

ACCORDS Health Equity Seminar Series Part 2



ACCORDS

ADULT AND CHILD CONSORTIUM FOR HEALTH OUTCOMES
RESEARCH AND DELIVERY SCIENCE

UNIVERSITY OF COLORADO | CHILDREN'S HOSPITAL COLORADO

3/4/2020

An Overview of Social Determinants of Health:

Where and how do we collect information? Why does it matter?

Megan Morris

Beginning March: Health Equity Seminar Series Part 2, a Focus on Social Determinants of Health

Topics to include (but not limited to):

- Methods, Measures, & Interventions
- Overview & Screening/Documentation (ACES)
- Screening for SDoH
- Pediatrics
- Social Network Analysis

Recorded seminars can be found on our website <https://goo.gl/1q9nUx>

Request a Planning or Support Consultation with the Education Program

June 10-11, 2020

THE COLORADO PRAGMATIC RESEARCH IN HEALTH CONFERENCE

Advancing Pragmatic Science for Health Research

REGISTRATION OPENS

2/3/2020

POSTER ABSTRACT

SUBMISSION

Open 2/3/2020 – 3/16/2020

FEATURED KEYNOTE

SPEAKERS

Daniel Almirall

Mike Baiocchi

Ross Brownson

Kate Guastaferrro

Amy Kilbourne

Jessica Moreau

Borsika Rabin

LOCATION

University of Colorado

Anschutz Medical Campus

Aurora (Denver), Colorado



Goal: Advancing the science and appropriate and effective use of pragmatic research design and methodologies



Attendees: Clinical and translational investigators, including statisticians, dissemination & implementation scientists, health services and public health researchers and program evaluators



Theme: Methods, models, and measures for planning pragmatic research



2020 Topics: Pragmatic trial planning using the PRECIS-2, pragmatic research approaches and study design including multi-phase optimization strategy (MOST) and sequential multiple assignment randomized trial (SMART) designs, rapid qualitative and mixed methods, and stakeholder engagement.



Conference activities will inform design of pragmatic science **capacity building tools** for application of pragmatic methods and fostering **team science** through collaborations and a virtual learning community.

Watch for details here: www.coprhcon.com or

<https://qr.go.page.link/5pwCZ>



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University of Colorado
Anschutz Medical Campus

CCTSI

The background features a stylized globe with a network of white lines and dots overlaid on it, set against a dark blue gradient background.

Planning Multilevel Interventions and Implementation Strategies to Increase Health Equity

María E. Fernández, PhD

Lorne Bain Distinguished Professor in Public Health and Medicine

Professor of Health Promotion and Behavioral Sciences

Director, Center for Health Promotion and Prevention Research

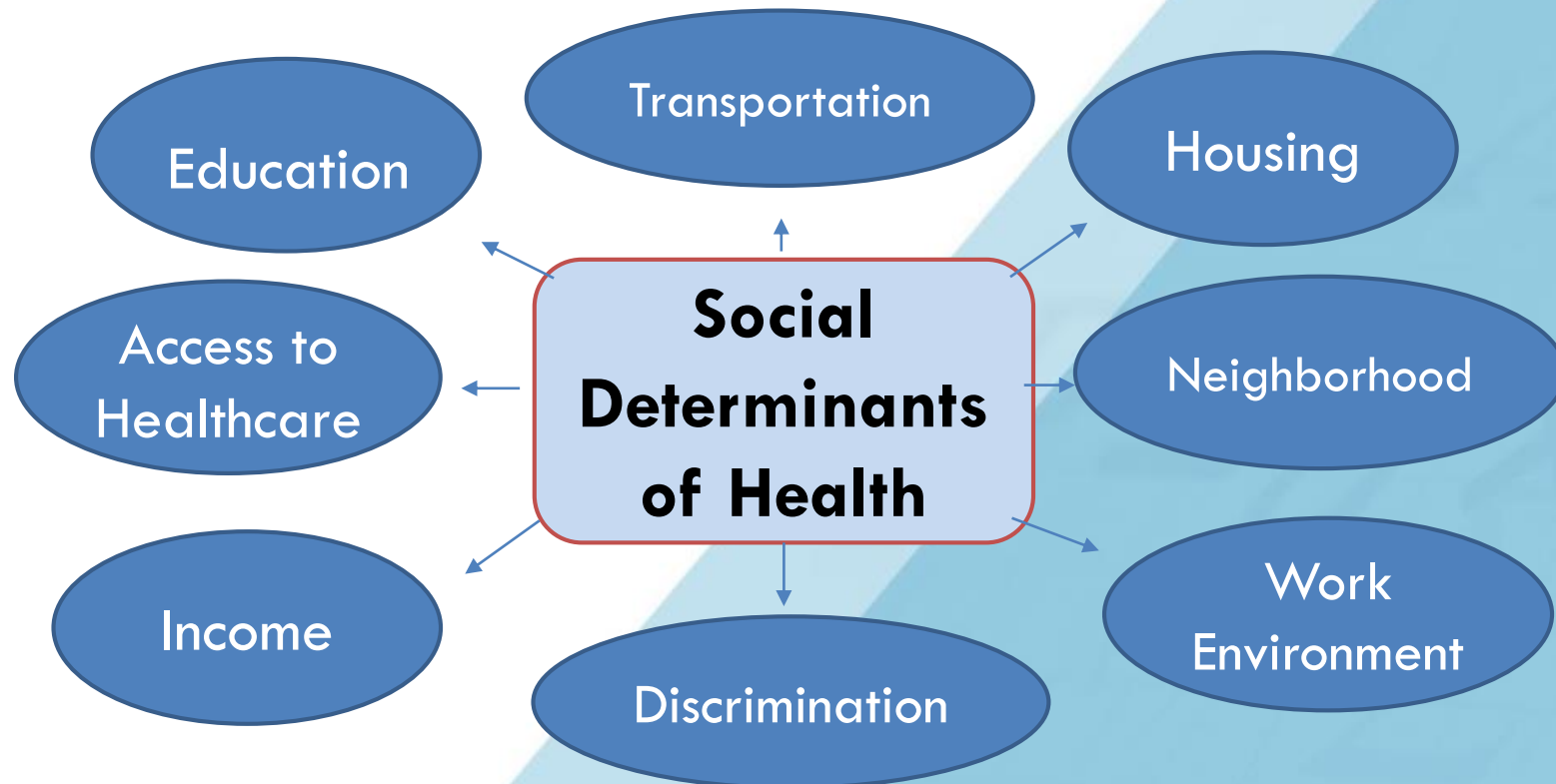
School of Public Health, University of Texas Health Science Center at Houston

Objective

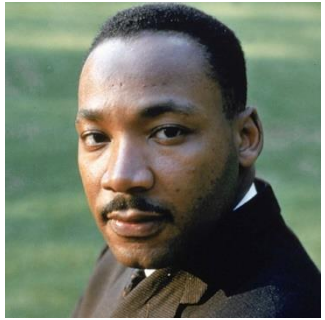
- Health equity and social determinants of health
- Multilevel intervention planning using Intervention Mapping
- Implementation Mapping for the development and/or selection of implementation strategies
- Examples

What are Social Determinants of Health?

Conditions in the environments where people are born, work, live, and play that affect their health outcomes and quality of life.



Health Inequities and the Social Determinants of Health



Health Inequities:

- Health inequities are inequalities characterized by unfairness or injustice
- “Of all the forms of inequality, injustice in health care is the most shocking and inhumane.” Martin Luther King, Jr.; 1966



“Poverty is a carcinogen.”
Samuel Broder, M.D., Former
Director of NCI; 1989

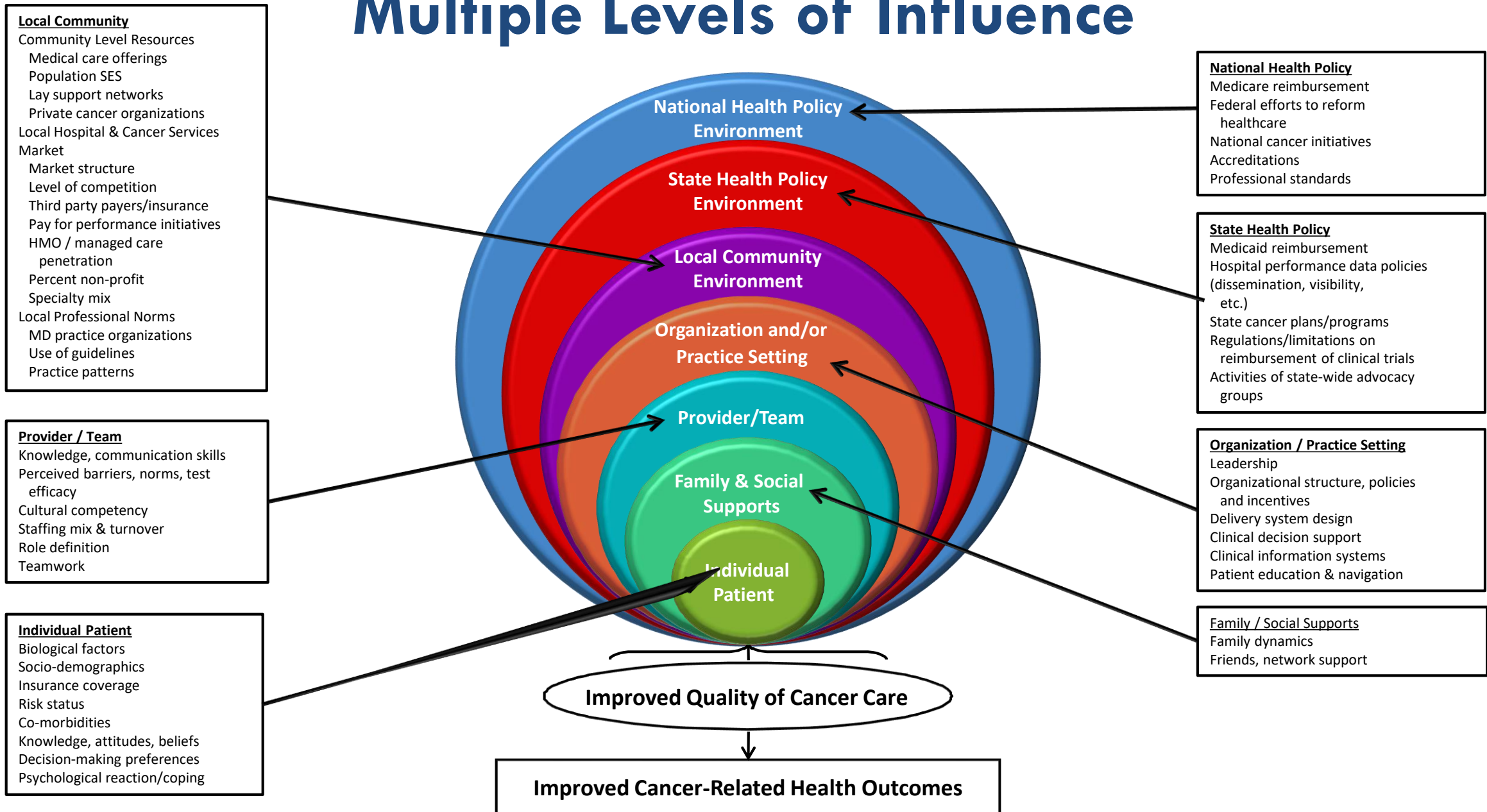
“Where you live should not decide, whether you live or whether you die.” U2, Crumbs from Your Table, 2004



