Foundations of Implementation Science for Emerging Epidemiologists

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No Conflicts of Interest

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IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

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Workshop structure

1. Introduce Implementation Science and the core elements of implementation research
2. Present three implementation research case studies
3. Discuss connections between epidemiology and IS

How many years on average does it take to get evidence into practice?

slido.com

code: 3101764

Cancer Causes & Control (2021) 32:221–230
https://doi.org/10.1007/s10552-020-01376-z

ORIGINAL PAPER

Revisiting time to translation: implementation of evidence-based practices (EBPs) in cancer control

Shahnaz Khan[1,2] · David Chambers[2] · Gila Neta[2]

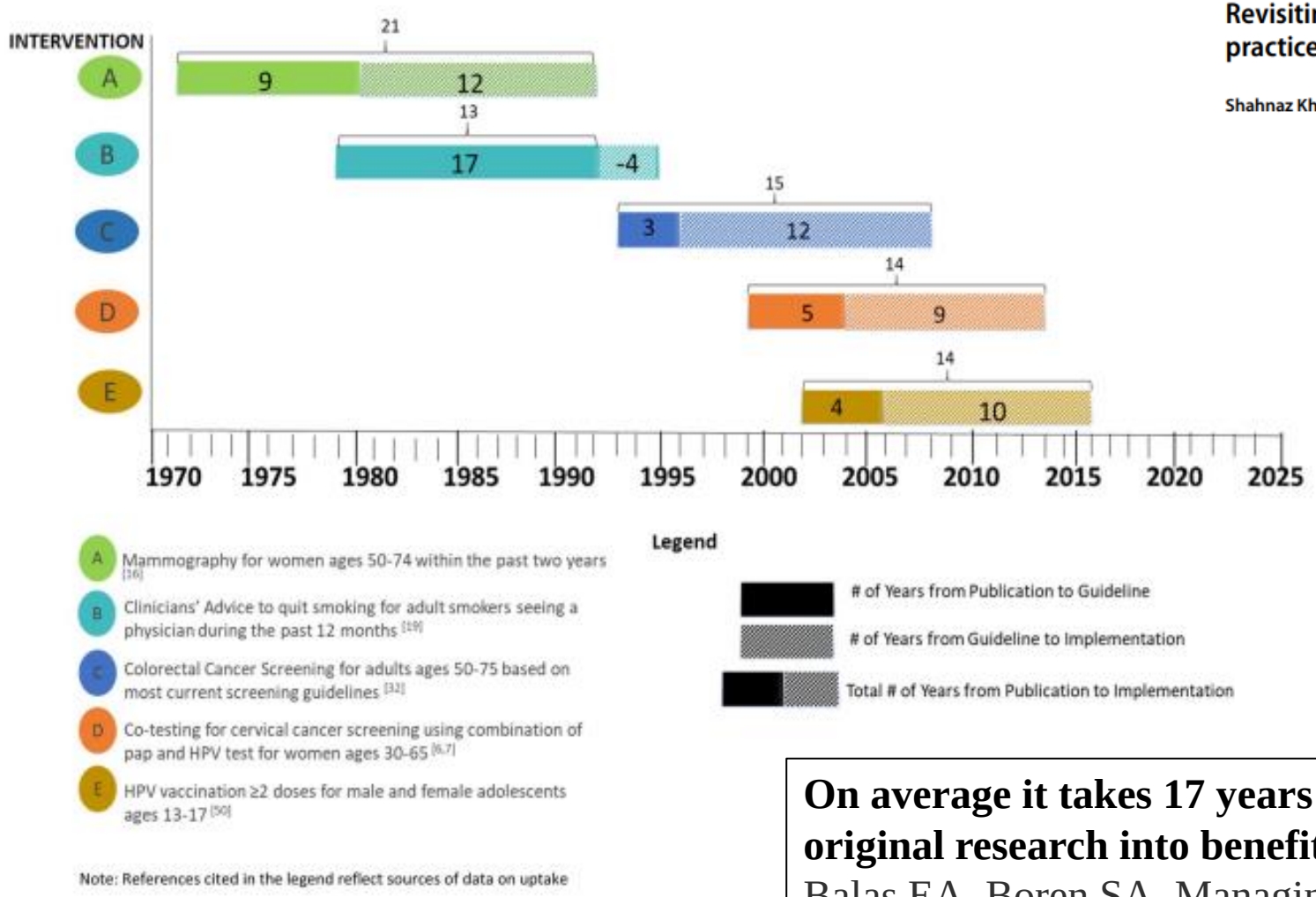


Fig. 1 Years from landmark publication to guideline to implementation

5 cancer control EBIs

- On average 15 years from publication to implementation

On average it takes 17 years to convert just 14 percent of original research into benefits for patients
Balas EA, Boren SA. Managing clinical knowledge for health care improvement. Yearbook of Medical Informatics. 2000:65–70

"Despite the availability of highly efficacious treatment and prevention interventions, impact has fallen short of targets because these interventions are used with insufficient reach, consistency, sustainability and equity in diverse real-world settings"

Geng EH et al. *Journal of the International AIDS Society* 2022, **25**:e25898
http://onlinelibrary.wiley.com/doi/10.1002/jia2.25898/full | https://doi.org/10.1002/jia2.25898

JIAS
JOURNAL OF THE INTERNATIONAL AIDS SOCIETY

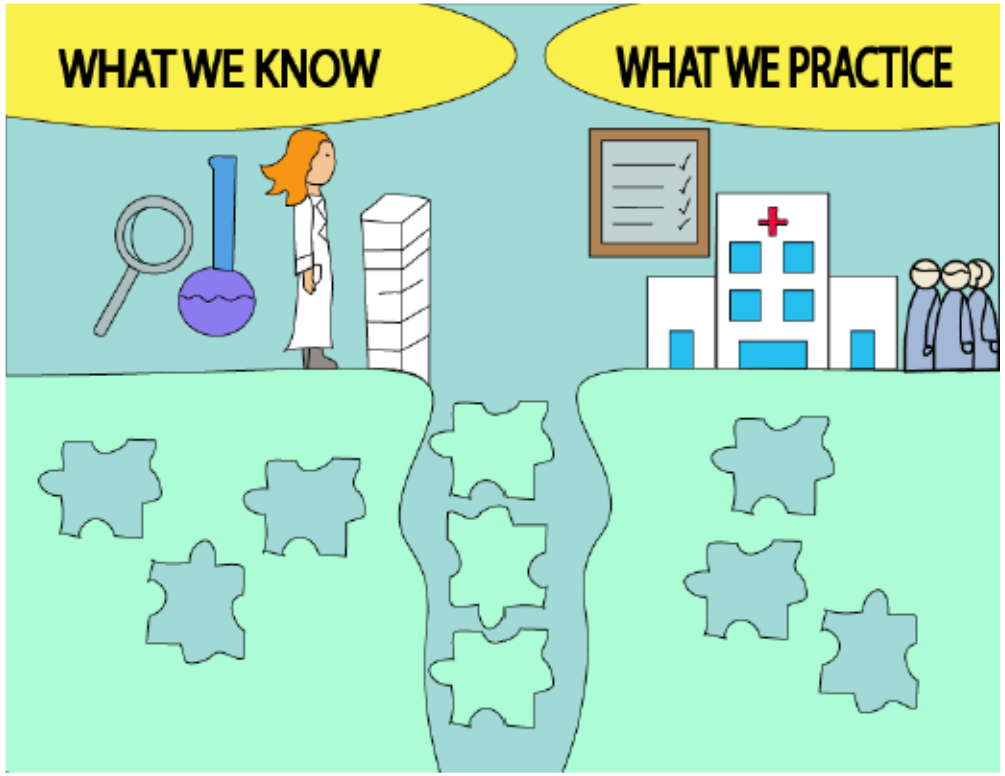
COMMENTARY

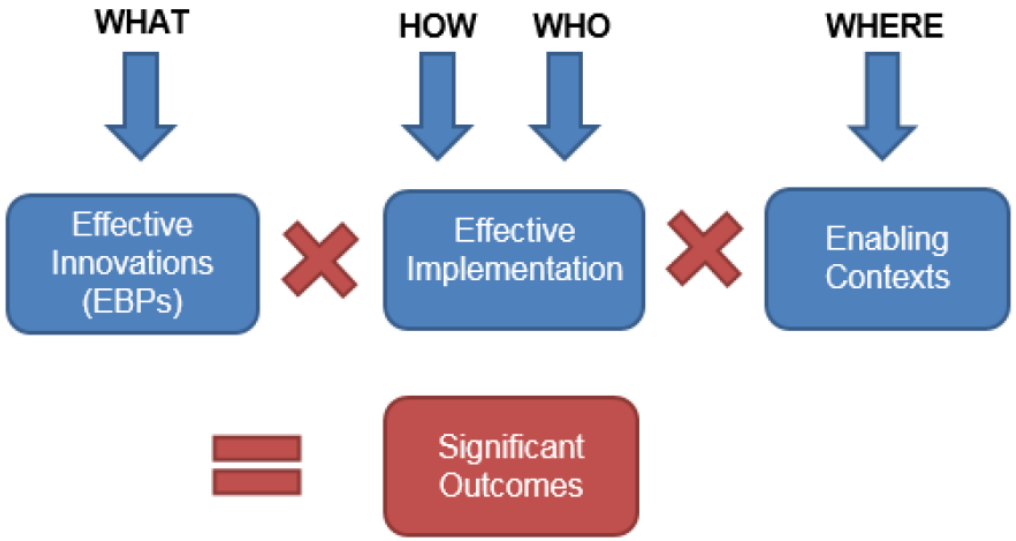
The question of *the question*: impactful implementation science to address the HIV epidemic

Elvin H. Geng[1,§], Denis Nash[2,3], Nittaya Phanuphak[4], Kimberly Green[5], Sunil Solomon[6], Anna Grimsrud[7], Annette H. Sohn[8], Kenneth H. Mayer[9], Till Bärnighausen[10] and Linda-Gail Bekker[11]

How do we bridge the gap?

There is a gap between the “care that could be” if we used our best knowledge about what works and the “care that actually is” available in healthcare settings





Becker *et al.*
Implementation Science Communications (2024) 5:18
https://doi.org/10.1186/s43058-024-00558-z

What is implementation science?

- The scientific study of methods to promote the systematic uptake of research findings and other evidence-based practice into routine practice and, hence, to improve the quality and effectiveness of health services

Identify uptake barriers and facilitators across multiple levels of context

Develop and apply implementation strategies that overcome barriers and enhance facilitators

M.P. Eccles, B.S. Mittman
Welcome to implementation science
Implement. Sci., 1 (2006), p. 1, 10.1186/1748-5908-1-1

Review article
Implementation science: What is it and why should I care?
Mark S. Bauer [a b], JoAnn Kirchner [b c]

IS covers implementation research & practice

Ramaswamy *et al. Implementation Science* (2019) 14:18
https://doi.org/10.1186/s13012-019-0866-6

Core elements of implementation research

Equity

The what

(evidence-based innovation)

The proven thing that we want to be implemented

The where

(determinants)

The contextual factors that enable or impede implementation

The how

(strategies)

The things we do to overcome barriers and increase uptake

The impact

(outcomes)

What we measure to know the effect of our actions

Implementation → Service → Client Outcomes

Equitable implementation

- Focus on reach from the very beginning
- Design and select interventions with implementation in mind
- Implement what works with strategies to reduce inequities
- Develop the science of adaptations
- Use an equity lens for implementation outcomes


Baumann and Cabassa *BMC Health Services Research* (2020) 20:190
https://doi.org/10.1186/s12913-020-4975-3

BMC Health Services Research

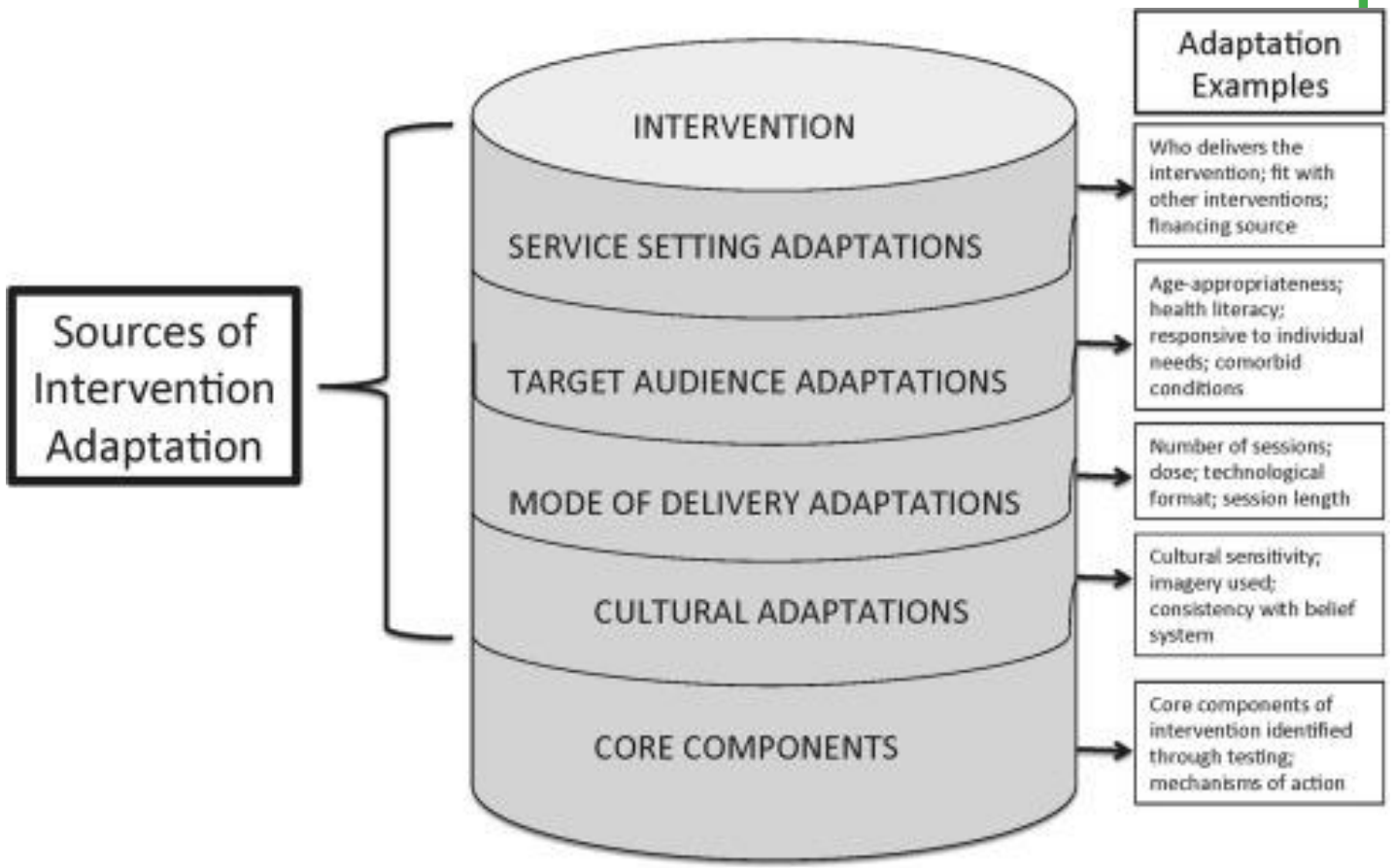
DEBATE Open Access

Reframing implementation science to address inequities in healthcare delivery

Ana A. Baumann[†] and Leopoldo J. Cabassa[*†]

