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Dartmouth Center for
**IMPLEMENTATION
SCIENCE**

Implementation Science for Global Health: NIH Fogarty's Perspective

Hosted by:



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Implementation Science for Global Health: The Fogarty Perspective

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February 1, 2024



*Disclaimer: The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the National Institutes of Health
Dr. Kilmarx has no conflicts of interest to disclose*

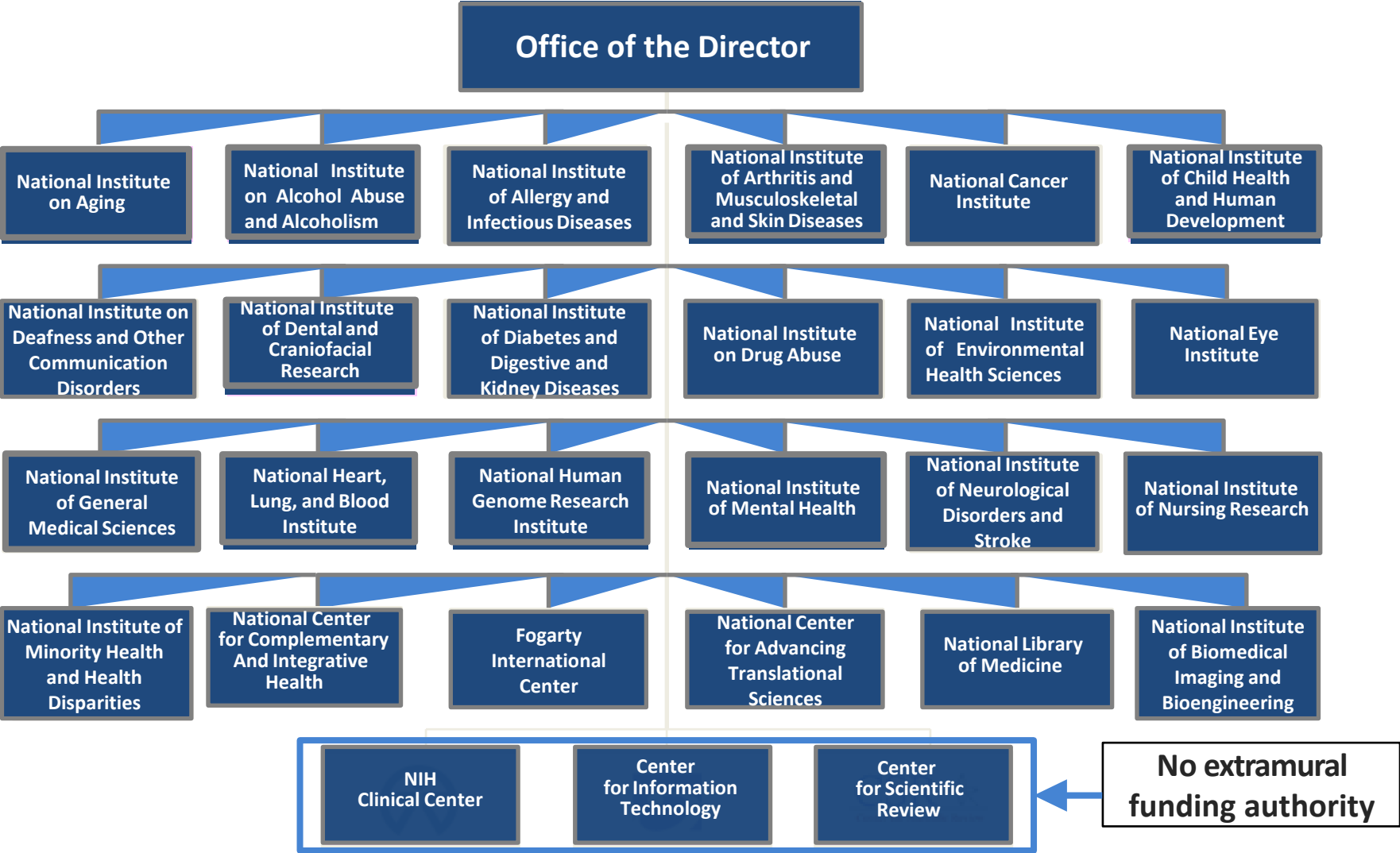


Fogarty International Center

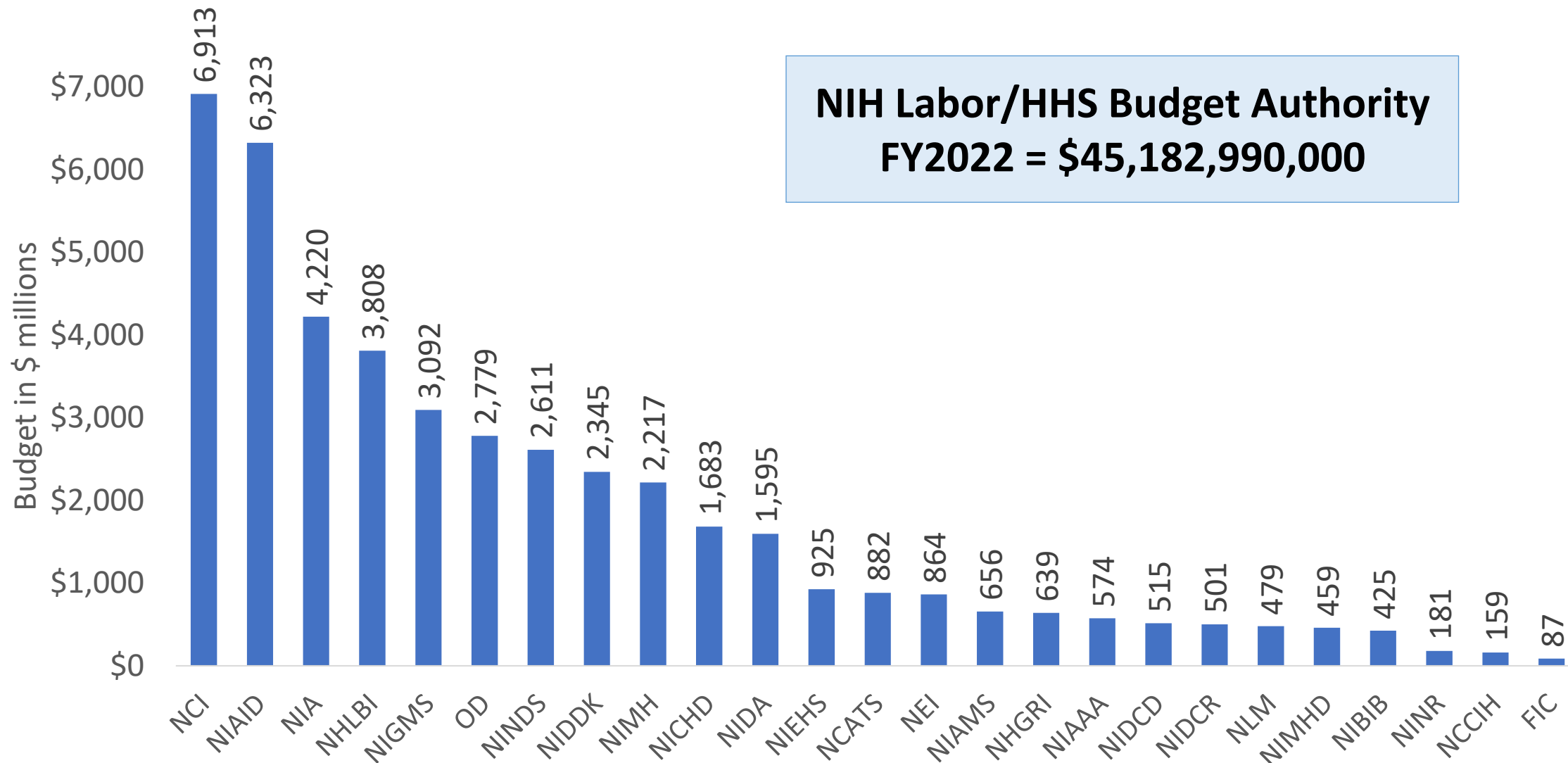
OUTLINE

- NIH Context
- Fogarty Context
- Data on IS investments
- The Implementation Science Alliance Model
- Gaps and Opportunities in Global IS
- Select resources for Global IS