Mechanisms underlying the relationship between SDOH and Health Outcomes

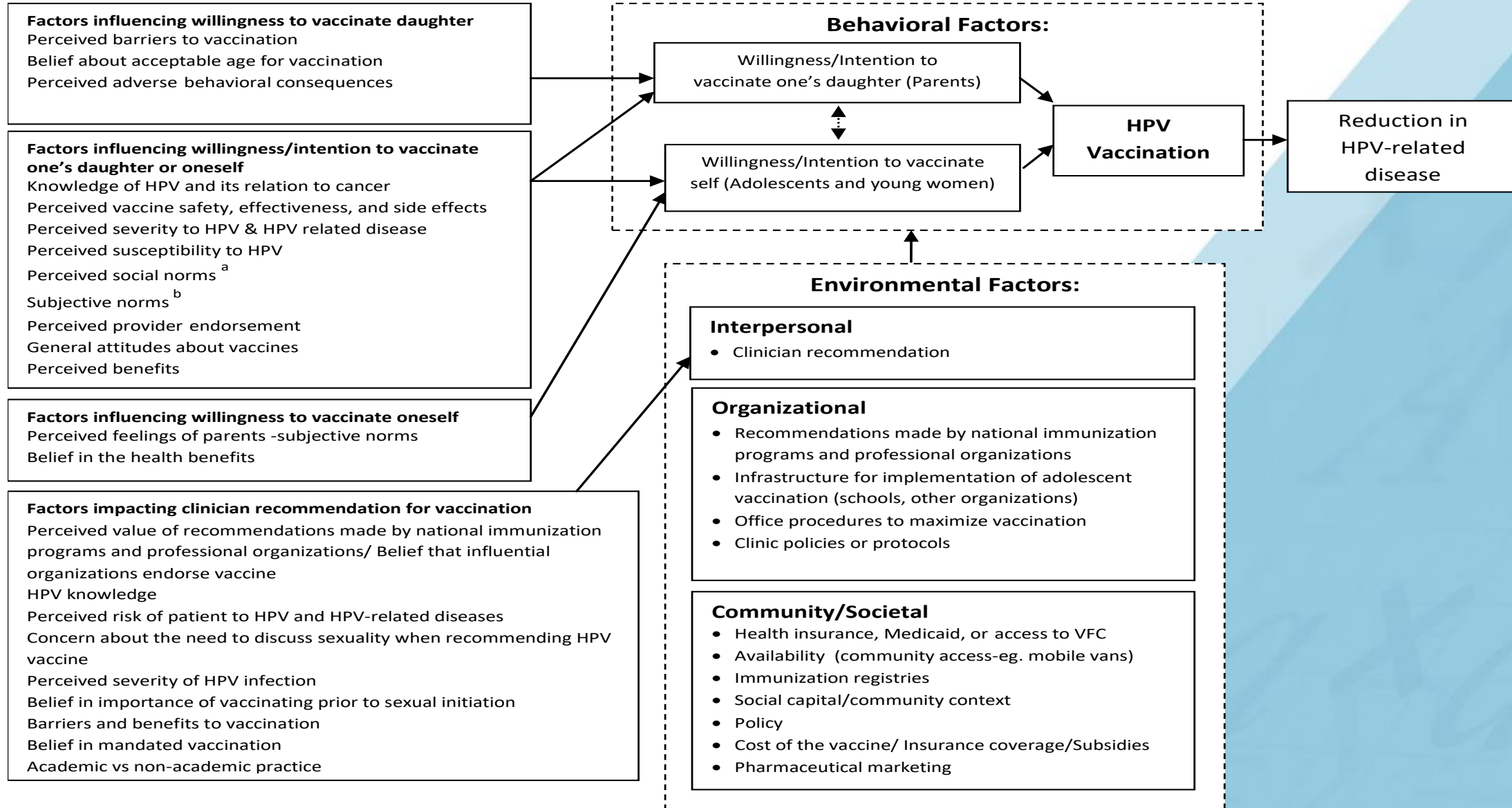
- **Negative experiences/environments/exposure to threat or harm**
 - discrimination, chronic stressors, violence
- **Inter/Intrapersonal resources**
 - social support, collective efficacy/social capital
- **Affect/cognition**
 - motivation, human agency
- **Health behaviors**
 - smoking, alcohol, diet, physical activity

Multiple Levels of Influence



Integrating Clinical, Community, and Policy Perspectives on HPV Vaccination

Figure 1: Logic Model of Factors Influencing HPV Vaccination



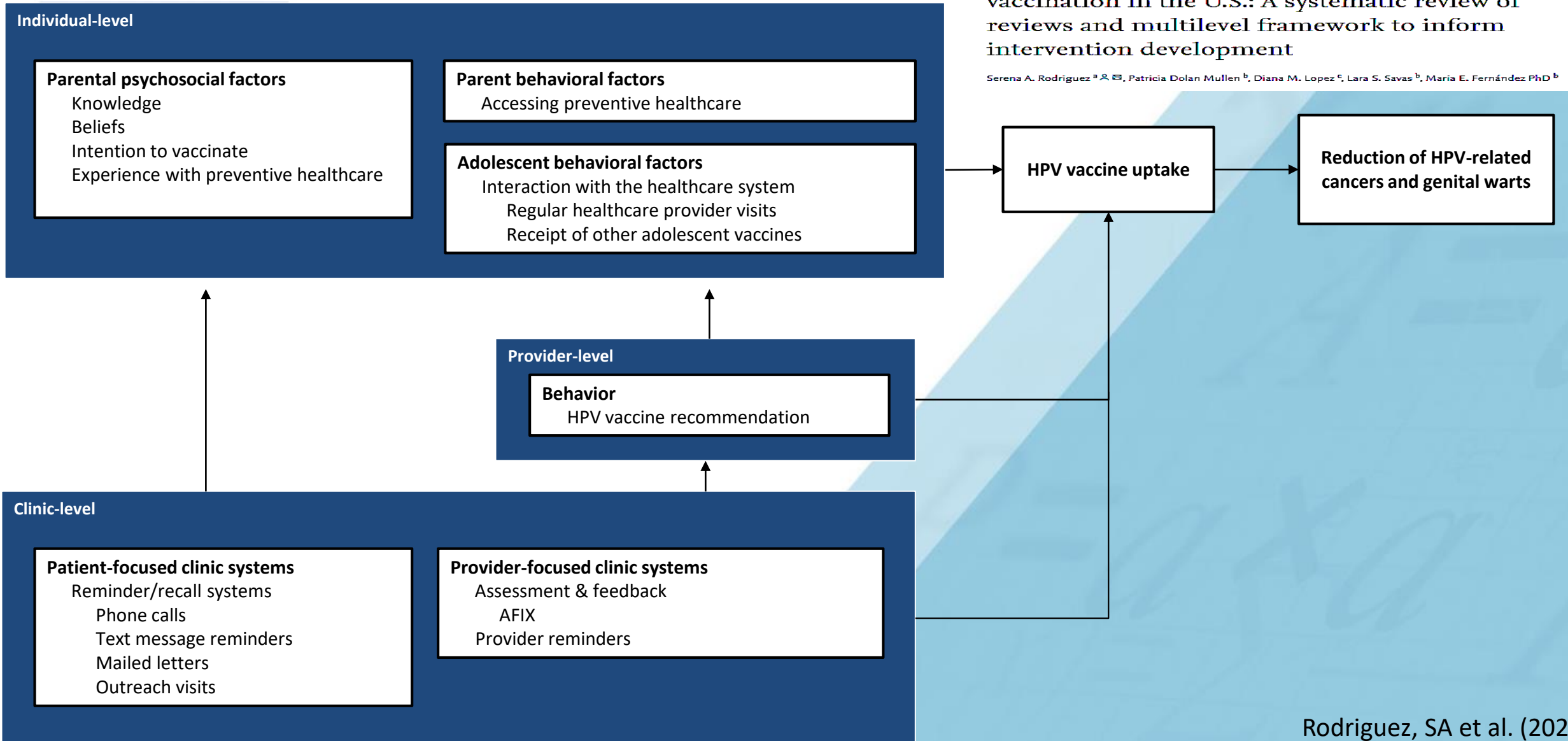
Multilevel Framework of HPV Vaccination among Adolescents in the U.S.



Review Article

Factors associated with adolescent HPV vaccination in the U.S.: A systematic review of reviews and multilevel framework to inform intervention development

Serena A. Rodriguez ^{a, R, B}, Patricia Dolan Mullen ^b, Diana M. Lopez ^c, Lara S. Savas ^b, Maria E. Fernández PhD ^b

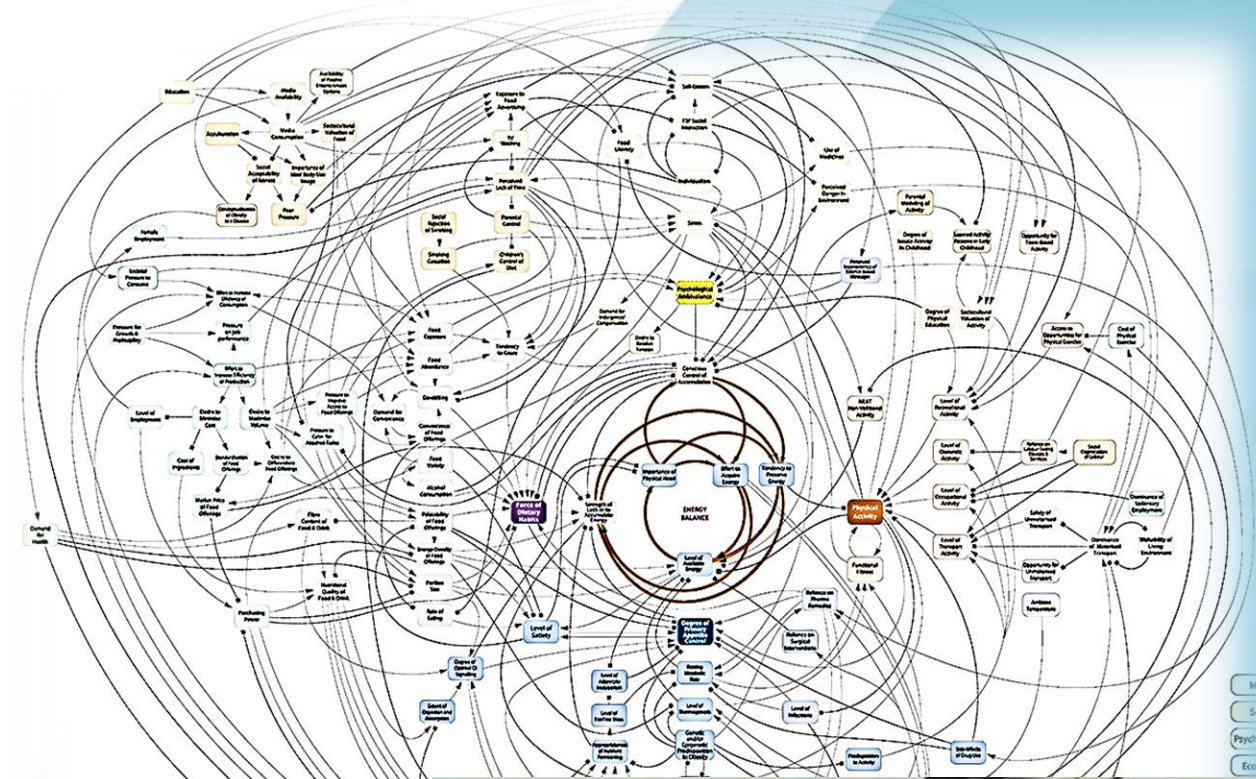


A Word about Complexity.....

Cancer Control in a Complex Adaptive System

Obesity system map (Vandenbroeck et al., [2007](#)).

- Diverse components and actors that interact with each other and with the external environment.
- Property of both the intervention and the context.
- Unpredictability of effects.
- Invites new approaches to addressing the issue.

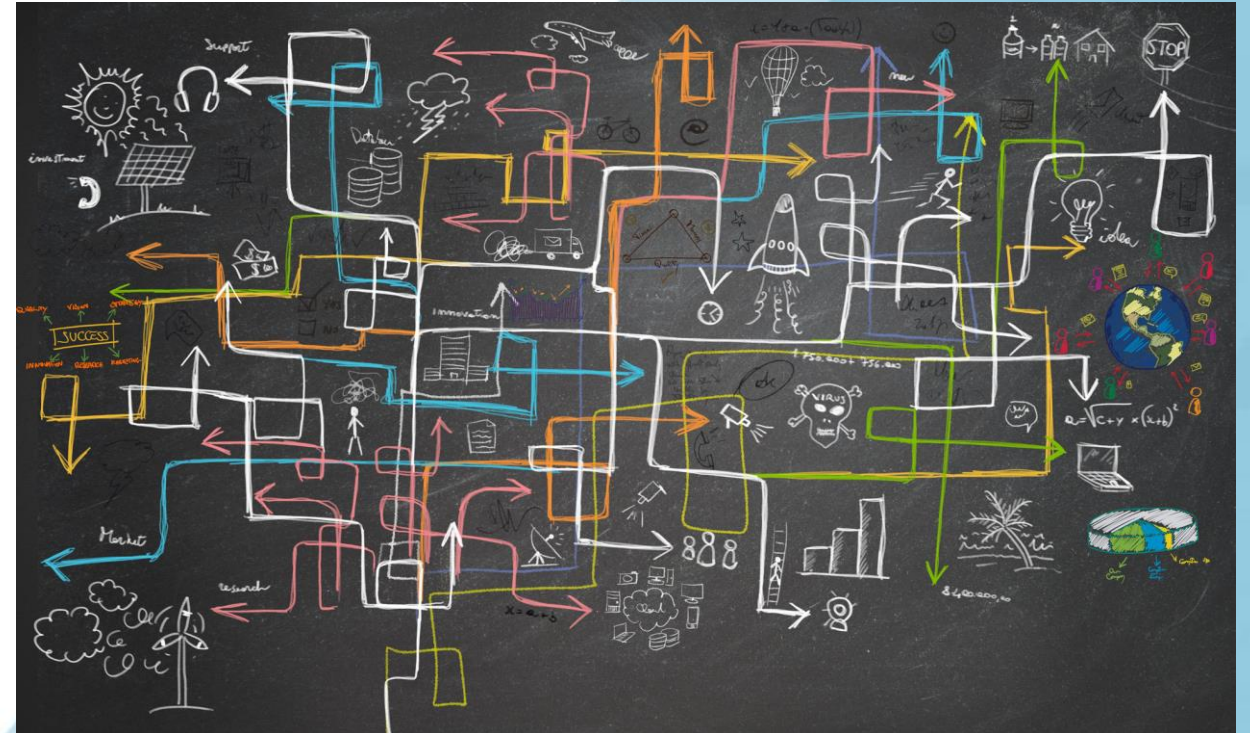


FIRST REACTION



How to intervene and improve implementation of evidence-based interventions in a complex adaptive system?

I trust my gut,
Our project is too complex
for logic and evidence.



