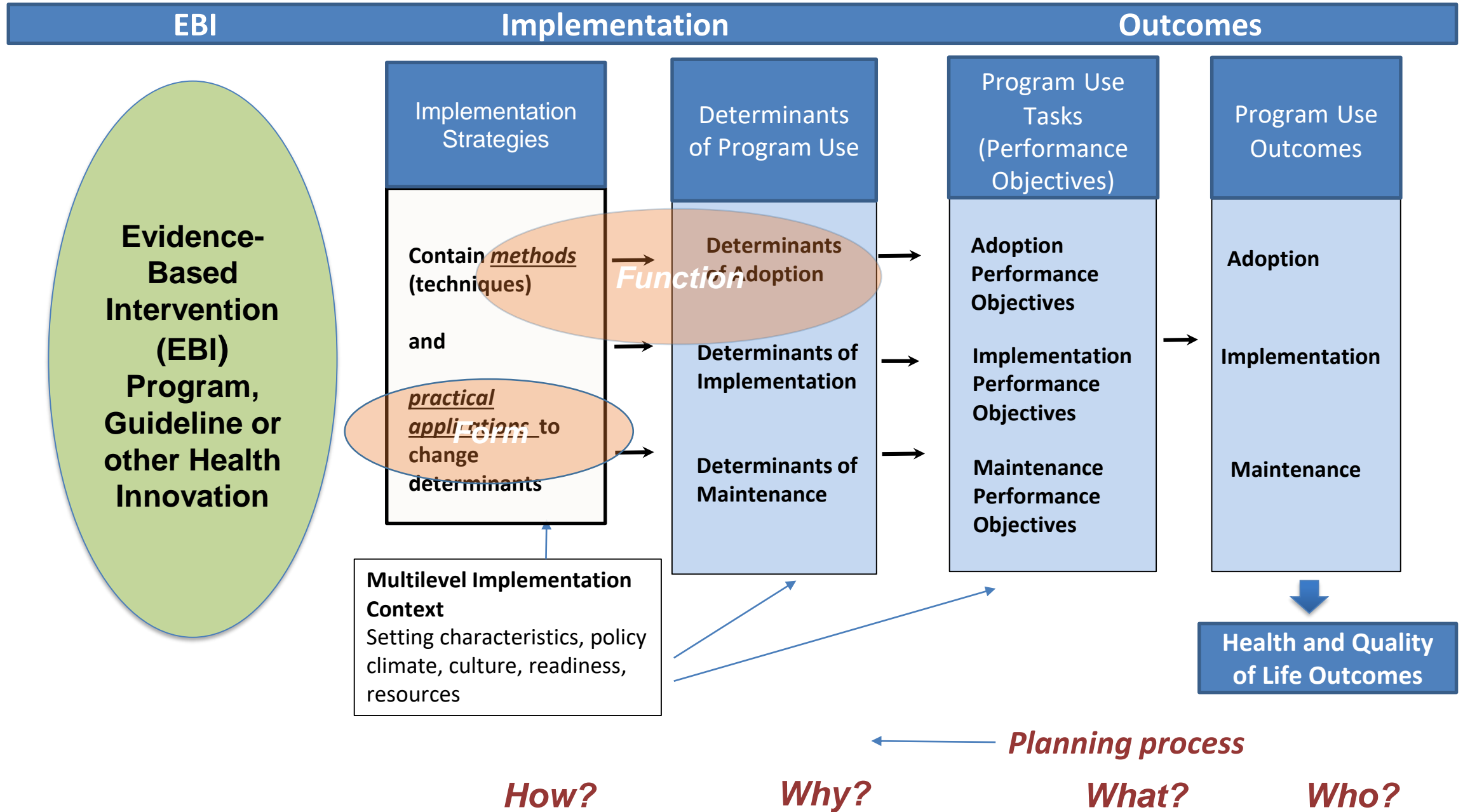
Implementation Mapping



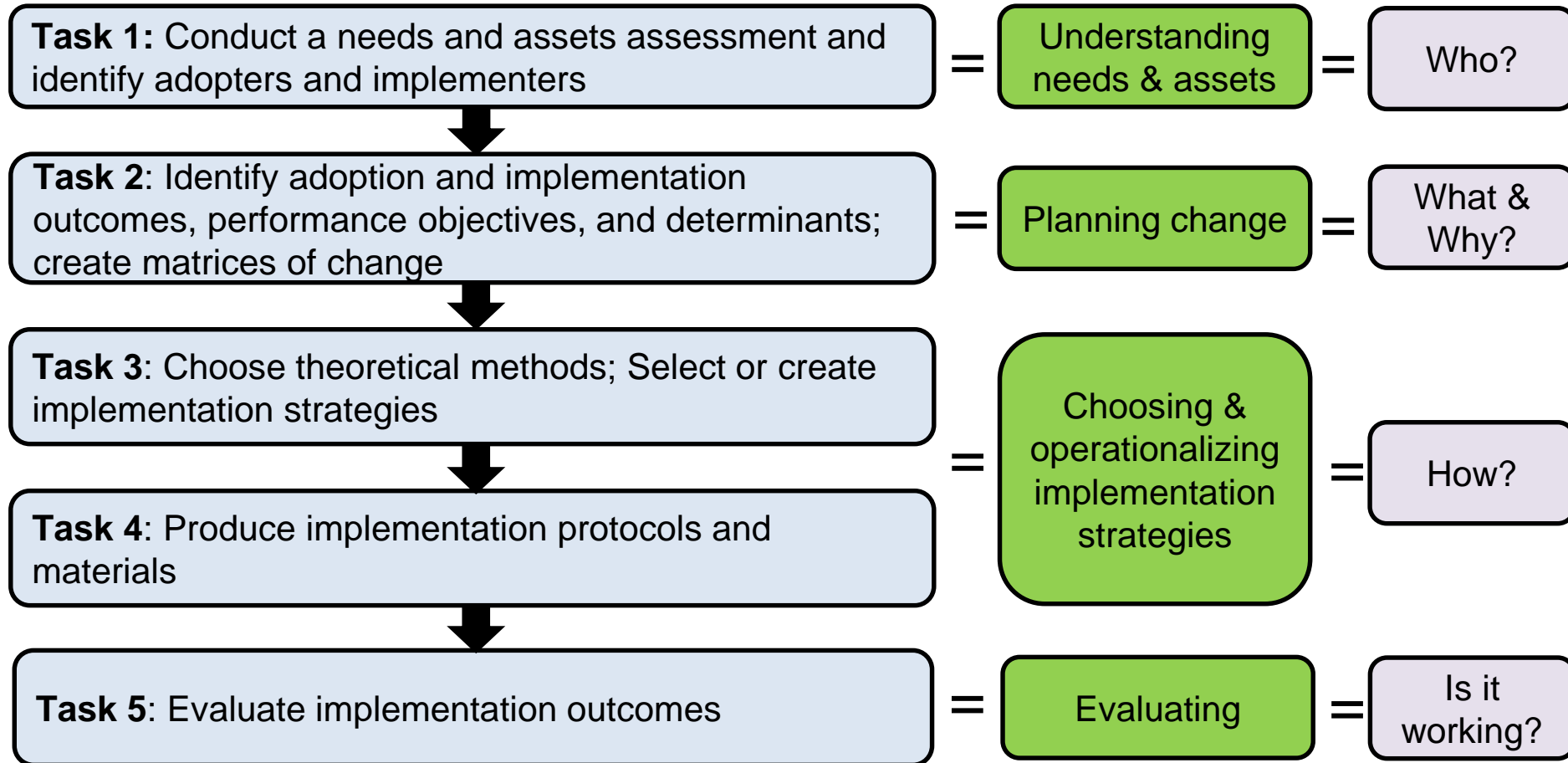
Implementation Mapping Logic Model



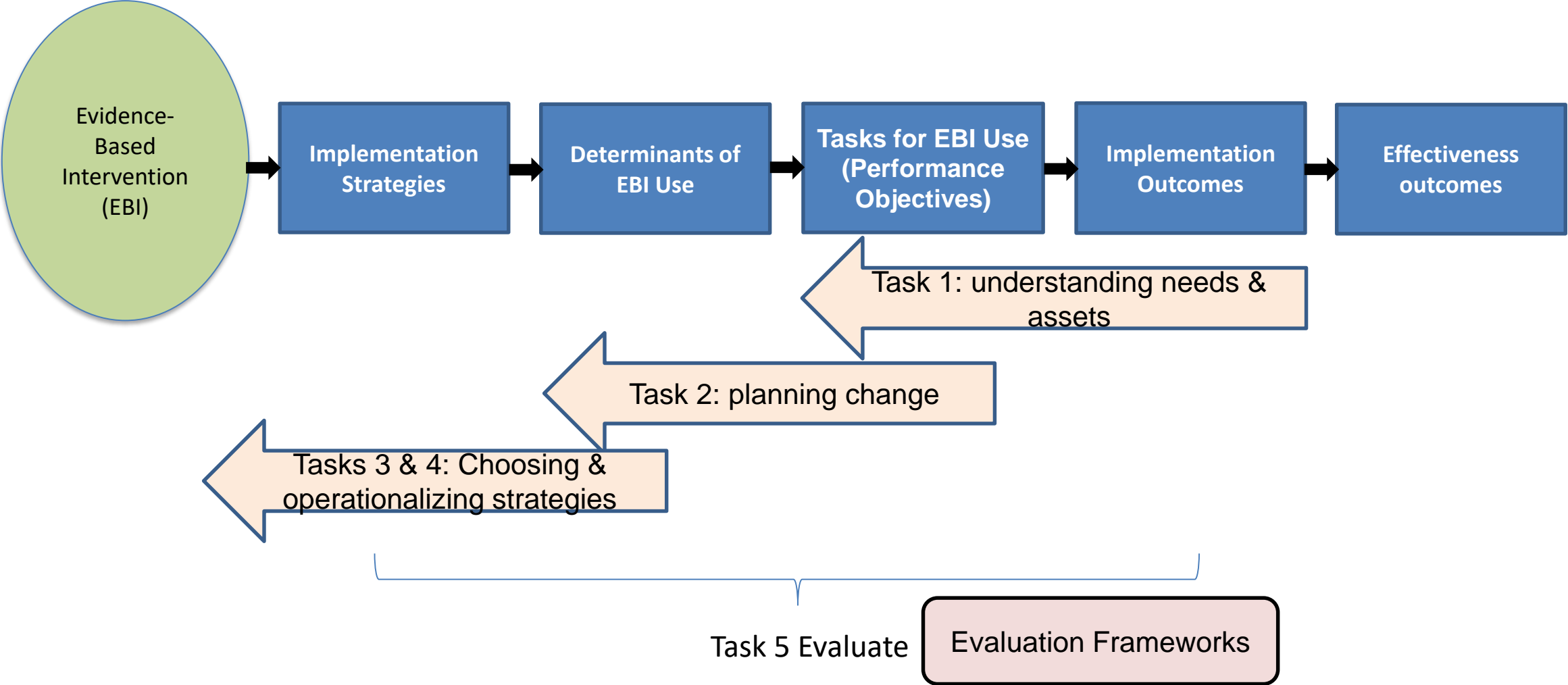
Implementation Mapping Logic Model



Implementation Mapping Tasks



Simplified Implementation Mapping Logic Model



Fernandez, Maria E., et al. "Implementation mapping: using intervention