National Institutes of Health



NIH Budget by Institute and Center – FY 2022



www.fic.nih.gov

GLOBAL HEALTH MATTERS



FOGARTY

JULY/AUGUST 2009

Inside this issue

Rotavirus epidemic modeled	2
Fogarty fellows are in eclectic company. . .	4
U.S. signs global health agreements . . .	11
NIH sends journals to Baghdad	12

FOGARTY INTERNATIONAL CENTER • NATIONAL INSTITUTES OF HEALTH • DEPARTMENT OF HEALTH AND HUMAN SERVICES

Collins says global health a top priority

New NIH Director Dr. Francis Collins singled out global health as one of five areas he wants to focus on during his tenure, citing it as an example of “soft power” the United States cannot afford to pass up.

1. High-throughput technologies in genomics and nanotechnology
2. Developing diagnostics, preventative strategies and therapeutic tools through public–private partnerships
3. Reining in the costs of health care with comparative-effectiveness research and personalized medicine
4. **Expanding research into diseases affecting the developing world**
5. Increasing budgets and investing in training & peer review to achieve a predictable funding trajectory



Dr. Francis Collins, the new director of the NIH, says global health will be one of his five priorities.

The Fogarty Mission

- To address global health challenges through innovative & collaborative programs for research & training
- To support & advance the NIH mission thru global partnerships

“Science for Global Health”



Rhode Island Congressman John E. Fogarty

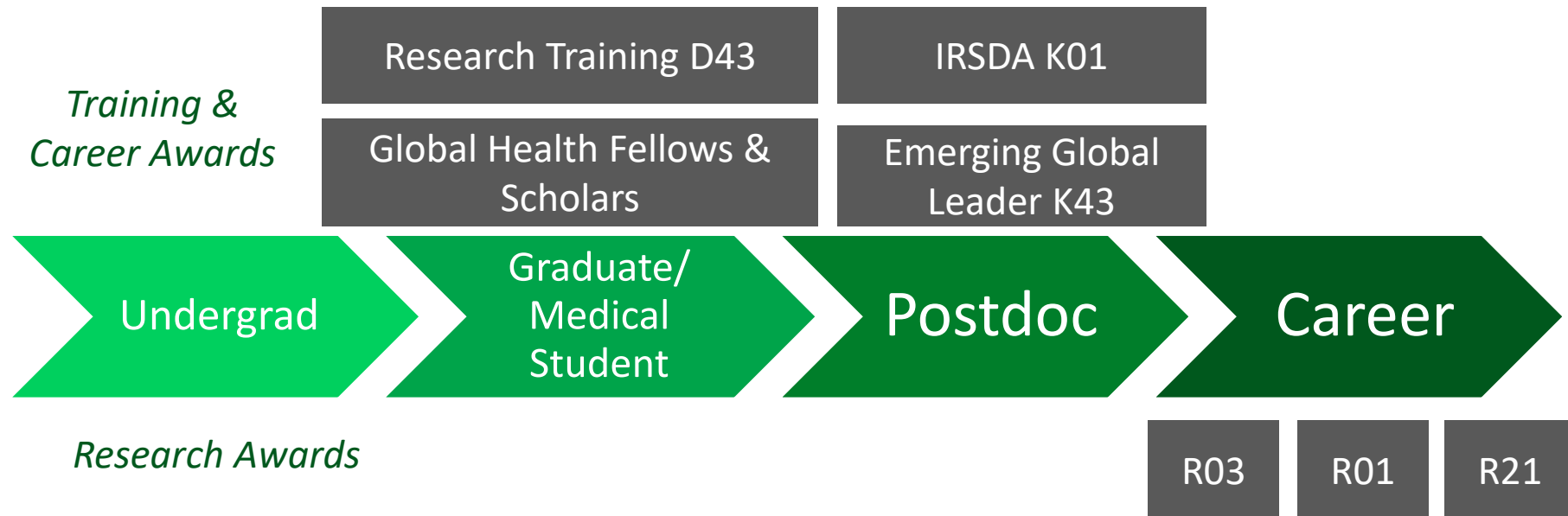
“... a man who, for more than a quarter of a century, worked tirelessly for a healthy America, in a healthier world.”

