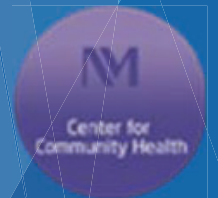# Dissemination and Implementation:
What is it?
Why is it important?
How did we get here?
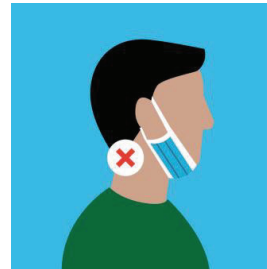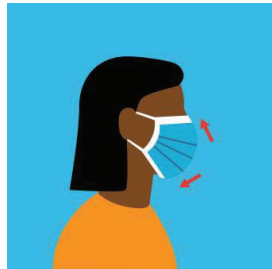# Where do we go?

Sonja K. Schoenwald, Ph.D.

Key Concepts in Dissemination and Implementation Science: Ensuring Equity in Research Translation Zoom Video Webinar

February 12, 2021

Why Care About Implementation?

- People cannot benefit from innovations they do not experience
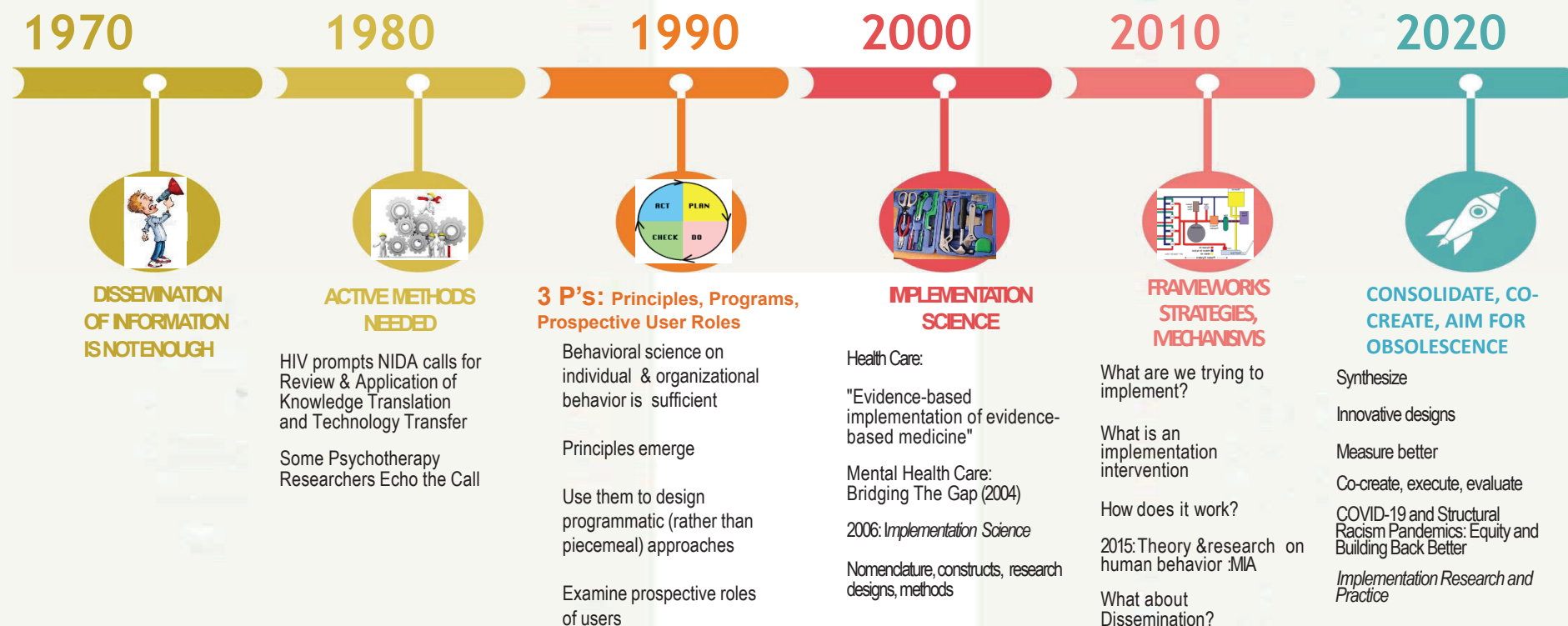- How well an innovation works ≠ how well it is implemented

- What works ≠ what is disseminated, adopted, and implemented

Implementation of Innovations:
A Common & Historic Challenge

- Across numerous industries, individuals and organizations decide to adopt a new program and equally often fail to implement it successfully

- Innovation implementation has been studied for more than a century, under the guise of diverse disciplines, nomenclatures , and with respect to diverse industries

50 Year-Timeline of Research on Dissemination & Implementation in HIV, Health, Substance Abuse, & Mental Health Care

1970

DISSEMINATION OF INFORMATION IS NOT ENOUGH

1980

ACTIVE METHODS NEEDED

HIV prompts NIDA calls for Review & Application of Knowledge Translation and Technology Transfer

Some Psychotherapy Researchers Echo the Call

1990

3 P's: Principles, Programs, Prospective User Roles

Behavioral science on individual & organizational behavior is sufficient

Principles emerge

Use them to design programmatic (rather than piecemeal) approaches

Examine prospective roles of users

2000

IMPLEMENTATION SCIENCE

Health Care:

"Evidence-based implementation of evidence-based medicine"

Mental Health Care: Bridging The Gap (2004)

2006: *Implementation Science*

Nomenclature, constructs, research designs, methods

2010

FRAMEWORKS STRATEGIES, MECHANISMS

What are we trying to implement?

What is an implementation intervention

How does it work?

2015: Theory & research on human behavior :MIA

What about Dissemination?

2020

CONSOLIDATE, CO-CREATE, AIM FOR OBSOLESCENCE

Synthesize

Innovative designs

Measure better

Co-create, execute, evaluate

COVID-19 and Structural Racism Pandemics: Equity and Building Back Better

Implementation Research and Practice

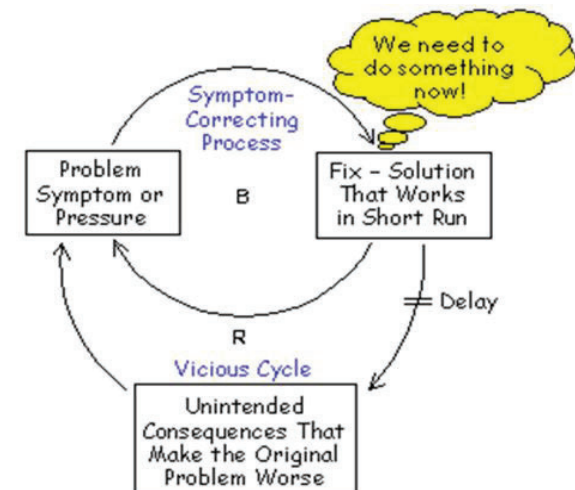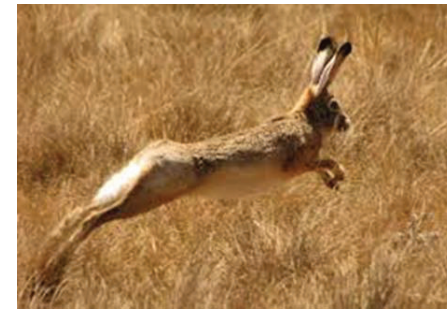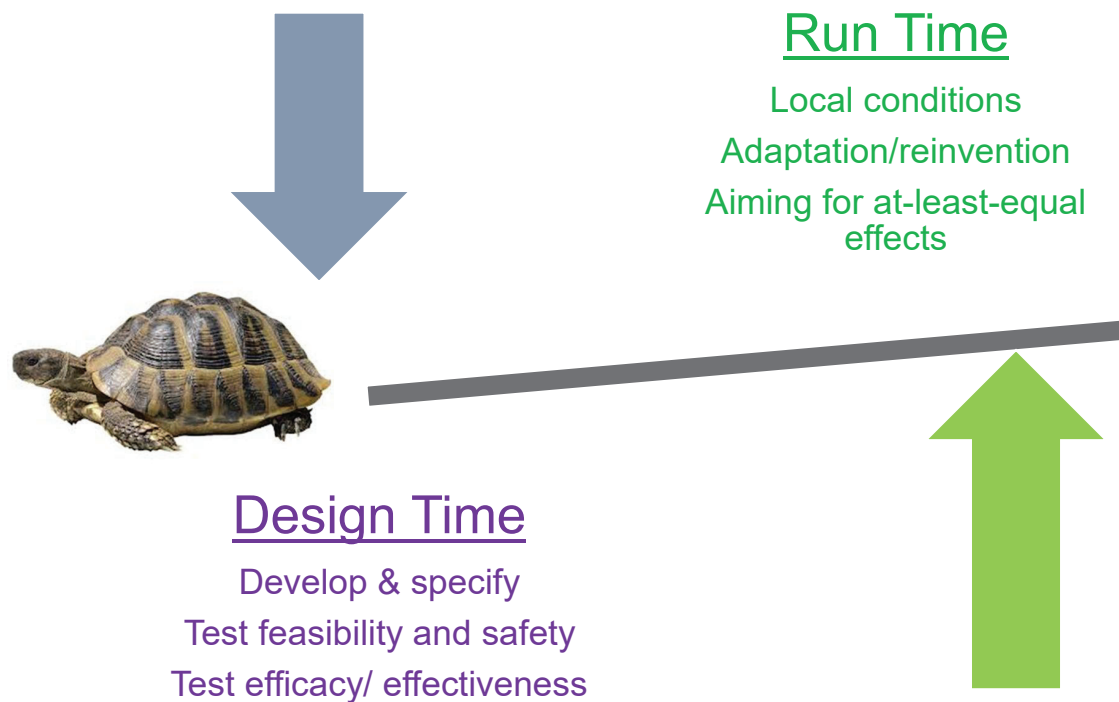## Some Challenges in Health & Mental Health Care

- "Soft" vs. "Hard" Technologies

- "Complex" interventions

- What's known about what works differs across problems and time

- Functions, nature, and pace of science, practice, & policy often differ

- The way we define a problem drives the types of solutions we seek
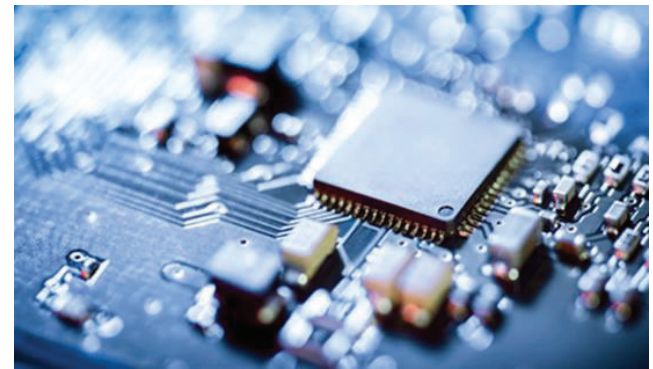
Examples Of Problem Definitions and Policy, Practice, and Research Solutions

- 1970s: Federal Report: "Nothing works" for "delinquent" adolescents
  - Lock them up
- 1980s: "Just say no" to prevent youth substance use: DARE program was disseminated and implemented; research showing effects (null) came later
- 1990s: Youth with "serious emotional disturbance" in restrictive settings
  - Access to services is too limited; greater access is the solution
  - The array of services is too limited; a greater array is the solution
  - Services are assumed to be effective
  - It turns out, we know little about what is delivered and experienced at point of contact
- Meanwhile, back at the t "lab": The process to develop and test the effects of mental health treatment resembles the FDA process for developing and testing drugs and devices.