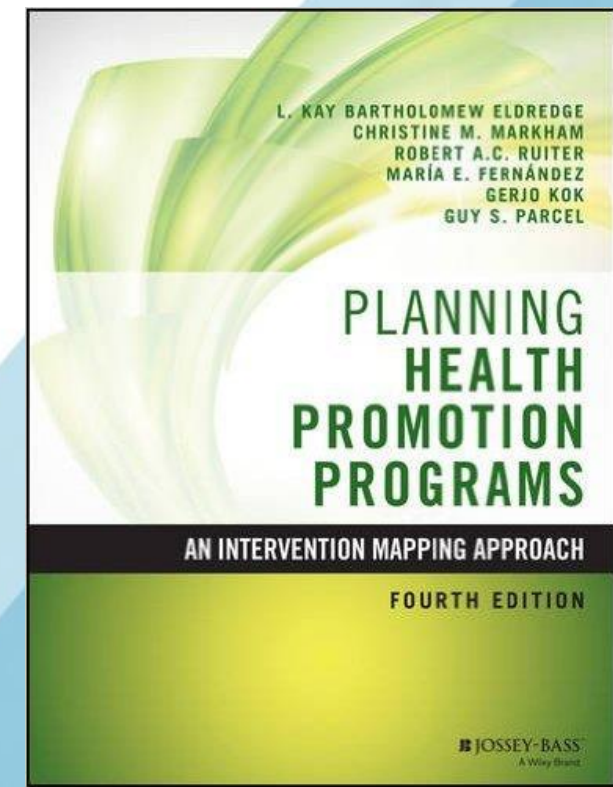
Frameworks for the Development of Multilevel Health Promotion Interventions

- ✓ MATCH (Multiple Approaches to Community Health)(Simons-Morton et al., 1995)
- ✓ PRECEDE-PROCEED (Green & Kreuter, 2005)
- ✓ THE BEHAVIOR CHANGE WHEEL (Michie et al., 2014)
- ✓ **INTERVENTION MAPPING (Bartholomew-Eldredge et al., 2016)**



What is Intervention Mapping?

- A **systematic approach** to program development, implementation & evaluation
- Provides a **framework** for decision-making at each step
 - Theory
 - Empirical evidence
 - Community input
- Uses an **ecological** approach

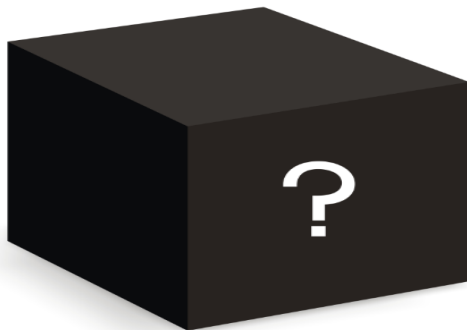


History of Intervention Mapping

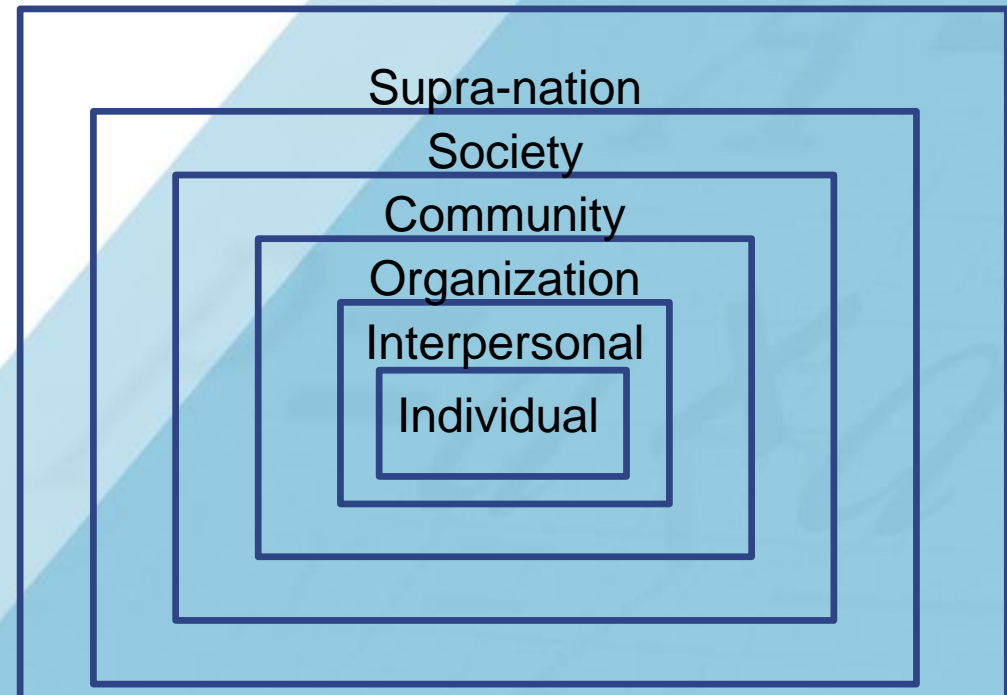
The development of **Intervention Mapping** was stimulated by questions that include how and when to:

- 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**?



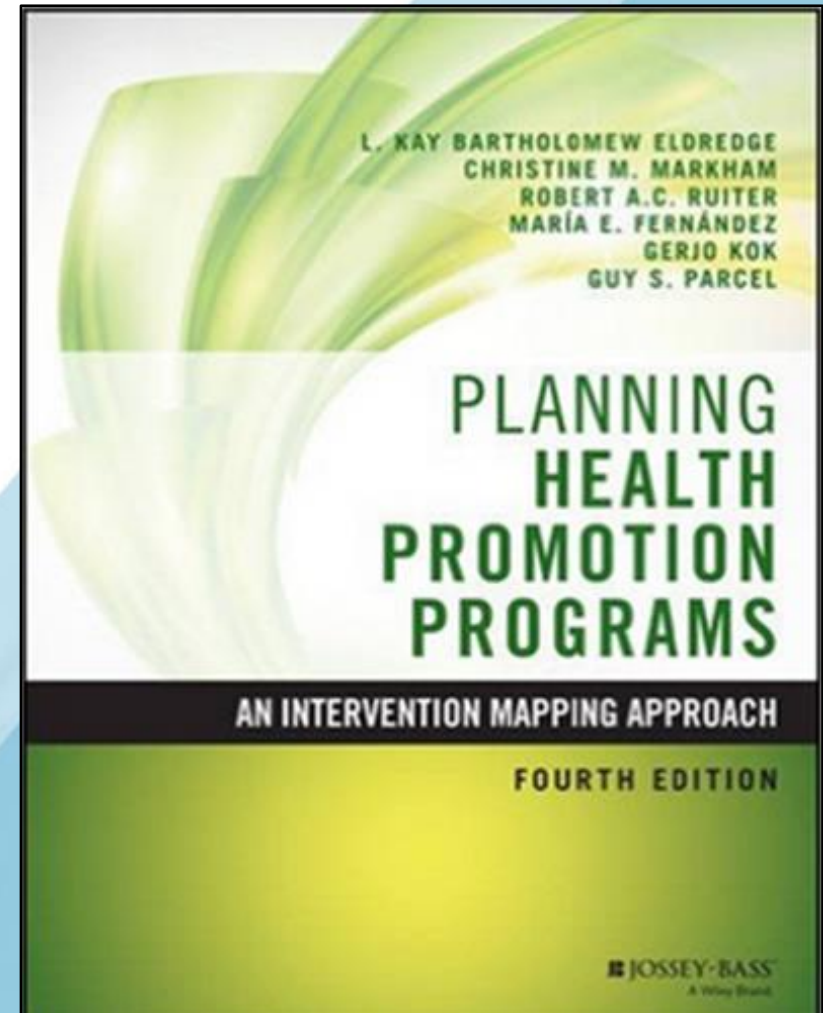
Intervention Mapping:

A Systematic Approach for Intervention Development, Implementation and Adaptation

Three ways to use IM for D&I:

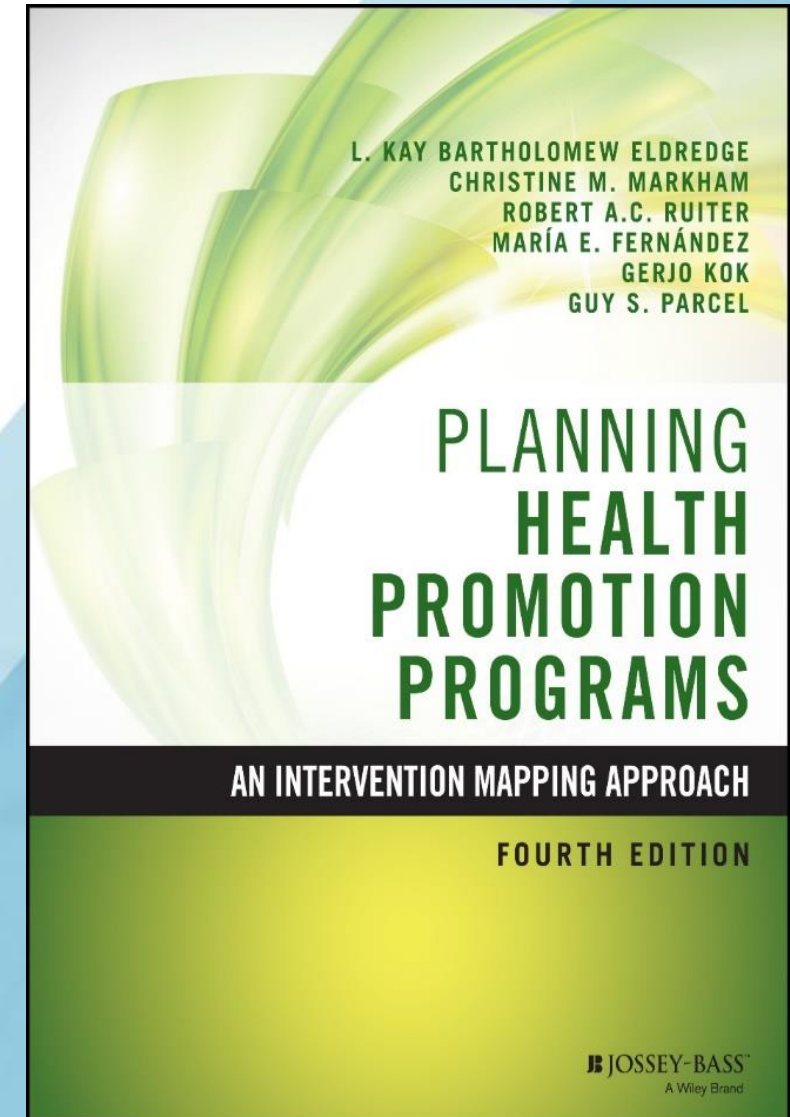
1. **Designing multi-level interventions in ways that enhance their potential for being adopted, implemented, and sustained**
2. Designing implementation strategies to influence adoption, implementation and continuation
3. Using IM processes to adapt existing evidence-based interventions

Bartholomew Eldredge, LK, Markham, CM, Ruiters, 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.



Intervention Mapping Steps

1. **Logic model of the problem:** Develop logic model of the problem based on needs assessment
2. **Program outcomes and objectives/logic model of change:** State program outcomes & objectives and develop a logic model of change
3. **Program design:** Develop the program plan, including themes, scope, sequence, change methods, practical applications
4. **Program production:** Produce the intervention, including program materials & messages
5. **Program implementation plan:** Plan program use (adoption, implementation & maintenance)
6. **Evaluation plan:** Develop an evaluation plan



Participation in Planning Multilevel Interventions

Knowledge generation comes from the hands of practitioners/implementers.

