CFAR
CENTER FOR AIDS RESEARCH
University of Washington

Implementation Science Mini-Course
August 1, 2013

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Department of Global Health
Director
CFAR Implementation Science Scientific Working Group

IS SWG Overview

- Overall aim: improve the speed, efficiency and quality of the translation of scientific evidence on HIV and STI prevention and care into effective, large-scale health programs

- Leadership Structure:
  - Kenneth Sherr, PhD (Director)
  - Stephen Gloyd, MD, MPH (Co-Director)
  - Judith Wasserheit, MD, MPH (Co-Director)

- Thematic sub-groups:
  - Implementation research methods
  - Policy research
  - Socio-behavioral research
  - Research training and curricular development

- Timeframe: 6/2013 – 5/2018

Aim 1: Promote Collaborative Interdisciplinary IS Research

- Goal: Organize cross-discipline collaboration and discussion across
- Activities:
  - Bi-monthly IS meetings
  - Annual IS symposia
  - Grant development
  - Support for young investigators and pilot projects, in coordination with the DGH PhD in Implementation Science

Aim 2: Support IS Education, Training and Mentoring

- Goal: Train 60+ investigators per year in IS theory and conduct
- Activities:
  - Monthly work in progress meetings with junior researchers
  - Short and long courses in IS theory and methods

Today's Schedule

Time	Session	Presenter
08:00 – 08:15	Welcome	Stephen Gloyd, MD, MPH
08:15 – 08:45	Introduction to IS	Kenneth Sherr, MD, MPH
08:45 – 09:15	Dissecting the 'Know-Do Gap'	Judith Wasserheit, MD, MPH
09:15 – 10:00	Impact Evaluation and Study Designs to Measure Effectiveness	Marie Ng, PhD
10:00 – 10:15	Break	
10:15 – 11:00	IS Study Methodologies: Stepped Wedge	James Hughes, PhD
11:00 – 11:45	Surveillance Systems and IS	Sarah Gimbel, RN, MPH
11:45 – 12:30	Qualitative Health Systems Research	James Pfeiffer, PhD, MPH
12:30 – 13:30	Lunch	
13:30 – 14:15	Quality Improvement	Pam Kohler, RN, PhD
14:15 – 15:00	Introduction to Optimization Models	Archis Ghate, PhD
15:00 – 15:45	IS and Policy Change	Stephen Gloyd, MD, MPH
15:45 – 16:00	Wrap-up and Course Evaluations	Kenneth Sherr, MD, MPH

Course Requirements (students enrolled for 1 credit only)

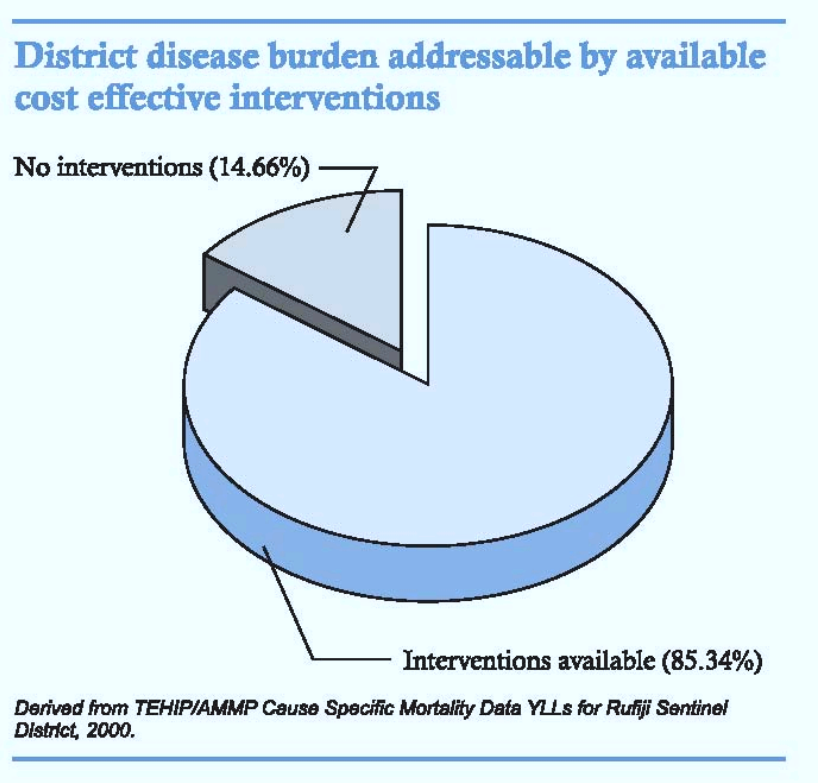
1. Attendance at all course sessions
2. A short (300-500 word) reflection on implementation science (due **August 9th by 5:00 PM**). Based on the required readings and course lecture material, answer the following questions. Make sure to reference material appropriately, and put your name and word count (excluding references) at the beginning of your paper.
    a. Describe how implementation science applies to your work. Are there examples where the tools described in the course lectures or readings could be applied? If so, describe how. If not, why not?
    b. What are strengths and weaknesses of the implementation science framework in the context of improving global health?
    c. Explore the definition of implementation science provided in the course in the context of your work. What's missing? What's not necessary?

