



# Science of Dissemination & Implementation to Improve Healthcare Outcomes

Gretchen A. Piatt, MPH, PhD

Associate Professor

Associate Chair for Educational Programs

Director, HILS PhD & MS Program

Director, Precision Health Certificate

Department of Learning Health Sciences

# Objectives

- Define implementation research, differentiating it from other related areas.
- Identify the potential impact of implementing and/or sustaining effective interventions in health.
- Describe common implementation evaluation strategies relevant to specific questions or problems.

# Today's Outline

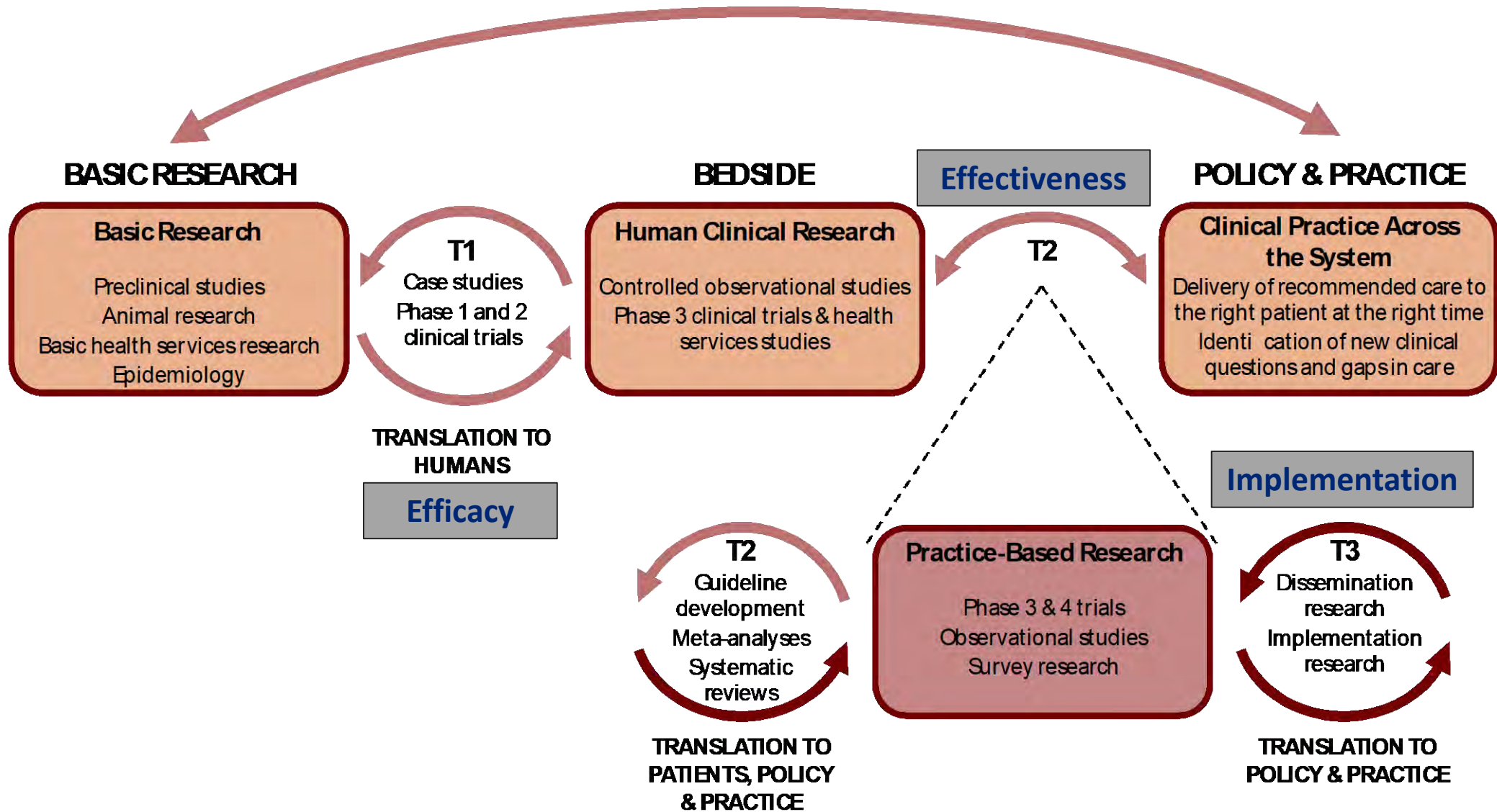
1. Context



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graph TD; A[1. Context] --> B[2. Case Study]; B --> C[3. Assess, Prepare, Implement, and Evaluate];
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2. Case Study