Equitable community/clinic participation:

- Ensures that program focus reflects community/clinic concerns
- Brings greater breadth of skills, knowledge, and expertise
- Improves external validity



Reference:

Hawe, P. (2015). Lessons from Complex Interventions to Improve Health. *Annual Review of Public Health*, 36(1), 307–323. doi: 10.1146/annurev-publhealth-031912-114421

Step 1: Needs Assessment – Logic Model of the Problem

1. Establish and work with a planning group that includes program stakeholders.
2. Conduct a needs assessment to create a logic model of the problem.
3. Describe the context for the intervention, including the population, setting and community.
4. State program goals by linking the needs assessment to program and evaluation planning

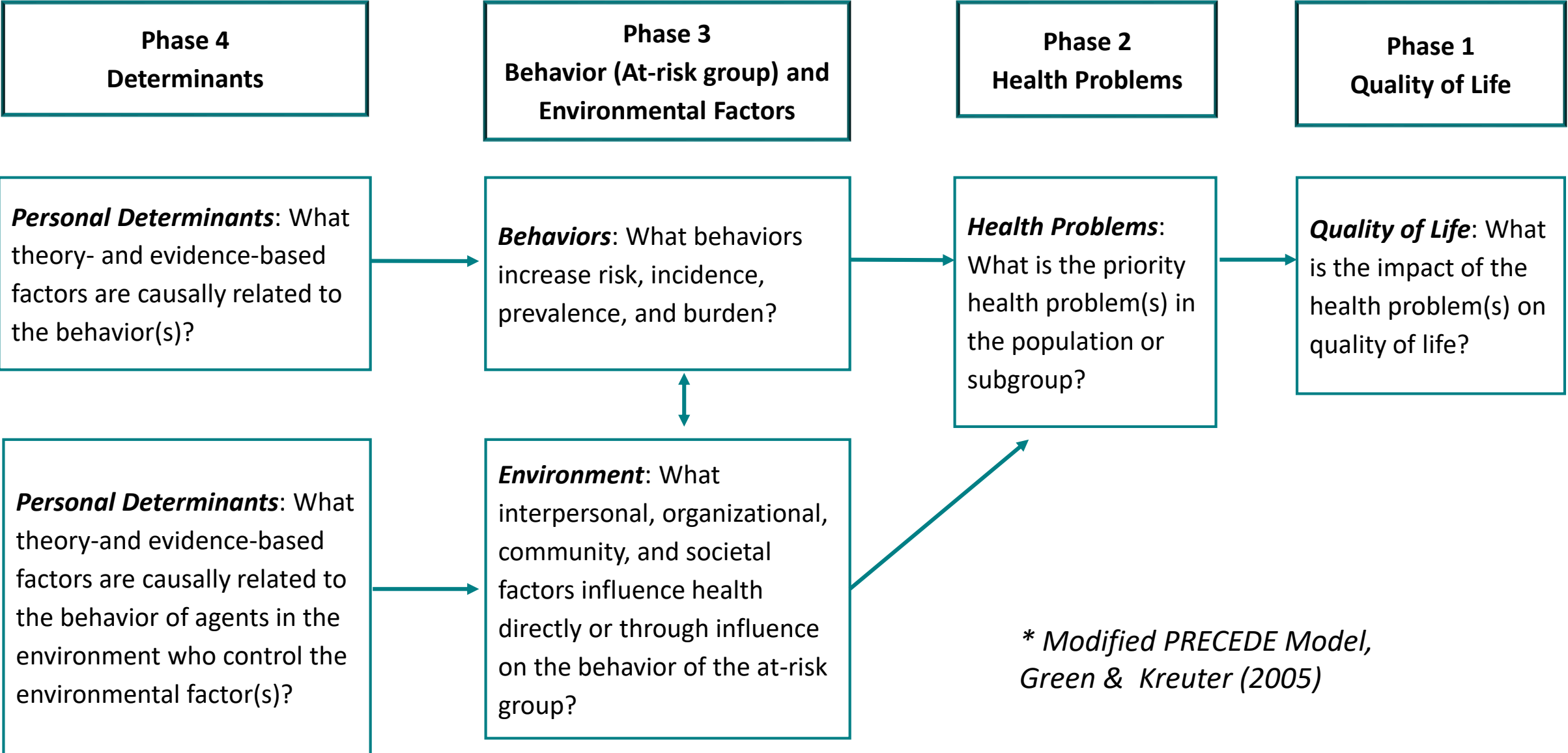


*iActivate Ya! Team-
Uruguay*

Final Products & Key Concepts:

- Description: Planning Group & Needs Assessment Approach
- Logic Model of the Problem
- Description: Context, population & community assets
- Statement of program goals (as per *SMART*)

Logic Model of the Problem



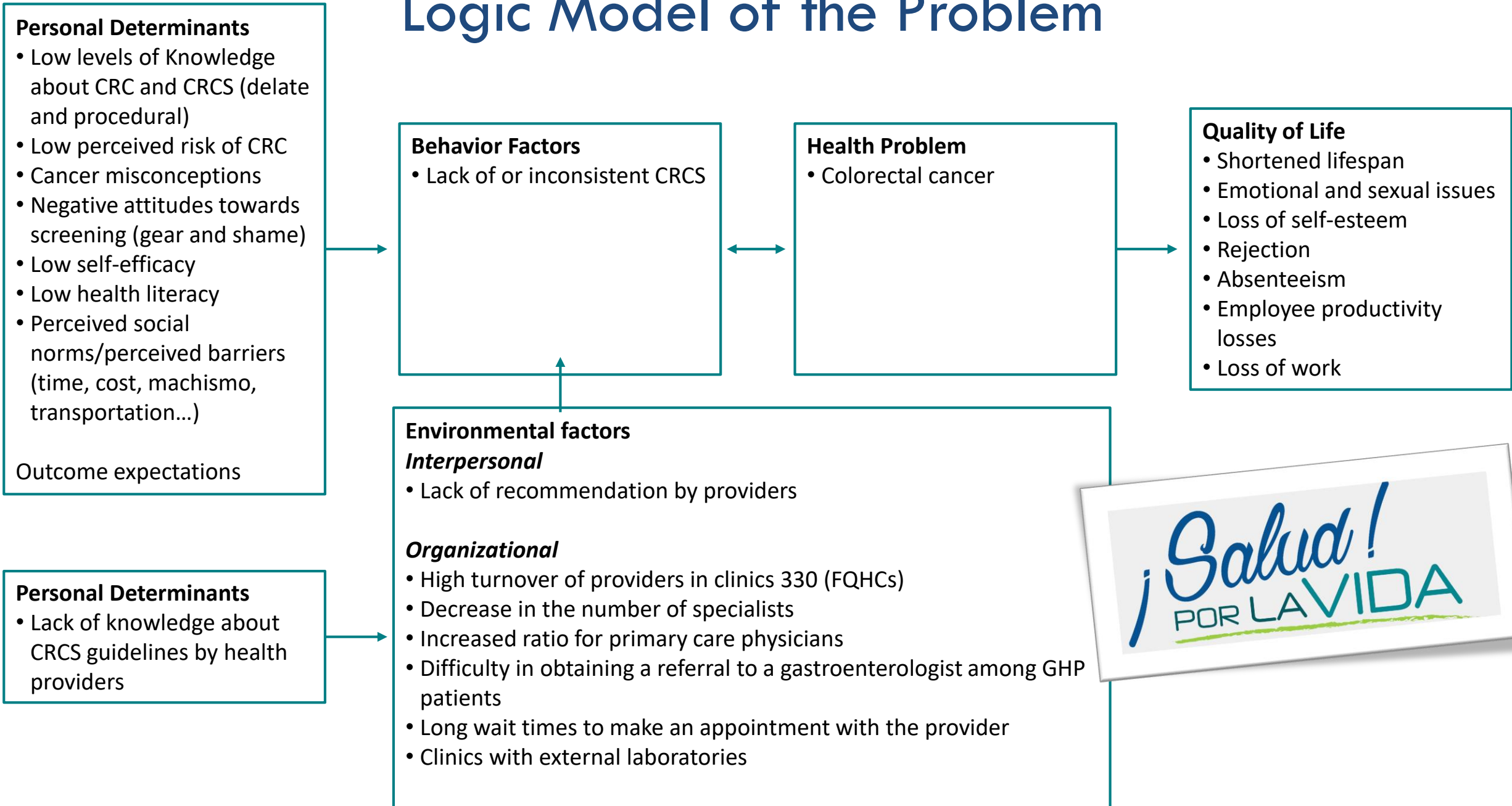
Needs Assessment

- Data from Puerto Rico Cancer Registry
 - incidence, prevalence, and mortality
- Screening rates
 - BRFSS
- Extensive review of empirical and theoretical literature to identify factors influencing CRCs in US Hispanic populations and PR
- Surveys with professionals of the FQHC
- Focus Groups with FQHC patients
 - N=51



¡Salud!
POR LA VIDA

Logic Model of the Problem



Step 2: Program Outcomes and Objectives- Logic Model of Change

1. State expected outcomes for behavior and environment
2. Specify performance objectives for behavioral and environmental outcomes
3. Select determinants for behavioral and environmental outcomes
4. Construct matrices of change objectives
5. Create a logic model of change



Final Products:

- Objectives/Expected Outcomes (priority group and environment)
- Change matrices
- Logic model of change

Active Play – Active Learning Project (Pueblo, CO & Austin, TX): “Behavioral & Environmental Outcomes”

Behavioral outcomes

- Students participate in 30 minutes of physical activity during school.



Environmental conditions:

- Schools improve play areas with playground markings (*built environment)
- Teachers lead their students in active learning 2 or more times during the week (social/organizational environment and interpersonal level)



Create Matrices of Change Objectives

	Determinant 1	Determinant 2
Performance Objective 1	<i>Change Objective</i>	<i>Change Objective</i>
Performance Objective 2	<i>Change Objective</i>	<i>Change Objective</i>

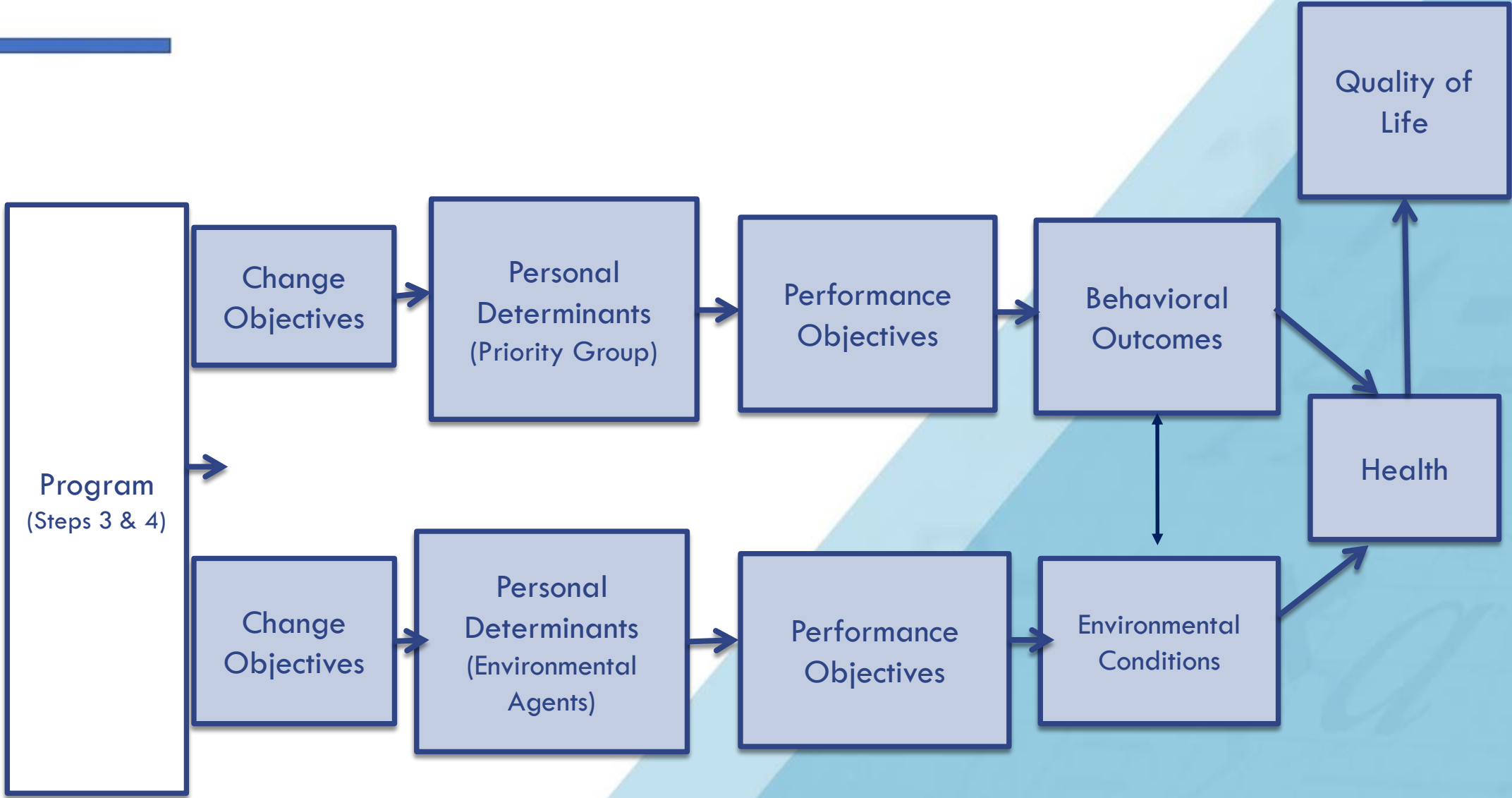
Example Matrix of Change Objectives

Examples of Cells from a Simulated Matrix: Consistently and Correctly Using Condoms During Sexual Intercourse

Determinants

Performance Objectives	Knowledge	Perceived Susceptibility	Self-Efficacy
1. Buy a condom	<ul style="list-style-type: none">• Identify places• List condom types	<ul style="list-style-type: none">• State personal risk for HIV, STI, and pregnancy if have sex without a condom	<ul style="list-style-type: none">• Feel confident about buying a condom
2. Carry condoms	<ul style="list-style-type: none">• List different ways to carry condoms	<ul style="list-style-type: none">• Perceive that not carrying a condom increases risk	<ul style="list-style-type: none">• Feel confident about carrying condoms
3. Use condom correctly	<ul style="list-style-type: none">• List 10 steps for correct condom use	<ul style="list-style-type: none">• State risk of HIV, STI, and pregnancy increases if condom is not used correctly	<ul style="list-style-type: none">• Feel confident about using condoms correctly

Logic Model of Change



Step 3: Program Design

1. Generate program themes, components, and scope and sequence
2. Choose theory- and evidence-based **change methods**
3. Select or design **practical applications** to deliver change methods



Final Products: *Initial Program Plan*

- Themes (& artwork) developed
- Components defined & described
- Scope & Sequence table
- Methods & applications tables

¡Activate Ya! PA Promotion and Tobacco Prevention in Uruguayan Youth (PIs: Harrell & Springer, NIH RO1)

Behavioral Outcome:

Students engage in daily physical activity for 60 minutes



Determinant/ Change Obj.	Method & Theory	Application
Knowledge about PA benefits	Active learning <i>TTM</i>	Peer-leader & small group: <i>Ventana activity</i>
PA Self-Efficacy	Goal-setting <i>Goal Setting Theory</i>	<i>¡MUUVIT Ya! Passport</i>
Behavioral Capability	Modeling & Active Learning <i>SCT/TTM</i>	Activity Breaks

Choose Theory- and Evidence-based Change Methods

Entertainment Education (Individual Level)

Entertainment Education employs formats based on entertainment to introduce educational messages.