mapping to develop implementation strategies." *Frontiers in public health* 7 (2019): 158.

Figuring out the WHAT and WHY *before the HOW*

Specify Implementation Sub-Tasks (Performance Objectives):

What are the subcomponents of the Implementation behavior?

What do the program implementers need to do to deliver the essential program components with acceptable completeness, fidelity, and adaptation?

Determinants (personal and environmental or contextual):

What factors are influencing implementation?

Outcome expectations, Self-efficacy, Attitudes about the innovation (attitudes and beliefs about relative advantage, complexity, compatibility, etc.); culture, implementation climate, etc.

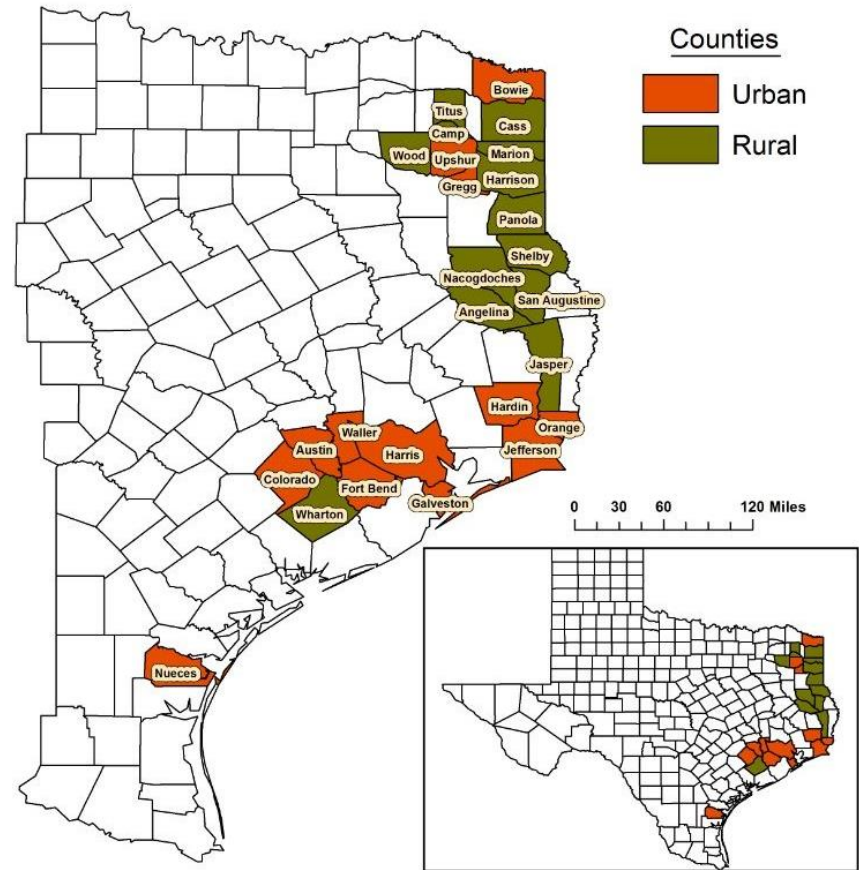
the How...