The evidence-based innovation (EBI)

- Adaptations may be needed to align the EBI to the context
- Adaptation steps:
  I. Assess
  II. Select
  III. Prepare
  IV. Pilot
  V. Implement



The Adaptome

The Adaptome: Advancing the Science of Intervention Adaptation

David A. Chambers DPhil, Wynne E. Norton PhD

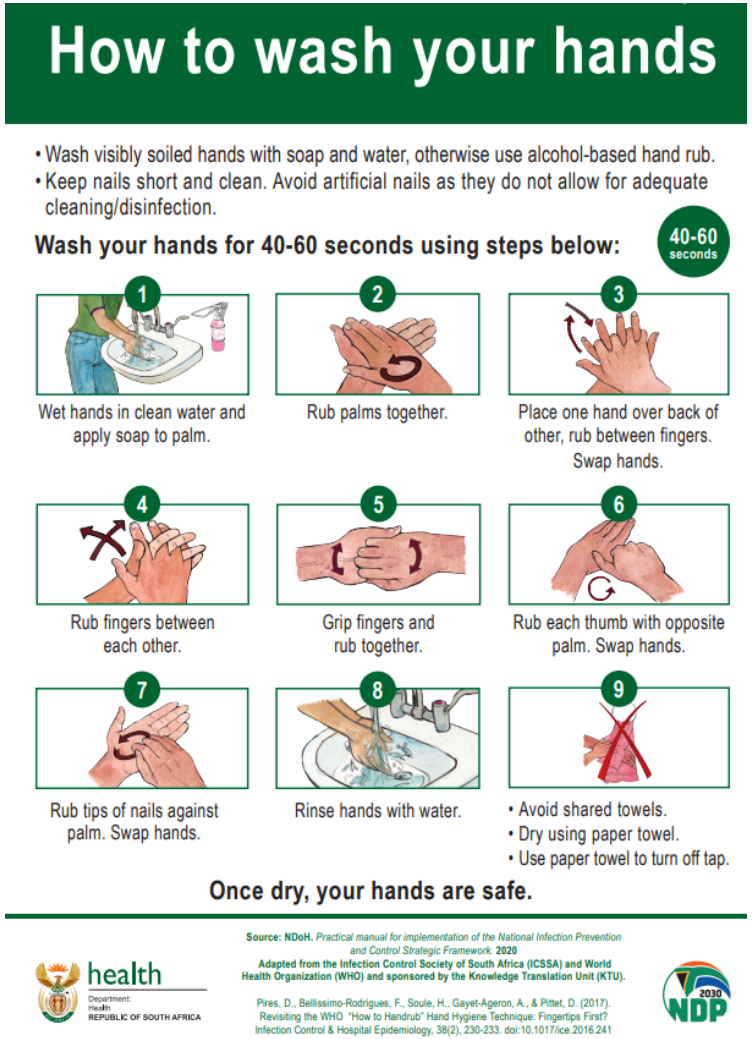
Hand hygiene

The what

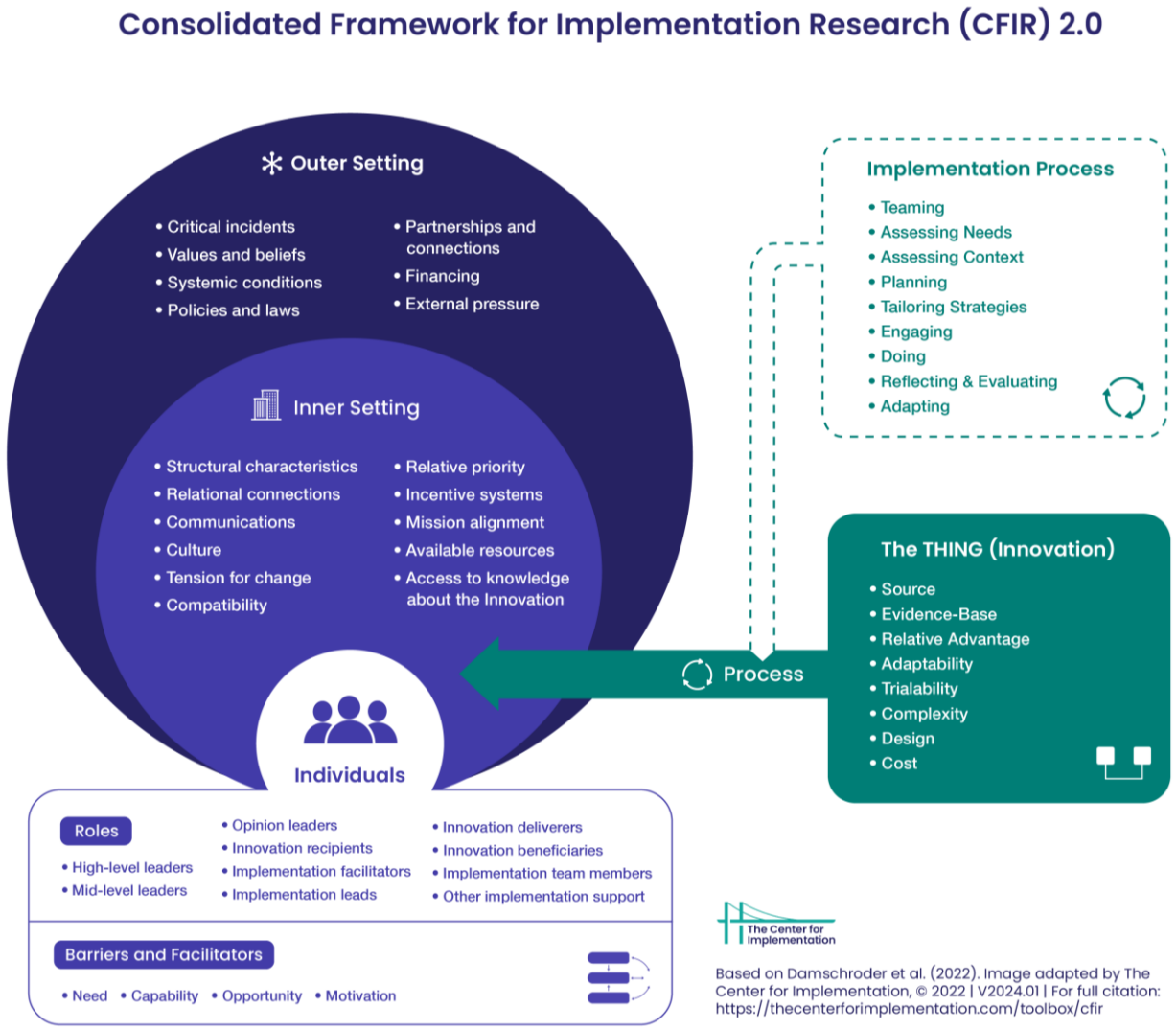
(evidence-based innovation)

The proven thing that we want to be implemented

Appropriate hand hygiene prevents up to 50% of avoidable infections acquired during health care delivery, including those affecting the health work force - WHO



Implementation Determinants



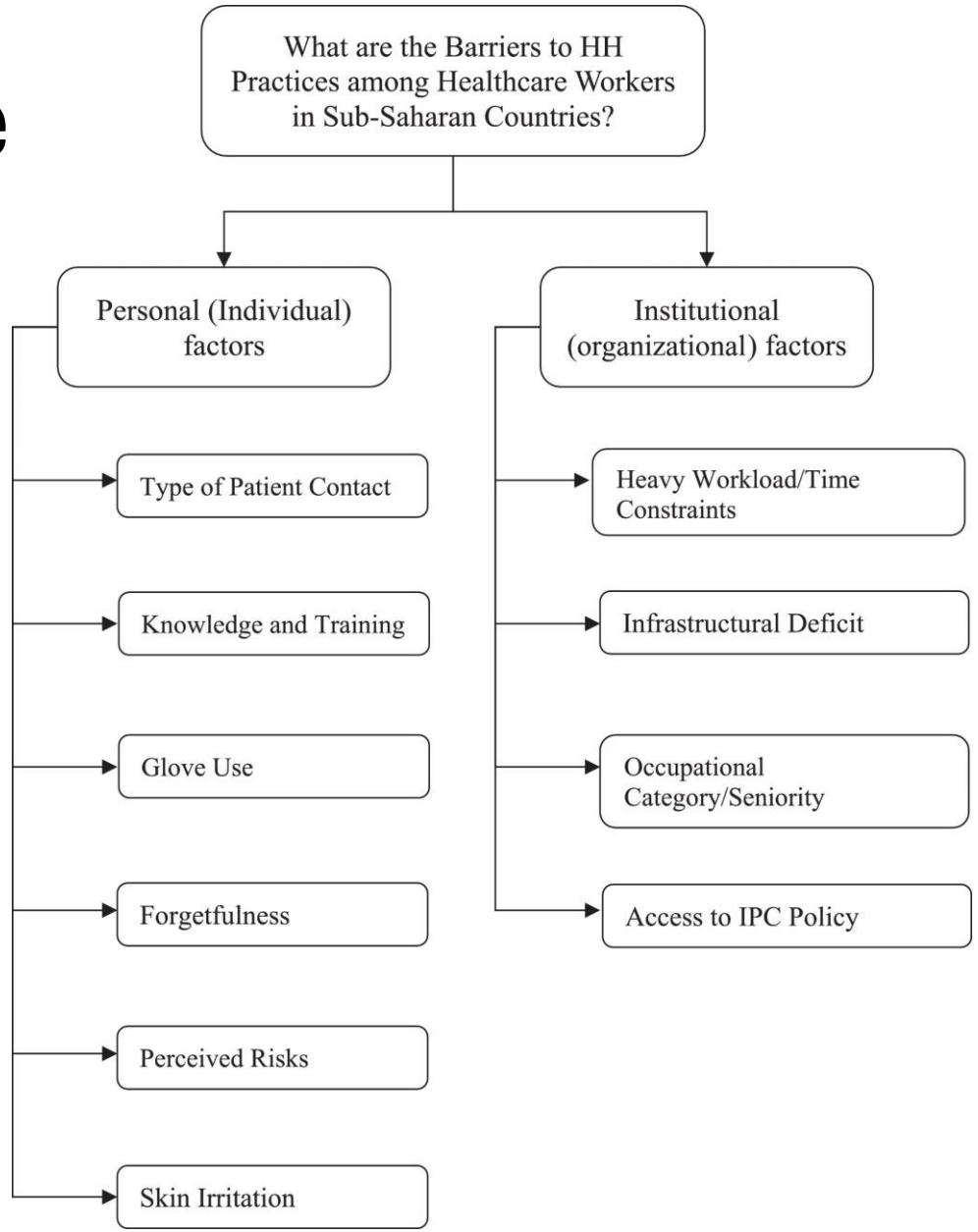
The contextual, intervention related or social, political, economic and biological factors that may influence implementation, its processes or implementation outcomes

Hand hygiene

The where

(determinants)

The contextual factors that enable or impede implementation



ELSEVIER

American Journal of Infection Control
Volume 47, Issue 5, May 2019, Pages 565-573

State of the Science Review

Barriers to hand hygiene practices among health care workers in sub-Saharan African countries: A narrative review

Yetunde Ataiyero RN, MSc, BSc, Judith Dyson PhD, RN, MSc, Moira Graham PhD, RN, MSc

Implementation strategies

Use evaluative and iterative strategies	• Assess for readiness and identify barriers and facilitators • Audit and provide feedback • Purposefully reexamine the implementation
Adapt and tailor to context	• Tailor strategies • Promote adaptability • Use data experts
Train and educate stakeholders	• Conduct ongoing training • Distribute educational materials • Use train-the trainer techniques
Engage consumers	• Increase demand • Use mass media • Involve patients/consumers and family members
Change infrastructure	• Mandate change • Change record systems • Change physical structure and equipment

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]

A SELECTION OF IMPLEMENTATION STRATEGIES

• Facilitation • Provide local technical assistance • Provide clinical supervision	**Provide interactive assistance**
• Identify and prepare champions • Organize clinician implementation team meetings • Identify early adopters	**Develop stakeholder interrelationships**
• Remind clinicians • Revise professional roles • Facilitate relay of clinical data to providers	**Support clinicians**
• Alter incentive/allowance structures • Access new funding • Fund and contract for the clinical innovation	**Utilize financial strategies**

RESEARCH Open Access

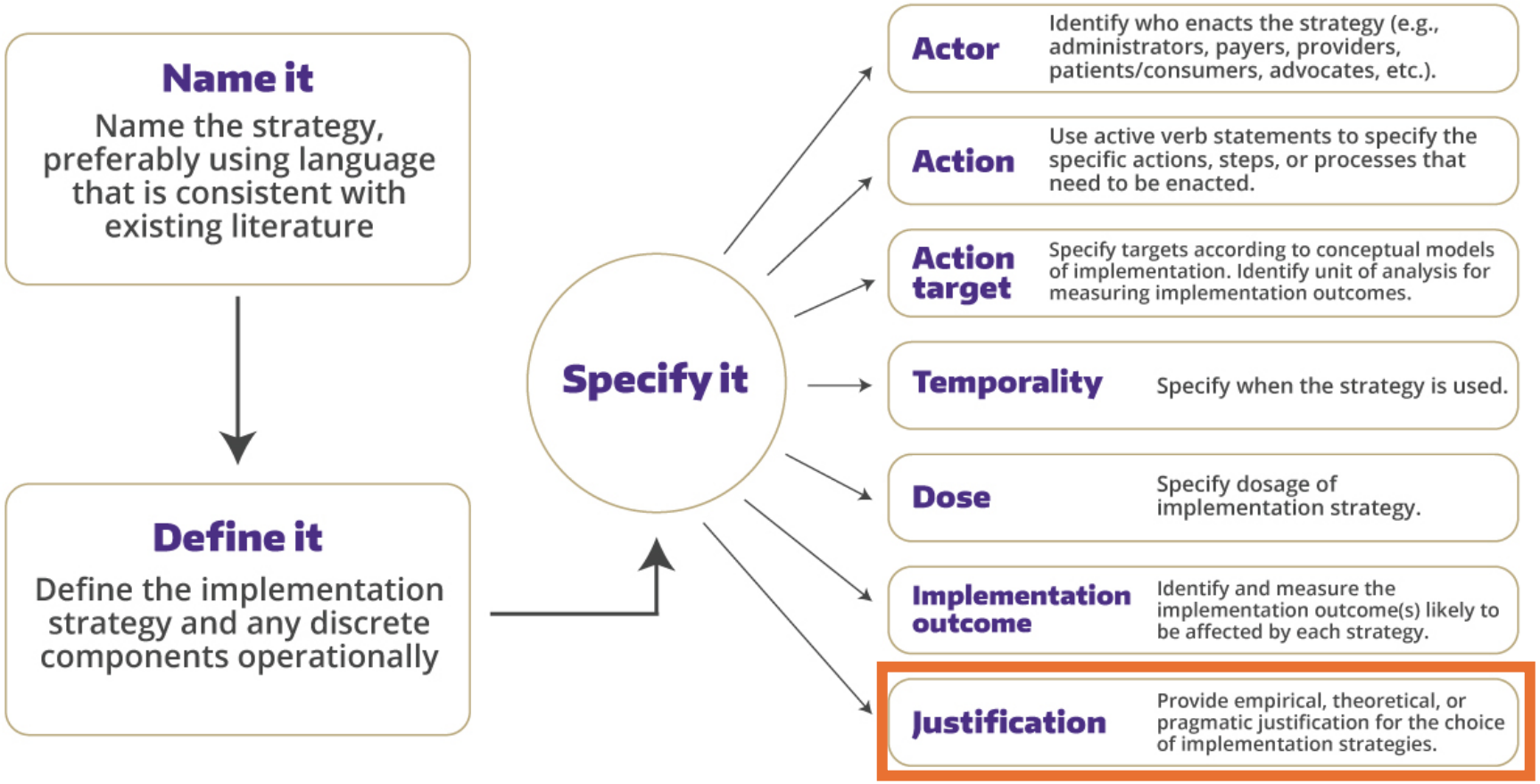
Choosing implementation strategies to address contextual barriers: diversity in recommendations and future directions