Behavioral Journalism (Individual Level)

In Behavioral Journalism, real-life role models who are identified as peers of the population of interest (with the same language and similar cultural and social norms) communicate the message.

Patient Activation (Interpersonal Level)

This method is strongly associated with self-reported quality of care, a better doctor-patient communication, and increase CRCS rates.



¡Salud!
POR LA VIDA

Methods and Strategies

- Modeling, reinforcement, persuasion (Social Cognitive Theory)
- Tailoring (Trans-Theoretical Model), Anticipatory regret (Theory of Plan Behavior)
- Consciousness raising (Health Believe Model)
- Providing cues to action (Theories of Information Processing).



Step 4: Program Production

1. Refine program structure and organization
2. Prepare plans for program materials
3. Draft messages, materials, and protocols
4. Pretest program materials and protocols



Final Products:

- Table of materials, messages, goals
- Design documents
- Protocols for program implementation, calendar for producing materials, budget

Program Production

❑ TIMI-Tailored Interactive Multimedia Intervention

❑ Printed materials:

- Newsletter
- Fact sheets
- Infographics
- Action Plan

❑ Provider prompt

❑ Reminder/support calls

¡Salud! POR LA VIDA

JOSÉ LUIS,
SOBREVIVIENTE DE CÁNCER

"Cuando te dicen que tienes cáncer es algo bien fuerte, sientes como todo se derrumba"



Mi padre murió de cáncer colorrectal. Yo sé hacerme la colonoscopia. No sé hacerme la colonoscopia derrumba. Si hubiera tardado cuánto le cortaron del colon y, gracias a Dios que me la más, la historia hubiera sido y tuvo que llevar la bolsita hice! Durante la prueba, me otra. Yo quedé bien porque durante un tiempo hasta que encontraron cáncer. Al poco me encontraron el cáncer falleció. Desgraciadamente, tiempo me lo quitaron y tuve a tiempo. Lo único que le encontraron el cáncer muy que coger un año de quimio. lamento es haber esperado a tarde. El nunca quiso hacerse Yo pensé que por tener un tener síntomas para hacerme ninguna prueba porque como plan de gobierno iban a tardar la prueba. Yo le digo a mis hombre decía que nadie iba a en operarme, pero la cosa fue amigos que se chequeen. Que "ponerle nada por el fondillo", rápida y La Reforma cubrió la colonoscopia no cambia En mi caso, hace un tiempo los gastos de la intervención y lo que tú eres como hombre, noté que estaba bajando de la quimioterapia. Cuando peor es que te encuentren peso rápidamente y que tenía te dicen que tienes cáncer, cáncer. molestias abdominales. eso es algo bien fuerte,

CRCS Can Save Lives

FIT Two thumbs up

★★★★★ for people 50+



COLORECTAL CANCER CAN BE PREVENTABLE

**¡SALUD!,
POR LA VIDA**

GET SCREENED



Dear Doctor:

- ◆ Pt received educational program
- ◆ Pt is CRCS eligible
- ◆ Tailored message (intention)
- ◆ Closing message



Step 5: Program Implementation Plan

1. Identify potential users (adopters, implementers, and maintainers)
2. State outcomes and performance objectives for program use
3. Construct matrices of change objective for program use
4. Design implementation interventions

Final Product: *Program Implementation Plan*

- Adoption, implementation and sustainability outcomes and change matrices (adoption, implementation, sustainability)
- Table of theoretical methods and practical applications
- Materials to support adoption and implementation

Step 6: Evaluation Plan

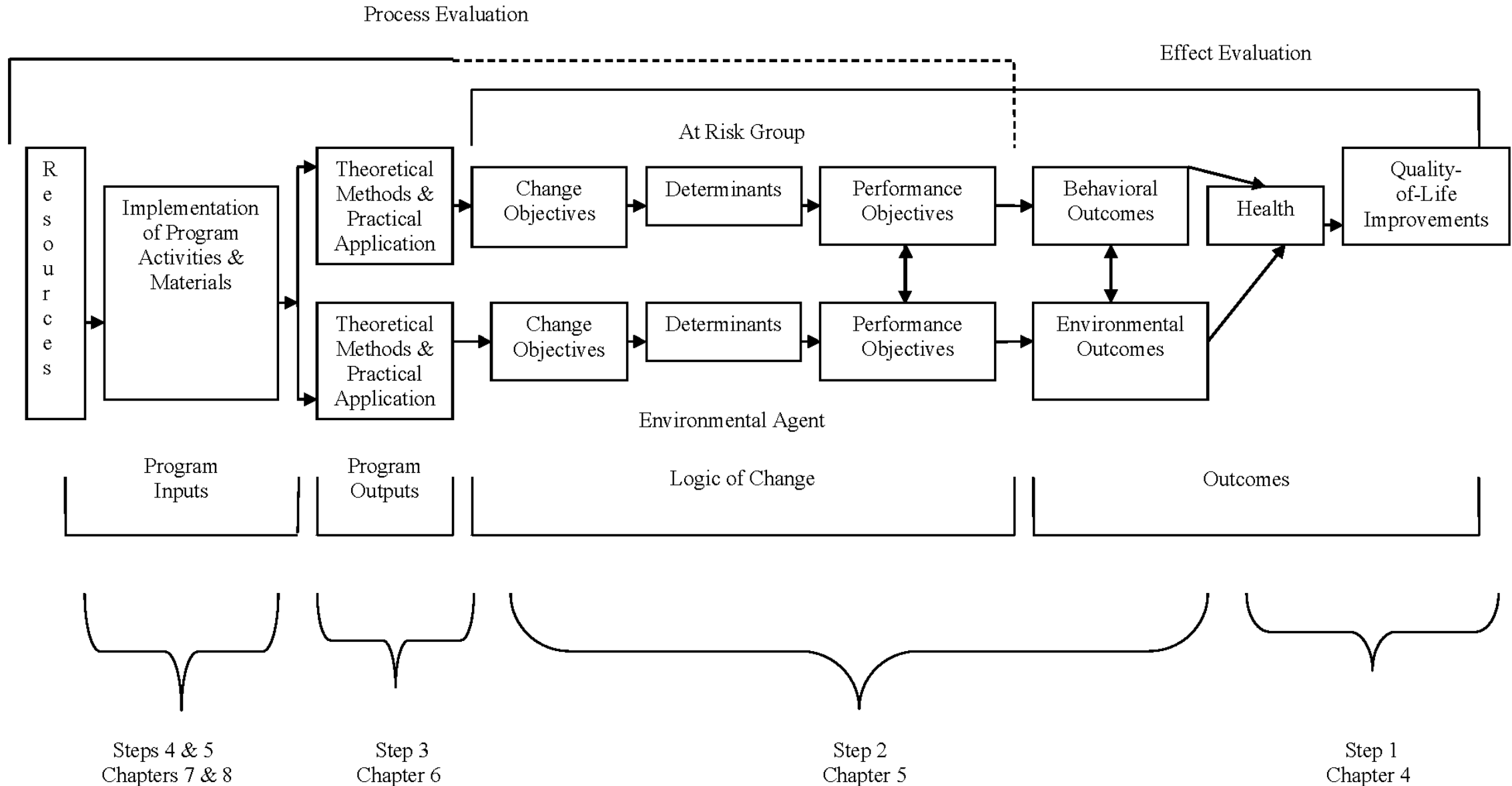
1. Write effect and process evaluation questions
2. Develop indicators and measures for assessment
3. Specify the evaluation design
4. Complete the evaluation plan



Final Product: *Evaluation Plan*

- Intervention Logic Model (health promoting logic model)
- Evaluation Plan 'at-a-glance' table: evaluation questions, indicators/variables, measures, evaluation design, data source/population
- Statistical analysis description & how findings will be presented (tables, graphics)
- Description of how evaluation plan will be implemented

Intervention Logic Model



Planning Multilevel Implementation Strategies

Implementation Strategies -

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

Updated Compilation Types of Implementation Strategies

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



IMPLEMENTATION SCIENCE

Implementation
Science

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}

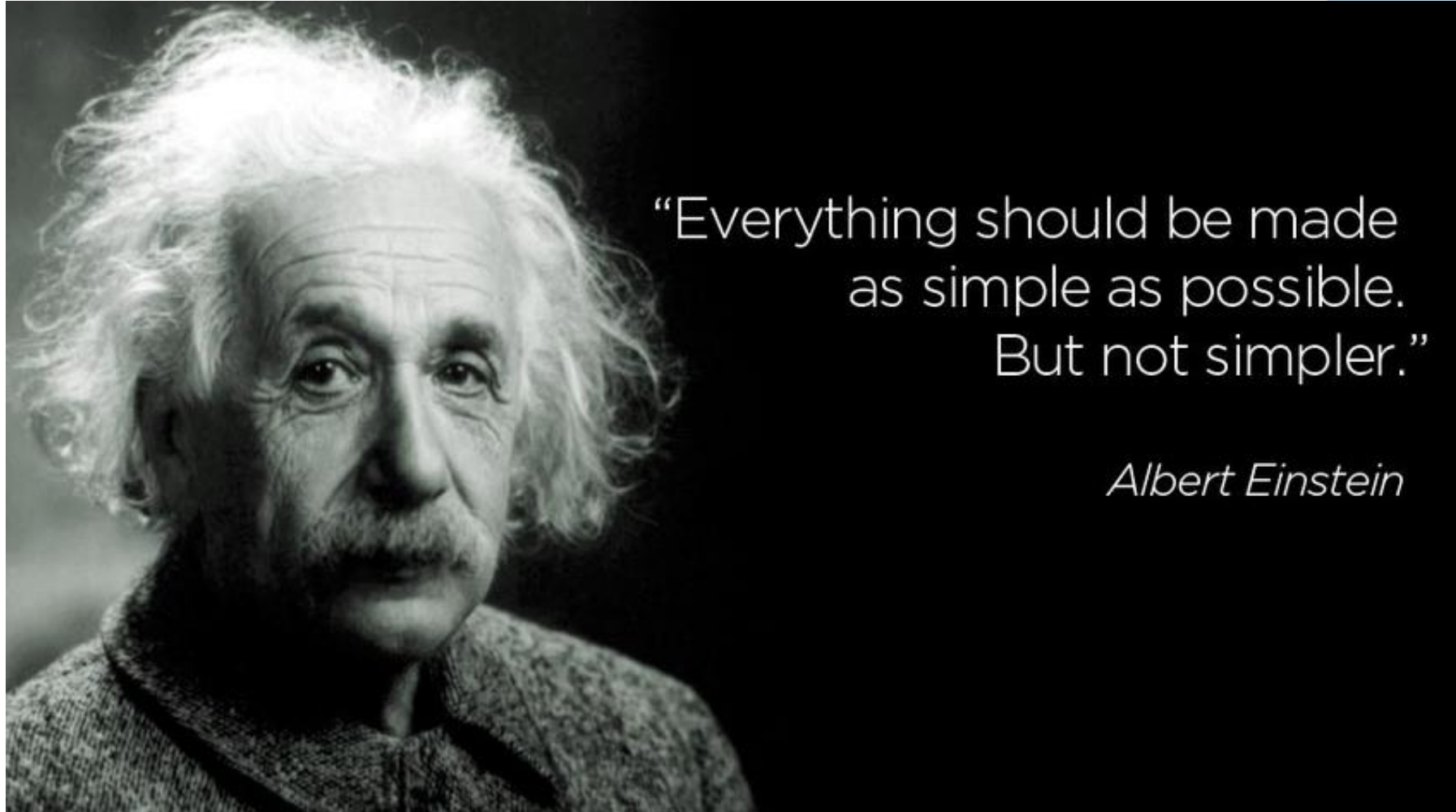
- Use Evaluative and Iterative Strategies
- Provide Interactive Assistance
- Adapt and Tailor to Context
- Develop Stakeholder Interrelationships
- Train and Educate Stakeholders
- Support Clinicians
- Engage Consumers
- Utilize Financial Strategies
- Change Infrastructure

Powell, et al. 2015; Powell*, BJ, Garcoa, KG, Fernández ME, Implementation Strategies. In: *Advancing the Science of Implementation across the Cancer Continuum*. 2018. Eds. Chambers, DA, Vinson, CA, Norton, WE. 2018, Oxford Press.

A Two-Step Process to Developing Strategies:

1. Conduct an assessment of factors that influence implementation processes and outcomes (e.g. characteristics of the innovation, setting, preferences of involved stakeholders, barriers and facilitators)
2. Develop or select and tailor strategies to address these.

Bad News...It's not that easy



“Everything should be made
as simple as possible.
But not simpler.”