Implementation Strategies have Theoretic Change Methods and Practical Applications

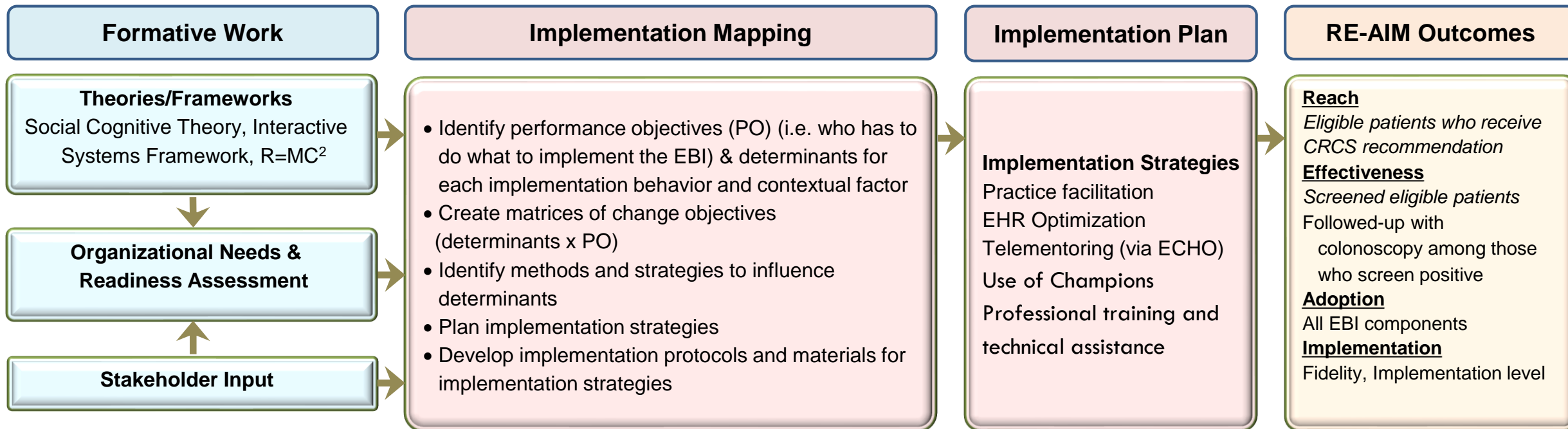
- A *method* is a general process for influencing changes in the determinants of behavior and environmental conditions (*element of core functions*)
 - e.g. Persuasion, Active learning, Social support, Dissonance reduction, Modeling, Skill-building - change techniques at both the individual and the environmental (e.g. organizational) level.
- A *practical application* is a concrete, real-world technique for operationalizing methods in ways that fit with the intervention group and the context in which the intervention will be conducted=*how you will present and deliver the theoretical method. (Forms- activities that operationalize, carry out & achieve the functions)*
 - e.g. Workshops, Discussion, Problem analysis, Role-playing, Team meetings, Problem-solving, Guided practice, Newsletters, Model stories, Resources, Information, Online or face-to-face training.

Texas CDC Colorectal Cancer Control Program

Texas FQHC Partners	Counties Served Urban/Rural	# of Clinic Sites	CRCS Rate (%)	CPRIT CRCS Program
TEXAS GULF COAST REGION				
Gulf Coast Health Center	Jefferson, Orange, Hardin/Jasper	5	4.8	X
Coastal Health & Wellness	Galveston	2	15.4	X
Amistad Community Health Center	Nueces	1	18.8	X
Access Health	Austin, Colorado, Fort Bend, Waller/Wharton	5	31.8	
Avenue 360	Harris	6	34.4	
EAST TEXAS REGION				
Hope Community Medicine	Panola, Shelby, San Augustine	3	6.0	X
Genesis PrimeCare	Bowie, Gregg/Cass, Harrison, Marion	3	25.6	X
Wellness Pointe	Gregg, Upshur/Camp, Titus, Wood	5	27.8	X
East Texas Community Health Services	Angelina, Nacogdoches	3	53.0	X
Carevide	Collin, Hunt, Fannin, Delta, Kaufman, Hopkins	6	29.0	X
Total: 10 FQHCs	Urban: 16 Rural: 16 Total: 32	39	24.7	



Conceptual Framework for Implementation Strategy Development and Tailoring



Using Implementation Mapping to Increase Adoption and Implementation of Salud En Mis Manos (SEMM), a Breast and Cervical Cancer Screening & HPV Vaccination Intervention For Medically Underserved Latinas.