Thomas J. Waltz[1,2], Byron J. Powell[3], María E. Fernández[4], Brenton Abadie[1] and Laura J. Damschroder[2*]

https://impsciuw.org/implementation-science/research/implementation-strategies/

Proctor *et al. Implementation Science* 2013, **8**:139
http://www.implementationscience.com/content/8/1/139

implementation strategies

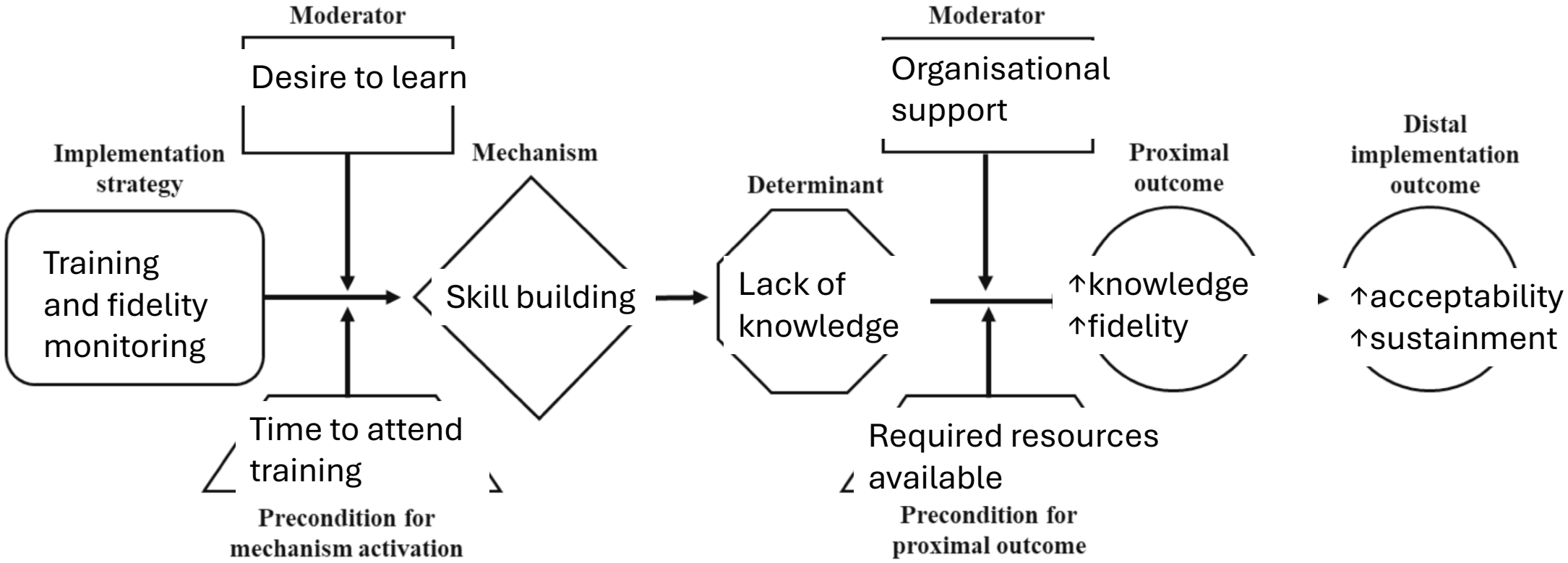


Actions taken to address specific barriers and enhance adoption, implementation, and sustainability of evidence-based interventions.

https://impsciuw.org/implementation-science/research/implementation-strategies/

Mechanisms of Action

Lewis et al.
Implementation Science Communications (2022) 3:114
https://doi.org/10.1186/s43058-022-00358-3



How contextual factors moderate the causal processes through which implementation strategies operate, and how much variance in outcomes is accounted for by those mechanisms

Hand hygiene

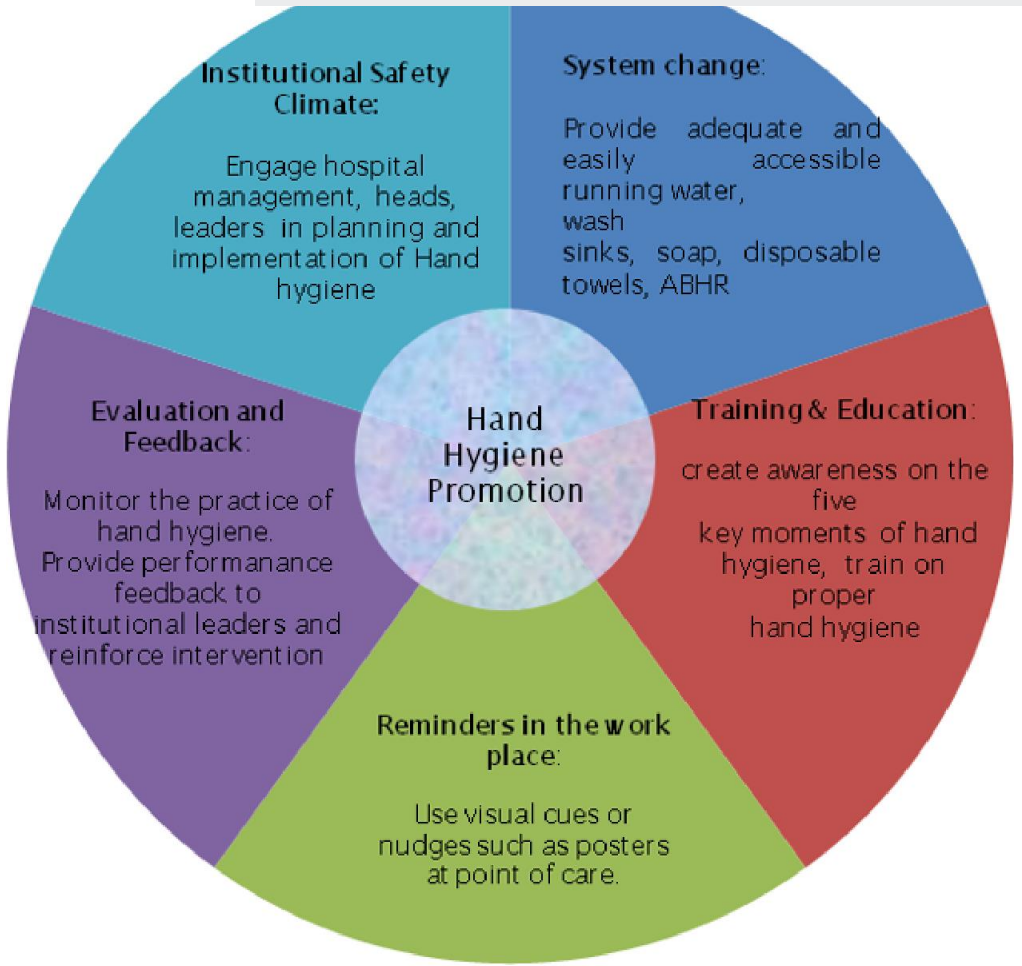
The how

(strategies)

The things we do to overcome barriers and increase uptake

Hand hygiene compliance: bridging the awareness-practice gap in sub-Saharan Africa

Jahmai Irehovbude, C. Okoye · Published in GMS Hygiene and Infection… 6 May 2020 · Medicine, Environmental Science



We recommend that interventions should be considered in terms of underpinning theoretical frameworks, for example drawing on knowledge from the social sciences. Most studies continue to lack convincing theoretical underpinning and in some cases no rationale is given for including some of the components of multimodal interventions.

Gould DJ, Moralejo D, Drey N, Chudleigh JH, Taljaard M.
Interventions to improve hand hygiene compliance in patient care.
Cochrane Database of Systematic Reviews 2017, Issue 9. Art. No.: CD005186.
DOI: 10.1002/14651858.CD005186.pub4.

Implementation Outcomes

Adm Policy Ment Health (2011) 38:65–76
DOI 10.1007/s10488-010-0319-7

Implementation outcomes are the proximal impacts of the strategy and its mechanisms, which then relate to the clinical outcomes of the EBI.