Albert Einstein

Challenges in Selecting Implementation and Dissemination 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)
- Underutilization of conceptual models and theories in the literature,
- Variations related to the EBPs and the contexts in which they are implemented

Matching Strategies to Barriers

V. PROCESS

A	Planning	The degree to which a scheme or method of behavior and tasks for implementing an intervention are developed in advance and the quality of those schemes or methods.
B	Engaging	Attracting and involving appropriate individuals in the implementation and use of the intervention through a combined strategy of social marketing, education, role modeling, training, and other similar activities.
1	Opinion Leaders	Individuals in an organization who have formal or informal influence on the attitudes and beliefs of their colleagues with respect to implementing the intervention
2	Formally appointed internal implementation leaders	Individuals from within the organization who have been formally appointed with responsibility for implementing an intervention as coordinator, project manager, team leader, or other similar role.
3	Champions	"Individuals who dedicate themselves to supporting, marketing, and 'driving through' an [implementation]" [101](p. 182), overcoming indifference or resistance that the intervention may provoke in an organization.
4	External Change Agents	Individuals who are affiliated with an outside entity who formally influence or facilitate intervention decisions in a desirable direction.
C	Executing	Carrying out or accomplishing the implementation according to plan.
D	Reflecting & Evaluating	Quantitative and qualitative feedback about the progress and quality of implementation accompanied with regular personal and team debriefing about progress and experience.

□ Next few slides curtesy of Laura J. Damschrode MS, MPH

Waltz TJ, Powell, BJ, Fernández ME, Abadie, B, Damschroder, LJ. Choosing implementation strategies to address contextual barriers: Diversity in recommendations and future directions. *Implementation Science*, 2019, 14(1):42. doi: 10.1186/s13012-019-0892-4. PMID: 31036028; PMCID: PMC6489173.

Survey of Implementation Experts (N-169)

innovation (e.g., through social marketing, education, role modeling, training) are ineffective or non-existent.

Drag and drop ERIC strategies from the left column to the Rankings box and order them so that #1 is the top strategy.

Select and rank up to 7 strategies that best address barriers related to **Reflecting & Evaluating**:

◆ There is little or no quantitative and qualitative feedback about the progress and quality of implementation nor regular personal and team debriefing about progress and experience. ◆

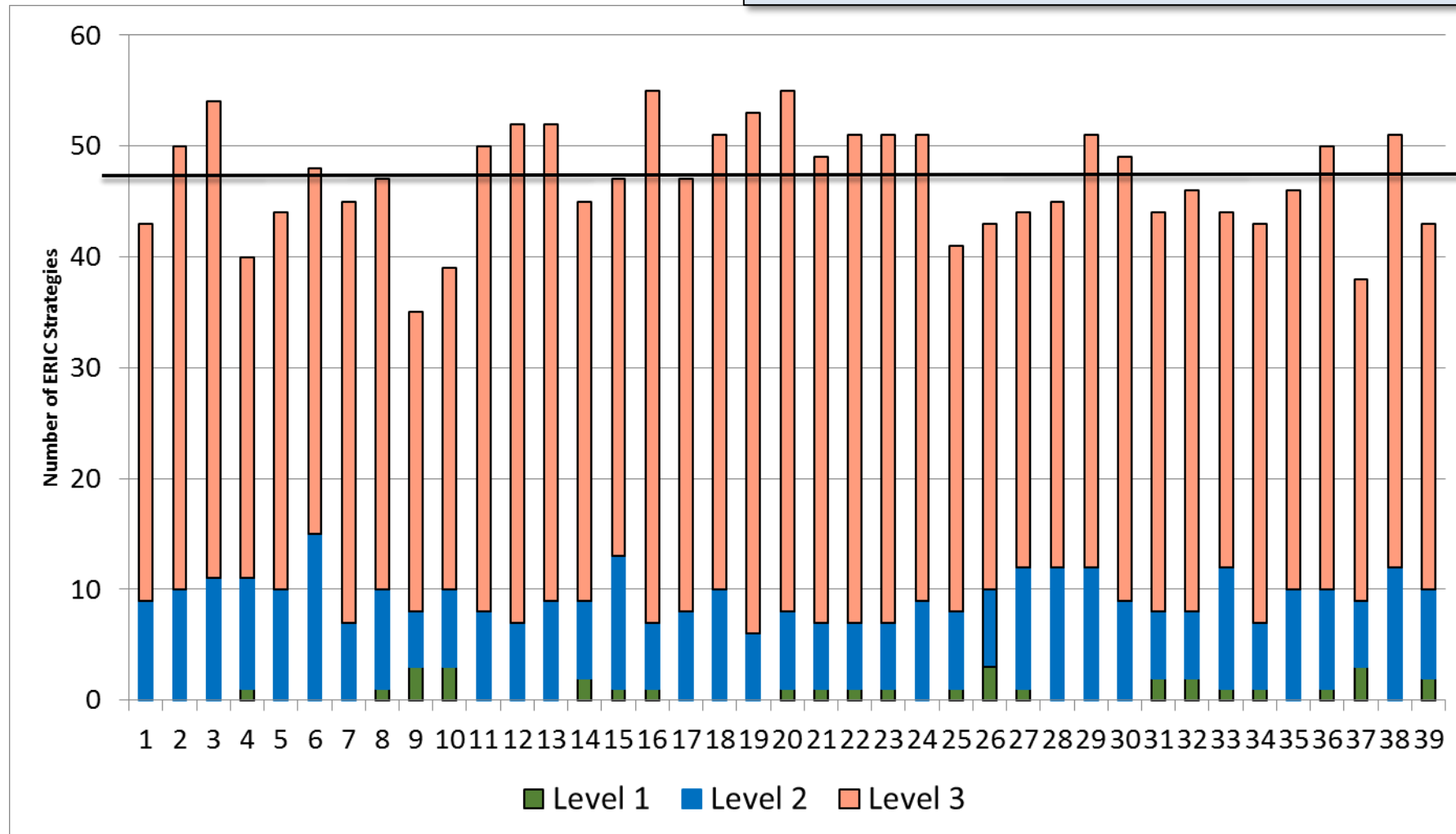
- Alter patient/consumer fees
- Assess for readiness and identify facilitators
- Audit and provide feedback
- Build a coalition
- Capture and share local knowledge
- Centralize technical assistance
- Change accreditation or membership requirements
- Change liability laws
- Change physical structure and equipment
- Change record systems
- Change service sites
- Conduct cyclical small tests of change
- Conduct educational meetings
- Conduct educational outreach visits
- Conduct local consensus discussions
- Conduct local needs assessment
- Conduct ongoing training
- Create a learning collaborator
- Create new clinical teams
- Create or change credentialing and/or licensure standards
- Develop a formal implementation blueprint

Audit and provide feedback

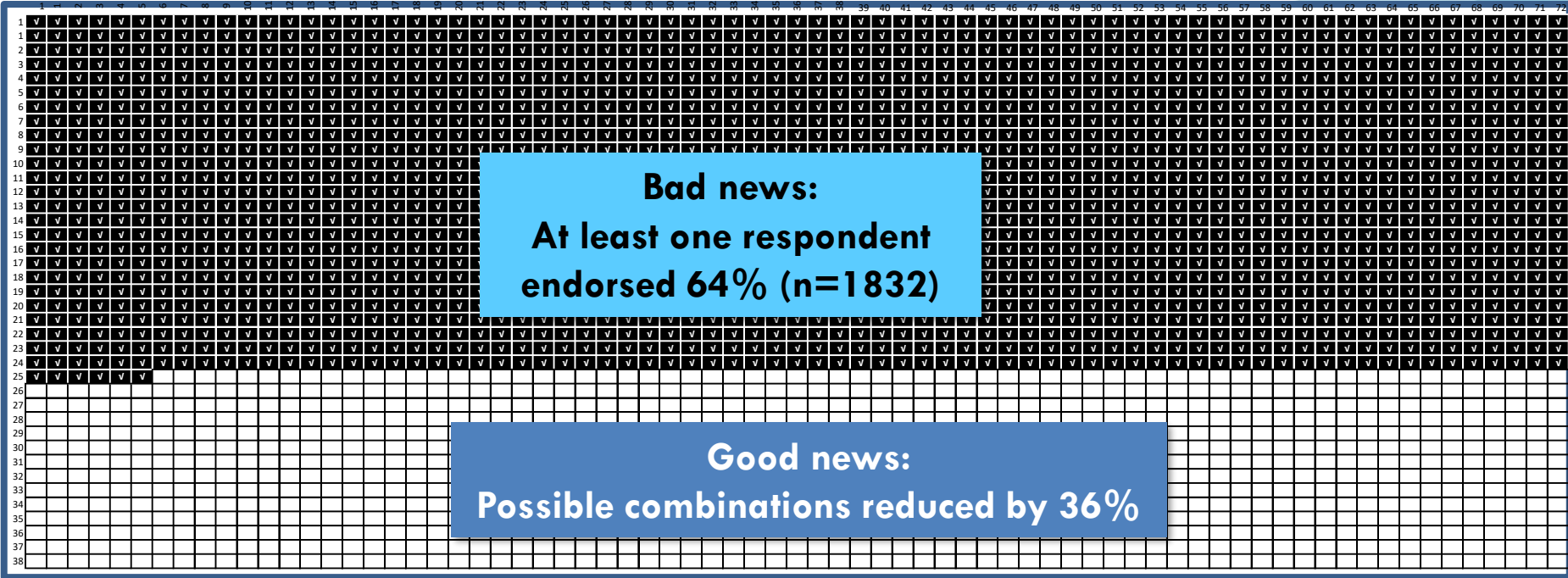


Number of ERIC strategies endorsed by 1+ respondent

Average n=47 ERIC strategies / CFIR construct



2847 ERIC X CFIR Possibilities



So, it's complicated.

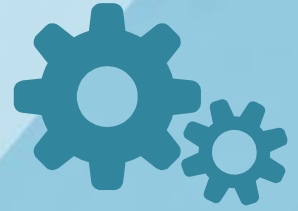
“But I have my list of ERIC strategies.....”

When you develop or select a strategy (e.g. develop educational material, use mass media, train the trainer strategies, provide TA) you still have to develop the content to include in the strategy.

AND it has to contain the mechanism of change (change methods) to be effective.



Need to Enhance Methods for Designing and Tailoring



Methods to Improve the Selection and Tailoring of Implementation Strategies

Byron J. Powell, PhD

Rinad S. Beidas, PhD

Cara C. Lewis, PhD

Gregory A. Aarons, PhD

J. Curtis McMillen, PhD

Enola K. Proctor, PhD

David S. Mandell, ScD

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

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

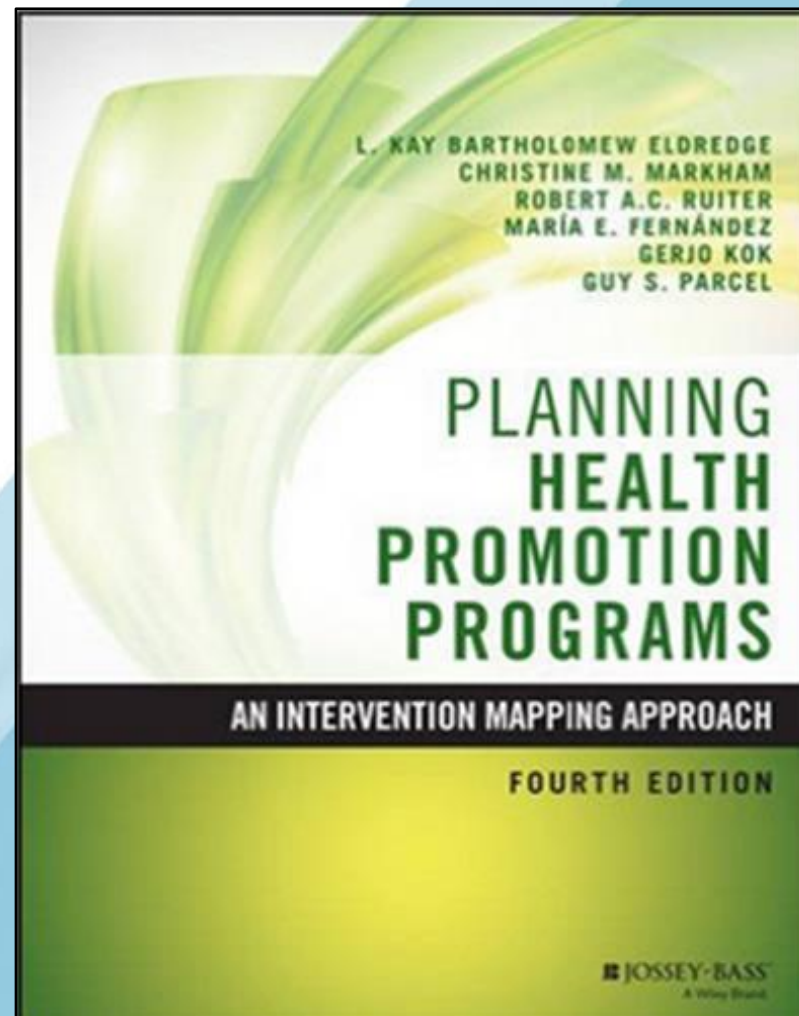
Intervention Mapping:

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 its 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, Ruiters, 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 Hoor², Sanne van Lieshout³, Serena A. Rodriguez^{1,4}, Rinad S. Beidas^{5,6}, Guy Parcel¹, Robert A. C. Ruiter², Christine M. Markham¹ and Gerjo Kok²*