Imbalance of "Design Time" and "Run Time"

Run Time

Local conditions

Adaptation/reinvention

Aiming for at-least-equal effects

Design Time

Develop & specify

Test feasibility and safety

Test efficacy/ effectiveness

Based on Chorpita & Daleiden, 2014

We need to do something now!

Symptom-Correcting Process

Problem Symptom or Pressure

Fix – Solution That Works in Short Run

B

Delay

R

Vicious Cycle

Unintended Consequences That Make the Original Problem Worse

How Might We Better Balance Design-Time and Run-Time?

Transportability?

Reconsider: What We Are Trying To Implement

- Disorder-specific protocols
- Modular approaches
- Transdiagnostic approaches
- Principle- Based
- Moving beyond "disorder-specific, but not returning to "generic" or "eclectic"
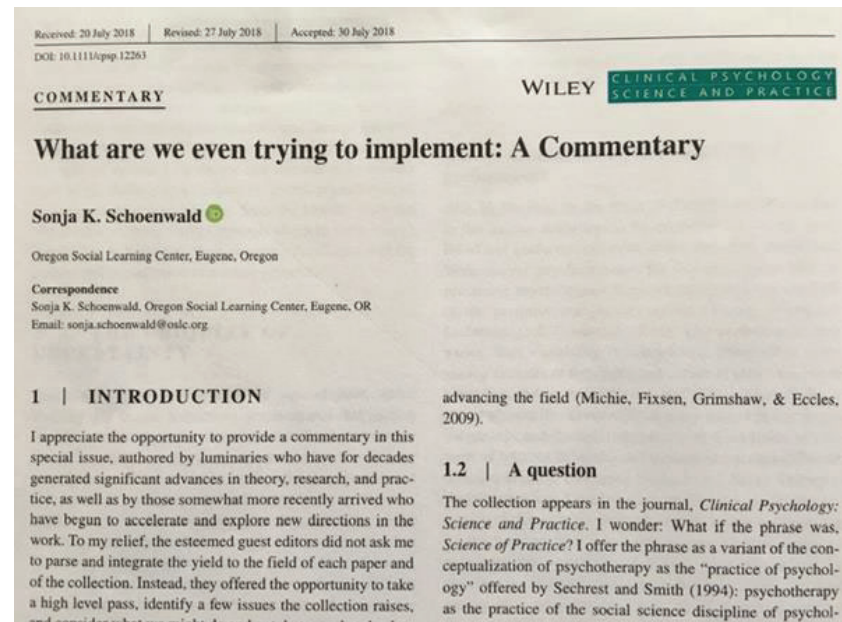
Stirman and Comer (Guest Editors): *Clinical Psychology, Science and Practice, Special Issue*, 2018

Why?

- Many people experience more than one problem at a time (comorbidities)
- Treatment Research advancements: Theory and research illuminate some common mechanisms of action across specific protocols in the same family of evidence-based treatments (e.g., specific CBT protocols)
- Implementation Issues
  - Evidence that adequate implementation requires training and support beyond initial exposure
  - Questions about the feasibility of training the workforce in multiple protocols
- Growing evidence that measurement-based care improves implementation and outcomes in health and mental health care

Implementation Science Can Help

Fundamentally focused on the behavior of adults operating in within organizational (and broader contextual) constraints and opportunities*

- Behaviors, interactions, and the cognitions, attitudes, values, beliefs
- Context: organizations, social ecologies (schools, neighborhoods, communities)
- Broader array of psychological science could be useful
- Other disciplines (systems engineering, decision sciences, computer sciences, informatics, economics, continuous quality improvement)

*Beidas, Stirman, & Kazak, 2020, *American Psychologist* Special Issue

One Goal of Implementation Science

Expand the use of evidence-based interventions (EBIs) appropriately and as broadly as feasible to foster greatest public health impact

This goal is rooted in a scientific theory of external validity:
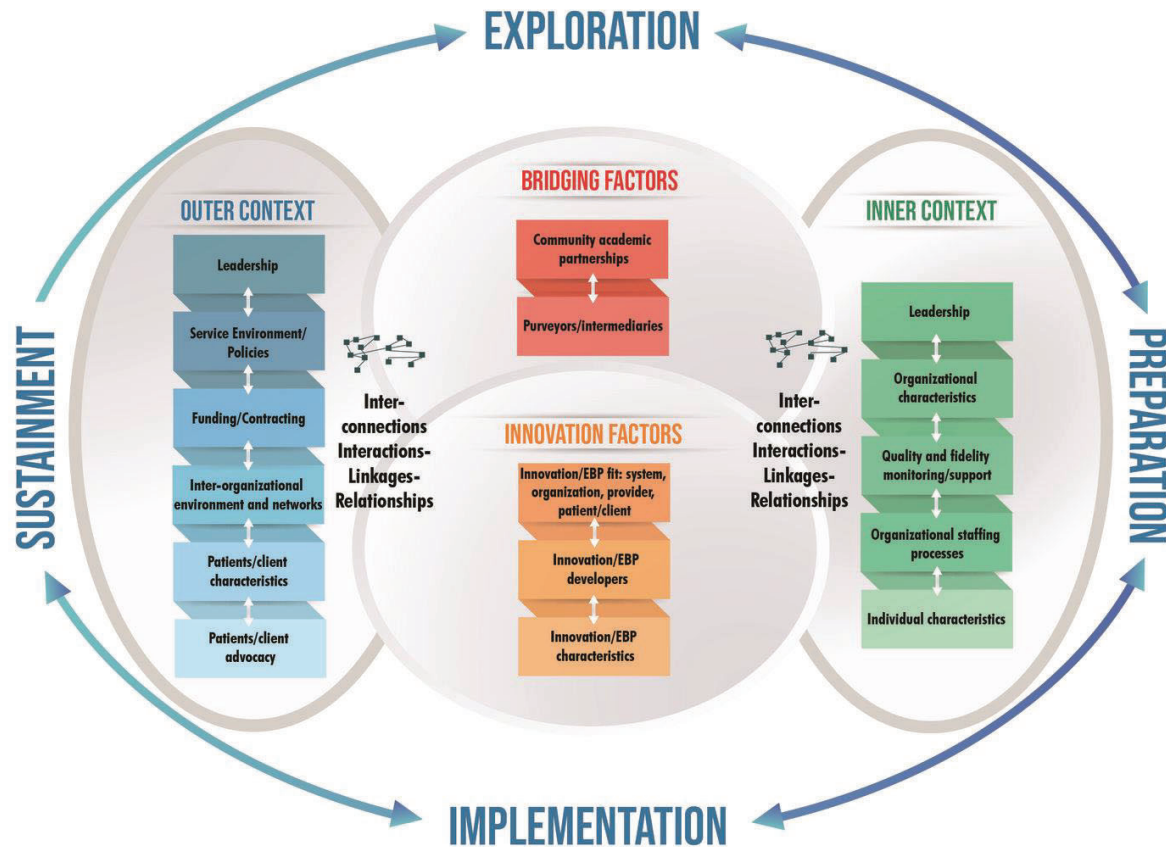
The representativeness or generalizability of effects

To what populations, settings, and outcomes can empirically established causal associations between and intervention and outcome be generalized?

Conceptual Model of Implementation Research

Intervention Strategies

- Evidence-Based Practices

Implementation Strategies

- Systems Environment
- Organizational
- Group/Learning
- Supervision
- Individual Providers/Consumers

Outcomes

Implementation Outcomes
- Feasibility
- Fidelity
- Penetration
- Acceptability
- Sustainability
- Uptake
- Costs

Service Outcomes*
- Efficiency
- Safety
- Effectiveness
- Equity
- Patient-centeredness
- Timeliness

*IOM Standards of Care

Client Outcomes
- Satisfaction
- Function
- Symptomotology

Implementation Research Methods

Proctor, Landsverk, Aarons, Chambers, Glisson, & Mittman (2009). Implementation research in mental health services: An emerging science with conceptual, methodological, and training challenges. *Administration and Policy in Mental Health and Mental Health Services Research* doi: 10.1007/s10488-008-0197-4.

The EPIS Implementation Framework

https://episframework.com/

The Process of Implementation is Dynamic

"Dynamic" ≠ ad hoc

Planned, considered, collaborative approach to local implementations

Intention to retain fidelity to fundamental elements or spirit of the intervention

Framework for Reporting Adaptations and Modifications-Expanded

PROCESS

WHEN did the modification occur?
- Pre-implementation/planning/pilot
- Implementation
- Scale up
- Maintenance/Sustainment

Were adaptations planned?
- Planned/Proactive (proactive adaptation)
- Planned/Reactive (reactive adaptation)

WHO participated in the decision to modify?
- Political leaders
- Program Leader
- Funder
- Administrator
- Program manager
- Intervention developer/purveyor
- Researcher
- Treatment/Intervention team
- Individual Practitioners (those who deliver it)
- Community members
- Recipients

Optional: Indicate who made the ultimate decision.

WHAT is modified?
Content
- Modifications made to content itself, or that impact how aspects of the treatment are delivered

Contextual
- Modifications made to the way the overall treatment is delivered

Training and Evaluation
- Modifications made to the way that staff are trained in or how the intervention is evaluated

Implementation and scale-up activities
- **Modifications to the strategies used to implement or spread the intervention**

At what LEVEL OF DELIVERY (for whom/what is the modification made?)
- Individual
- Target Intervention Group
- Cohort/individuals that share a particular characteristic
- Individual practitioner
- Clinic/unit level
- Organization
- Network
- System/Community

Contextual modifications are made to which of the following?
- Format
- Setting
- Personnel
- Population

What is the NATURE of the content modification?
- Tailoring/tweaking/refining
- Changes in packaging or materials
- Adding elements
- Removing/skipping elements
- Shortening/condensing (pacing/timing)
- Lengthening/ extending (pacing/timing)
- Substituting
- Reordering of intervention modules or segments
- **Spreading (breaking up session content over multiple sessions)**
- Integrating parts of the intervention into another framework (e.g., selecting elements)
- Integrating another treatment into EBP (not using the whole protocol and integrating other techniques into a general EBP approach)
- Repeating elements or modules
- Loosening structure
- Departing from the intervention ("drift") followed by a return to protocol within the encounter
- **Drift from protocol without returning**

Relationship fidelity/core elements?
- Fidelity Consistent/Core elements or functions preserved
- Fidelity Inconsistent/Core elements or functions changed
- Unknown

REASONS

What was the goal?
- Increase reach or engagement
- Increase retention
- Improve feasibility
- Improve fit with recipients
- To address cultural factors
- Improve effectiveness/outcomes
- Reduce cost
- Increase satisfaction

SOCIOPOLITICAL
- Existing Laws
- Existing Mandates
- Existing Policies
- Existing Regulations
- Political Climate
- Funding Policies
- Historical Context
- Societal/Cultural Norms
- Funding or Resource Allocation/Availability

ORGANIZATION/SETTING
- Available resources (funds, staffing, technology, space)
- Competing demands or mandates
- Time constraints
- Service structure
- Location/accessibility
- Regulatory/compliance
- Billing constraints
- Social context (culture, climate, leadership support)
- Mission
- Cultural or religious norms