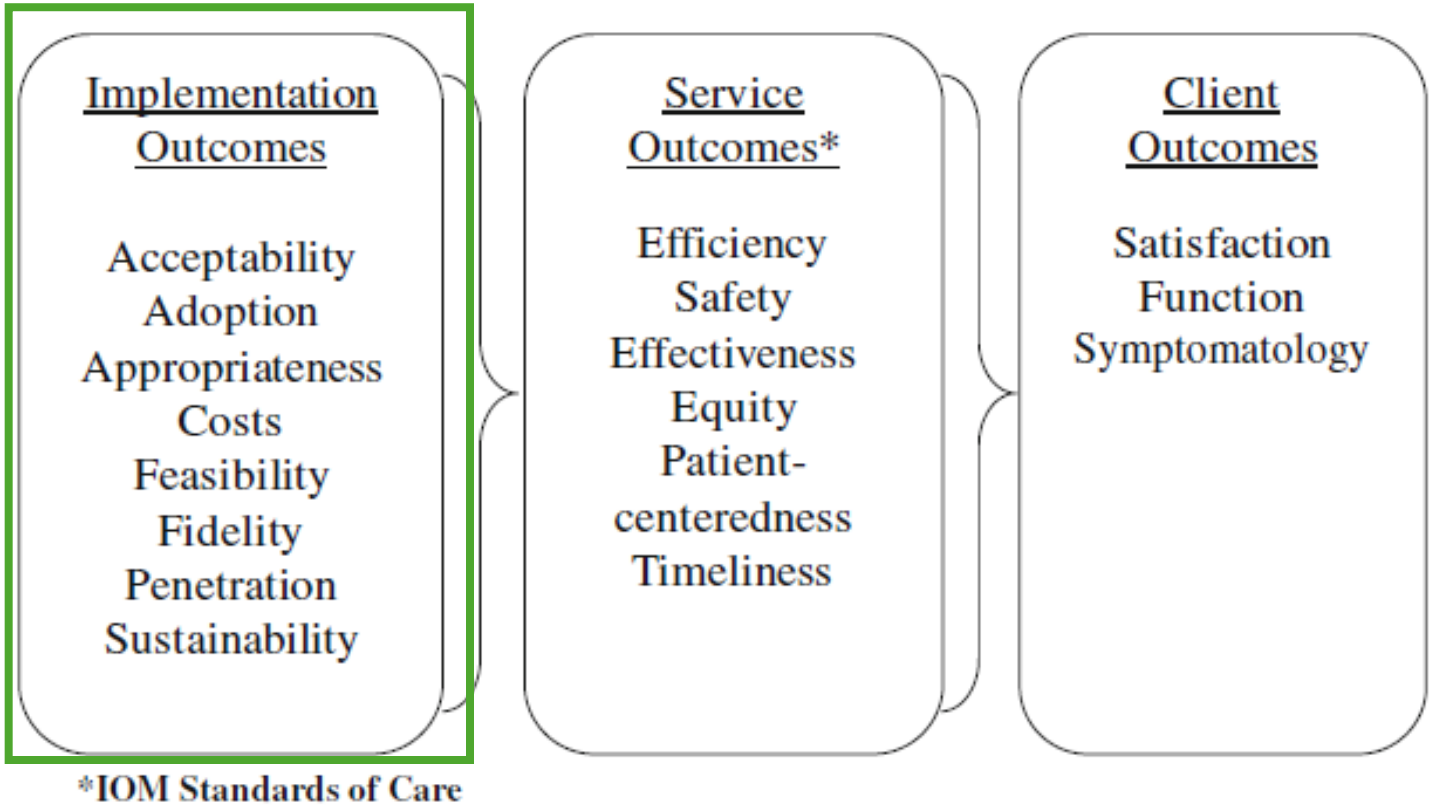


Fig. 1 Types of outcomes in implementation research

https://implementationoutcomerepository.org/implementation-outcomes

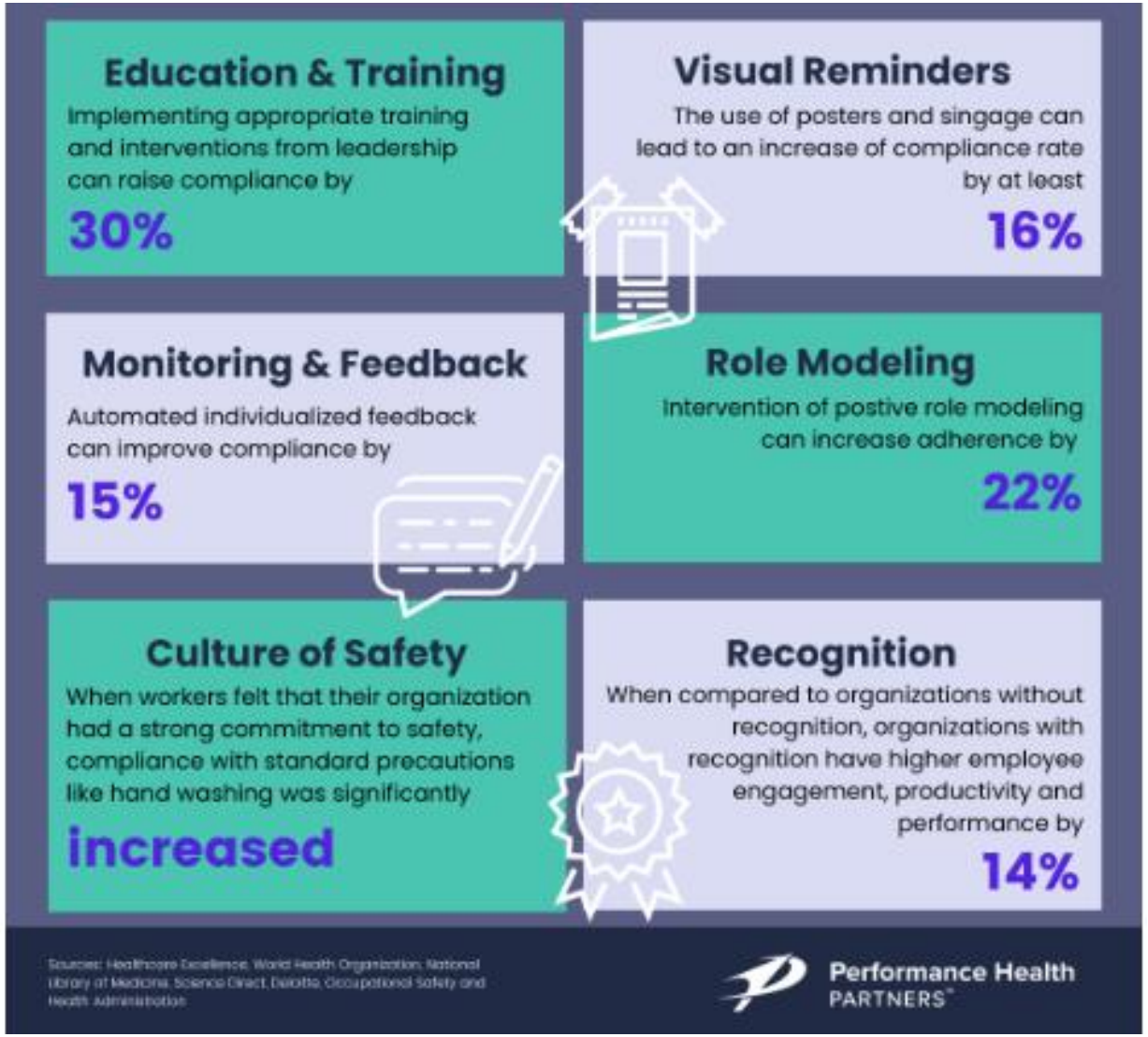
Implementation Outcome Repository

Hand hygiene

The impact

(outcomes)

What we measure to know the effect of our actions

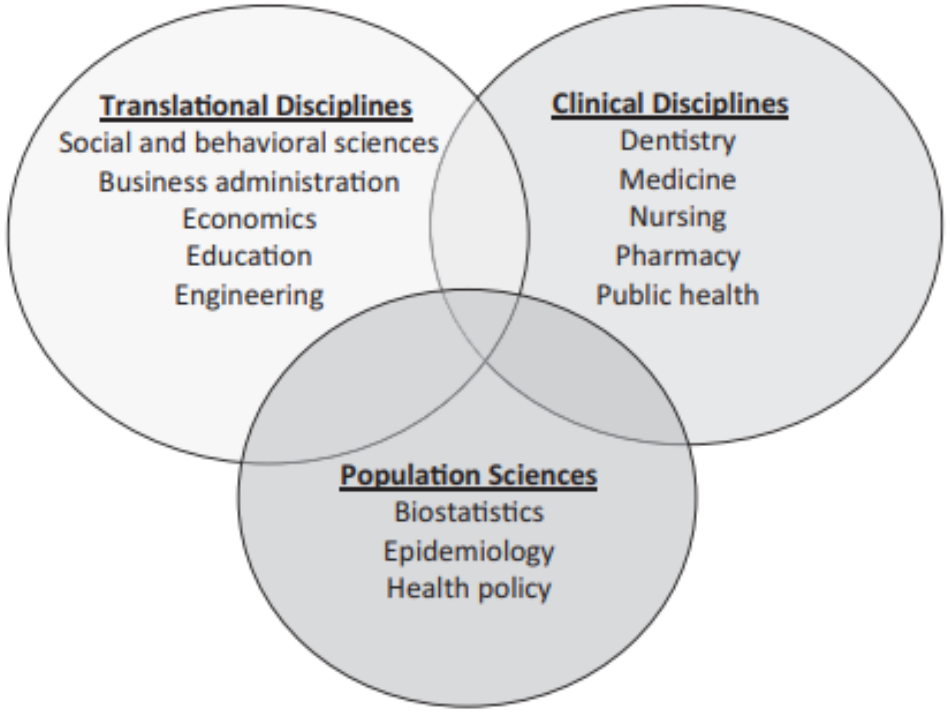


https://www.performancehealthus.com/blog/improve-hand-hygiene-compliance

Common methods in implementation research

Just some of the methods and study designs

- Evidence synthesis
- Randomised control trials
  - Cluster, stepped-wedge, hybrid, pragmatic
- Quasi-experimental designs
- Flexible or adaptive designs
- Mixed-methods designs
- Economic evaluations
- Impact evaluations
- …



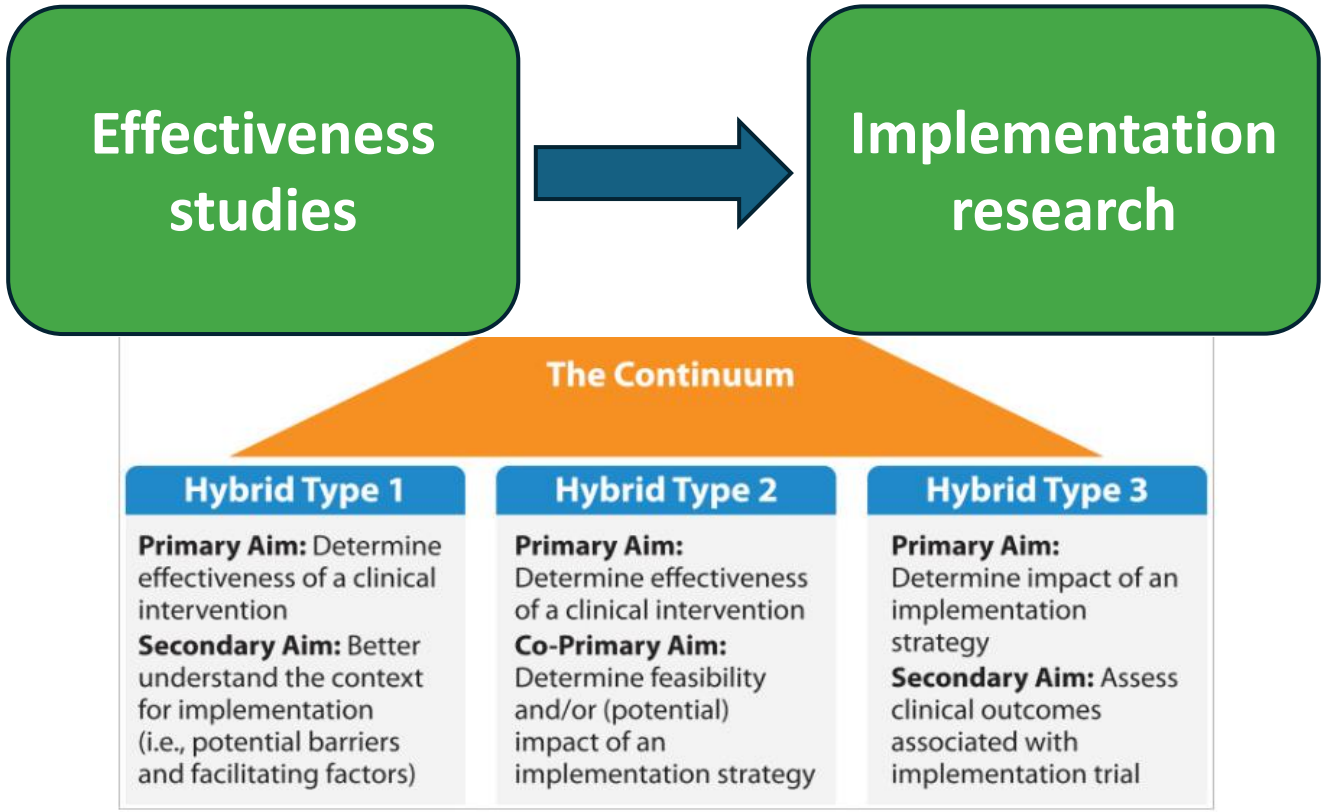
A Framework for Training Health Professionals in Implementation and Dissemination Science

Ralph Gonzales, MD, MSPH, Margaret A. Handley, PhD, MPH, Sara Ackerman, PhD, MPH, and Patricia S. O'Sullivan, EdD

https://impsciuw.org/implementation-science/research/

Effectiveness vs implementation research

- Effectiveness
  - Innovation vs comparison
  - **Health outcomes primary**
  - Implementation outcomes secondary
- Implementation
  - Test strategies to increase uptake & sustainability of the innovation
  - **Implementation outcomes primary**
- Hybrid

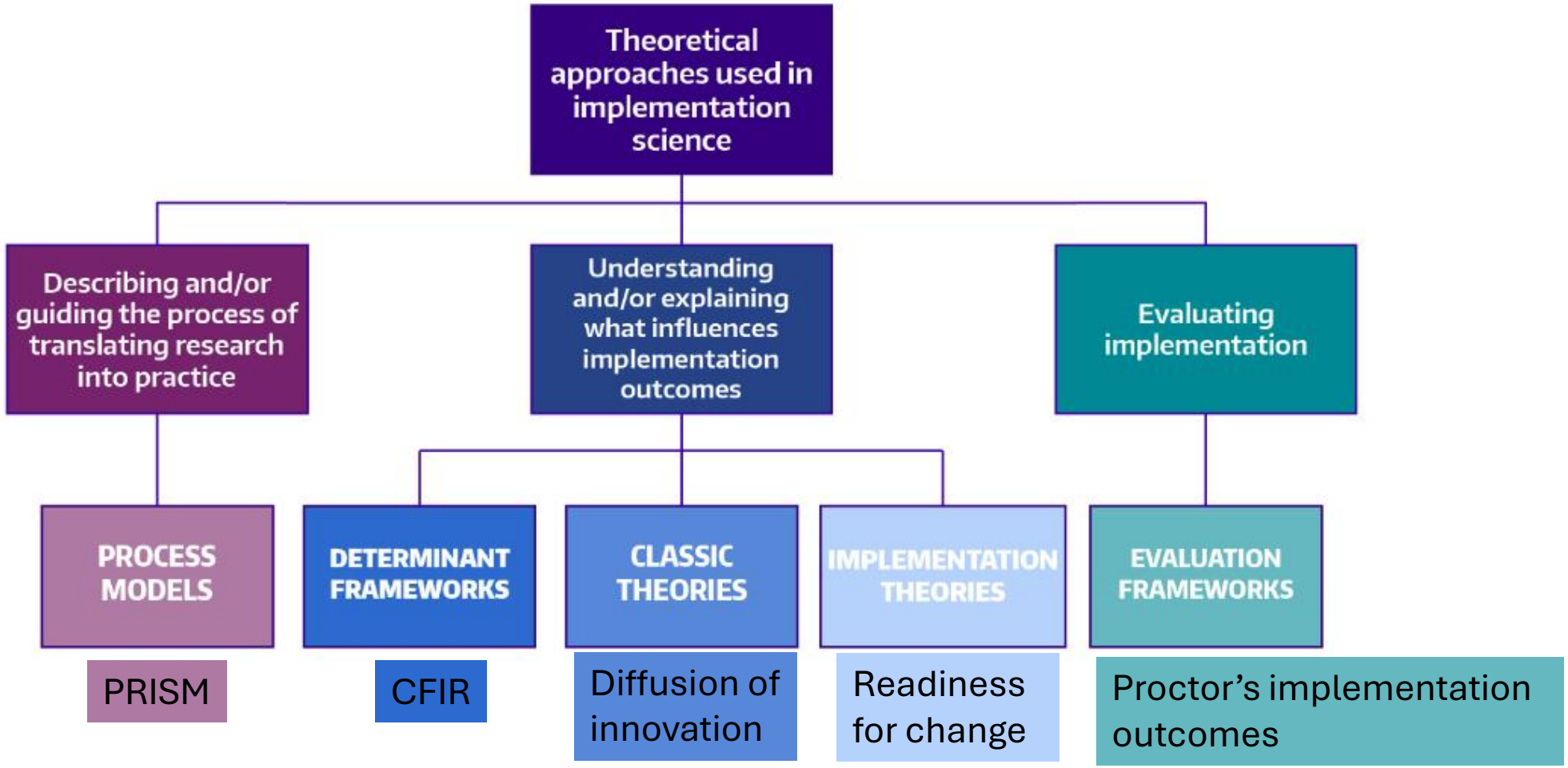


PRECIS-2 https://precis-2.org/

Designing clinical trials is challenging. PRECIS – PRagmatic Explanatory Continuum Indicator Summary – is a clever acronym for a tool to help trialists designing clinical trials consider where they would like their trial to be on the pragmatic/explanatory continuum.

https://www.ncbi.nlm.nih.gov/books/NBK566228/figure/ch8.fig2/

Theories, models and frameworks



Nilsen *Implementation Science* (2015) 10:53
DOI 10.1186/s13012-015-0242-0

https://impsciuw.org/implementation-science/research/frameworks/

Implementation Research Logic Model (IRLM)

Smith et al. Implementation Science (2020) 15:84
https://doi.org/10.1186/s13012-020-01041-8