- Submit papers to ksherr@uw.edu and Odeny@uw.edu

Introduction to Implementation Science

‘Know-do’ gap

- Advancements in medical science have outpaced their application
- 10+ million annual deaths from diseases with proven, low cost prevention or treatment strategies
  - 1.5 million HIV-related deaths
  - 1.2 million TB-related deaths
  - 7 million preventable child deaths
  - 300,000 maternal deaths



‘Know-do’ gap

- What we know ≠ what we do

Quality indicator	Median (World)	Median (Low income)
Antenatal care coverage (>1 visit)	94%	72%
Births by skilled health personnel	96%	47%
Measles vaccination	93%	77%
ARVs for advanced HIV infection	49%	56%

Source: WHO. World Health Statistics 2013.

Quality indicator (US)	Median 2000-2001
B-blockers <24hrs in MI	69%
Antibiotics <8hrs for pneumonia	87%
Mammogram q2yrs	60%
Lipid panel q2yrs in diabetics	60%

Source: Jencks SF et al, Change in the quality of care delivered to Medicare beneficiaries, 1998-1999 to 2000-2001. JAMA. 2003;289:305-312.

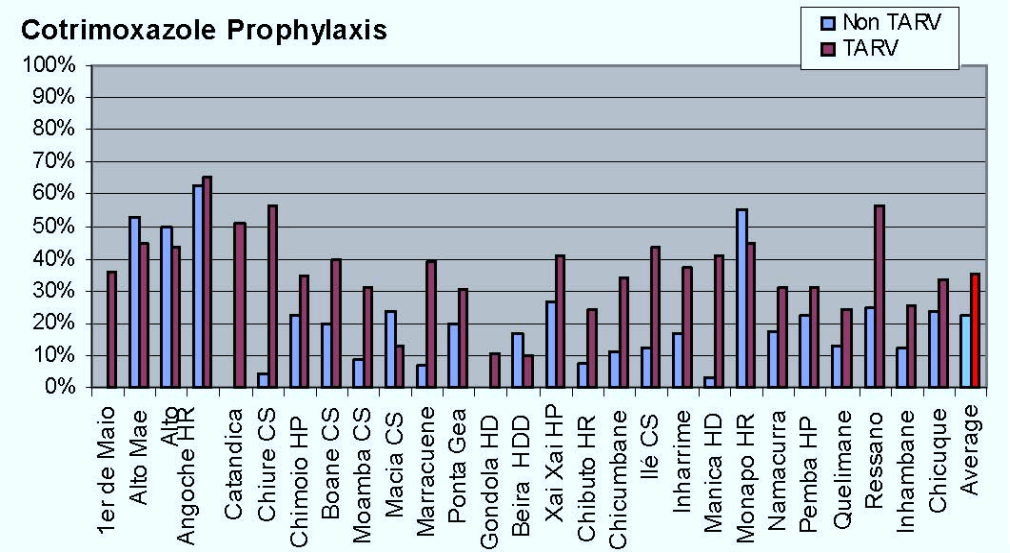
Mozambique experience (ART)