PROVIDER
- Race
- Ethnicity
- Sexual/gender identity
- First/spoken languages
- Previous Training and Skills
- Preferences
- Clinical Judgement
- Cultural norms, competency
- Perception of intervention

RECIPIENT
- Race; Ethnicity
- Gender identity
- Sexual Orientation
- Access to resources
- Cognitive capacity
- Physical capacity
- Literacy and education level
- First/spoken languages
- Legal status
- Cultural or religious norms
- Comorbidity/Multimorbidity
- Immigration Status
- Crisis or emergent circumstances
- Motivation and readiness

Fig. 1 The Framework for Reporting Adaptations and Modifications-Expanded (FRAME). New elements are outlined in black lines, while the original aspects of the 2013 framework are outlined in gray. Additions and refinements within categories included in the 2013 framework are italicized. Recommended elements of reporting were as follows: (1) when and how in the implementation process the modification was made, (2) whether the modification was planned/proactive (i.e., an adaptation) or unplanned/reactive, (3) who determined that the modification should be made, (4) what is modified, (5) at what level of delivery the modification is made, (6) type or nature of context or content-level modifications, (7) the extent to which the modification is fidelity-consistent, and (8) the reasons for the modification, including (a) the intent or goal of the modification (e.g., cultural adaptations, to reduce costs, etc.) and (b) contextual factors that influenced the decision. Adapted from (Baumann A, Cabassa LJ & Stirman SW, 2017; Stirman SW, Miller CJ, Toder K & Calloway A, 2013)
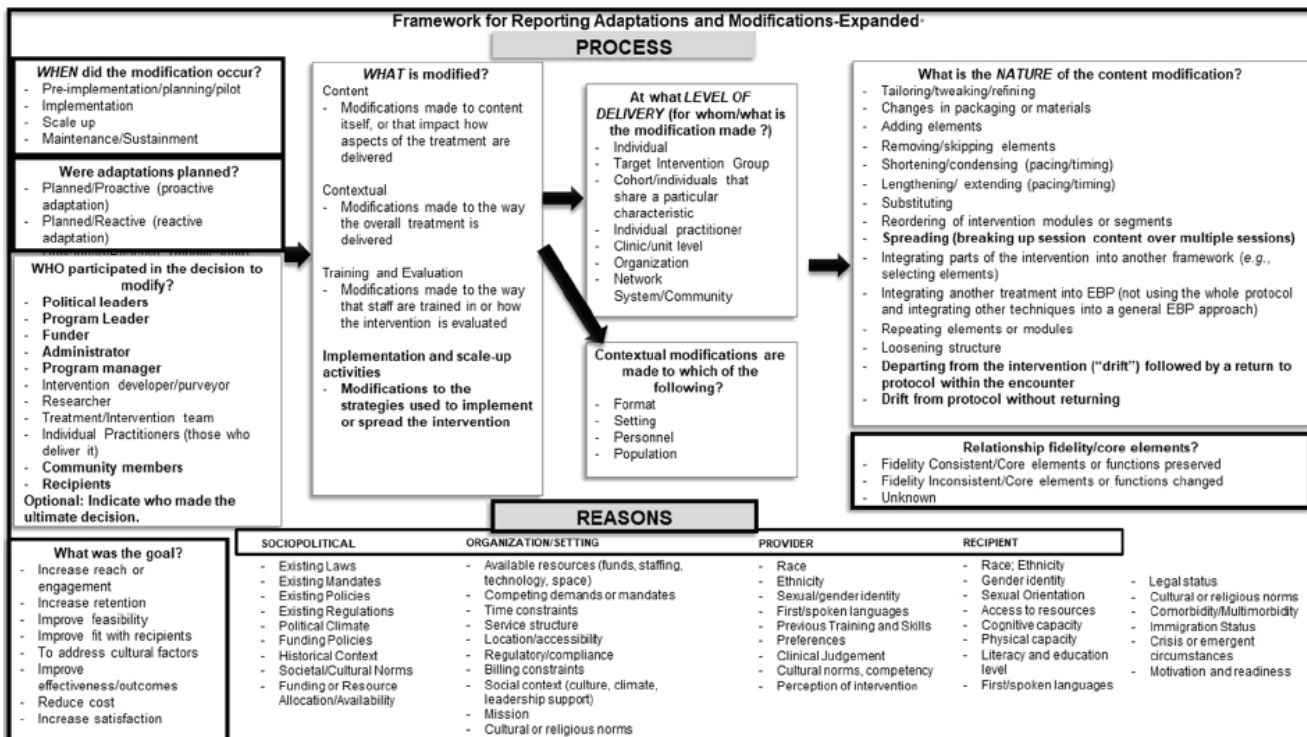
DEBATE   **Open Access**

The FRAME: an expanded framework for reporting adaptations and modifications to evidence-based interventions

Shannon Wiltsey Stirman[1*] , Ana A. Baumann[2] and Christopher J. Miller[3,4]

Abstract

Background: This paper describes the process and results of a refinement of a framework to characterize modifications to interventions. The original version did not fully capture several aspects of modification and adaptation that may be important to document and report. Additionally, the earlier framework did not include a way to differentiate cultural adaptation from adaptations made for other reasons. Reporting additional elements will allow for a more precise understanding of modifications, the process of modifying or adapting, and the relationship between different forms of modification and subsequent health and implementation outcomes.

Discussion: We employed a multifaceted approach to develop the updated FRAME involving coding documents identified through a literature review, rapid coding of qualitative interviews, and a refinement process informed by multiple stakeholders. The updated FRAME expands upon Stirman et al.'s original framework by adding components of modification to report: (1) when and how in the implementation process the modification was made, (2) whether the modification was planned/proactive (i.e., an adaptation) or unplanned/reactive, (3) who determined that the modification should be made, (4) what is modified, (5) at what level of delivery the modification is made, (6) type or

What Are We Trying to Implement? Part Two

Interventions to support the implementation – and even improvement and efficiency of effective - interventions

- Training
- Clinical Supervision
- Consultation or coaching or facilitation
- Organizational interventions
- Information management system interventions
- Financing strategy interventions
- Multi-component

Implementation Strategies, Components & Compilations

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 Waltz[2], Matthew J Chinman[3,4], Laura J Damschroder[5], Jeffrey L Smith[6], Monica M Matthieu[6,7], Enola K Proctor[8] and JoAnn E Kirchner[6,9]

Abstract

Background: Identifying, developing, and testing implementation strategies are important goals of implementation science. However, these efforts have been complicated by the use of inconsistent language and inadequate descriptions of implementation strategies in the literature. The Expert Recommendations for Implementing Change (ERIC) study aimed to refine a published compilation of implementation strategy terms and definitions by systematically gathering input from a wide range of stakeholders with expertise in implementation science and clinical practice.

Methods: Purposive sampling was used to recruit a panel of experts in implementation and clinical practice who engaged in three rounds of a modified Delphi process to generate consensus on implementation strategies and definitions. The first and second rounds involved Web-based surveys soliciting comments on implementation strategy terms and definitions. After each round, iterative refinements were made based upon participant feedback. The third round involved a live polling and consensus process via a Web-based platform and conference call.

Results: Participants identified substantial concerns with 31% of the terms and/or definitions and suggested five additional strategies. Seventy-five percent of definitions from the originally published compilation of strategies were retained after voting. Ultimately, the expert panel reached consensus on a final compilation of 73 implementation strategies.

Conclusions: This research advances the field by improving the conceptual clarity, relevance, and comprehensiveness of implementation strategies that can be used in isolation or combination in implementation

Implementation Science Communications

STUDY PROTOCOL   **Open Access**

Check for updates
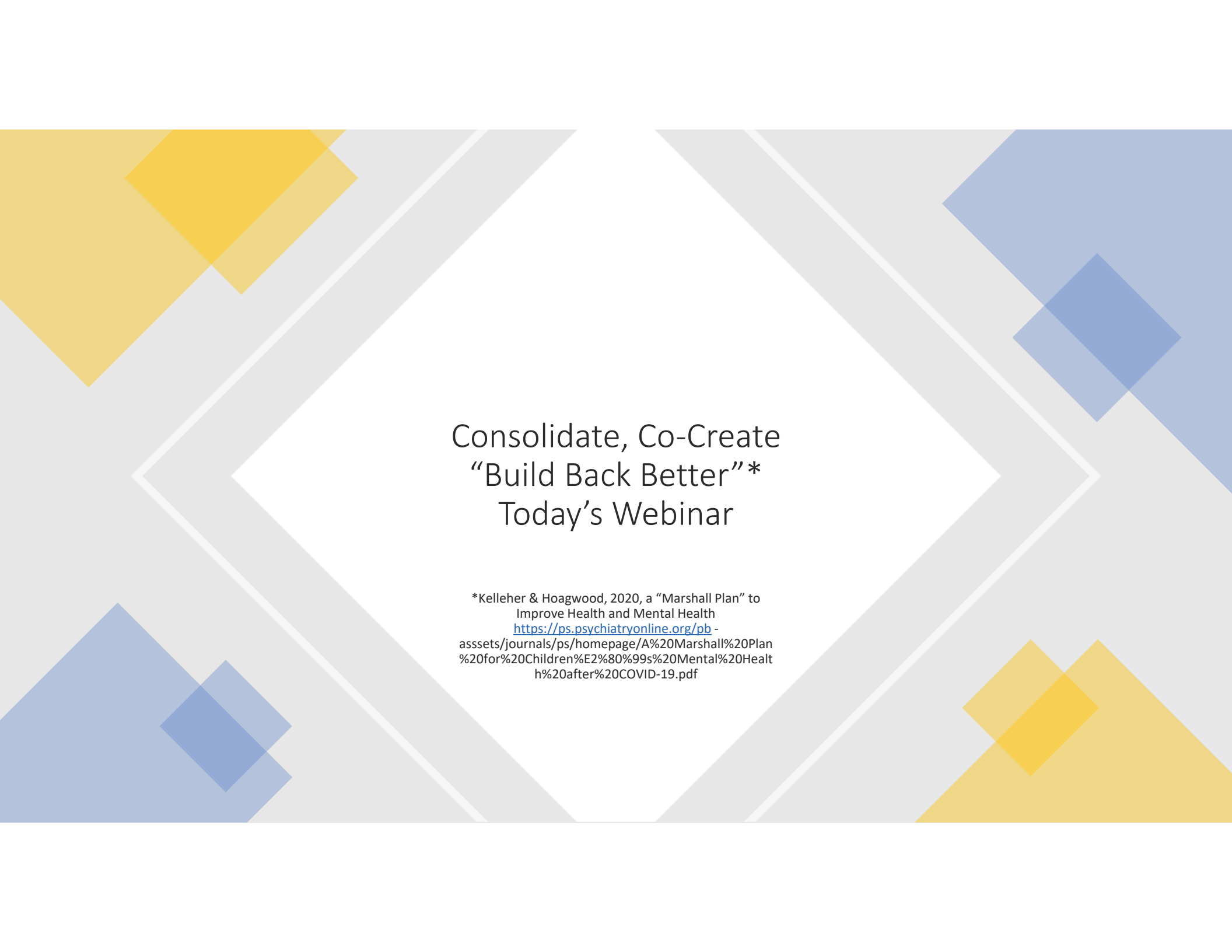
Improving the implementation and sustainment of evidence-based practices in community mental health organizations: a study protocol for a matched-pair cluster randomized pilot study of the Collaborative Organizational Approach to Selecting and Tailoring Implementation Strategies (COAST-IS)