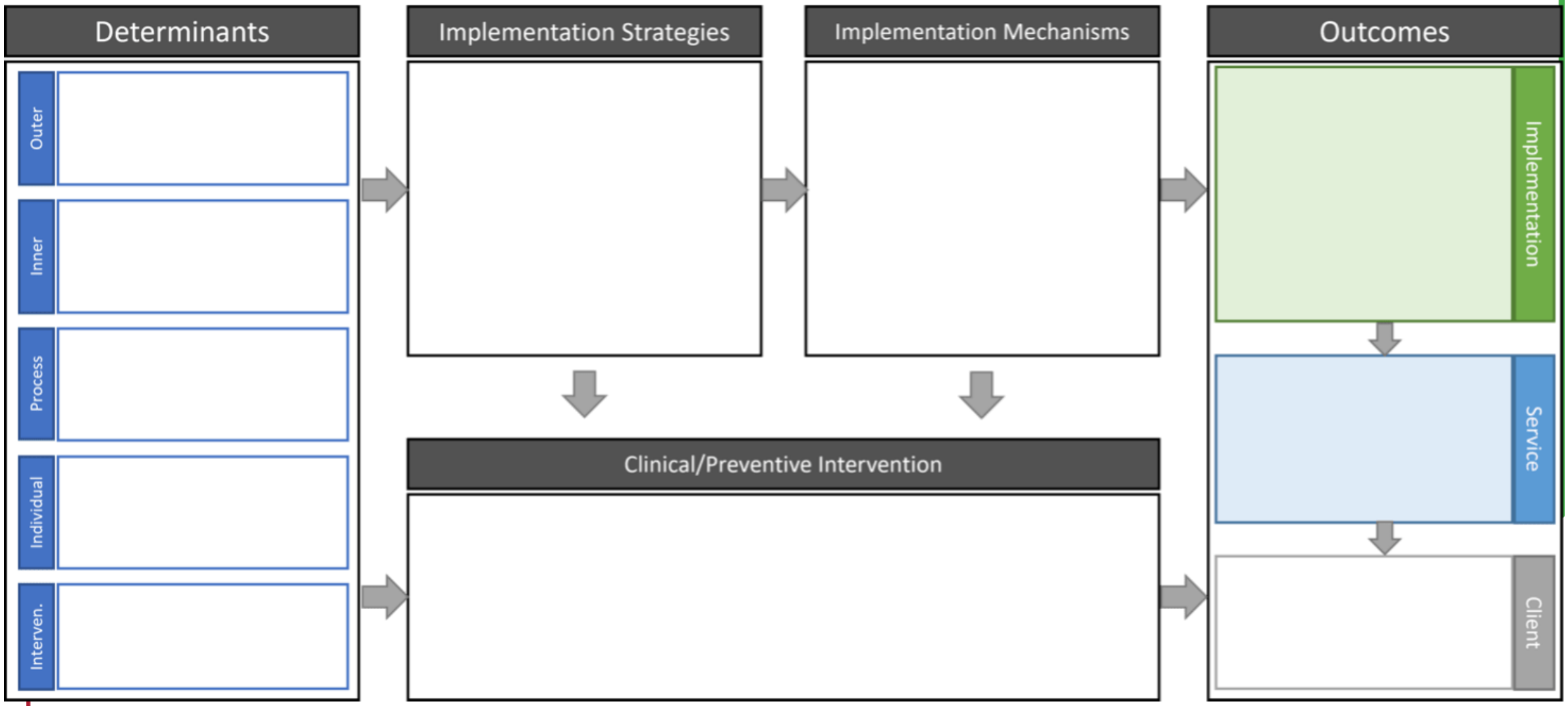
Implementation Science

RESEARCH Open Access

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

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

- Provides a structure to link logically and intentionally between the core elements of implementation research projects
- The generalized theory of the IRLM:
  1. Implementation strategies selected for a given EBI are related to implementation determinants (context-specific barriers and facilitators)
  2. Strategies work through specific mechanisms of action to change the context or the behaviours of those within the context, and
  3. Implementation outcomes are the proximal impacts of the strategy and its mechanisms, which then relate to the clinical outcomes of the EBI.


Determinants
Outer
Inner
Process
Individual
Interven.
Implementation Strategies
Implementation Mechanisms
Clinical/Preventive Intervention
Outcomes
Implementation
Service
Client

IRLM

Discussion

Case 1: Implementation Outcomes

Phepo Mogoba

University of Cape Town, South Africa

Evaluating the implementation process of a multicomponent intervention to improve HIV outcomes among youth living with HIV in Nampula, Mozambique

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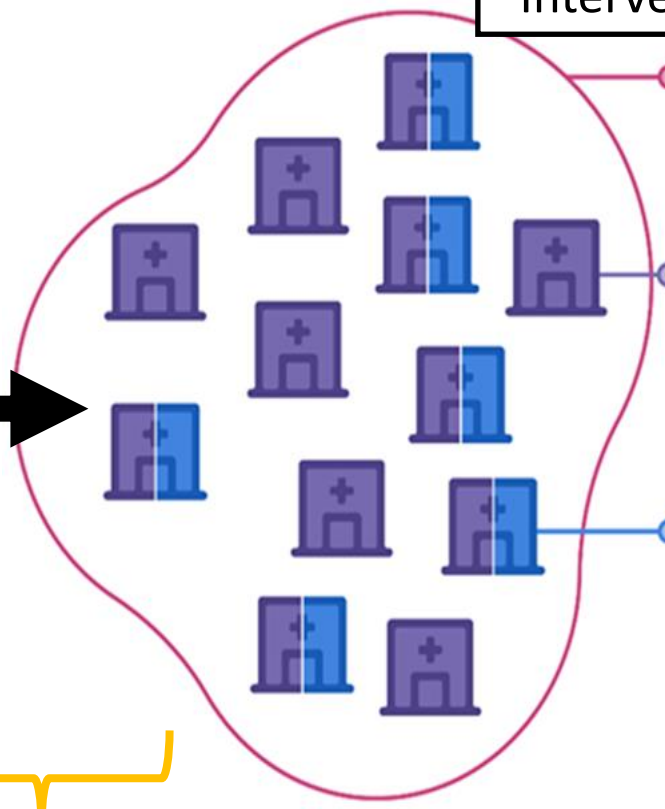
CombinADO study: Goal & design

Barriers

Stigma
Disclosure
HIV literacy
Isolation
Social support
Mental health

Intervention



Community-Level Background
Community Billboards & Posters
Radio Mini-Shows

Enhanced standard of care package
Provider Training
One-stop AYFS
Information Wall
Motivation Wall
Pill Container
Treatment Toolkit
Self-Reflection Kit

CombinADO full package
Provider Training
One-stop AYFS
Information Wall
Motivation Wall
Pill Container
Treatment Toolkit
Self-Reflection Kit
\+
Mental Health Screening & Treatment Services
Peer Navigation Support
Informational Video
AYLHIV Peer Support Groups
Caregiver Peer Support Groups

Effectiveness outcomes

- **Viral suppression**
- **Retention**
- **ART adherence**

Multi-stakeholder collaborative design & development

12 months implementation in 12 health facilities
Cluster RCT : Sept 2021–July 2023

Goal: To develop and evaluate a multicomponent intervention to improve HIV outcomes among youth (10–24 years) of Nampula, Northern Mozambique

Viral suppression results

Table. Proportions who achieved viral suppression at 12 months post-intervention, N=1,380

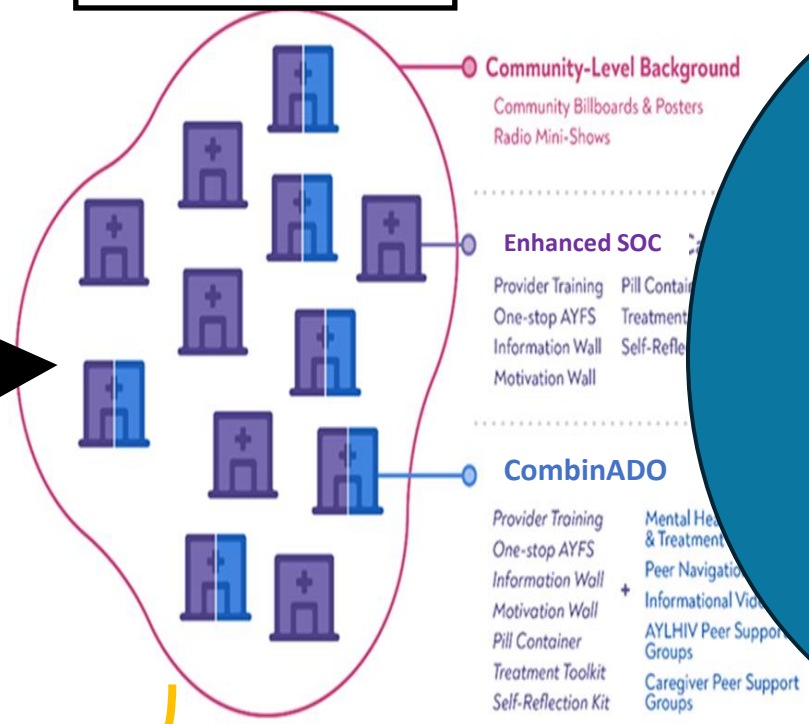
Study condition	Number of AYAHIV	% VS < 50 copies/mL	% VS < 200 copies/mL	% VS < 1000 copies/mL
ESOC	732	55%	72%	81%
CombinADO	648	54%	70%	80%
Total	**1,380**	**54%**	**71%**	**81%**

CombinADO study: Goal & design

Barriers

- **Stigma**
- **Disclosure**
- **HIV literacy**
- **Isolation**
- **Social support**
- **Mental health**

Intervention



Implementation outcomes

Acceptability
Feasibility
Appropriateness
Adoption
Reach
Implementation (fidelity)
Maintenance

Effectiveness outcomes

- **Viral suppression**
- **Retention**
- **ART adherence**

Multi-stakeholder collaborative design & development

12 months implementation in 12 health facilities
Cluster RCT : Sept 2021–July 2023

Goal: To develop and evaluate a multicomponent intervention to improve HIV outcomes among youth (10–24 years) of Nampula, Northern Mozambique

Measurement of IOs in CombinADO study

Dimension	Level of analysis	Measure	Data source	Data type	
				Quantitative	Qualitative
Reach	AYAHIV	• Visit attendance	• Health facility records	X	
	HCP	• AMRH reach sub-scale (Haroz et. Al.,2019)	• Semi-structured survey	X	
Acceptability **Feasibility** **Appropriateness**	AYAHIV HCP	• AMRH sub-scales (Haroz et. Al.,2019)	• Post-intervention survey (AYAHIV) • Semi-structured interview (HCP)	X	X *(HCP only)*
Adoption	HCP & KIs	• ARTAS adoption sub-scale (Norton, 2012)	• Semi-structured interview	X	X
Implementation (Fidelity)	HCP	• Implementation sub-scale (Rohrbach et al., 1993) • Component checklists	• Semi-structured interview • Implementation monitoring tools	X	X
Maintenance	HCP & KIs	• PSAT maintenance sub-scale (Luke et al., 2014)	• Semi-structured interview	X	X

Some results : Fidelity outcome

- Incomplete delivery of complex interventions
- Fidelity and engagement data needed for understanding effectiveness
- **Fidelity** as a measure of delivery

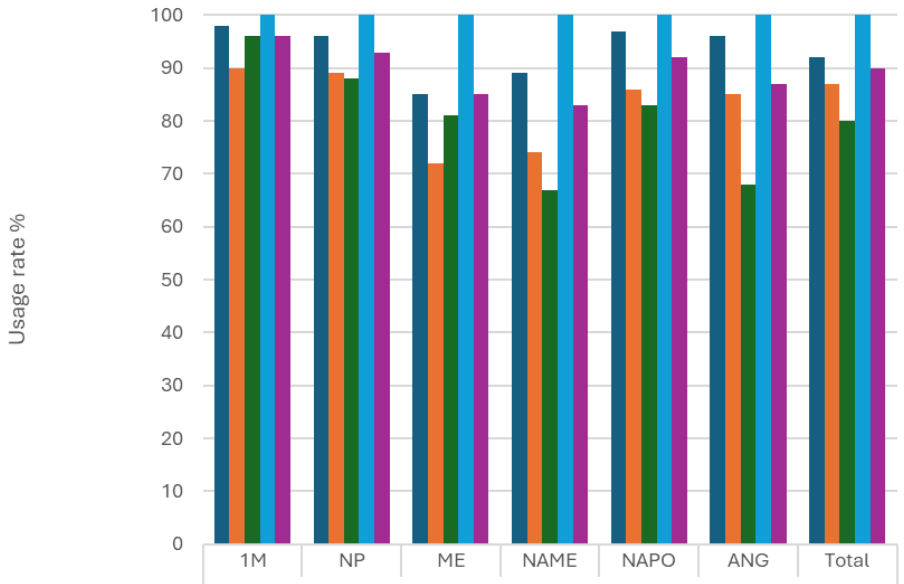
  How much was delivered? *How well was delivered?*

- Fidelity the effect moderator

Some results: Fidelity of delivery

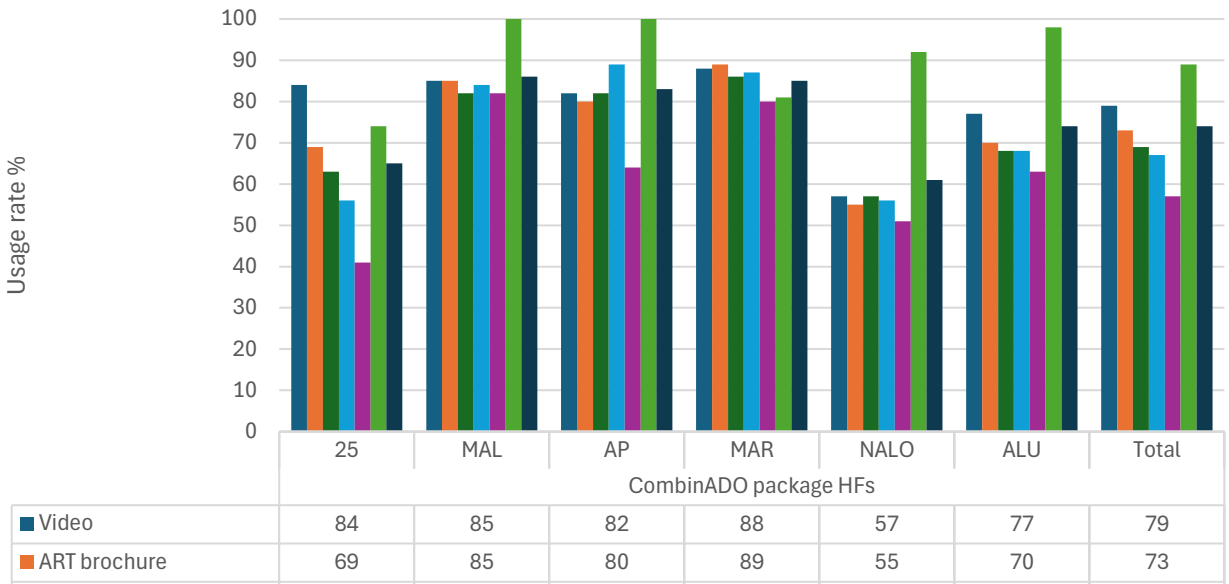
"Fidelity is not easy!"
~Ginsburg, 2021

eSOC HFs **= 90%**



	1M	NP	ME	NAME	NAPO	ANG	Total
	eSOC package HFs						
ART brochure	98	96	85	89	97	96	92
Self-reflection Kit	90	89	72	74	86	85	87
Motivation wall	96	88	81	67	83	68	80
Pill container*	100	100	100	100	100	100	100
Overall fidelity	96	93	85	83	92	87	90