3. Assess, Prepare,  
Implement, and  
Evaluate



Westfall et al. Practice-based research – “blue Highways” on NIH roadmap. JAMA. 2007; 297(4): 403–406 (adaptation).

NSWHealth and Medical Research Strategic Review 2012. NSW Ministry of Health. Page 4 (adaptation).

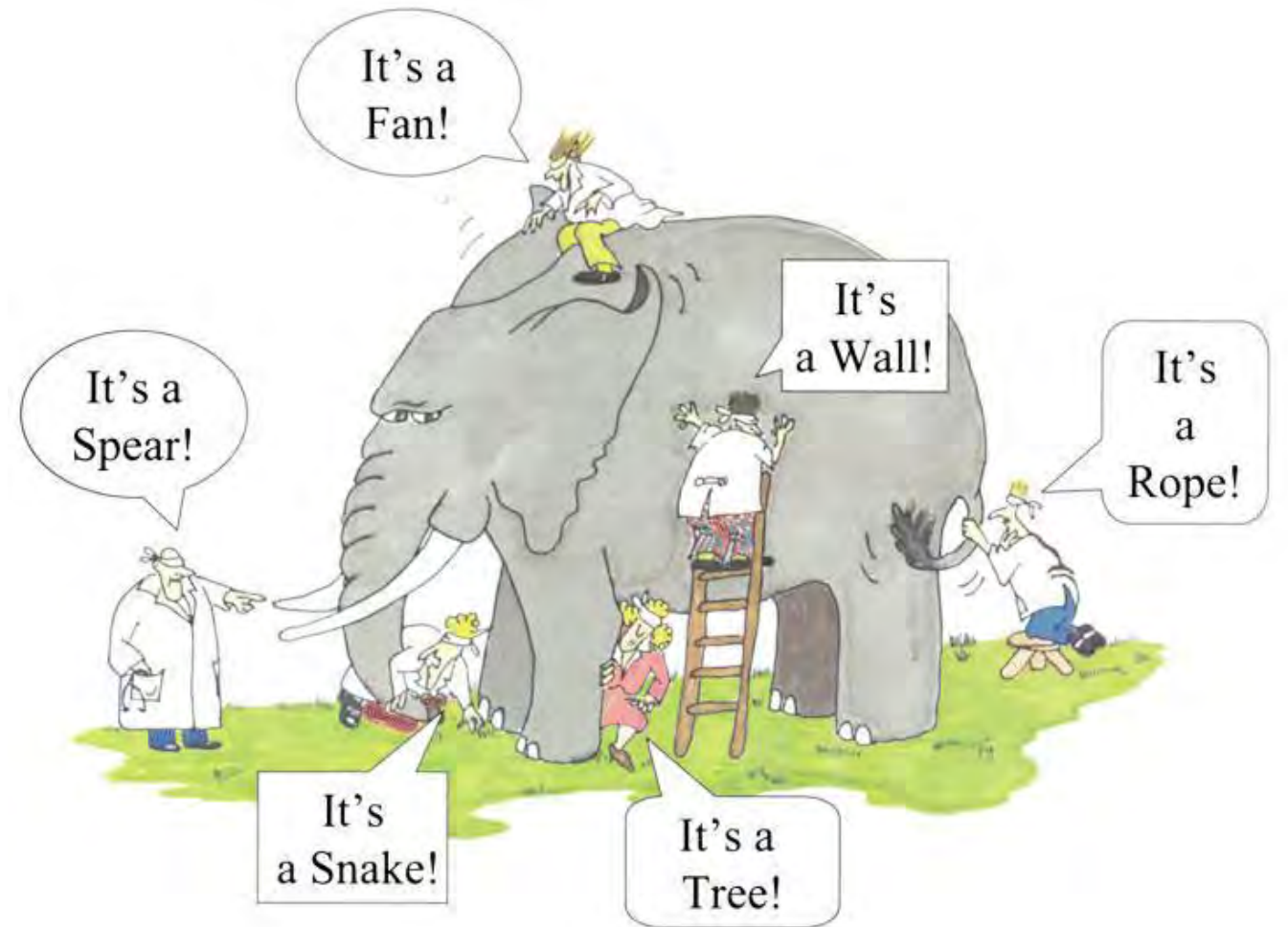


# What are the differences?

	Efficacy	Effectiveness	Implementation
Study Design	RCT	RCT and CRT	CRT, PBT, wedge, time-series, roll-out, quasi
Randomization	Individual	Individual or cluster	Cluster
Intervention	Single	Single or multiple	Multiple
Environment	Controlled	Uncontrolled	Uncontrolled
Exclusion criteria	Many	Few	Few
Methods	Quantitative	Quantitative and Mixed	Mixed
Conceptual Framework	Never	Sometimes	Always
Disciplines	Medicine, Epi, Psychology	Same but add health policy, non-health related, community, health systems	Same but add public health entities, professional organization

# How is Implementation Science Different from:

- Process Evaluation
- Improvement Science
- Health Systems Science
- Dissemination Science