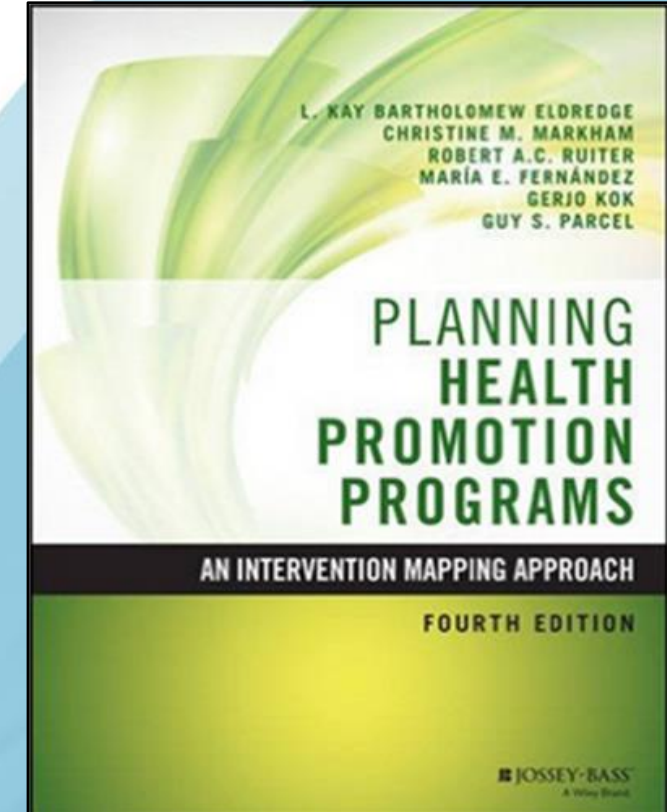
¹ Center for Health Promotion and Prevention Research, University of Texas Health Science Center at Houston School of Public Health, Houston, TX, United States, ² Department of Work and Social Psychology, Maastricht University, Maastricht, Netherlands, ³ Department of Public Health, Amsterdam UMC, University 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

Implementation Mapping

Using Intervention Mapping to Design or Choose Implementation Strategies

Guides the D&I planner/researcher to answer the following questions:

- Who will decide to use the program? Who will implement the program? Who will assure that the program continues over time?
- What do they need to do?
- Why would they do it (determinants)?
- How (what methods and strategies) do we influence these adoption, implementation, and maintenance behaviors and conditions?



Implementation Mapping Tasks

Task 1. Conduct a needs and assets assessment and identify adopters and implementers

Task 2. Identify adoption and implementation outcomes, performance objectives, and determinants; create matrices of change.

Task 3. Choose theoretical methods; Selector create implementation strategies.

Task 4. Produce implementation protocols and materials.

Task 5. Evaluate Implementation Outcomes 5



Specify Implementation Performance Objectives: Figuring out the WHAT before the HOW

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?

Example Performance Objectives for Implementation

Clinic decision makers will:

- Communicate with staff about practice change/role changes for patients due for mammography
- Designate time for EBI training

Program champion will:

- Arrange for any change to EHR or reporting for PMP
- Arrange for patient referrals for mammograms

Patient navigator will:

- Conduct telephone barrier counseling
- Use active-listening protocol when talking with patient

Identify implementation behaviors, determinants, methods and strategies to address determinants

Performance Objectives: What are the subcomponents of the Implementation behavior?

Determinants: Outcome expectations, Self-efficacy, Attitudes (*Can come from individual theories or integrated frameworks such as TDF*)

Methods: Persuasion, Active learning, Social support, Dissonance reduction, Modeling, Skill building (*Guidance from individual theories or integrated frameworks such as TDF*)

Strategies (how these methods are operationalized): Workshops, Discussion, Problem analysis, Role playing, Team meeting, Problem solving, Guided practice, Newsletters, Model stories, Resources, Information

Peace of Mind Program Implementation Plan

Stage	Agent	Determinants/ Change Objectives	• Theoretical Change Methods	• Practical Applications/ Strategy
Implementation	Program Champion Navigator	Awareness/ Perceptions Outcome Expectations Skills and Self- efficacy Feedback and Reinforcement	<ul style="list-style-type: none"> • Information • Persuasion • Skill building and guided practice • Modeling • Monitoring and feedback • Technical assistance / capacity building • Facilitation • Vicarious reinforcement 	<ul style="list-style-type: none"> • Face to face training held over two four hour sessions. BHC navigators model EBI behavior and provide ongoing implementation support on-site • PMP research team available via email, phone and training booster sessions as needed • Paperwork processes to provide funds for patients needing financial assistance from PMP

Highfield, L, Valeria MA, Fernandez, ME, Bartholomew-Eldridge, K. Development of an implementation intervention using intervention mapping to increase mammography among low income women.(2018) *Frontiers in Public Health* | doi: 10.3389/fpubh.2018.00300.



Fernandez et al. *Implementation Science* (2020) 15:9
<https://doi.org/10.1186/s13012-020-0967-2>

Implementation Science

STUDY PROTOCOL

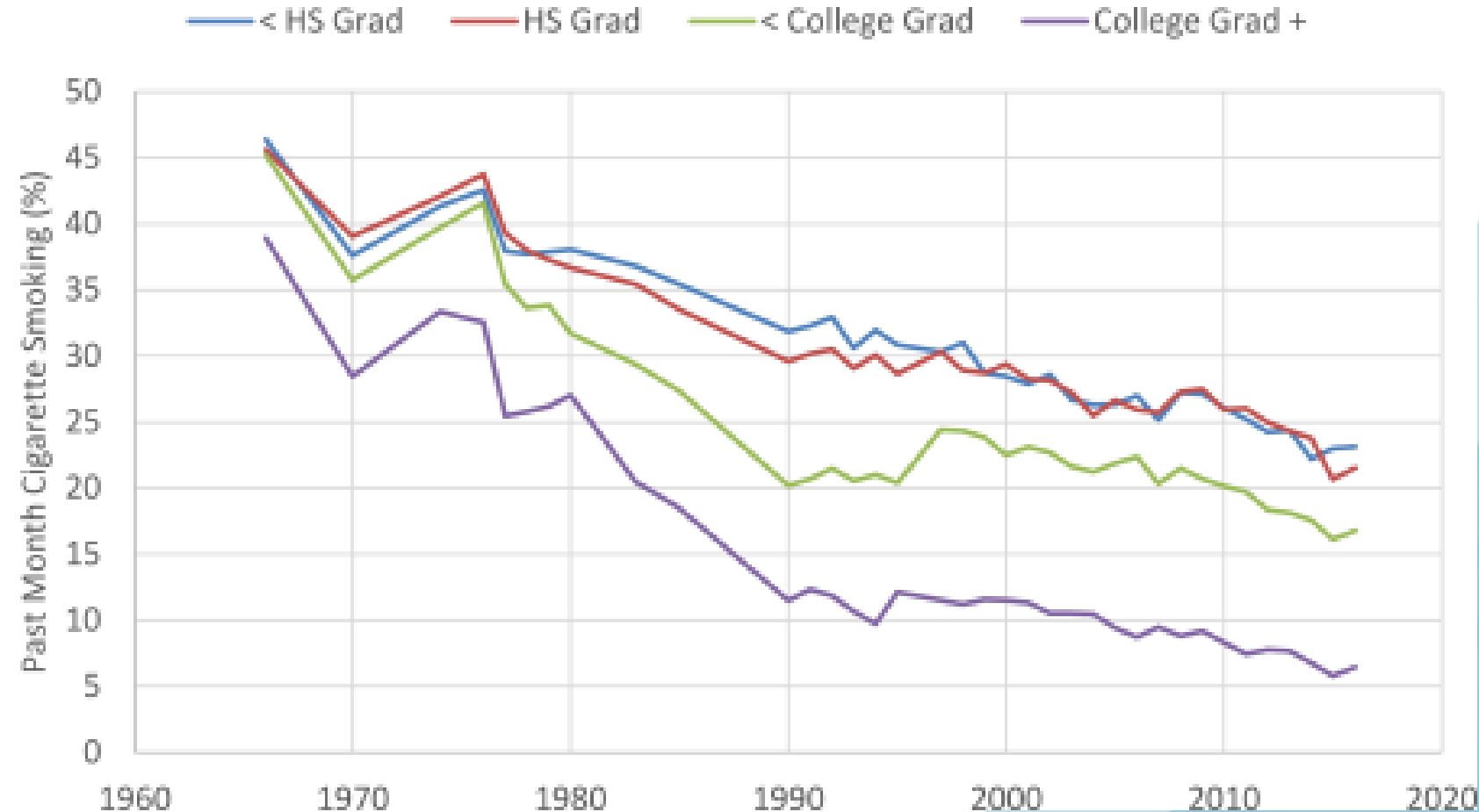
Open Access

QuitSMART Utah: an implementation study protocol for a cluster-randomized, multi-level Sequential Multiple Assignment Randomized Trial to increase Reach and Impact of tobacco cessation treatment in Community Health Centers



Maria E. Fernandez^{1†}, Chelsey R. Schlechter^{2*†}, Guilherme Del Fiol³, Bryan Gibson³, Kensaku Kawamoto³, Tracey Siaperas⁴, Alan Pruhs⁴, Tom Greene⁵, Inbal Nahum-Shani⁶, Sandra Schulthies⁷, Marci Nelson⁷, Claudia Bohner⁷, Heidi Kramer³, Damian Borbolla³, Sharon Austin², Charlene Weir³, Timothy W. Walker¹, Cho Y. Lam^{2,5} and David W. Wetter^{2,5}

Tobacco-Related Inequities Over Time



- Relative risk of smoking among \leq HS grad vs. college grad increased from ~ 1.2 in 1965 to ~ 3.5 in 2015
- Difference between \leq HS grad vs. college grad increased from ~ 7 percentage points in 1965 to ~ 17 percentage points in 2015

Drope et al., CA
Cancer J Clin, 2018

Slide courtesy of David Wetter, Director, Center for Health Outcomes and Population Equity (HOPE), University of Utah

QuitSMART Utah

PCORI Pragmatic Clinical Trial



Goal: Implement and evaluate practical, scalable, evidence based tobacco cessation strategies among populations most impacted by tobacco use

Partnerships

Utah FQHCs (11 systems; 33 clinics)

Utah Tobacco Quit Line

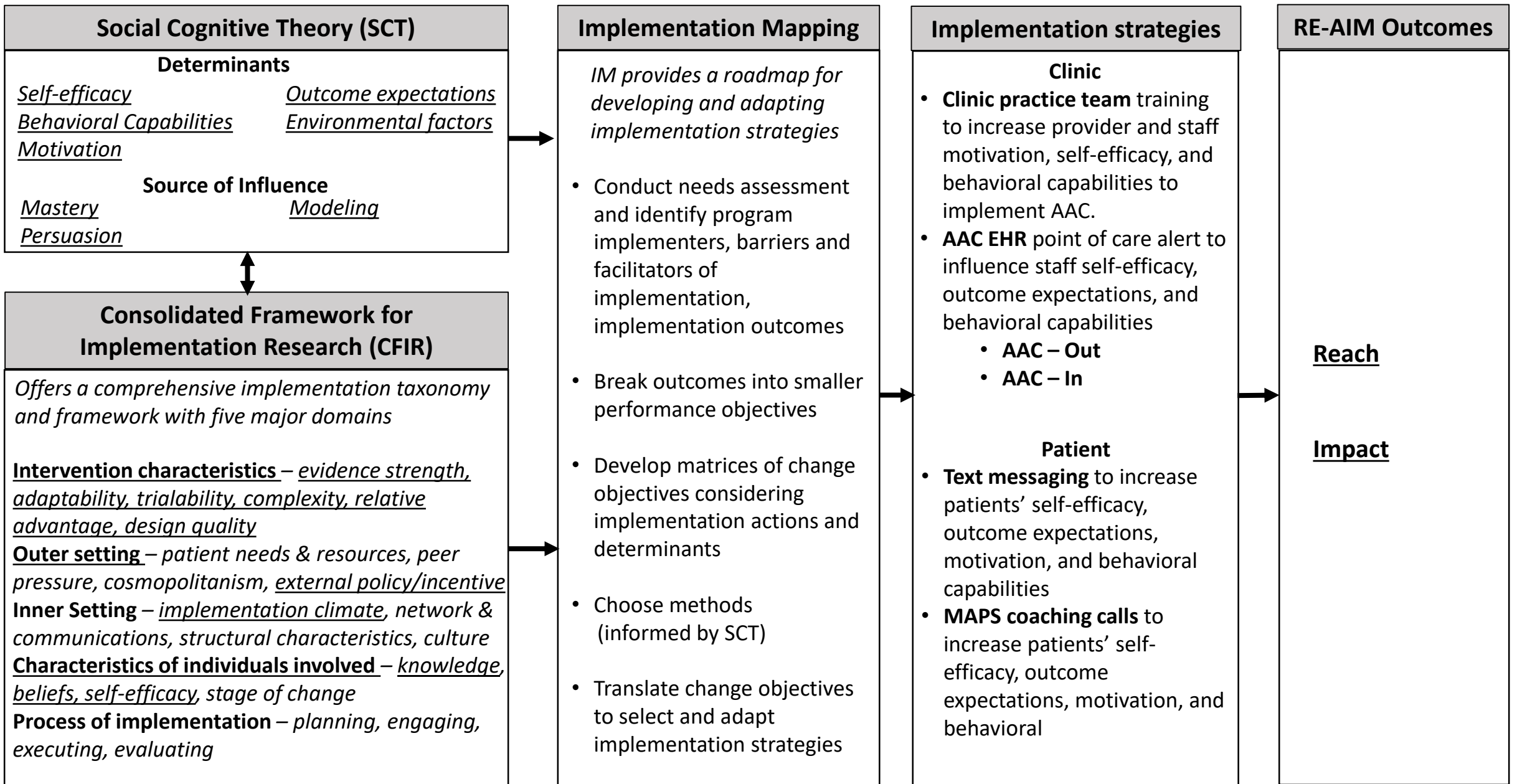
Utah Department of Health

- Reallocated their tobacco control resources to provide prescription meds

Association for Utah Community Health (AUCH)