Breast and Cervical Cancer Screening and Prevention Recommendations

Mammogram Screening

- Women 40-44 years old can choose to start yearly mammograms every year
- Women 45-54 years old should get yearly mammograms every one or two years
- Women 55 years and older can switch to mammograms every two years, or can continue yearly screenings every one or two years

HPV Vaccine

Provides safe, effective and long-lasting protection against most Human papillomavirus (HPV) infections that cause 6 types of cancer: cervix, anus, penis, vulva, vagina, and throat.

- 9-14 years old: 2 doses
- 15-26 years old: 3 doses

27-45 years old, ask your doctor about getting the HPV vaccine

Pap Test & HPV Test

- Women 21 - 29 years old: Pap test every 3 years (3 yrs)
- Women 30 - 65 years old: Pap test every 3 years, or Pap test along with HPV test every 5 years (3-5 yrs)
- Women 65 years and older: ask your doctor if you still need your Pap test and HPV test

Source: American Cancer Society at www.cancer.org

Salud en Mis Manos Health in My Hands

ASK ME ABOUT BREAST AND CERVICAL CANCER SCREENINGS & VACCINATIONS

(361) 881-8133

Follow us:
 South Coastal AHEC
 SEMM_UTHealth

CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS | UTHHealth | AHEC

Salud en Mis Manos Health in My Hands

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2 SCREENING TESTS

can help prevent cervical cancer:

PAP TEST and HPV TEST

GET TESTED

Check if you need it: <https://go.uth.edu/getchecked>
Use of this link is confidential

Your health. Your decision.

If you're 18-26, you still have time to get your **HPV VACCINE** and protect yourself against 5 types of cancer.

Contact us for information and assistance finding low-cost or free HPV vaccinations.
 (713) 500-9784

HERE YOU ARE—
mom, sister, daughter, friend.

You do everything for the people you love.

Whether you take time to stop and rest, or work so hard that you can't take a breath. We see you!

When it comes to breast and cervical cancer, we can help you and your family get screened for these invisible illnesses and vaccinated to prevent cervical cancer.

If you are Latina and 18 years old or older, you can:

- Join us for a free educational session in English or Spanish.
- Ask us about resources for finding free or low-cost pap smears, mammograms and HPV vaccines.

Ask us about breast and cervical cancer prevention, because you are everything to the people you love.

Call us at: (361) 881-8133

Email us at: semm@uth.tmc.edu

Follow us at:
 Salud en Mis Manos - UTHHealth
[semm_saludenmismanos](https://www.facebook.com/semm_saludenmismanos)

Check if you are eligible: go.uth.edu/GetChecked

This project is offered by UTHHealth and funded by the Cancer Prevention and Research Institute of Texas (CPRIIT)

Lara S. Savas, Preena Loomba, Ross Shegog, Marlyn Allicock, Crystal Costa, Ashley M. Hedrick, Amanda S. English, Roshanda S. Chenier, Christine Markham, Maria E. Fernandez.

Poster 214 Session: Clinical Care Settings: System-Level Interventions session

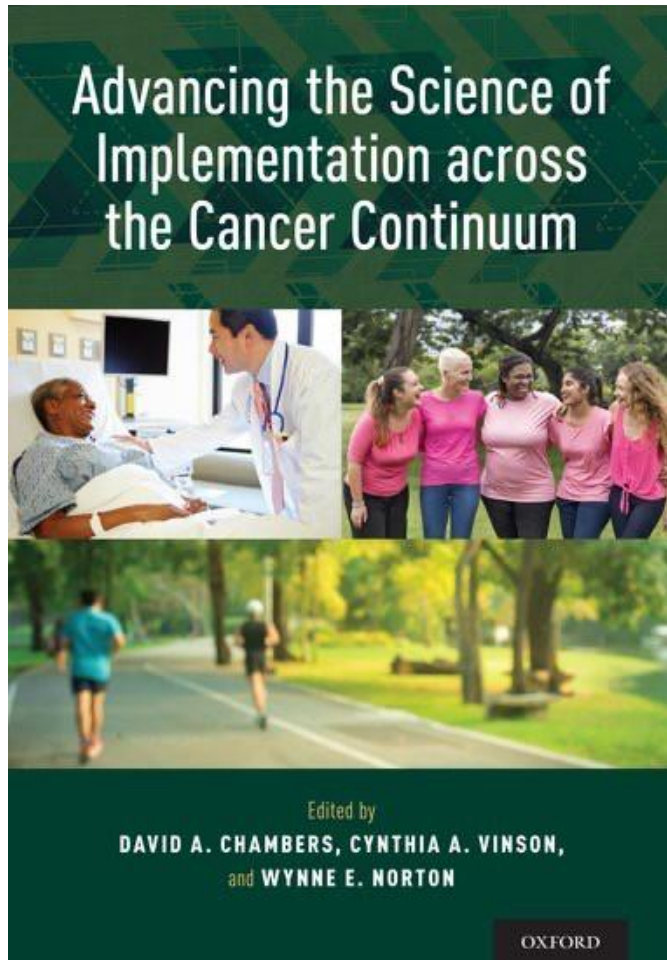
Using Implementation Mapping to Increase Adoption and Implementation of *Salud En Mis Manos* (SEMM), a Breast and Cervical Cancer Screening & HPV Vaccination Intervention For Medically Underserved Latinas.