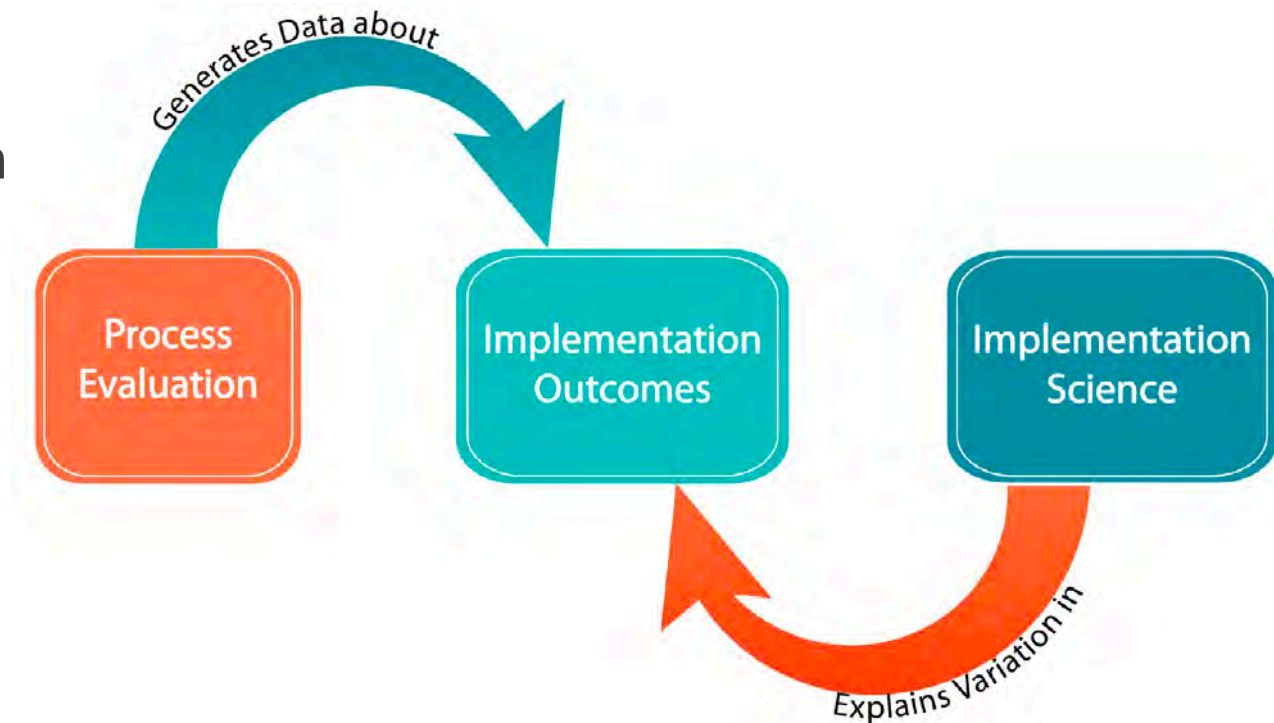


# Activity: Differentiation



# Process Evaluation

- describes how program activities were delivered.
- determines the degree to which program activities were implemented as planned.
- assesses link between program activities and outcomes.
- Useful for:
  - Monitoring, improvement, replication
  - Investigating dose-response relationships





# Improvement Science

- Quality improvement (QI)

- uses quantitative and qualitative methods to improve the effectiveness, efficiency, and safety of service delivery processes and systems, as well as the performance of human resources in delivering products and services.

- Improvement science:

- a body of knowledge that describes how to improve safety and quality consistently.
- the primary goal to determine which improvement strategies work as we strive to assure effective and safe patient care.

# Health Systems Science

- Critical competencies that are necessary to deliver the highest quality, value-based health care in a manner that is both patient and population centered.
- It is how we operationalize the education necessary to meet the Quadruple Aim of health care
- Competencies include **population health** (social determinants and healthcare equity), **value-based care**, **health care policy and economics**, **interprofessional skills**, **informatics**, and **health system improvement**.

# Dissemination Science

- Dissemination: targeted distribution of information and intervention materials to a specific public health or clinical practice audience
- Core processes: communication and social influence
- Key outcomes:
  - Awareness
  - Knowledge
  - Positive view
  - Intention to adopt
  - Adoption

*Implementation Science is the study of methods to promote the integration of **research findings and evidence** into healthcare policy and practice.*

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*It seeks to understand the behavior of healthcare professionals and other stakeholders as a key variable in the **sustainable uptake, adoption, and implementation of evidence-based interventions**.*

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**Implementation Science is the study of human behavior change under organizational constraints.**

# When Defining Implementation Science, Some Very Non-Scientific Language Can Be Helpful.....

The intervention/innovation/practice is  
**THE THING**

*Effectiveness* research looks at whether  
**THE THING** works

*Implementation* research looks at how best to  
help people/places do **THE THING**

Implementation strategies are the stuff we do  
to try to help people/places **DO THE THING**

Main implementation outcomes are **HOW  
MUCH** and **HOW WELL** they **DO THE THING**