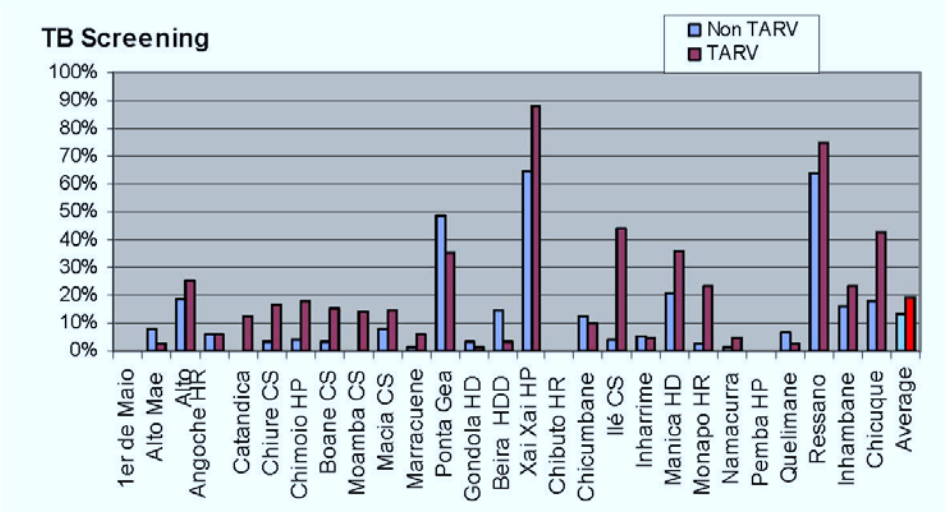
- Survey of 32 facilities with comprehensive HIV care
- 5,642 patients enrolled (2,696 on ART, 2,946 pre-ART)

	Aspiration	Action
CD4 test in the last 6 months	100%	66%
Eligible patients receiving ART	100%	79%
Cotrimoxazole prophylaxis	100%	31%
TB screening	100%	18%

Misau, 2008

Mozambique experience (ART)