Implementers	Determinants	Methods	Practical Applications
Clinic leadership	<ul style="list-style-type: none"> Relative Advantage Priority Trialability Outcome Expectation Complexity Skills and Self-Efficacy Compatibility Specific implementation climate support 	<ul style="list-style-type: none"> Goal setting Modeling Environmental reevaluation Skill building Verbal Persuasion Technical Assistance 	<ul style="list-style-type: none"> Video introducing the SEMM program, components and benefits and effectiveness data; SEMM Clinic work flow and SEMM readiness inventory; SEMM Staff SMART Goals Guidelines
Clinic Program Coordinator	<ul style="list-style-type: none"> Skills and Self-Efficacy Priority Complexity Knowledge 	<ul style="list-style-type: none"> Active Learning Skill building Persuasion Environmental reevaluation 	<ul style="list-style-type: none"> SEMM Implementation Inventory; Interactive skills and tips training for CHWs; SEMM Materials and Implementation Steps Checklist

Lara S. Savas, Preena Loomba, Ross Shegog, Marlyn Allicock, Crystal Costa, Ashley M. Hedrick, Amanda S. English, Roshanda S. Chenier, Christine Markham, Maria E. Fernandez.

Poster 214 Session: Clinical Care Settings: System-Level Interventions session

Enhancing the Impact of Implementation Strategies



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in Public Health

PERSPECTIVE
published: 22 January 2019
doi: 10.3389/fpubh.2019.00003

Enhancing the Impact of Implementation Strategies in Healthcare: A Research Agenda

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Edited by:
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Specialty section:
This article was submitted to
Public Health Education and
Promotion,
a section of the journal
Frontiers in Public Health

Received: 16 October 2018
Accepted: 04 January 2019
Published: 22 January 2019

Citation:
Powell BJ, Fernandez ME,
Williams NJ, Aarons GA, Beidas RS,
Lewis CC, McHugh SM and Weiner
BJ (2019) Enhancing the
Impact of Implementation Strategies in
Healthcare: A Research Agenda.
Front. Public Health 7:3.
doi: 10.3389/fpubh.2019.00003

The field of implementation science was developed to better understand the factors that facilitate or impede implementation and generate evidence for implementation strategies. In this article, we briefly review progress in implementation science, and suggest five priorities for enhancing the impact of implementation strategies. Specifically, we suggest the need to: (1) enhance methods for designing and tailoring implementation strategies; (2) specify and test mechanisms of change; (3) conduct more effectiveness research on discrete, multi-faceted, and tailored implementation strategies; (4) increase economic evaluations of implementation strategies; and (5) improve the tracking and reporting of implementation strategies. We believe that pursuing these priorities will advance implementation science by helping us to understand when, where, why, and how implementation strategies improve implementation effectiveness and subsequent health outcomes.

Keywords: implementation strategies, implementation science, designing and tailoring, mechanisms, effectiveness research, economic evaluation, reporting guidelines