# **Case Study**

*Physician Burnout  
(refer to handout)*

# Implementing a Wellness Initiative at Michigan Medicine for Physician Burnout





Prepare



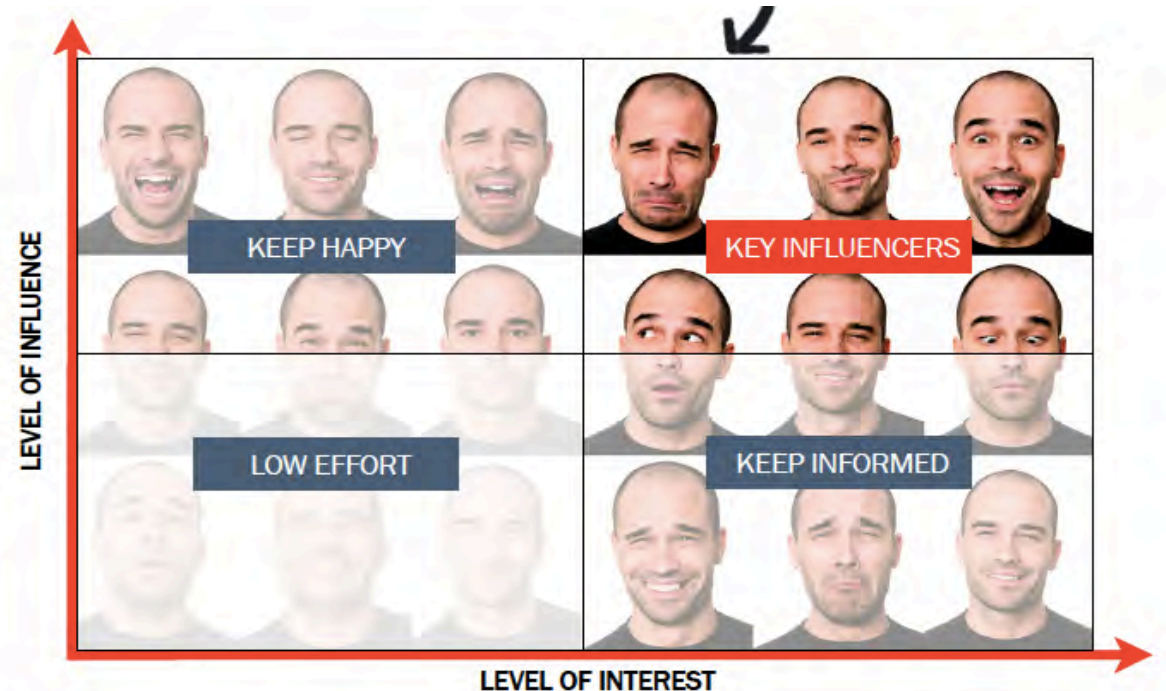
Implement



## What is the Evidence?

- Interventions” = “Practices” = “Programs”
- Evidence-based intervention
  - health-focused intervention, practice, policy, or guideline with evidence demonstrating its ability to change a health-related behavior or outcome
  - Less robust the body of evidence, more important it is to evaluate it

## Who are the stakeholders?







## Is fidelity maintained?

- Do not compromise the program's effectiveness
  - Content
  - Delivery
  - Methods

## Should you adapt?

- Addition, deletion, expansion, reduction, or substitution of intervention components
- Core components to adapt include setting, target, audience, delivery, or culture



## What framework(s) should you use?

- Process Frameworks (exp. PDSA)
  - Describe and Guide
- Determinants Frameworks (exp. CFIR)
  - Understand and Explain
- Evaluation Frameworks (exp. RE-AIM)
  - Measures success

## What implementation strategy should you use?

- Focus on improving outcomes like **acceptability, adoption, feasibility, etc.**





Prepare



Implement



## Is it Sustainable?

### What You Can Do: Sustain Your Intervention Program

Consider the following **eight core domains** to increase the intervention's capacity for sustainability.<sup>36,37</sup> These domains were developed by practitioners, scientists, and funders from several public health areas.