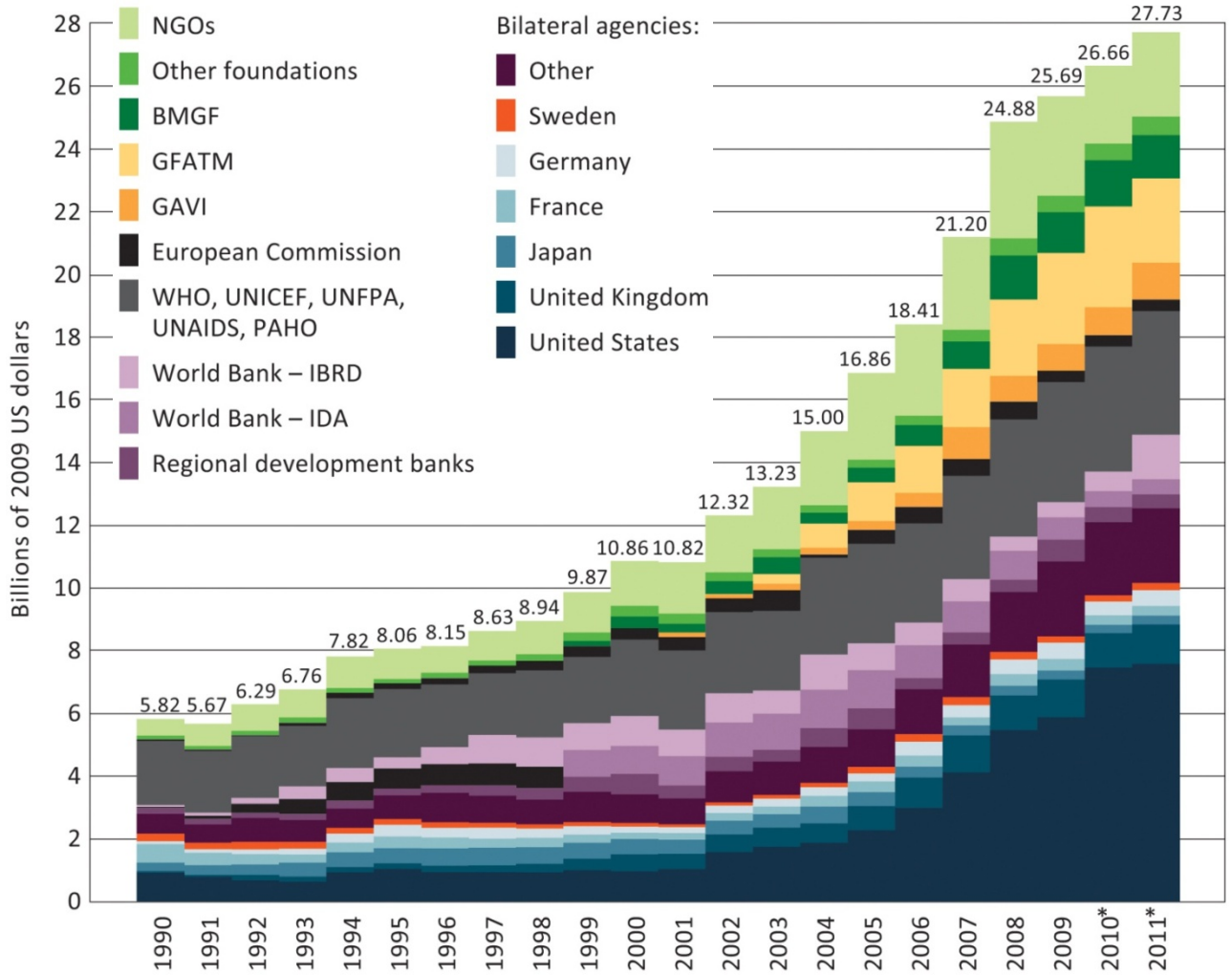


The Implementation Bottleneck

- Vaccines
- Primary Health Care
- MCH Care
- Drug therapies
- Basic surgery

Trends in Development Assistance for Health, 1990-2011

DAH by channel of assistance, 1990 to 2011



Source: http://www.healthmetricsandevaluation.org/publications/presentation/financing-global-health-2011-continued-growth-mdg-deadline-approaches