CombinADO HFs **= 74%**



	25	MAL	AP	MAR	NALO	ALU	Total
	CombinADO package HFs						
Video	84	85	82	88	57	77	79
ART brochure	69	85	80	89	55	70	73
Self-reflection Kit	63	82	82	86	57	68	69
Motivation wall	56	84	89	87	56	68	67
Mental health screening	41	82	64	80	51	63	57
Pill container*	74	100	100	81	92	98	89
Overall fidelity	65	86	83	85	61	74	74

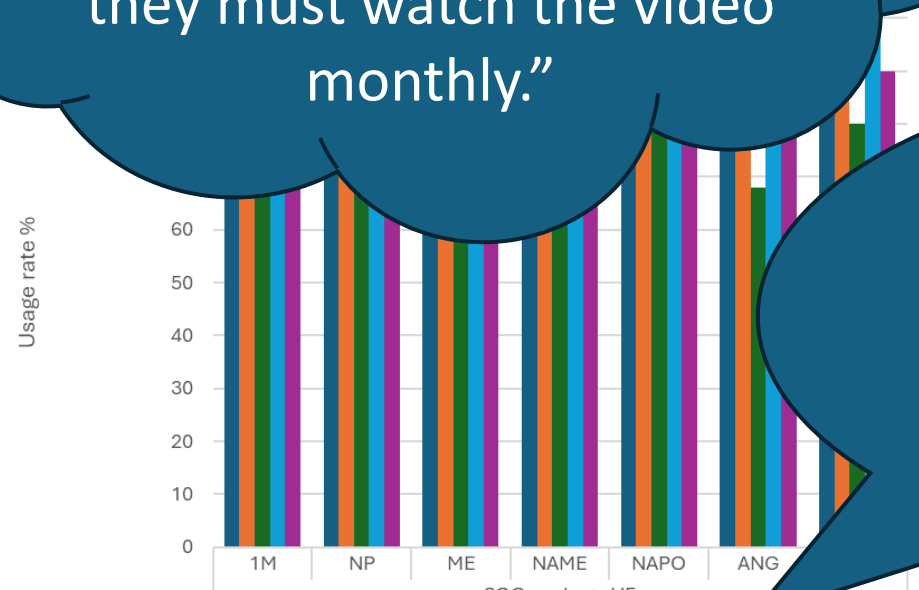
Figure: Fidelity of delivering package components across study health facilities

So delivery

"I have been questioned, there are others who reject the video, we just need to explain that the video is monthly and that they must watch the video monthly."

"There are some who don't prefer the mental health screening because they say the consultation takes a long time..."

"...the brochure also makes it difficult because there are some adolescents I have who don't know how to read...



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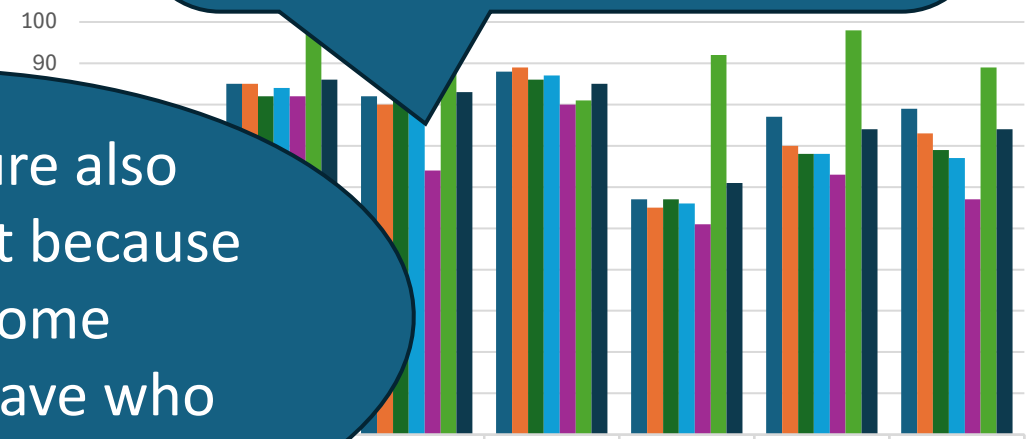

			AP	MAR	NALO	ALU	Total
			CombinADO package HFs				
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Motivation wall	56	84	89	87	56	68	67
Mental health screening	41	82	64	80	51	63	57
Pill container*	74	100	100	81	92	98	89
Overall fidelity	65	86	83	85	61	74	74

Figure: Fidelity of delivering package components across study health facilities

Lessons learned: Fidelity of delivery

- Intervention components not fully delivered
- Context and implementer preferences affected fidelity (*the moderator*)
- Well designed interventions not immune to effects of contextual factors
- Successful implementation = success of effective interventions

Case 2:
Designing with implementation in mind

Yolanda Gomba
University of Cape Town, South Africa

A mixed-methods evaluation of pilot implementation

WITS School of Public Health

School of Public Health
Departement Openbare Gesondheid
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Data to Care Intervention

The use of routine electronic data to identify and trace MIPs with gaps in HIV care and link them back into care

- Intervention was implemented in the pilot study REMInD
- Intervention combines a Data to Care approach and tracing activities
- Leverages electronic data collected by the Western Cape's Provincial Health Data Centre
- Uses electronic data to identify MIPs with gaps in care and trace them through phone calls and/or home visits to provide support to link them back into care
- Study setting: Gugulethu Community Health Centre (GCHC) in Gugulethu, Cape Town . Enrolled 336 mother-infant pairs

Aim: To conduct and document the implementation of an adapted Data to Care intervention including the evaluation of implementation strategies, outcomes and determinants. This research will also examine the fit of the Consolidated framework of implementation research (CFIR) and propose adaptions to improve its applicability to HIV intervention research in resource-constrained settings

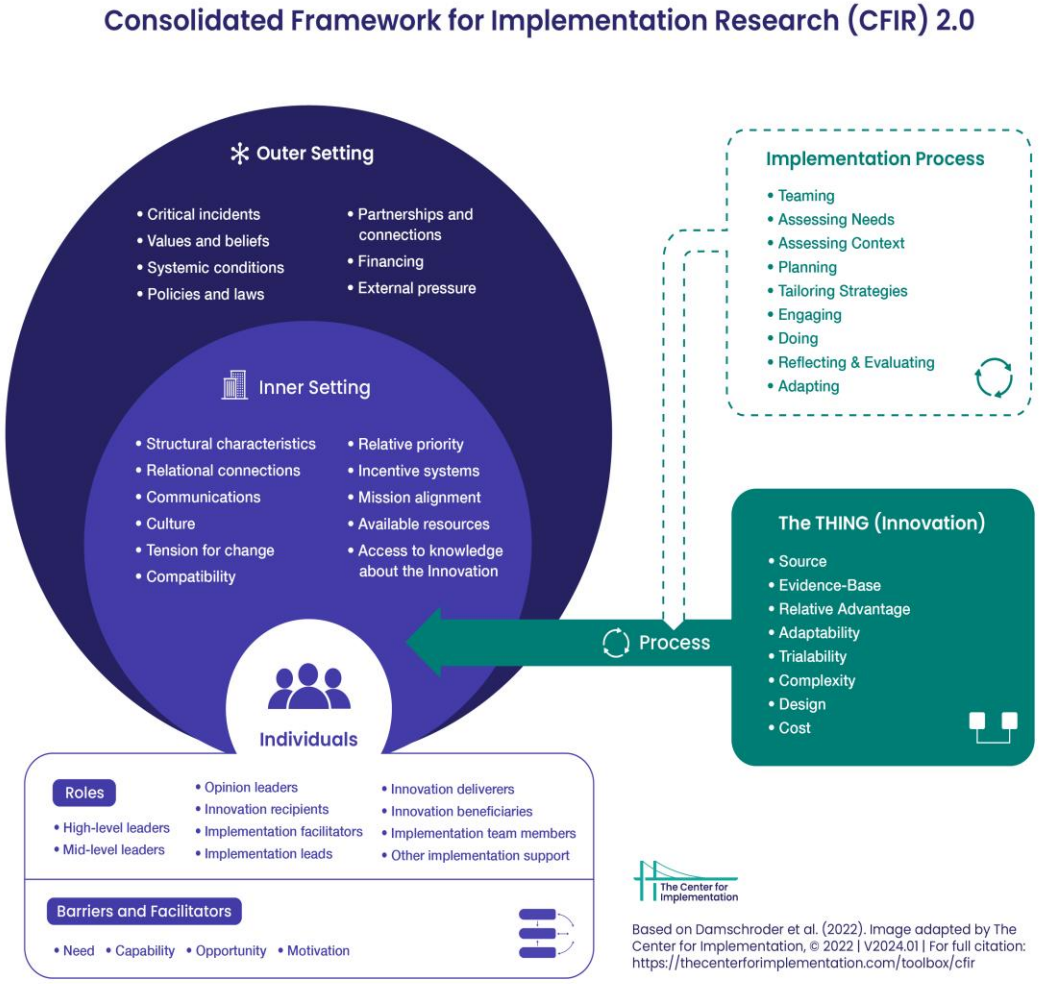
Implementation Evaluation

Study design:

• **Implementation evaluation**	• **During and Post implementation**
• **Mixed-methods**	

Research question	Participants	Data source	Measure	Data analysis	Outputs
What factors affected or could affect the implementation of using routine electronic data to identify and trace MIPs with gaps in HIV care and link them back into care?	• PLWHIV (n=30) • Healthcare workers (n=10) • Policy implementers (n=3)	• Semi-structured in-depth interview	• Interview guide based on CFIR and conceptual model of implementation research	• Inductive thematic analysis guided by CFIR	
What strategies could be used to implement the use of routine electronic data to identify and trace MIPs with gaps in HIV care and link them back into care and based on the determinants identified?	• PLWHIV (n=30) • Healthcare workers (n=10) • Policy implementers (n=3)	• Semi-structured in-depth interview • CFIR-ERIC Tool	• Interview guide based on CFIR and conceptual model of implementation research	• Inductive thematic analysis	
Is the use of routine electronic data to identify and trace MIPs with gaps in HIV care and link them back into care acceptable, feasible and appropriate?	• PLWHIV (n=30 / 83) • Healthcare workers (n=10) • Policy implementers (n=3)	• Semi-structured in-depth interview • Survey	• Interview guide based on CFIR and conceptual model of implementation research • Acceptability of Intervention measure, • Feasibility of intervention measure • Intervention appropriateness measure	• Inductive thematic analysis for qualitative data • Descriptive analysis for quantitative data	

Evaluating Implementation Determinants



INTERVIEW GUIDE

SECTION E: IMPLEMENTATION DETERMINANTS

8. What are some of the factors within your facility/organization that would affect how well the REMInD intervention works?
9. What kind of healthcare worker would be best to implement the components of the REMInD intervention and please tell me why you think this?
10. From the patient's side, what are some of the factors that you think would affect how well this the REMInD intervention is received?
11. What about the REMInD intervention would make it easy to implement in your facility/organization?
12. What about the REMInD intervention would make it difficult to implement in your facility/organization?

Evaluating Implementation Strategies

INTERVIEW GUIDE

SECTION E: IMPLEMENTATION STRATEGIES

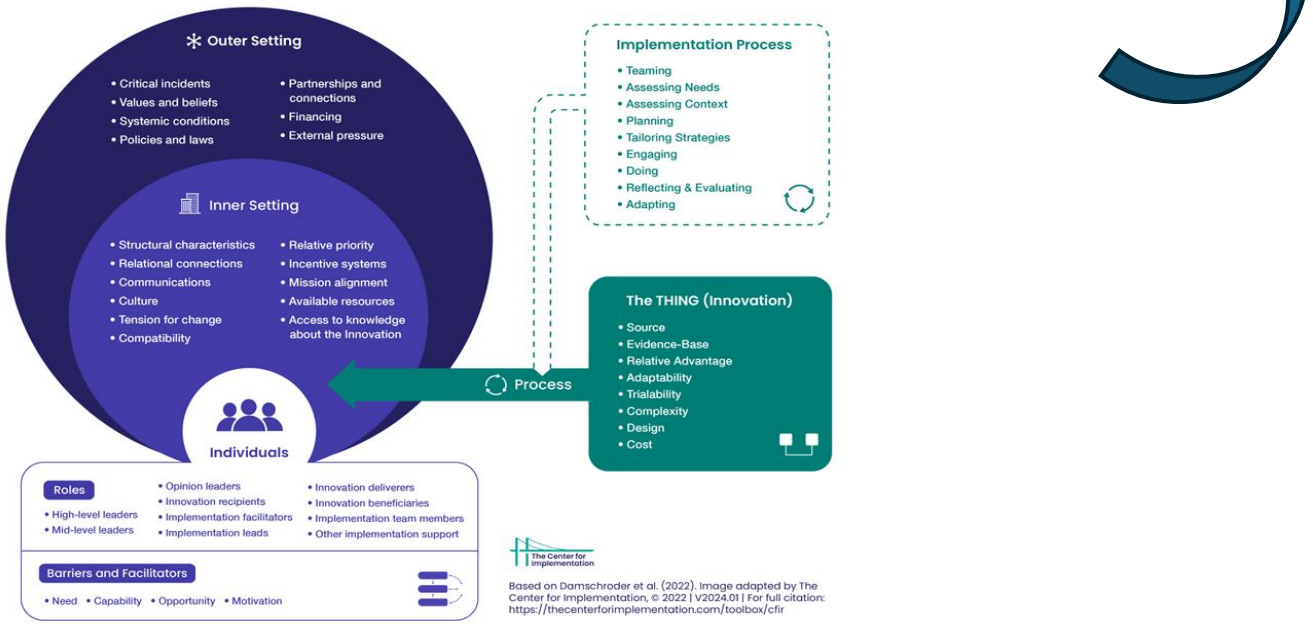
12. What strategies or actions targeting the healthcare workers do you think would encourage them to use the REMInD intervention? (prompt with example strategies only if needed)
13. What kind of healthcare worker would need to be responsible for ensuring the strategies you mentioned above are followed and why do you think this?
14. How often would you use the strategies you mentioned above and why do you say this?