Byron J. Powell[1,2]*, Amber D. Haley[2], Sheila V. Patel[2], Lisa Amaya-Jackson[3,4,5], Beverly Glienke[5], Mellicent Blythe[5,6],

Consolidate, Co-Create
"Build Back Better"*
Today's Webinar

*Kelleher & Hoagwood, 2020, a "Marshall Plan" to Improve Health and Mental Health
https://ps.psychiatryonline.org/pb - asssets/journals/ps/homepage/A%20Marshall%20Plan%20for%20Children%E2%80%99s%20Mental%20Health%20after%20COVID-19.pdf

Implementation Frameworks to Promote Equity
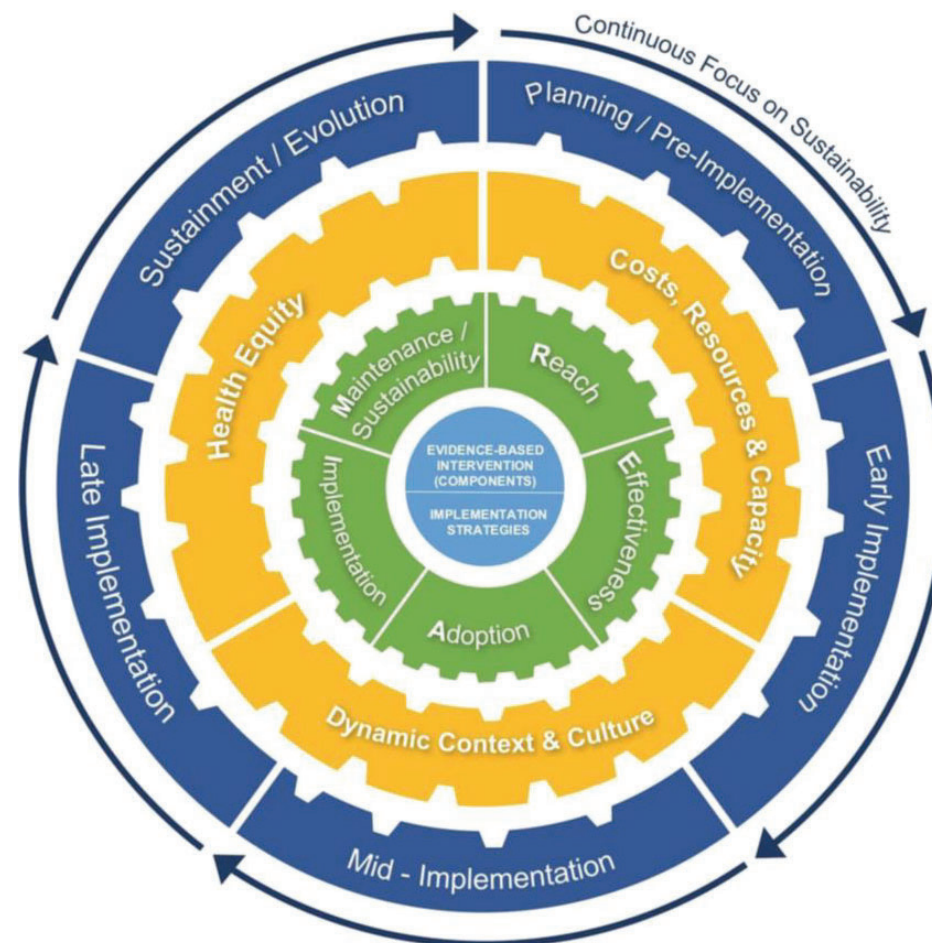
FIGURE 1 | An extension of RE-AIM to enhance sustainability: Cross-cutting issues and iterative application of RE-AIM for sustainability, to guide adaptations and evolvability of EBIs/implementation strategies, address dynamic context, and promote equity across the life cycle of an EBI. Shelton, Chambers, & Glasgow, 2020

Policy As Intervention

- Some interventions that have been shown to effectively prevent or reduce problems such as tobacco or alcohol use are policy interventions, such as taxation

- To "build back better" from twin pandemics of COVID-19 and systemic racism
  - "build health in all policies" to broad familial, social, and economic factors known to affect healthy development
  - Build research on D&I and children's mental health policy

- What factors affect which policy decisions made by whom?

Hoagwood, Purtle, Spandorfer, Peth-Pierce, & Horwitz (2020). Aligning Dissemination and Implementation Science with Health Policies to Improve Children's Mental Health. *American Psychologist Special Issue*, http: dx.doi.org/10.1037/amp0000706

Co-Create, Execute, Evaluate, Synthesize

Implementation Science

RESEARCH   Open Access

The Implementation Research Logic Model: a method for planning, executing, reporting, and synthesizing implementation projects

Check for updates

Justin D. Smith[1,2*], Dennis H. Li[3] and Miriam R. Rafferty[4]

Fig. 2 Implementation Research Logic Model (IRLM) Standard Form with Intervention. *Notes*. Domain names in the determinants section were drawn from the Consolidated Framework for Implementation Research. The format of the outcomes column is from Proctor et al. 2011
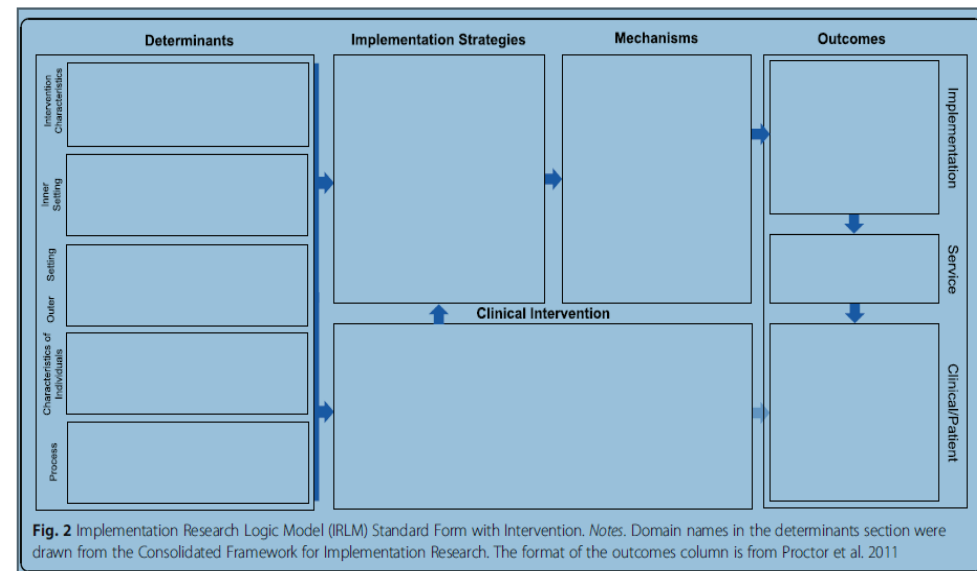
Official Launch: 05/21/2020

Implementation
Research & Practice

journals.sagepub.com/home/irp

eISSN 2633-4895

SIRC
SOCIETY FOR IMPLEMENTATION
RESEARCH COLLABORATION

Editors' welcome
to *Implementation Research and Practice*

Cara C Lewis
Sonja K Schoenwald

First Published May 21, 2020
HTTPS://DOI.ORG/10.1177/0020764020924928

https://journals.sagepub.com/home/irp

Diversity, Inclusion, Equity

- We posit these constructs are relevant internationally.

- And, that they are reflected, and can be promoted, via the definition of problems and goals implementation research aims to address, and the people participating in, conducting, and reviewing that research.

- We are taking a multi-pronged approach to this endeavor

IRP Journal Scope and Articles Welcomed

Scope

- Assessment, prevention, and treatment of mental health, substance abuse, or other addictive behaviors and their co-occurrence

- In the diverse contexts of human development across the lifespan

Types of Papers Welcomed

- Research

- Methodology

- Review

- Short Report

- Conceptual

- Practical Implementation Report

- Viewpoint

A Few Aspirations

- A valued source of information about high quality research and practical implementation efforts that can be used in science, practice, and policy

- Showcase new knowledge, methods, and ideas that can be used to improve implementation of effective prevention and intervention

- In the diverse contexts in which human development unfolds

- Make the information rapidly and globally available

- Support mutual inspiration and learning of science and practice

- Support co-creation by stakeholders of research, practices, and policies

- Help make implementation research obsolete?

Implementation Research and Practice is an international, peer-reviewed, open access, online-only journal providing rapid publication of interdisciplinary research that advances the implementation in diverse contexts of effective approaches to assess, prevent, and treat mental health, substance use, or other addictive behaviors, in the general population or among those at-risk or suffering from these disorders.

The APC for this journal is <u>currently waived</u> for an introductory period, discounted from the full rate of $1500 USD. This introductory rate is available for a limited time.

- For more information, visit our website: https://journals.sagepub.com/home/irp

- Submit your manuscript today: https://mc.manuscriptcentral.com/IRP

- Questions? Contact us at IRPeditors@gmail.com

Definitions, Methods, and Measures of Implementation Science and Their Role in Addressing Health Equity

C. Hendricks Brown

hendricks.brown@northwestern.edu

Northwestern

NM Northwestern Medicine®
Feinberg School of Medicine

Northwestern University
NUCATS
Clinical and Translational Sciences Institute

Center for Prevention
Implementation Methodology
FOR DRUG ABUSE AND HIV

Funding Acknowledgements

Co-authors: Third Reading Course on Implementation Science at Northwestern

Dennis Li

Miriam Rafferty

Allison Carroll
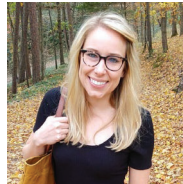
Ashley Knapp

Juan Villamar

Nanette Hannah

Why is American's Health So Poor Given its Huge Biomedical Investment?
Research-to-Practice Chasm IOM 2001
What We "Know" Works and What We Do