INTRODUCTION

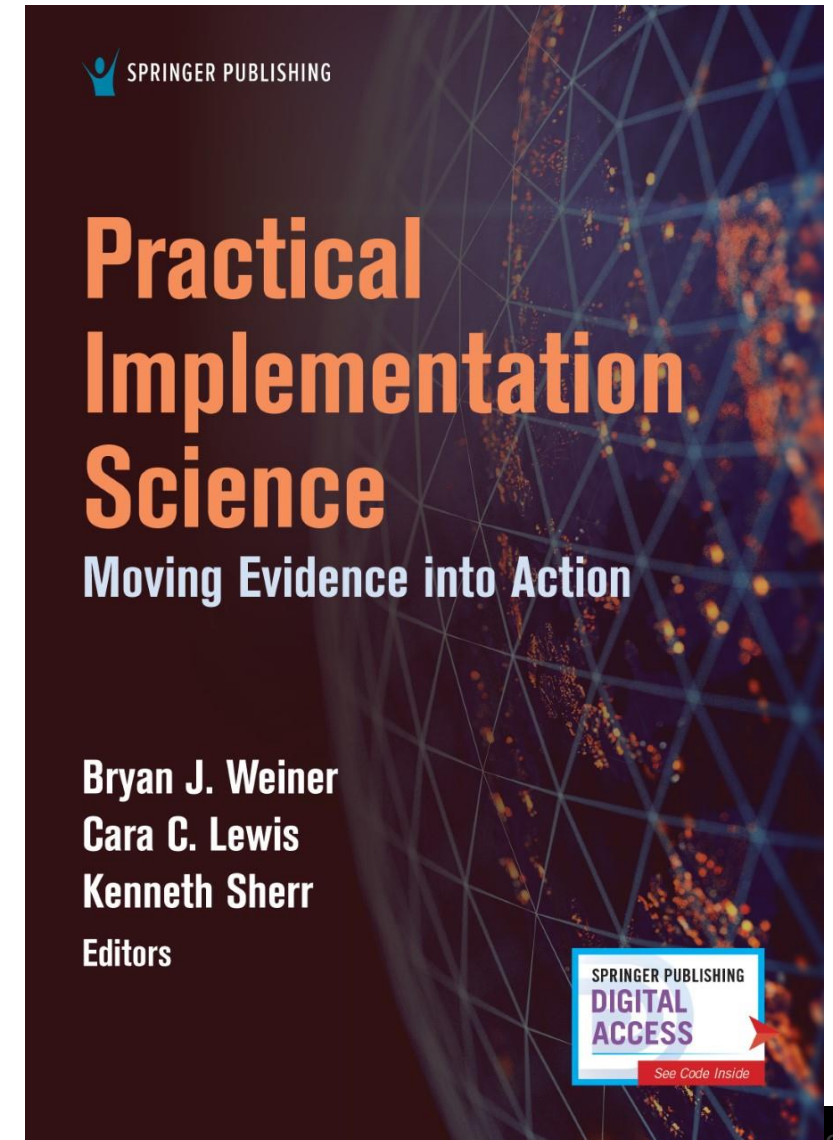
Nearly 20 years ago, Grol and Grimshaw (1) asserted that evidence-based practice must be complemented by evidence-based implementation. The past two decades have been marked by significant progress, as the field of implementation science has worked to develop a better understanding of implementation barriers and facilitators (i.e., determinants) and generate evidence for implementation strategies (2). In this article, we briefly review progress in implementation science and suggest five priorities for enhancing the impact of implementation strategies. We draw primarily upon the healthcare, behavioral health, and social services literature.

Frontiers in Public Health | www.frontiersin.org
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January 2019 | Volume 7 | Article 3

- 1) Enhance methods for designing and tailoring
- 2) Specify and test mechanisms of change
- 3) Improve tracking and reporting of strategies
- 4) Conduct more effectiveness research
- 5) Increase economic evaluations