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

Byron J Powell, Thomas J Waltz, Matthew J Chinman, Laura J Damschroder, Jeffrey L Smith, Monica M Matthieu, Enola K Proctor & JoAnn E Kirchner

IMPLEMENTATION STRATEGY SELECTION TOOL

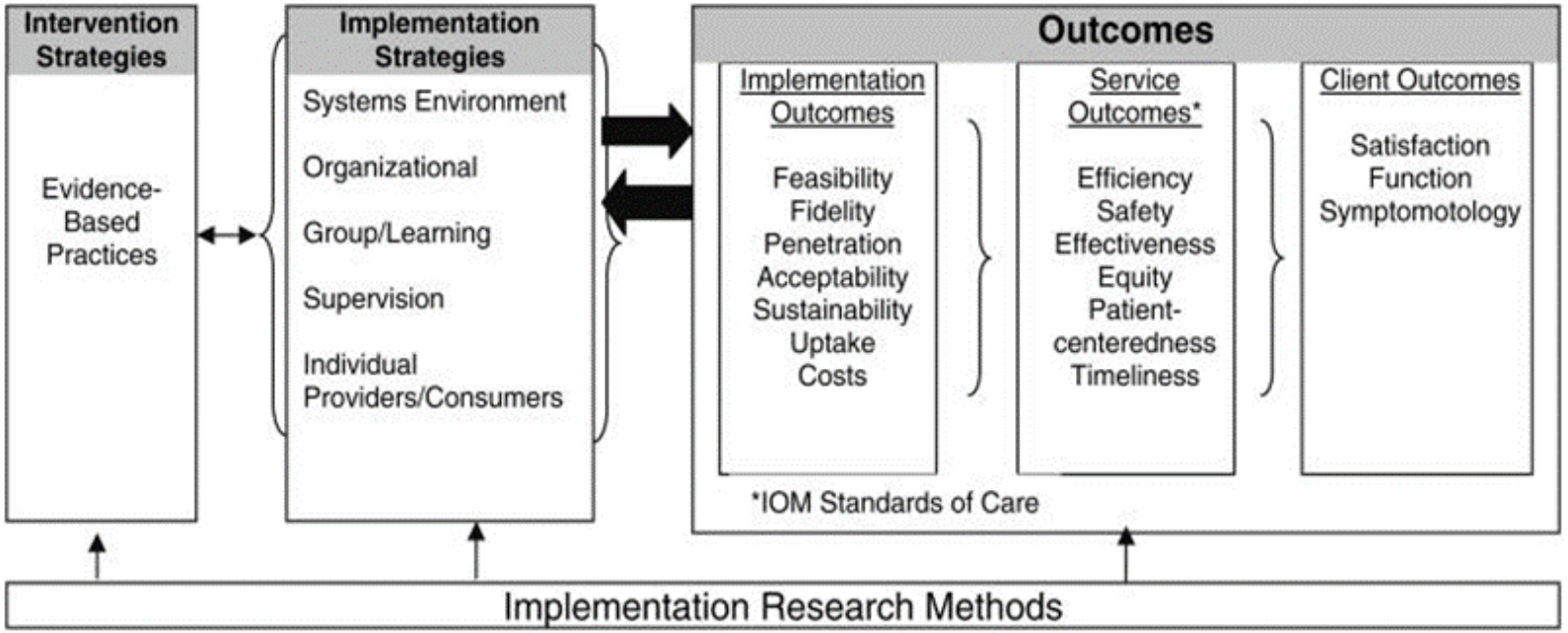
Consolidated Framework for Implementation Research (CFIR) 2.0



Evaluating Implementation Outcomes

Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda

Enola Proctor,[1] Hiie Silmere,[2] Ramesh Raghavan,[1,3] Peter Hovmand,[1] Greg Aarons,[4] Alicia Bunger,[1] Richard Griffey,[5] and Melissa Hensley[1]

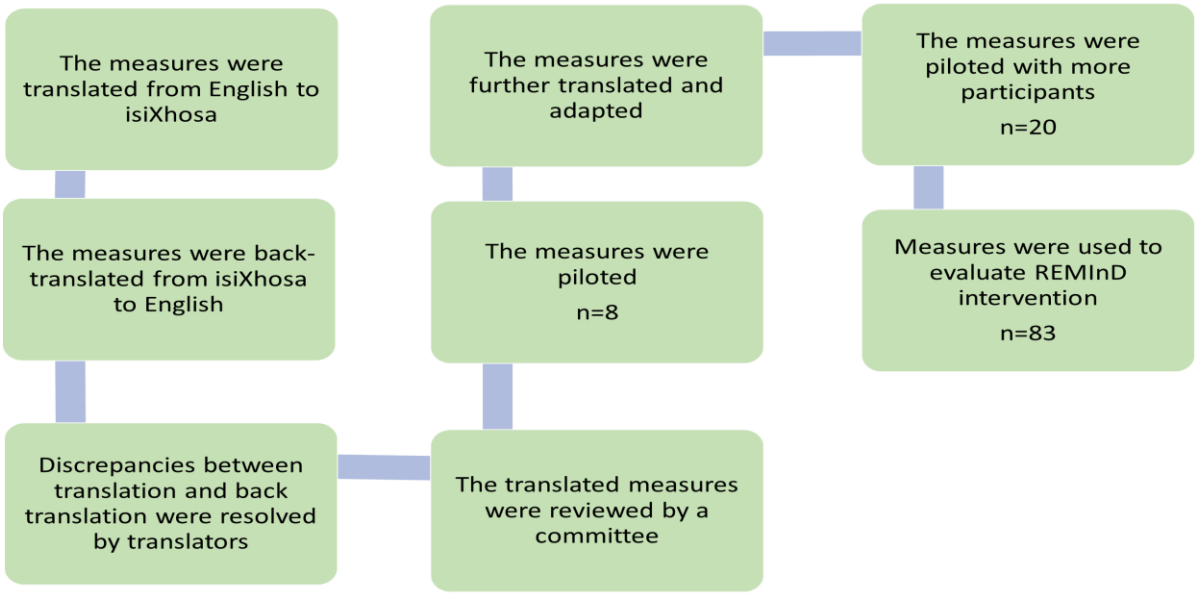


Evaluating Implementation Outcomes cont.

Psychometric assessment of three newly developed implementation outcome measures

Bryan J. Weiner,[1] Cara C. Lewis,[2,3,4] Cameo Stanick,[5] Byron J. Powell,[6] Caitlin N. Dorsey,[2] Alecia S. Clary,[6] Marcella H. Boynton,[7] and Heather Halko[8]

Process of Piloting and Validation of Measures



Translated and adapted versions of the measures

Original English AIM
The REMInD intervention meets my approval
The REMInD intervention is appealing to me
I like The REMInD intervention.
I welcome The REMInD intervention
Original English FIM Items
The REMInD intervention seems implementable
The REMInD intervention seems possible.
The REMInD intervention seems doable.
The REMInD intervention seems easy to use.
Adapted English IAM Items
The REMInD intervention seems fitting for resolving the challenge of identifying and tracing mothers and babies with gaps in HIV care
The REMInD intervention seems suitable for identifying and tracing mothers and babies with gaps in HIV care.
The REMInD intervention seems applicable to solving the issue of identifying and tracing mother and babies with gaps in HIV care
The REMInD intervention seems like a good match for identifying and tracing mothers and babies with gaps in HIV care.

Implementation Evaluation

Study design:

• **Implementation evaluation**	• **During and Post implementation**
• **Mixed-methods**	

Research question	Participants	Data source	Measure	Data analysis	Preliminary Findings
What factors affected or could affect the implementation of using routine electronic data to identify and trace MIPs with gaps in HIV care and link them back into care?	• PLWHIV (n=30) • Healthcare workers (n=10) • Policy implementers (n=3)	• Semi-structured in-depth interview	• Interview guide based on CFIR and conceptual model of implementation research	• Inductive thematic analysis guided by CFIR	• **Intervention complexity** • **Access and knowledge of intervention** • **Availability of resources**
What strategy was used to implement the use of routine electronic data to identify and trace MIPs with gaps in HIV care and link them back into care and based on the determinants identified, what implementation strategies would be appropriate for implementing the use this intervention in the future?	• PLWHIV (n=30) • Healthcare workers (n=10) • Policy implementers (n=3)	• Semi-structured in-depth interview • CFIR-ERIC Tool	• Interview guide based on CFIR and conceptual model of implementation research	• Inductive thematic analysis	• **Promote adaptability** • **Conduct educational meetings** • **Develop educational materials** • **Assess readiness** • **Change physical structure and equipment**
Is the use of routine electronic data to identify and trace MIPs with gaps in HIV care and link them back into care acceptable, feasible and appropriate?	• PLWHIV (n=30 / 83) • Healthcare workers (n=10) • Policy implementers (n=3)	• Semi-structured in-depth interview • Survey	• Interview guide based on CFIR and conceptual model of implementation research • Acceptability of Intervention measure, • Feasibility of intervention measure • Intervention appropriateness measure	• Inductive thematic analysis for qualitative data • Descriptive analysis for quantitative data	• **Qualitative date showing that Stakeholders find the intervention for be acceptable, feasible and appropriate** • **Quantitative data not analyses yet**

Case 3: Implementation Strategies

Juliana Kagura

University of Witwatersrand, South Africa

Implementation Strategies to enhance oral PrEP delivery among AGYW in Sub Saharan Africa: Systematic Review

WITS School of Public Health

School of Public Health
Departement Openbare Gesondheid
Isikolo Sempilo Yoluntu

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

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Background

- Sub-Saharan Africa has made significant progress towards targets for reduction in incidence of HIV/AIDs.
- However, incidence of HIV among AGYW aged 15-24yrs remain high.
- This age group is in developmental transition and require unique, tailor-made strategies to improve HIV prevention specific to their unique needs
- Though PrEP holds promise, strategies for its delivery and implementation for this age group are not fully understood.
- There is need to collate evidence on implementation strategies for enhancing PrEP delivery so that they can be streamlined for AGYW, especially in low resource settings like SSA and ultimately reduce incidence of HIV in this group.

Aims and Objectives

AIM: To review evidence on strategies to enhance PrEP delivery and implementation among AGYW in a SSA context

Objective 1

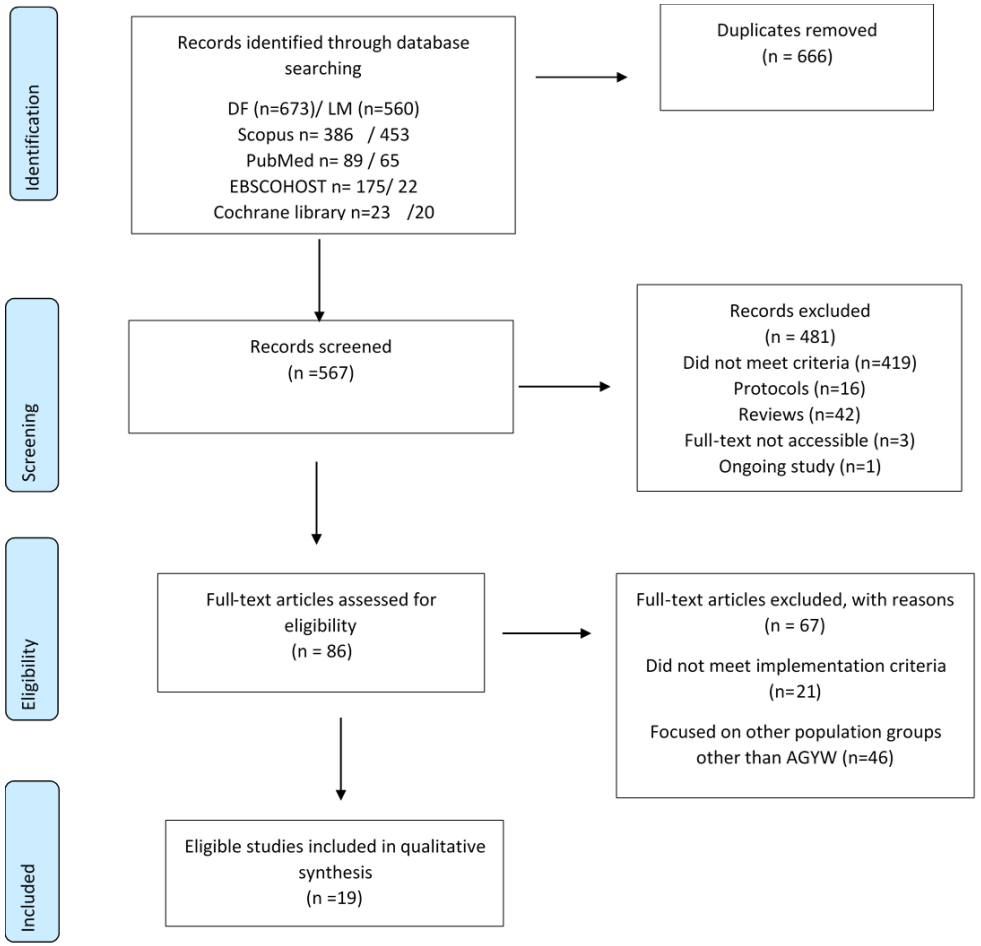
Summarise evidence on implementation strategies for PrEP delivery among AGYW in SSA: (2010-2022)

Objective 2

To classify implementation strategies by outcomes for PrEP delivery among AGYW in SSA: (2010-2022)

Methods

- Registered on PROSPERRO
- Research question (P-AGYW, stakeholders like HCW, nurses, I-implementation Strategies, C: Any comparisons, O: Implementation Outcomes)
- Search for studies (PubMed, Scopus, Web of Science, EBSCOHost , Cochrane Library database)
- Screen for studies (Done independently and in duplicate; resolved disagreements through discussion, created a PRISMA diagram for study flow)
- Quality appraisal : JBI
- Chart the data using excel sheets
- Collate, summarize, and report data (Created a map, Pie charts, Bar charts)
- Reported using the PRISMA-ScR checklist (Background, Methods, Results, Discussion)



- Studies: n=1233
- Duplicates: n=666
- Screened (title and abstracts):n=567
- Eligibility (full text articles):n=86
- Excluded: n=67
- Included in the study: n=19

Figure 1: PRISMA flow diagram showing number of studies included in the review of implementations strategies for Oral PrEP delivery in SSA

- Most studies were from SA and Kenya
- Some studies were multi-site in SSA

Figure 2: Geo-map showing countries distribution of studies included in the review of implementations strategies for Oral PrEP delivery across SSA