A <u>Pipeline</u> that Narrows in Each Stage

Success Rate: 100% ... 0%

Funding Review Development Publication Synthesis Guidelines

* Practice

0 Years   17 Years
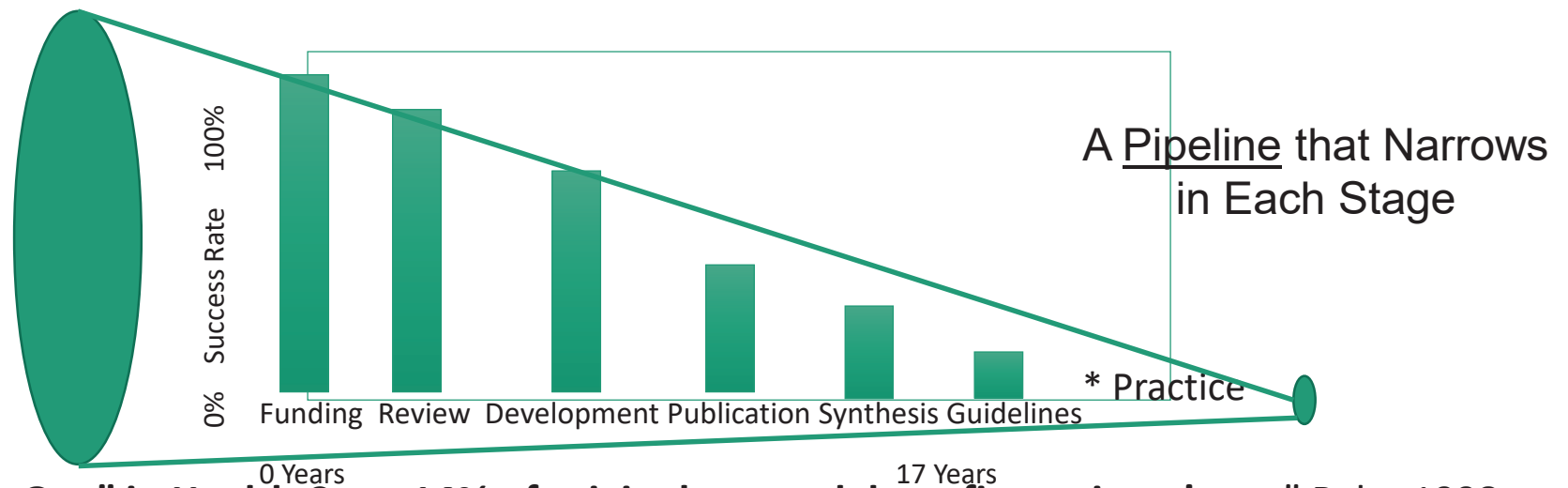
"17 Year Gap" in Health Care, 14% of original research benefits patients' care" Balas 1998

Implementation: The Intervention may be Effective, but <u>Delivery System</u> is essential:

"The use of effective interventions without **implementation strategies** is like a serum without a syringe; the cure is available, but the delivery system is not."

Fixsen, Blase, Duda, Naoom, Van Dyke, 2010

Current Research Perspective:
"Implementation only worthy of funding if solid evidence-base"

Real-world relevance

Could a program work?

Does a program work?

Making a program work

Preintervention

Efficacy studies

Effectiveness studies

Exploration

Preparation

Implementation

Sustainment

Implementation Research

Implementation Practice

Generalizable knowledge

Local knowledge

Traditional Translational Pipeline

Brown et al., ARPH 2017

Time

Northwestern Medicine
Feinberg School of Medicine

Northwestern University
NUCATS
Clinical and Translational Sciences Institute

Center for Prevention
Implementation Methodology
FOR DRUG ABUSE AND HIV

Comparison of NIH Funding – HIV Research Pipeline

Real-world relevance

Making a program work

Does a program work?

Could a program work?

HIV Disparities

African Americans 3x

Latinos 2.4x
Benbow et al., PLOS One 2020

4% Imp Sci Related
56% had Imp Measure

Smith et al., AIDS
Behav 2020
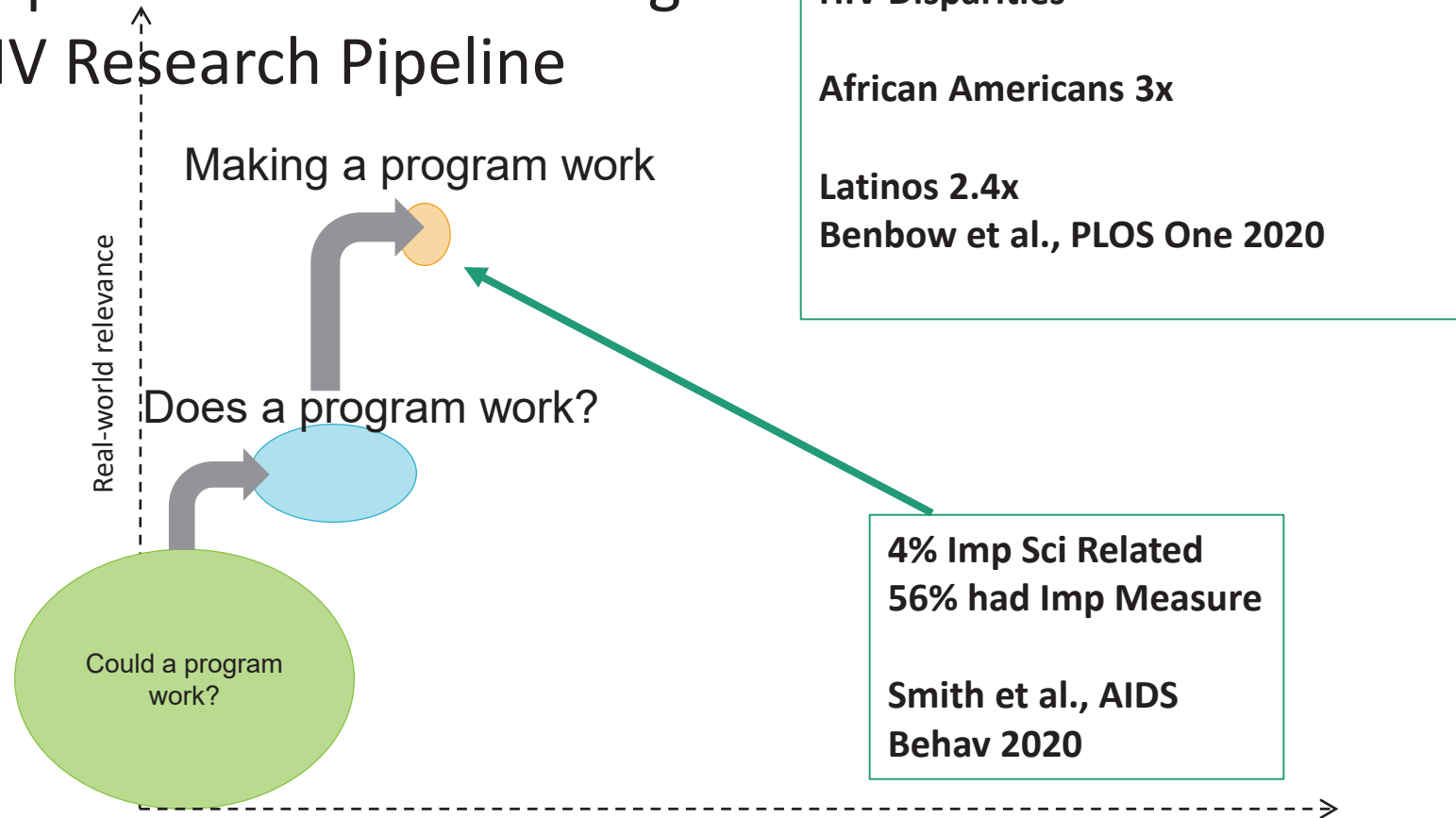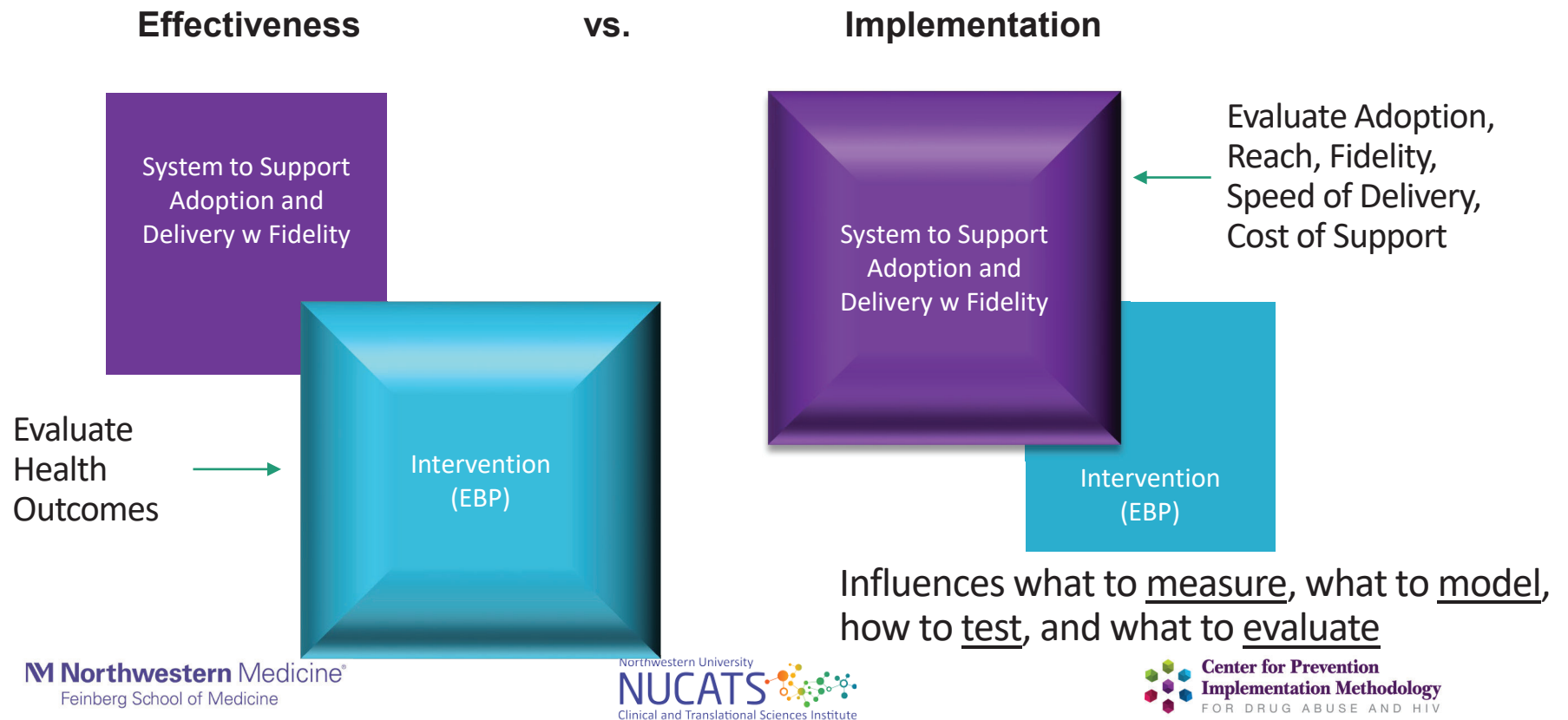
Clinical Interventions vs. Implementation Strategies: 2 Taxonomies

Evidence-based clinical/preventive **intervention** – **7 Ps:**

- **Pill** (PrEP)
- **Program** (PROMISE)
- **Practice** (routine HIV screening in clinical settings)
- **Principle** (Treatment as Prevention)
- **Product** (condom)
- **Policy** (housing for people at high risk for HIV)
- **Procedures** (male circumcision)

Evidence-informed implementation **strategies** – **ERIC categories:**

- **Evaluative & iterative strategies** (audit and provide feedback)
- **Interactive assistance** (external facilitation)
- **Financial strategies** (alter fees and incentives)
- **Infrastructure change** (add new clinic location)
- **Adaptation & tailoring**
- **Stakeholder interrelationships** (inform local opinion leaders)
- **Clinician support** (EMR reminders)
- **Training & education**
- **Consumer engagement** (social marketing)

Brown et al., 2017, *Annu Rev Publ Health*; Powell et al., 2015, *Implement Sci*; Waltz et al., 2015, *Implement Sci*