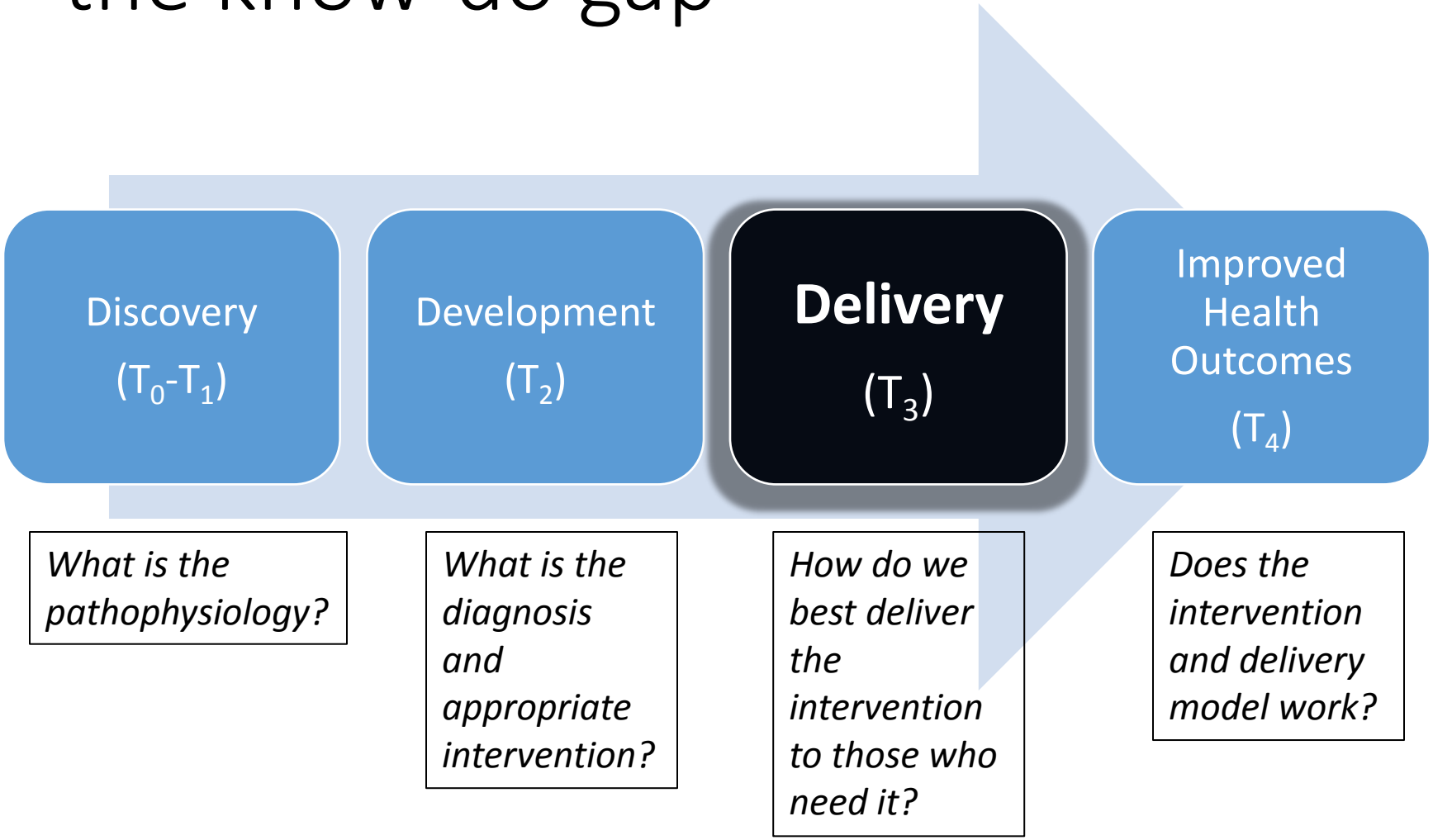
The Implementation Bottleneck

- Vaccines
- Primary Health Care
- MCH Care
- Drug therapies
- Basic surgery

<u>Development of new:</u>

- Microbicides, PrEP, Option B/B+, other preventive tools & strategies
- New malaria, TB drugs, diagnostics
- New combination therapies
- New vaccines
- Drugs for neglected diseases

Role of delivery systems in closing the know-do gap



"Every process is perfectly designed to give you exactly the outcome you get." ***– Don Berwick, IHI***

Implementation Science

- A systematic, scientific approach to ask and answer questions about how to get ‘what works’ to people who need it with greater speed, fidelity, efficiency and coverage

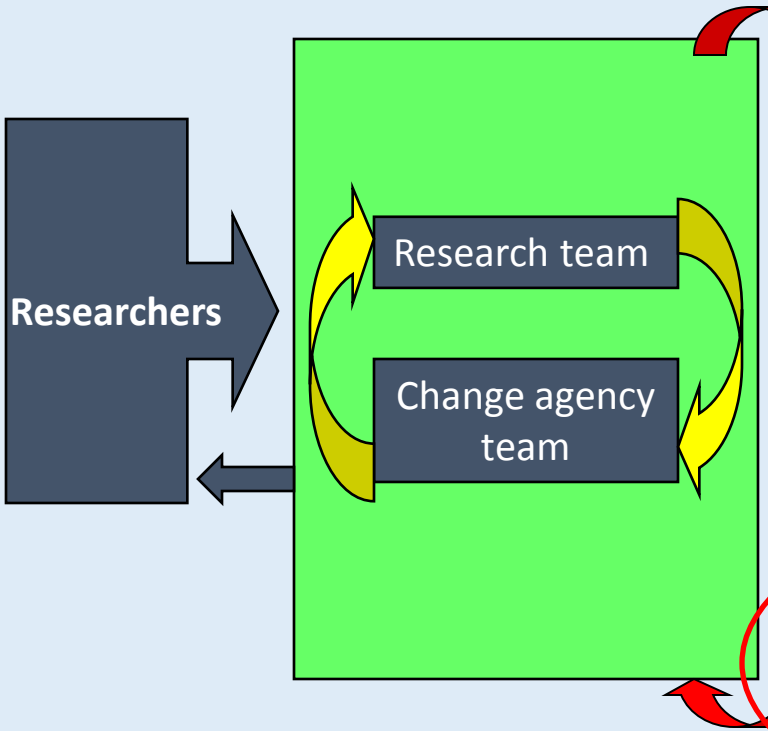
- Analytic framework to understand the dynamics and processes as we move from intervention development → implementation → scale-up

Research on Determinants & Strategies for Implementation & Scale-up: A Conceptual Model

Innovation Design/discovery (Efficacy)

Intervention Development (Effectiveness)

Intervention Package Delivery (Impact)