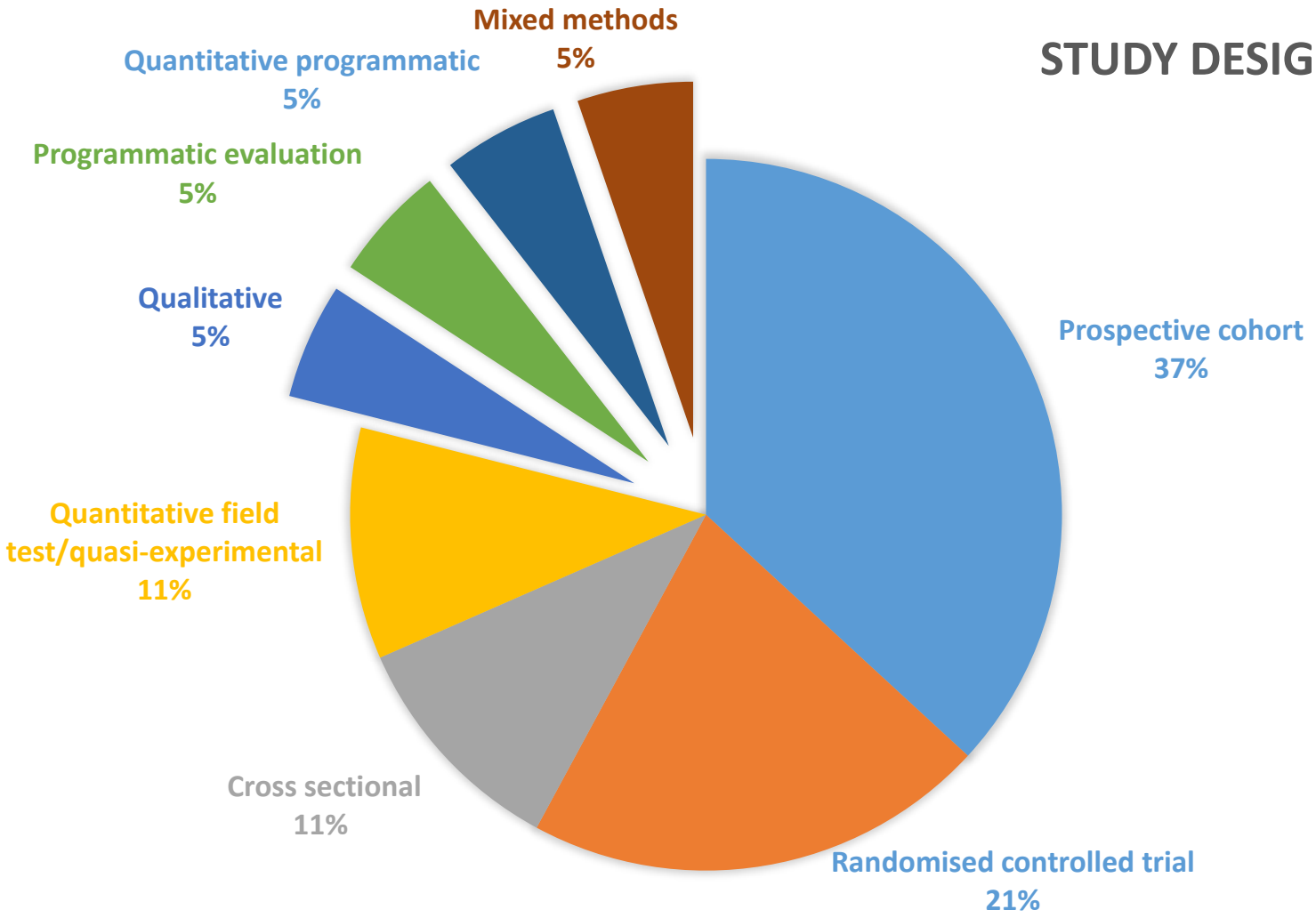


Figure 3: Pie chart showing number of studies included in the review of implementations strategies for Oral PrEP delivery in SSA

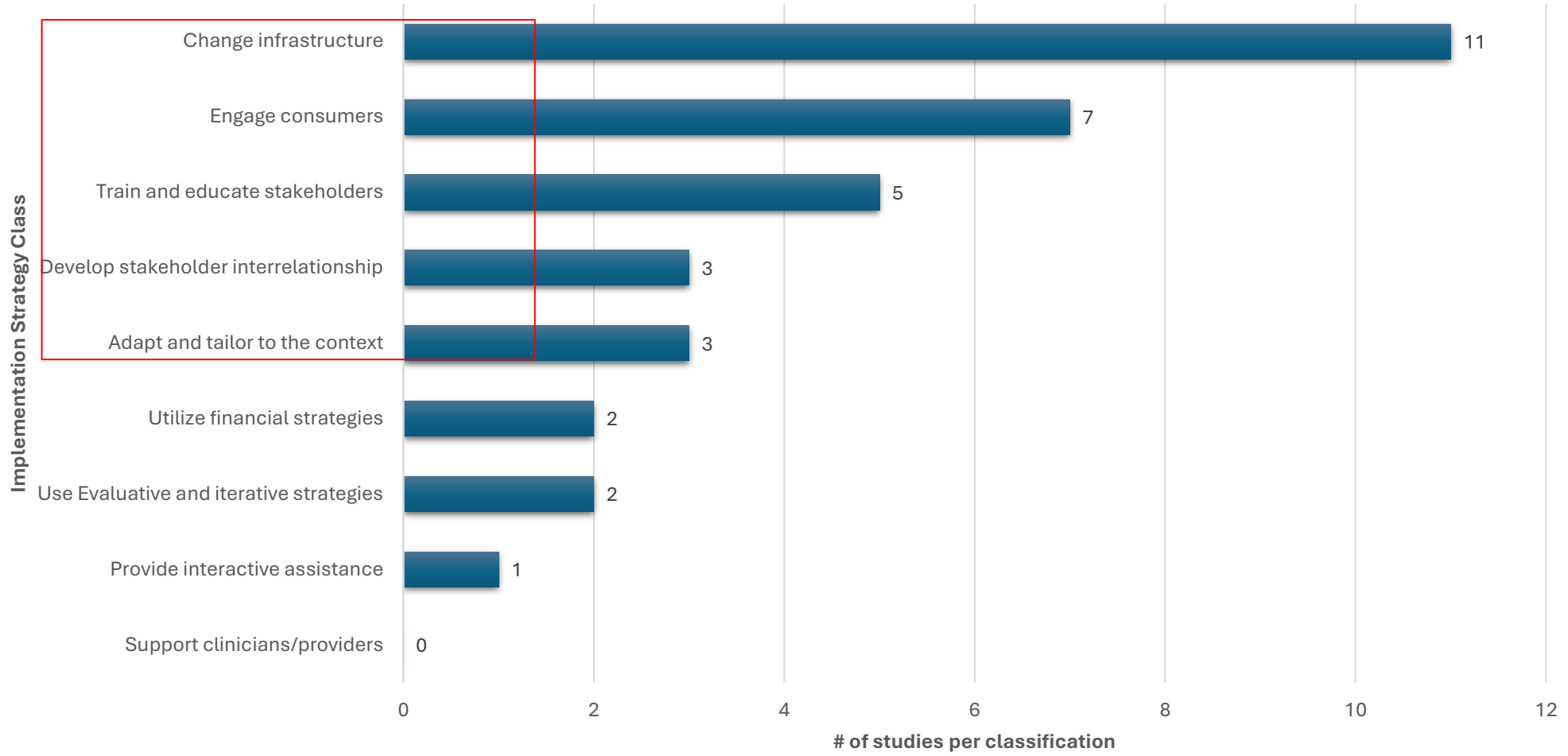


Figure 4 Bar Chart showing the classification of strategies for PrEP delivery among AGYW in SSA(73 ERIC str. grouped into 9 categories) adapted from Waltz et 2015

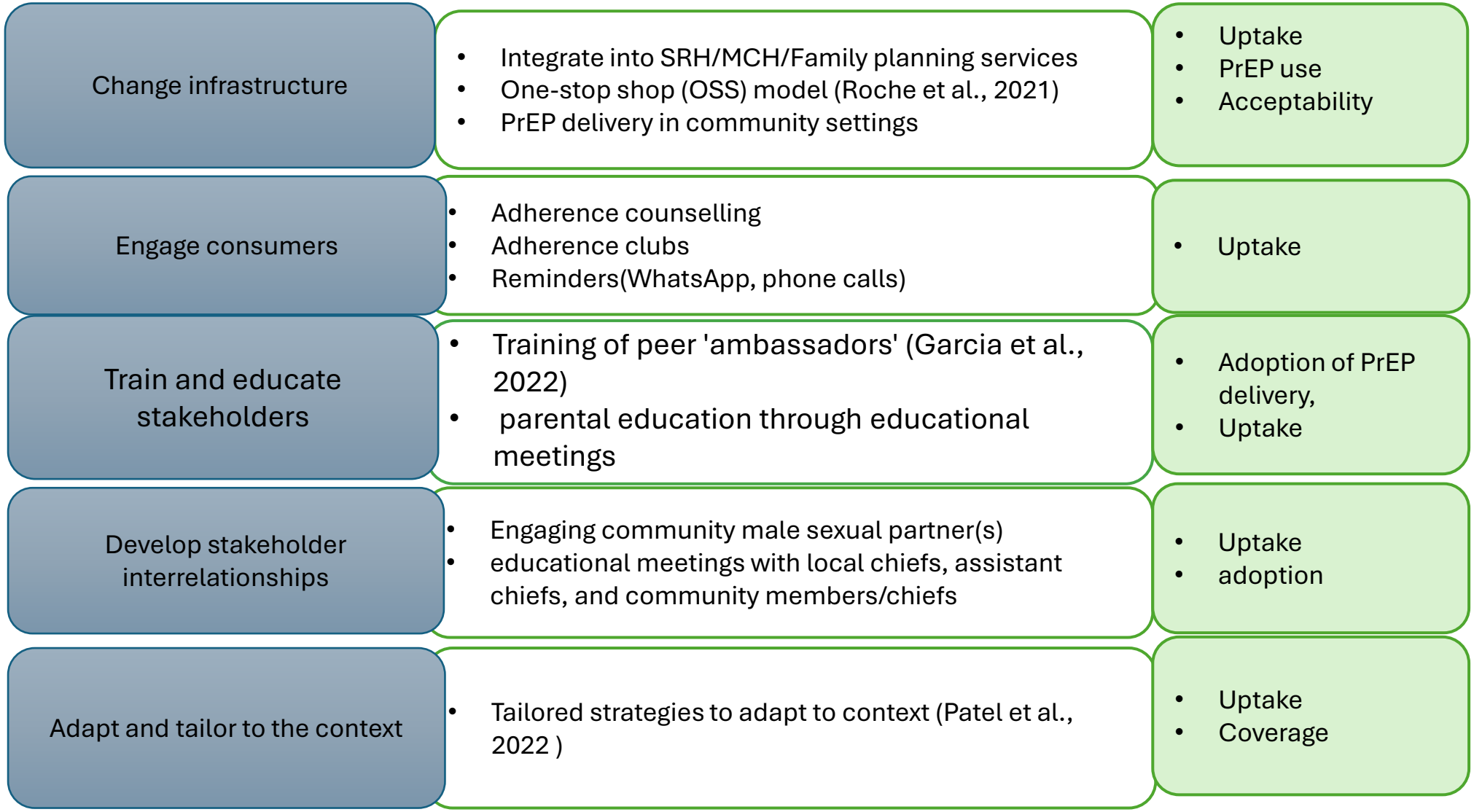


Figure 5 Implementation strategies and outcomes for the top 4 classes of strategies for enhancing PrEP delivery among AGYW in SSA.

Discussion of cases

In what ways do you see yourself contributing to or engaging with Implementation Science?

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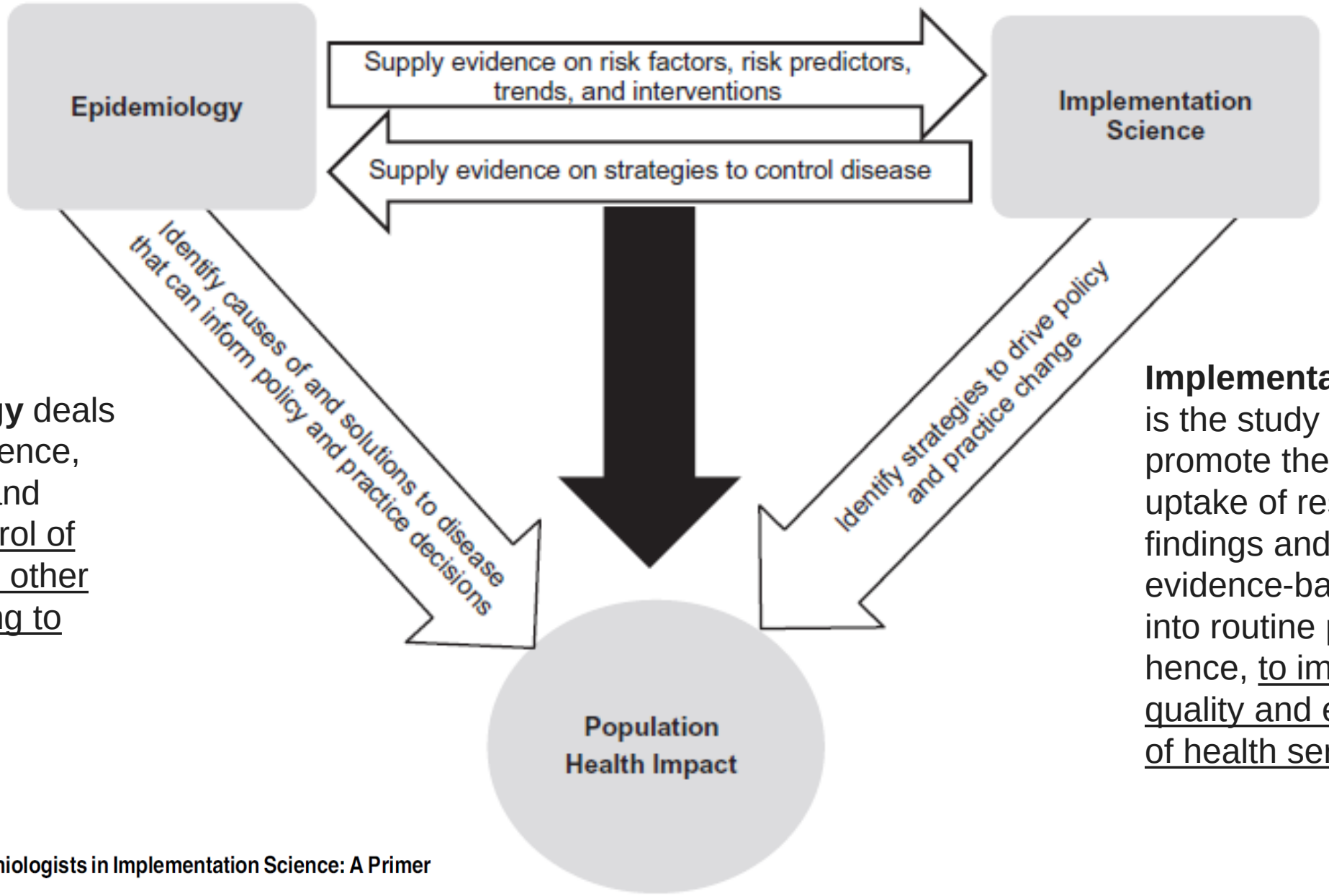
The role of epidemiologists in IS

- Define the evidence
- Complex systems analyses with multiple interacting and mediating factors
- Expanded view of causality to measure causal mechanisms underlying implementation strategies and adaptations
- Determining appropriate study designs
- Development of practical, valid measures of proximal implementation outcomes

Am J Epidemiol. 2018;187(5):899–910



Epidemiology deals with the incidence, distribution, and possible control of diseases and other factors relating to health

Implementation science is the study of methods to promote the systematic uptake of research findings and other evidence-based practice into routine practice and, hence, to improve the quality and effectiveness of health services

Opportunities for Epidemiologists in Implementation Science: A Primer

Gila Neta*, Ross C. Brownson, and David A. Chambers *Am J Epidemiol.* 2018;187(5):899–910

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