Implementation Outcomes

Implementation Outcomes	Service Outcomes*	Client Outcomes
Acceptability	Efficiency	Satisfaction
Adoption	Safety	Function
Appropriateness	Effectiveness	Symptomatology
Costs	Equity	
Feasibility	Patient-centeredness	
Fidelity	Timeliness	
Penetration		
Sustainability		

NM Northwestern Medicine®
Feinberg School of Medicine

Northwestern University
NUCATS
Clinical and Translational Sciences Institute

Center for Prevention
Implementation Methodology
FOR DRUG ABUSE AND HIV

What <u>Equity</u> Means

Equity Definitions

- Health Equity – extinguishing health disparities

- Health <u>Service</u> Equity – extinguishing disparities in access, prevention, and care

- <u>Scientific</u> Equity – producing same level of scientific knowledge <u>to achieve</u> health equity across groups experiencing disparities
  - Most funding to document disparities, little to learn how to address disparities

Brown et al., JAIDS 2013, Perrino et al., Prev Sci 2015

Framework for Implementation Strategies to Achieve Equity
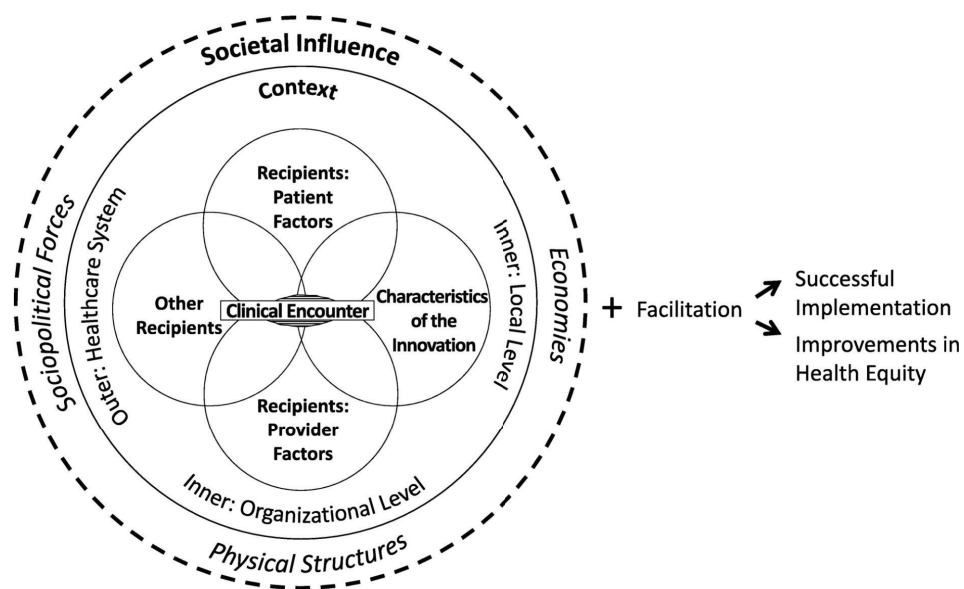
Woodward et al., Imp Sci 2019

Factors Affecting Population Health and Disparities : COVID VACCINATION

	Factors	Rate in General Population	Rate in African American Population
Population REACH	% Willing to be Vaccinated	67%	**38% (< 44)** **68% (>60)**
Intervention EFFECTIVENESS	Vaccine Variants	**95% for 2 dose** **52% for 1 dose**	**95% for 2 dose** **52% for 1 dose**
Organizational ADOPTION	Public Health, Health Systems, Pharmacies/ Food Stores	10%	5%
IMPLEMENTATION with Fidelity	Trained Workforce, Data System	**80%**	**80%**
MAINTENANCE or Sustainment	Support for Second Dose	80%	70%
Population Effect		4.6%	1.7%

RE-AIM : An Implementation <u>Framework</u> for PUBLIC HEALTH IMPACT (& EQUITY)

- REACH
- EFFECTIVENESS
- ADOPTION
- IMPLEMENTATION WITH FIDELITY
- MAINTENANCE(Sustainment)

- Glasgow et al., AJPH 1999

Definitions (NIH)

Implementation science is the scientific <u>study of methods and strategies</u> that facilitate the <u>uptake of evidence-based practice and research</u> into regular use by practitioners and policymakers. (NIH/NCI)

Implementation research : The <u>evaluation of the use of strategies</u> to produce <u>generalizable</u> knowledge about integrating interventions into real-world settings

Dissemination research is defined as the scientific study of <u>targeted distribution of information and intervention materials</u> to a specific public health or clinical practice audience. The intent is to understand how best to communicate and integrate knowledge and the associated evidence-based interventions.

Translational research is the scientific process by which observations in the laboratory, clinic and community are turned into interventions <u>that improve the health of individuals and the public</u> — from diagnostics and therapeutics to medical procedures and behavioral changes.

Where does <u>Community</u> Fit in to Implementation?

- First Rule of Public Health:
"**Don't get kicked out of the community**" -- Sheppard Kellam

Implementation Science Needs to Make Room for Community Voices

- Solutions Require:

Integrating Community Voices into Implementation Research: 4 Approaches

- Standing Community Advisories to Clinical and Translational Science Institutes
    - UIC: Community Engaged Advisory Board
    - Northwestern: Alliance for Research in Chicago Communities (ARCC)
- Shared Decision and Funding Mechanisms
    - Chicago Center for Youth Violence Prevention UChicago,/Northwestern – Brightstar Community Outreach – Pastor Chris Harris
    - Community Partners in Care: UCLA
    - Pastors for Patient Centered Outcomes Research (PCOR) – Bishop Gordon PCORI
- Research Joining a Community Task Force
    - Pinellas County Opioid Task Force : Northwestern USF
- Ad Hoc
    - Community Recommendation for Multigenerational COVID Vaccination in African American Communities + Simulation Modeling -- **Later Section Today**

Testing and Modeling Implementation Strategies - Can be as rigorous as Effectiveness Trials – AND Acceptable

- Alternatives to the traditional Randomized Trial
  - Unethical to withhold a proven effective intervention completely
  - **Roll-out Designs** - randomly assign WHEN organizations start to implement
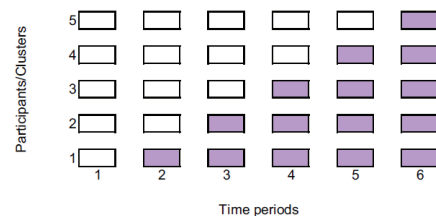
- **Simulation Modeling** to support improved decision making
  - Model long term impact 10-year Ending HIV Epidemic
  - Illustration regarding Equity in COVID-19 Vaccinations

Brown et al., ARPH 2017
Landsverk et al., (2018) ini Brownson et al., D&I in Health

Summary Points

- There is a science to implementation, providing generalizable knowledge

- No Success in Implementation Without Equity!

- Community Provides Essential, Powerful Voice and Direction

- More Trainings Available Across All Levels – links at end of day

Examining Implementation of a State-Wide Rollout of a Postpartum Depression Preventive Intervention

Dissemination and Implementation Workshop
February 12, 2021

Darius Tandon, PhD

Associate Professor, Northwestern Feinberg School of Medicine

www.mothersandbabiesprogram.org

@MothersBabiesNU

Mothers and Babies (MB): Conceptual Background & Evidence of Effectiveness

- Manualized intervention based on principles of cognitive-behavioral therapy (CBT) and attachment theory (Munoz et al., 2007)

- Multiple RCT's demonstrating efficacy of MB **group** modality (Le et al., 2011; McFarlane et al., 2016; Munoz et al., 2007; Tandon et al., 2011; Tandon et al., 2013)

- More recent trials demonstrating efficacy of MB **1-on-1** modality (Tandon et al., 2018)
  - ➤ **"MB Florida" study conducted to gain additional data on MB 1-on-1 effectiveness AND to examine its implementation**

MOTHERS & BABIES
www.mothersandbabiesprogram.org

Northwestern Medicine®
Feinberg School of Medicine

Florida Mothers and Babies 1-on-1 Overview

- Funded by Florida Maternal, Infant, and Early Childhood Home Visiting (MIECHV) and the Robert Wood Johnson Foundation (Grant # 73664)

- **Effectiveness-Implementation Hybrid Type I** trial (Curran et al., 2012) simultaneously examining client and implementation outcomes

- RE-AIM Framework (Glasgow et al., 1999) to guide data collection
  - **Reach**
  - Effectiveness
  - **Adoption**
  - **Implementation**
  - **Maintenance**

Florida Mothers and Babies 1-on-1 Overview (cont...)

- **Conducted throughout Florida's Healthy Start home visiting network**
  - Home visiting: prenatal and parenting education and care coordination to pregnant women and new mothers
  - 32 Healthy Start coalitions covering entire state of Florida
- **Quasi-experimental study**
  - 672 control participants recruited prior to MB training/implementation
  - 557 intervention participants recruited after MB training
- **Train-the-trainer model**
  - 126 clinicians and home visiting managers trained by NU research team
  - 473 home visitors subsequently trained at their local agencies by the clinicians and home visitors trained by NU
- **Florida Department of Health inclusion of MB in "Standards & Guidelines"**
  - All women scoring 8-12 on the Edinburgh Postnatal Depression Scale (Cox et al., 1987) (mild/moderate symptoms) should be introduced to MB intervention

Intervention REACH

Definition	Individual-level outcome; number, percentage, and/or representativeness of individuals who participate in an intervention
Outcome(s)	Percentage of women eligible for MB who received any MB intervention sessions
Data Collection/ Data Source	Healthy Start Well-Family System

Selected Results	1088 women scored between 8-12 on EPDS (eligible for intervention and denominator for analysis)
	
	432/1088 (40%) received at least one MB intervention session
	  --Reasons for not receiving sessions:
	    (1) Not introduced to/referred for MB
	    (2) Client disengaged from HV program
	    (3) Client not interested in MB

Intervention ADOPTION

Definition	Organizational outcome; number, proportion, and/or representativeness of a setting who initiate an intervention
Outcome(s)	Percentage of 32 Healthy Start coalitions adopting MB Percentage of 473 trained home visitors adopting MB
Data Collection/ Data Source	Healthy Start Well-Family System

Selected Results	31/32 (97%) of coalitions delivered MB to at least one client in the six-month period post-training
	
	321/473 (68%) of home visitors delivered MB to at least one client in the six-month period post-training
	    Reasons home visitors did not deliver sessions:
	    (1) No clients introduced to MB
	    (2) No clients eligible for MB

Intervention IMPLEMENTATION

Definition	Degree to which intervention was delivered as planned/developed
Outcome(s)	(1) Number of MB sessions received by participant ("dosage") (2) Number of "fidelity-consistent" and "fidelity-inconsistent" adaptations conducted by home visitors who delivered MB
Data Collection/ Data Source	Healthy Start Well-Family System (dosage) Modified Adaptation Checklist (adaptations) (Stirman et al., 2013)

Selected Results	Average number of MB sessions received = 8.2
	
	68% of home visitors reported $\geq$1 more **fidelity-consistent** adaptations
	  -Lengthening time spent on session most common (50%)
	
	37% of home visitors reported $\geq$1 more **fidelity-inconsistent** adaptations
	  --Loosening session structure most common (24%)

Intervention MAINTENANCE

Definition	Extent to which an intervention becomes integrated or institutionalized as part of agency/system practice
Outcome(s)	(1) Delivery of MB at Coalition-level 12 months after last referral to NU research team (2) Factors influencing MB maintenance
Data Collection/ Data Source	Healthy Start Well-Family System (ongoing delivery) Sustainment Measurement System (factors influencing sustainment) (Palinkas et al., 2016)

Selected Results	28/32 (88%) of Coalitions continued to deliver MB 12 months after last referral to NU research team
	
	Factors influencing MB sustainment (% Strongly Agree/Agree):
	  --Difficulty retaining clients in HV generally (45%)
	  --Difficulty recruiting/referring eligible clients for MB (41%)

Implications of MB Florida Implementation Data

➤Effectiveness-implementation hybrid design yielded important data on MB implementation, with implications for future research and practice:

1. How to ensure all eligible women **receive** MB?

    --60% of eligible women did not receive a MB session (although about one-quarter did not continue to engage with HV)

2. How to promote greater **adoption** of MB among trained home visitors?

    --32% of home visitors did not deliver MB (although some did not have clients eligible)

3. How to increase **dosage** of MB?

    --Greater dosage associated with greater reduction in depressive symptoms

➤These data are being used to refine our MB training and technical assistance model, including development of new resources to support MB implementation

MB Florida Acknowledgements

Northwestern Medicine®
Feinberg School of Medicine

MOTHERS & BABIES
www.mothersandbabiesprogram.org

References

Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. Br J Psychiatry. 1987 Jun;150:782-6. doi: 10.1192/bjp.150.6.782. PMID: 3651732.