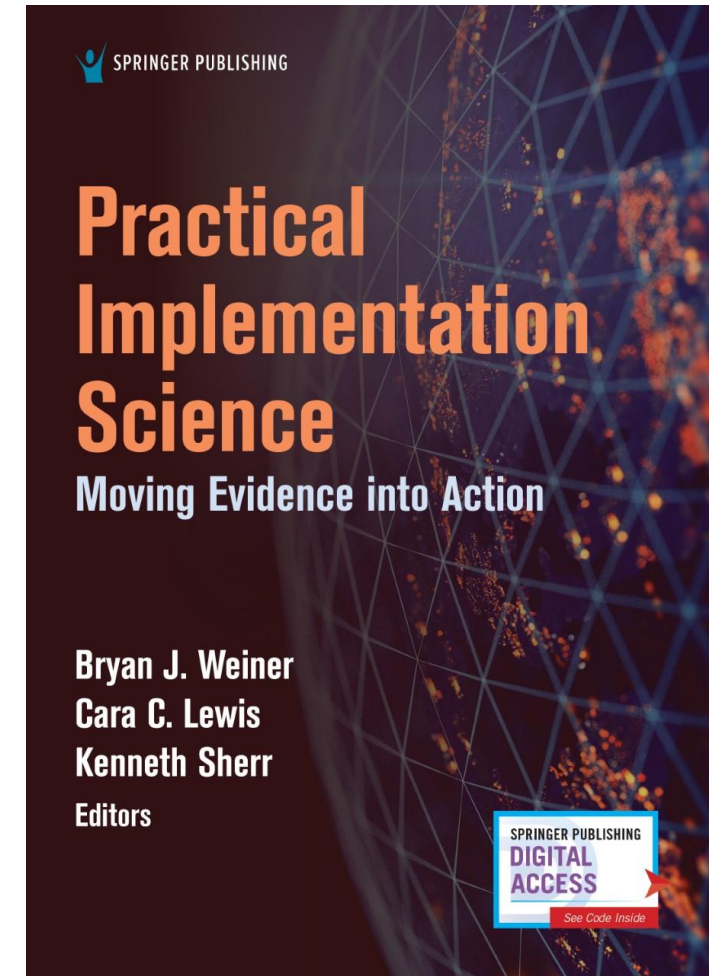
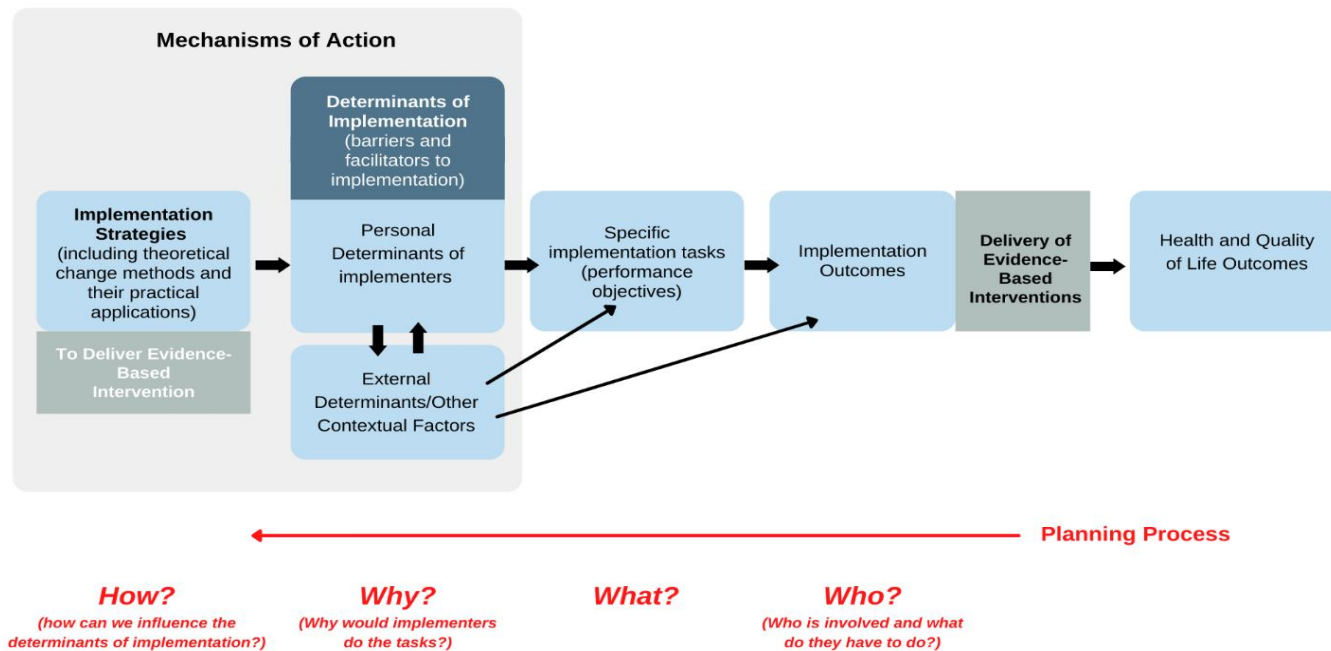
CORE PROCESSES FOR IDENTIFYING BARRIERS AND FACILITATORS OF IMPLEMENTATION

- Core processes are a set of helpful actions or tools that can provide a systematic way to identify and prioritize potential barriers and facilitators to implementation.
- Community and stakeholder engagement should be integrated with four main core processes:
 1. Brainstorm potential barriers and facilitators
(based on experience, past needs assessments, and published literature)
 1. Use theories and frameworks
 2. Collect new data
 3. Prioritize the most important and changeable factors



USING IMPLEMENTATION MAPPING TO PUT IT ALL TOGETHER

- Tools within IM can also help organize and prioritize information about barriers and facilitators to implementation.
- Implementation logic (IM) models provide a schematic representation of (hypothesized) causal relationships between determinants (barriers and facilitators) and outcomes.



Forthcoming Issue of Frontiers in Public Health



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Thank You!

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I acknowledge the people - past, present, and future - of the Kickapoo, Coahuiltecan, Atakapa-Ishak, Sana, Karankawa, Jumanos, and Comanche Tribes on whose traditional lands I live and work.