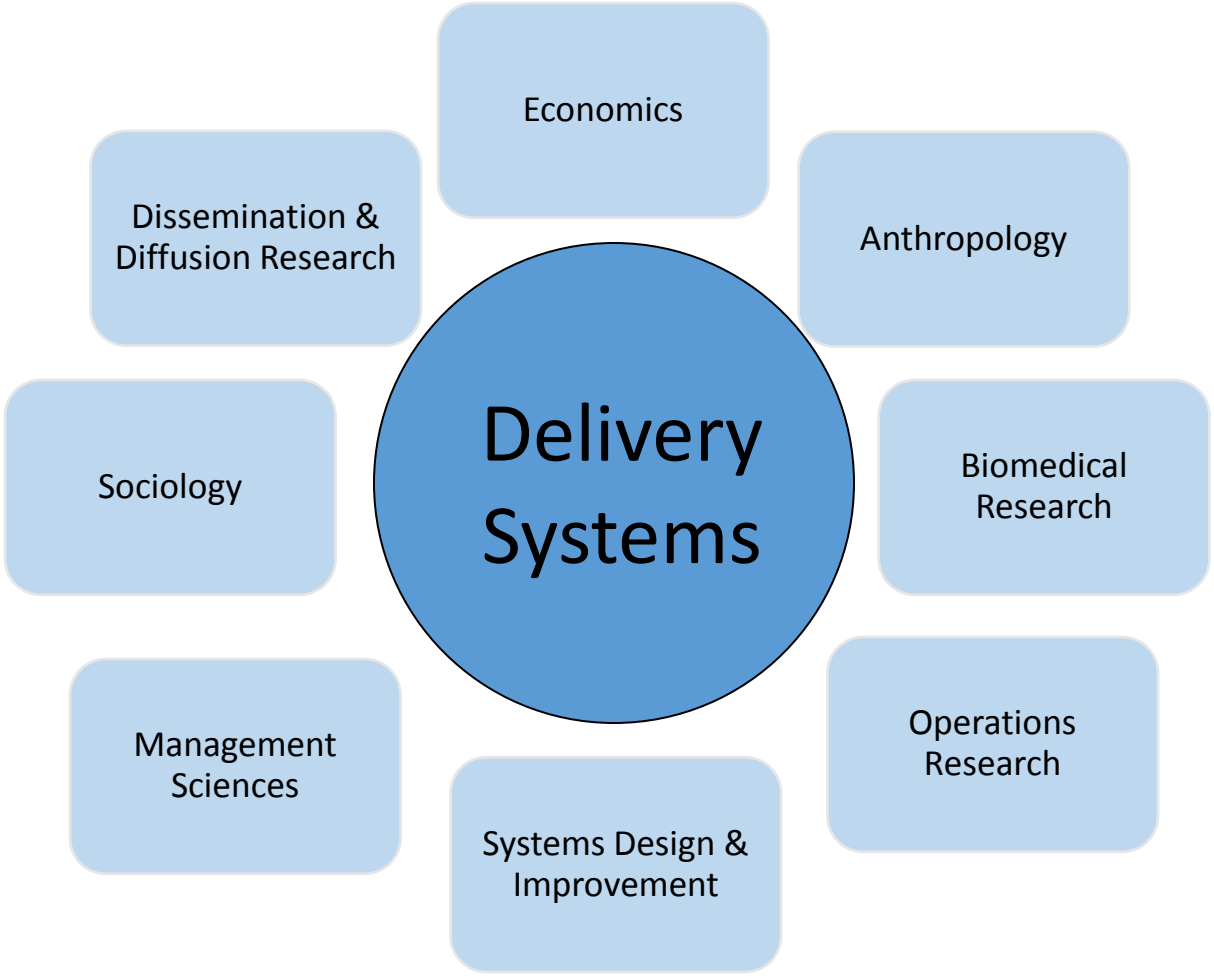


	Providers	End Users	Other Stakeholders
⬇ Adoption, Implementation & Maintenance ⬇			
Individuals	Clinicians	Patients Clients	Relatives, Opinion leaders
Local organizations	Health facilties Prof'l orgs	Health & pop'n NGOs	Community orgs (eg: churches, schools), relevant businesses
⬇ Scale up ⬇			
National & Multi-nat'l institutions & systems	Ministry of Health Ministry of Education Private sector PEPFAR	Lay press & media Legislators	Other ministries (eg: finance, education, commerce & agriculture) Manufacturers & corporations

Sociopolitical & Economic Context

Source: Modified from Greenhalgh et al. *Milbank Quarterly* 2004;82:581-629; Harris J, et al. UW HPRC 2008