Curran GM, Bauer M, Mittman B, Pyne JM, Stetler C. Effectiveness-implementation hybrid designs: combining elements of clinical effectiveness and implementation research to enhance public health impact. Med Care. 2012 Mar;50(3):217-26. doi: 10.1097/MLR.0b013e3182408812. PMID: 22310560; PMCID: PMC3731143.

Glasgow RE, Vogt TM, Boles SM. Evaluating the public health impact of health promotion interventions: the RE-AIM framework. Am J Public Health. 1999 Sep;89(9):1322-7. doi: 10.2105/ajph.89.9.1322. PMID: 10474547; PMCID: PMC1508772.

Le, H. N., Perry, D. F., & Stuart, E. A. (2011). Randomized controlled trial of a preventive intervention for perinatal depression in high-risk Latinas. *Journal of Consulting and Clinical Psychology, 79*(2), 135-141. doi:10.1037/a0022492

McFarlane, E., Burrell, L., Duggan, A., & Tandon, D. (2016). Outcomes of a randomized trial of a cognitive behavioral enhancement to address maternal distress in home visited mothers. *Maternal & Child Health Journal, 21*(3), 475–484. doi:10.1007/s10995-016-2125-7

Muñoz, R. F., Le, H. N., Ippen, C. G., Diaz, M.A., Urizar, G. G., et al. (2007). Prevention of postpartum depression in low-income women: development of the Mamás y Bebés /Mothers and Babies Course. *Cognitive and Behavioral Practice, 14*(1), 70–83.

Palinkas LA, Spear SE, Mendon SJ, Villamar J, Valente T, Chou CP, Landsverk J, Kellam SG, Brown CH. Measuring sustainment of prevention programs and initiatives: a study protocol. Implement Sci. 2016 Jul 16;11:95. doi: 10.1186/s13012-016-0467-6. PMID: 27422149; PMCID: PMC4947241.

Stirman SW, Miller CJ, Toder K, Calloway A. Development of a framework and coding system for modifications and adaptations of evidence-based interventions. Implement Sci. 2013 Jun 10;8:65. doi: 10.1186/1748-5908-8-65. PMID: 23758995; PMCID: PMC3686699.

Tandon, S. D., Leis, J. A., Mendelson, T., Perry, D. F., & Kemp, K. (2014). Six-month outcomes from a randomized controlled trial to prevent perinatal depression in low-income home visiting clients. *Maternal & Child Health Journal, 18*(4), 873-881. doi:10.1007/s10995-013-1313-y

Tandon, S. D., Ward, E. A., Hamil, J. L., Jimenez, C., & Carter, M. (2018). Perinatal depression prevention through home visitation: a cluster randomized trial of Mothers and Babies 1-on-1. *Journal of Behavioral Medicine, 41*(5):641-652. doi:10.1007/s10865-018-9934-7

PRESENTATION GOALS

- COMMUNITY-UNIVERSITY COLLABORATIONS
- PRIORTIZING RELATIONSHIPS
- PARTNERS ACHIEVING STUDENT SUCCESS (PASS)

Contextual Model of Community-University Collaborations

THREE PHASES

Gaining entry into the community

Developing and sustaining the collaboration

Recognizing outcomes and benefits

Suarez-Balcazar, Harper, & Lewis,

Community Based Participatory Research

- Engages <u>community participation</u> at all stages of research
- Collaborative <u>partnership</u>
- Focuses on <u>strengths</u> rather than needs
- Promotes <u>co-learning</u>
- <u>Builds capacity</u> for change
- Focuses on <u>process and outcome</u>

Malone, Yerger, McBruder, & Froelicher (2006)

Embracing Resistance

Passive "No"
　　No show
　　"Of course I will . . . "

Active "No"
　　　　"Hell no!"
　　　　"Let' s go"

John Fantuzzo & Howard Stephenson, University of Pennsylvania

How do you do It?

PRIORITIZE THE RELATIONSHIP

- Responsive
- Flexible
- Adaptable
- Humility
- HANG IN THERE AND SHOW UP

PASS: The Initial Service Model
SUPRISING DATA AND AN INSIGHT

The Chicago Parent Program

Developed with Parent Participation

Developed with and for parents from diverse backgrounds, The Chicago Parent Program is respectful to parents' ideas and values. See what parents are saying about the program!

67% NO GROUP

Agency data assessing feasibility and family response to parenting groups indicated 67% of families attended no groups

but...

INFORMAL CONTACTS 89%

of families were contacted by SFLs through texts, phones, or othe rinformal contacts (e.g., school drop-off or pick-up)

Refining the Service Model

- Co-creating refined model
- Encourage Staff Autonomy
- Staff Support
- Show up!

PASS 2.0

The University Team

SHOWING UP!

One member of the university team served as a consultant to each social service agency. The consultant provided on-site observation, Implementation support, and additional supervision as needed

Co-Creating a Refined Model
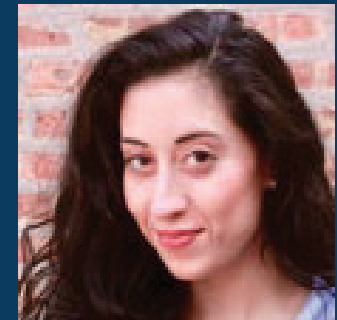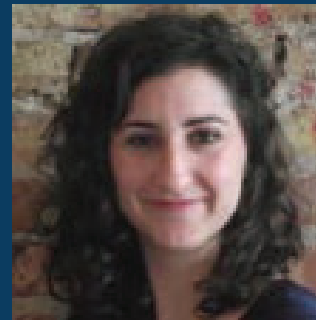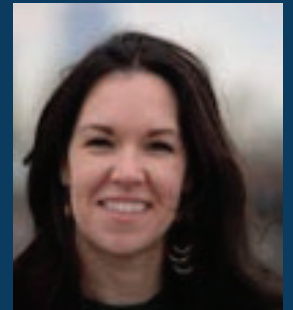
1: Family Centered
2: Strengths Based
3: Collaboration

Relationship
Focused
Genuine
Open
Non-judgmental

Theme 4: Empowermen
Theme 5: Community-c
Theme 6: Personal In

- Leaning on supervisors
- Identifying core values
- Repackaging curriculum
- Developing progress reports
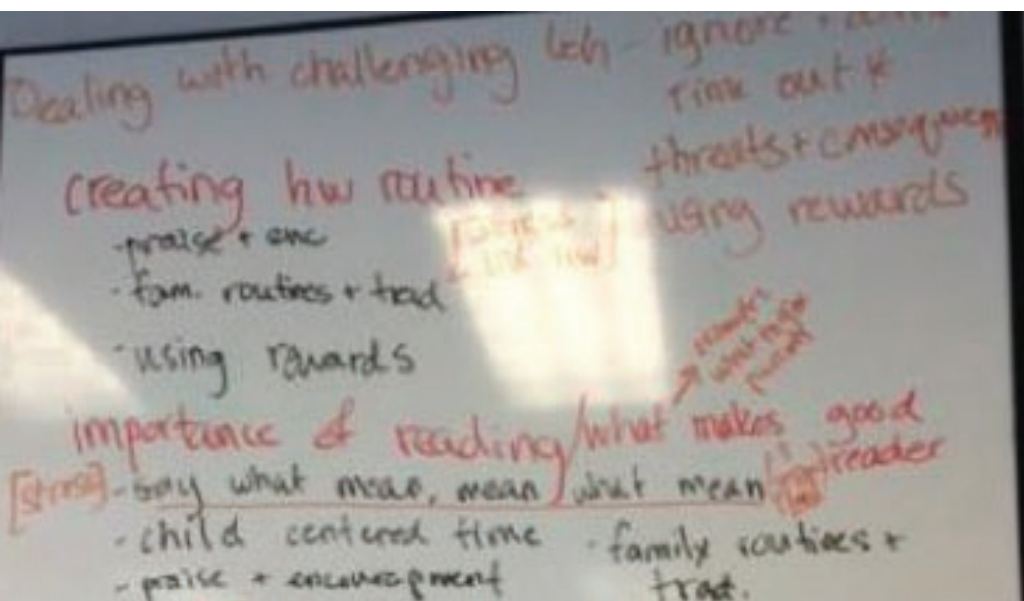
encourage staff autonomy

Strategies Informed by Program Values

PASS Core Values:

Family centered
Strengths-based
Community connected
Empowerment

•**PASS Core Beliefs**:

Every family is different and has strengths

Parents are experts and want the best for their children

Set the stage for every child and parent to be successful

We don't give up on families

Consistency:
Don't give up on the parents. You have to keep trying. Just keep trying. Just think about yourself. If you have this wall built up, somebody gonna have to keep trying to break it down. That's it.

"We are advocates. For everybody. For the family. Even for the teachers. For the administration at the school. We are, in essence, advocates because our role says that we're gonna support in absolutely whatever way we can."

Monthly Report: Will SFL's Use It?

- Examined monthly reports for all families (n = 608) across a school year (m = 8.5 months, sd = 1.9)

- Progress reports completed (n = 5,264) on 92.2% of all possible reports (n = 5,709)

- Of these, SFLs included type of communication on 73% of contacts (3,865/5,264)

Staff Support

Jacobs, R., Guo, S., Kaundinya, P., Lakind, D., Klein, J., Rusch, D., Walden, A., Mehta, T., & Atkins, M. (2017). A Pilot Study of Mindfulness Skills to Reduce Stress among a Diverse Paraprofessional Workforce. *Journal of Child and Family Studies*, *26*(9), 2579–2588. https://doi.org/10.1007/s10826-017-0771-z

Mehta, T., Lakind, D., Rusch, D., Walden, A., Cua, G. and Atkins, M. (2019). Collaboration with Urban Community Stakeholders: Refining Paraprofessional-led Services to Promote Positive Parenting. *Am J Community Psychol, 63*: 444-458. https://doi-org.proxy.cc.uic.edu/10.1002/ajcp.12316

Lakind, D., Cua, G., Mehta, T., Rusch, D. & Atkins, M. (2019). Trajectories of Parent Participation in Early Intervention/Prevention Services: The Case for Flexible Paraprofessional-led Services, *Journal of Clinical Child & Adolescent Psychology*, DOI: 10.1080/15374416.2019.1689823

D&I Webinar

What researchers in D&I need to know about community to be successful?