- AUCH tobacco control staff member works 80% time on QuitSMART Utah at Center for HOPE

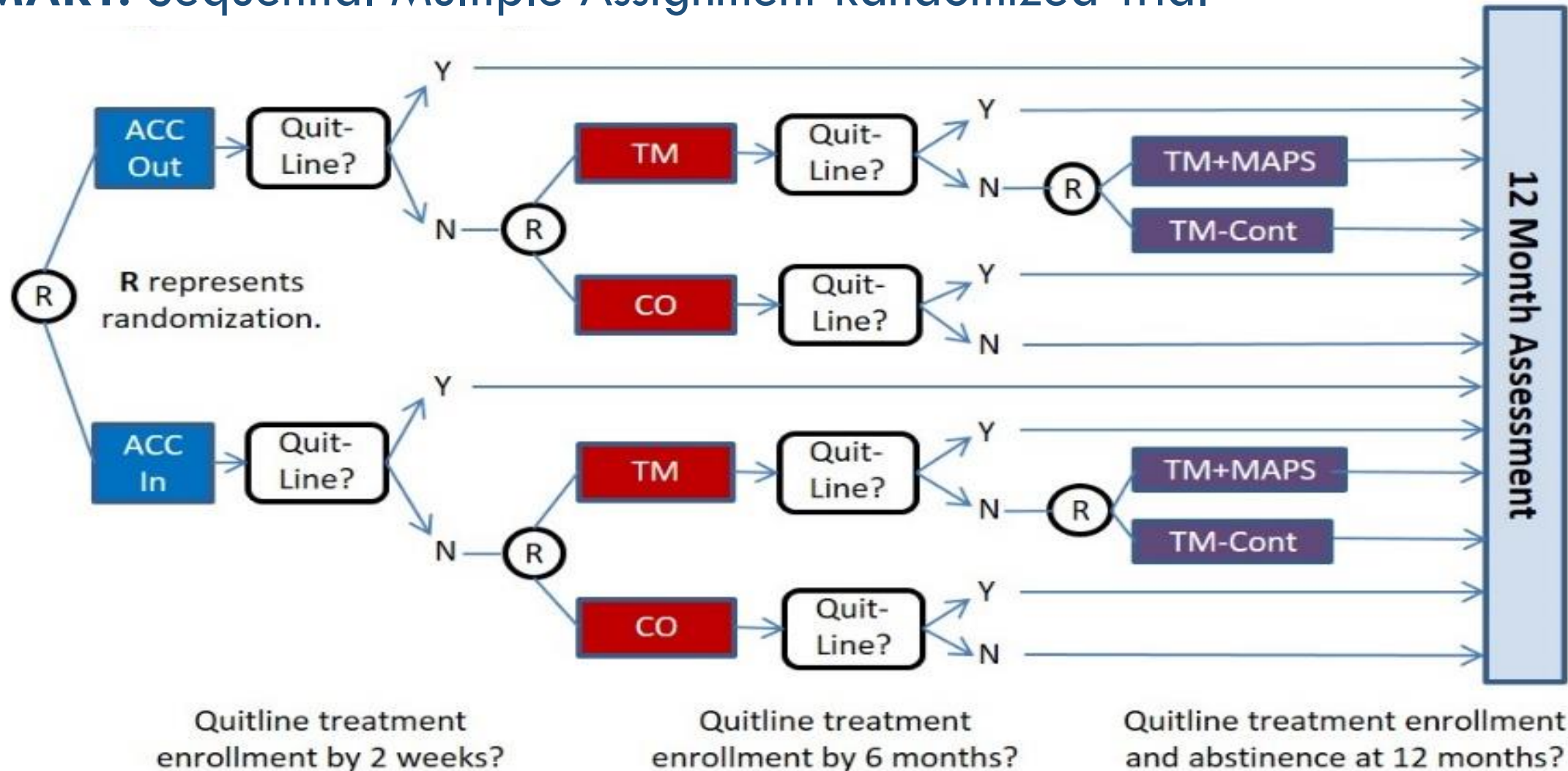




Underlined and italicized = SCT determinants/sources of influence and CFIR domains/constructs considered and used in the project

IM = implementation mapping; AAC = Ask – Advise – Connect; AAC – Out = Ask – Advise – Connect Opt – Out; AAC – In = Ask – Advise – Connect Opt – In; MAPS = Motivation And Problem Solving

SMART: Sequential Multiple Assignment Randomized Trial



R represents randomization.

Clinic-Level Randomization: Phase 1

- AAC Out = Ask, Advise, Connect – Opt Out
- AAC In = Ask, Advise, Connect – Opt In

Patient-Level Randomization: Phase 2

TM = Text Messaging; CO = Connect Only

Patient-Level Randomization: Phase 3

- TM+MAPS = Text Messaging Continued + Navigation
- TM-Cont = Text Messaging Continued

Is it a MLI or a ML Implementation Strategy?

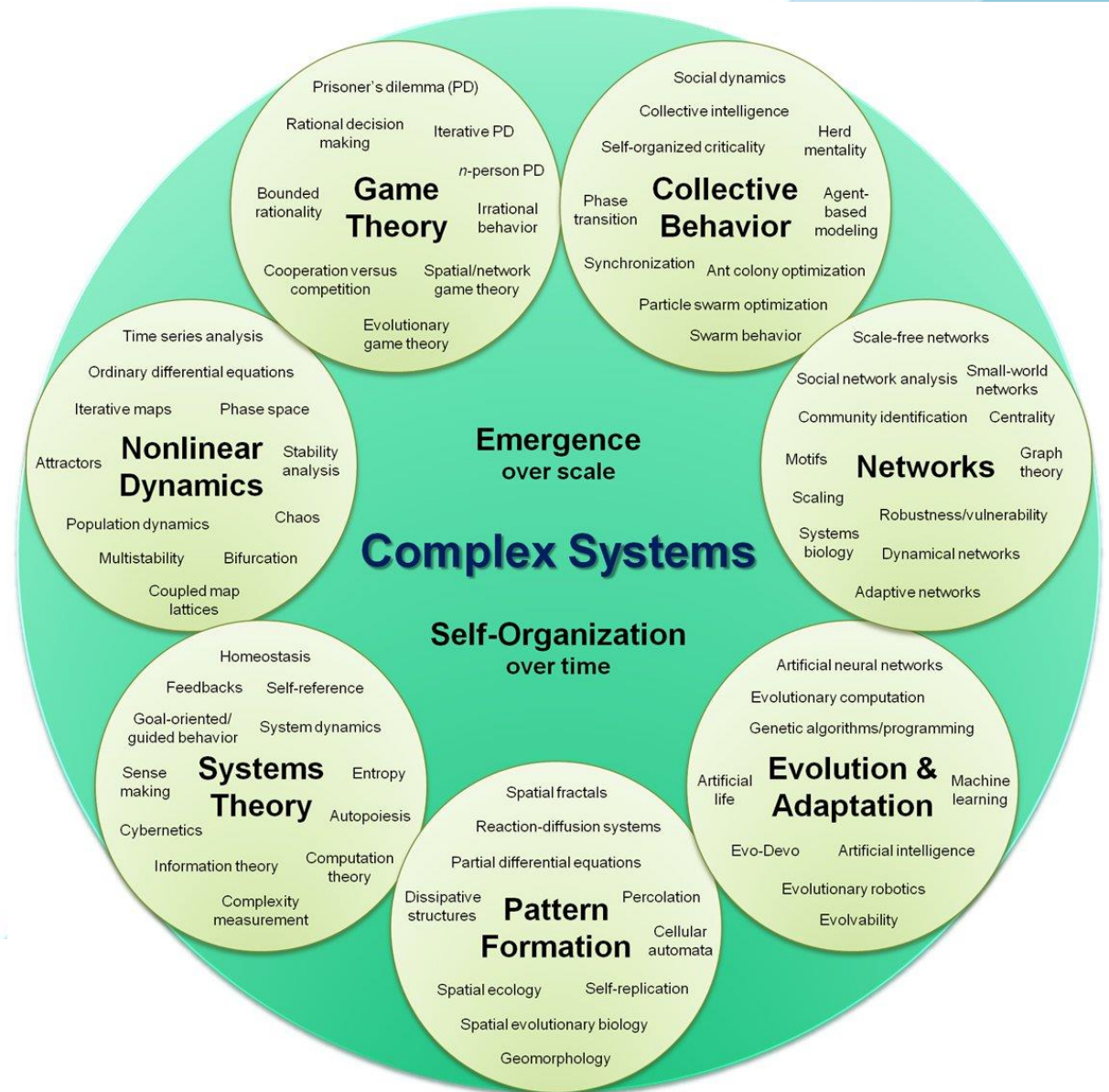
Types of Evidence-Based Interventions (EBIs) that can be implemented and disseminated:

- Clinical Practice Guidelines
- Clinical Innovations (e.g. new screening technology)
- Cancer Prevention Educational Programs (Packaged programs)
- Policies
- Strategies (USPSTF Community Guide Recommendation; e.g. mass media, one on one, provider reminders)

Back to Complexity...

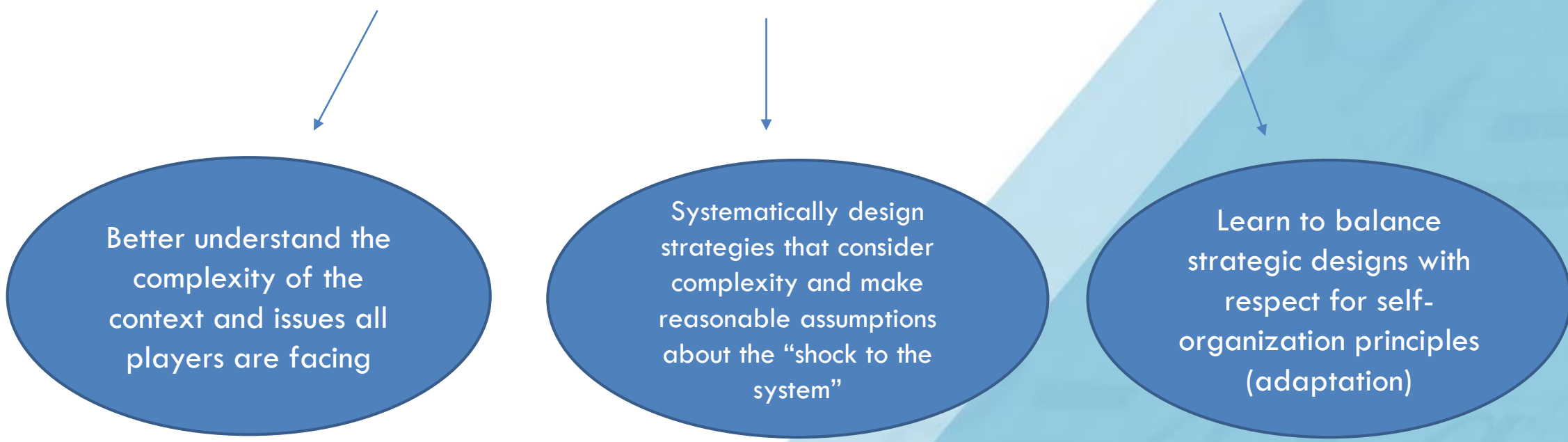
Intervening in Complex Adaptive Systems

- Apply the tools of complex systems analyses
- Engage key stakeholders at multiple levels to better understand and intervene.
- Use systematic processes for developing D&I strategies using theory, empirical evidence, and advances in implementation science.



Addressing Complexity

To address complexity, intervention (or implementation strategy) planners must:



Better understand the complexity of the context and issues all players are facing

Systematically design strategies that consider complexity and make reasonable assumptions about the “shock to the system”

Learn to balance strategic designs with respect for self-organization principles (adaptation)

Reference:

Sarriot, E., & Kouletio, M. (2014). Community Health Systems as Complex Adaptive Systems: Ontology and Praxis Lessons from an Urban Health Experience with Demonstrated Sustainability. *Systemic Practice and Action Research*, 28(3), 255–272. doi: 10.1007/s11213-014-9329-9

Summary

- There is much to learn about how we can develop effective multilevel interventions to increase health equity.
- Systematic planning of intervention components at multiple levels is key.
- It is critical to consider the dynamic and complex environment as we move from discovery to delivery and use the advances in systems thinking and other tools to do so.
- Implementation science can help bridge the gap by:
 - ▣ building an actionable and pragmatic knowledge base to help understand determinants of implementation and dissemination;
 - ▣ and developing strategies that function at multiple levels to accelerate and improve scale up and spread of effective cancer control research innovations.