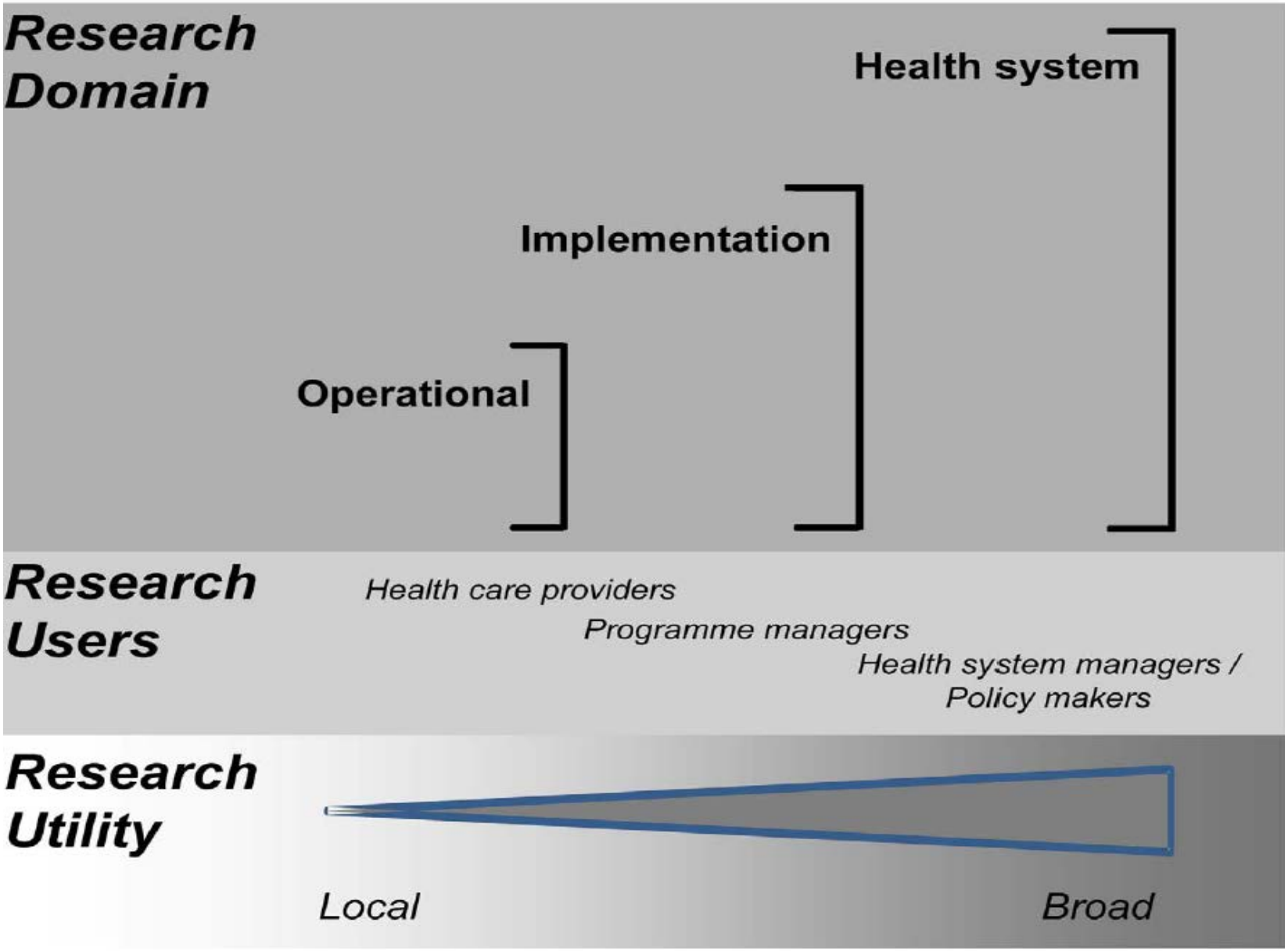
Implementation Science Framework



Adapted from: Kim J, Bridging the Implementation Gap in Global Health, 2009 NIH Conference on Science of Dissemination and Implementation

Defining Research to Improve Health Systems

Remme, et al, PLoS Medicine Nov 2010



“Knowing is not enough, we must apply; willing is not enough, we must do.”

- *Goethe*

“Do or do not. There is no try.”

- *Yoda*