A PANEL DISCUSSION

What researchers in D&I need to know about community to be successful?

D&I WEBINAR
February 12, 2021

Q&A Panel Discussion:
Introductions

Marc Atkins, Ph.D.

Principal Investigator
Moderator

Stephanie Townsell, MPH

Program Officer
North Lawndale Resident

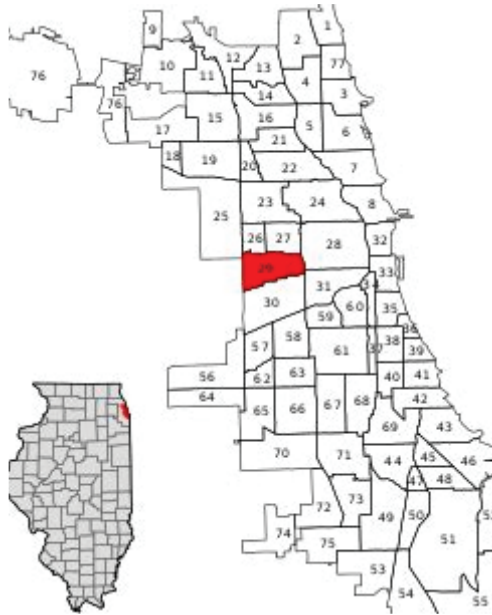Community Engagement Advisory Board Member

Tina Schuh, MPH

Manager of Academic Partnerships
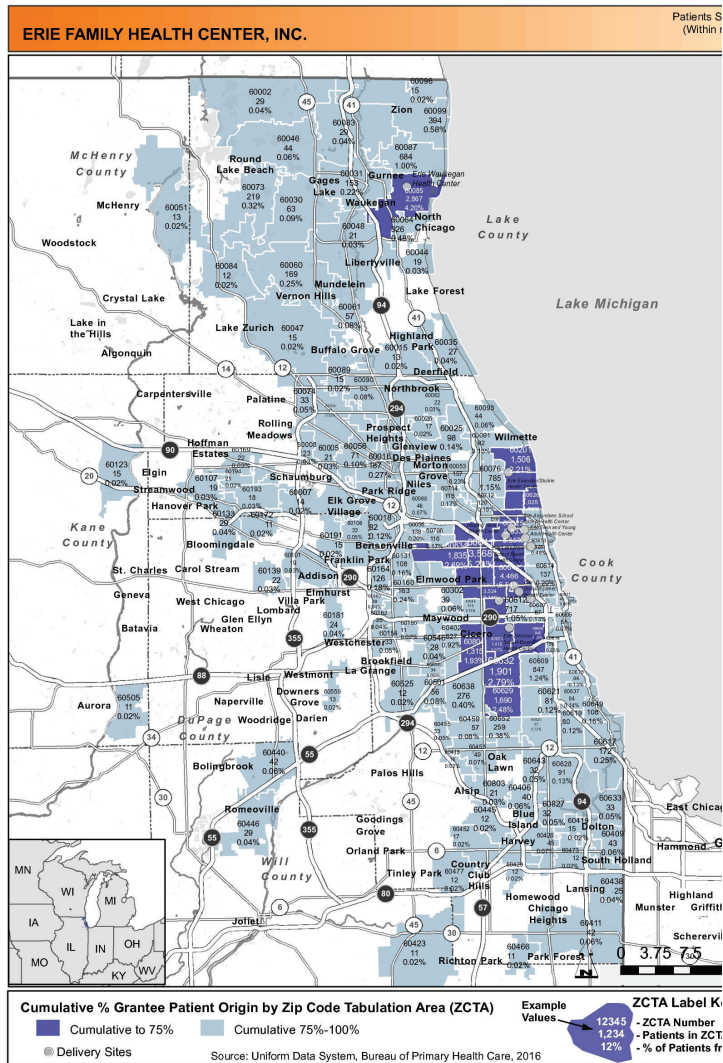at Erie Family Health Centers

Community Engagement Advisory Board Member

Grace Cua, MSW

Senior Research Specialist at CCTS
Former Research Assistant

North Lawndale Chicago

ERIE FAMILY HEALTH CENTER, INC.

Cumulative % Grantee Patient Origin by Zip Code Tabulation Area (ZCTA)

Cumulative to 75% Cumulative 75%-100% Delivery Sites

Source: Uniform Data System, Bureau of Primary Health Care, 2016

Erie Family Health Centers

What researchers in D&I need to know about community to be successful?

D& I WEBINAR
February 12, 2021

Objectives

1 — Establishing Relationships – "Make friends before you need them"

2 — Building Trust – "Earned not assumed"

3 — Being Responsive– meeting the needs of the organization: an iterative process

4 — Redefining "rigor": Aligning it with the "real"'

What researchers in D&I need to know about community to be successful?

"An early career researcher would like to investigate high rates of diabetes in your community."

Scenario

A Community and Simulation Modeling Approach to Advancing Equity for African Americans' COVID-19 Vaccinations Through Multigenerational Families

Nanette Hannah: Northwestern

Wouter Vermeer: Northwestern

Moira McNulty: Univ of Chicago

Simulated exposure of family members; Interactions, Infections and Deaths

Three types of individuals are present in the model, each with their daily routines
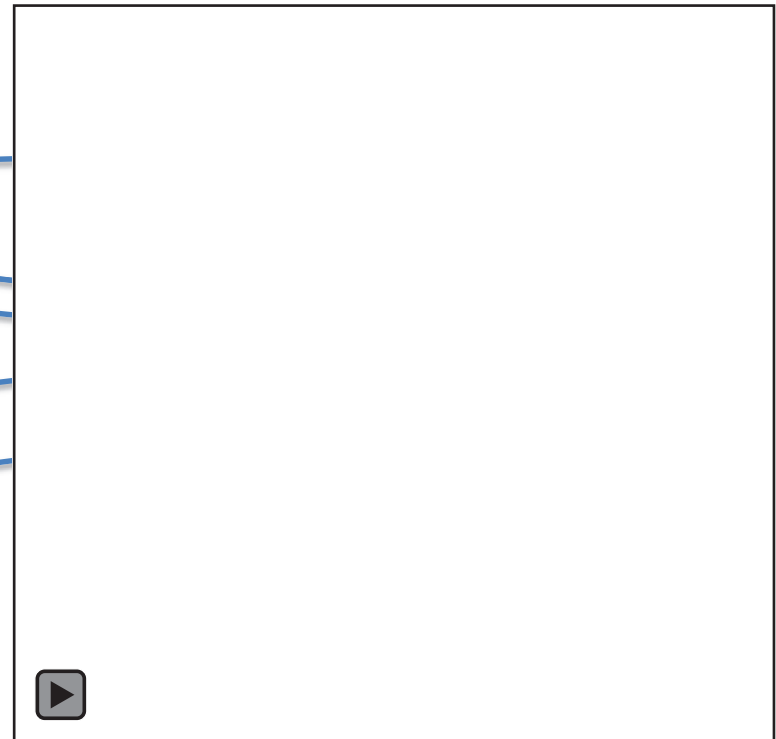
Children:

- Be at home (Grey)
- Go to school (Yellow) during weekdays
- Do recreation (Orange) in the weekend

Adults:

- Be at home (Grey)
- Will go to work (brown) during the week
- do recreation (Orange) in the weekend
- and occasionally visit stores (Violet)

Elderly:

- Be at home (Grey)
- Do recreation in the weekend (Orange)
- Will occasionally visit stores (Violet)

Two vaccination strategies

- **Baseline: Elderly first strategy**
  - Much like the currently implemented strategy
  - Elderly individuals are targeted for vaccination
  - Effectiveness of vaccine distribution depends on:
    - Individual's access to care
    - Individual's acceptance of the vaccine

- **Added vaccination component: Multi-generational-households (MGH)**
  - Families with at least one adult and one elderly individual are targeted for vaccination
  - Effectiveness of distribution under MGH depends on:
    - <u>Maximum</u> acceptance of vaccine among family members
    - Trust from household leader (mom), increasing acceptance by 50%
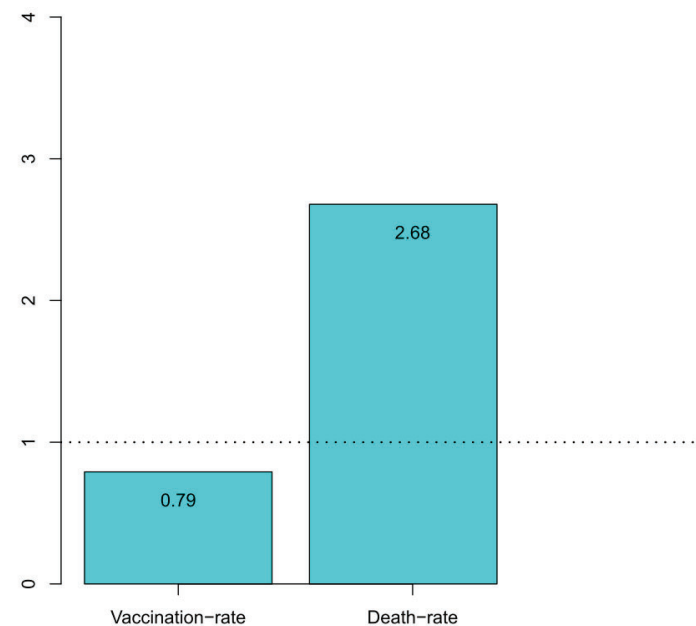   - Access to care

Simulated outcomes

Baseline elderly-first strategy
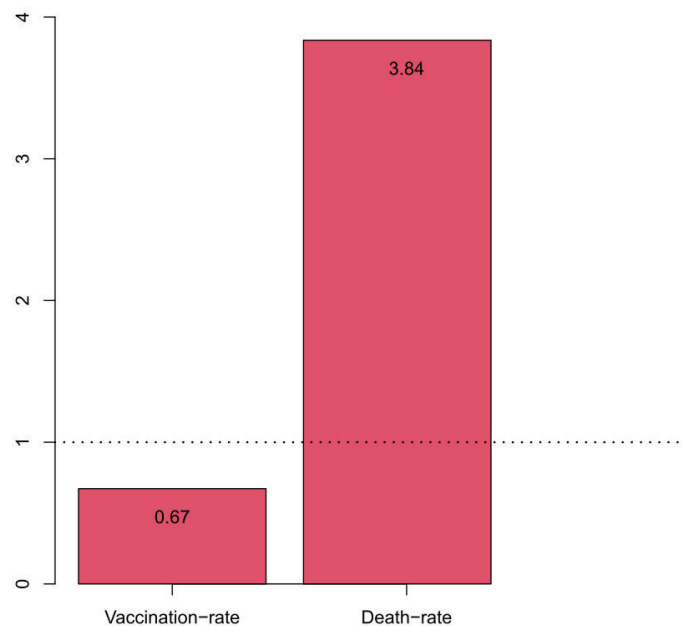
Adding a MGH component

Elderly African American rates as compared to whites

Elderly African American rates as compared to whites