You can use the Program Sustainability Assessment Tool to understand factors that influence your intervention's capacity for sustainability and develop an action plan to increase the likelihood of sustainability. The tool helps identify your organization's sustainability strengths and weaknesses and can guide your sustainability planning.

#### Factors Influencing Sustainability



##### FUNDING STABILITY

Establishing a consistent financial base for your program



##### PARTNERSHIPS

Cultivating connections between your program and its stakeholders



##### PROGRAM ADAPTATION

Changing your program to ensure its ongoing effectiveness



##### STRATEGIC PLANNING

Using processes that guide your program's direction, methods, and goals



##### POLITICAL SUPPORT

Maintaining relationships with internal and external stakeholders who support your program



##### ORGANIZATION CAPACITY

Having the internal support and resources needed to effectively manage your program and its activities



##### PROGRAM EVALUATION

Assessing your program to inform planning and document results



##### COMMUNICATIONS

Exchanging information about your program with stakeholders and the public

## Can it be scaled up?

### VERTICAL

Adoption by different jurisdictions for policy-based, systematic, and structural change

### HORIZONTAL

Expansion across the same system levels, such as departments, organizations, sectors

### DEPTH

Addition of new components to an existing innovation



## In summary:

- Figure out what **THE THING** is first
- Understand how best to help people do **THE THING**
- Do the stuff to help people **DO THE THING**
- Report on **HOW MUCH** and **HOW WELL** the people **DID THE THING**



# Thank You.



Gretchen A. Piatt, MPH, PhD



734-764-2287



piattg@umich.edu



<https://medicine.umich.edu/dept/lhs/gretchen-piatt-mp-h-phd>