Congressman Melvin Laird (R-WI) 1967

Building a robust global health research workforce

Developing leaders in the field requires:

- Well-trained individuals
- Protected time to conduct research in LMICs
- Strong mentorship from US investigators with experience working in LMIC settings AND from LMIC investigators



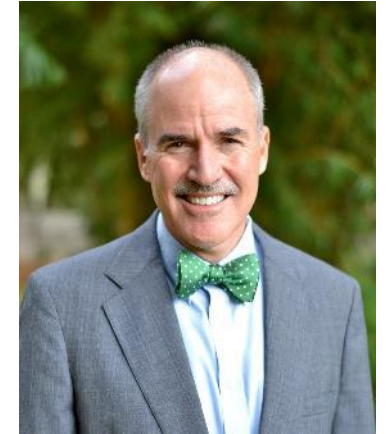
Building sustainable global health research capacity at home and abroad

- 6,000+ scientists worldwide have received significant research training
- Support for 400+ research and training projects, involving collaborations with 100+ academic institutions
- Multidisciplinary programs focus on:
 - Infectious diseases, One Health
 - Chronic conditions
 - Informatics, mHealth, bioethics
 - Implementation science
 - Brain disorders, mental health
 - Tobacco cessation
 - Climate change, environmental health



Select Individual Training Opportunities from Fogarty International Center, NIH

- [Global Health Fellows and Scholars](#) – students and postdoctoral fellows from U.S. or LMICs apply to university consortia for LMIC placement for 12 months
- [International Research Scientist Development Award](#) – up to 5 years mentored support for postdoctoral *U.S. research scientists* (K01)
- [Emerging Global Leader Award](#) – up to 5 years mentored support and protected research time for postdoctoral *LMIC research scientists* (K43)



Fogarty Acting Director
Dr. Peter Kilmarx



Challenges and Opportunities in Global Health Research

- [One Health](#) – interconnections between humans, animals, plants, and the environment, transdisciplinary approach: zoonotic and vector-borne diseases, antimicrobial resistance, food safety, environmental contamination
- [Planetary Health](#) – health impacts: climate change, declining biodiversity, increasing pollution, shortages of fresh water, land, and ocean resources
- [Implementation Research](#) – promoting uptake of evidence-based interventions and policies into routine health care and public health settings
- [Climate Change and Health](#): White House, House, Senate FY '22 budgets called for additional \$100 million for NIH research on climate change and health. Global research prominent on agenda. Removed from final budget but continued strong interest and support at NIH.
- [Advanced Research Projects Agency for Health \(ARPA-H\)](#): White House (\$6.5 billion), House (\$3 billion), and Senate (\$2.4 billion) call for creation of new program that “would drive transformational innovation in health research and speed implementation of health breakthroughs.” Final FY '22 budget \$1 billion.



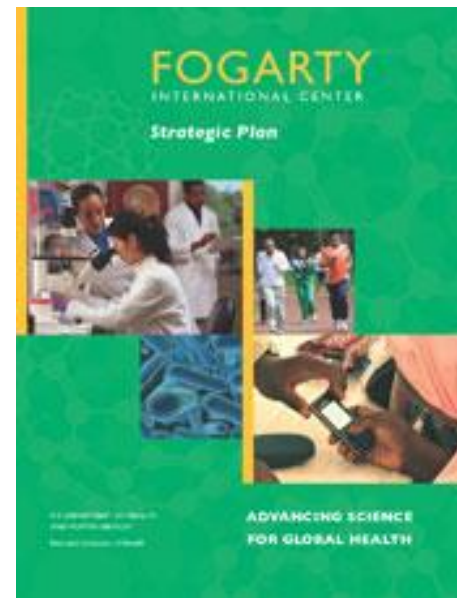
Implementation Science for Global Health

Valuing Implementation Science: The Fogarty Strategic Plan

2008-2012



Current



GOAL 3 *Support research and research training in implementation science*

- ***Strategic Priority 1: Expand investment in research and research training in implementation science across programs***
- ***Strategic Priority 2: Catalyze interaction between researchers, policymakers and program implementers to promote uptake of evidence into global health policy and practice***

Goal of Implementation Science



To accelerate the adoption and integration of evidence-based interventions to change practice patterns, health behaviors, and inform public health policy decisions that ultimately will lead to lasting health impact at scale.



**Strong
Scientific
Evidence ≠
Policy**

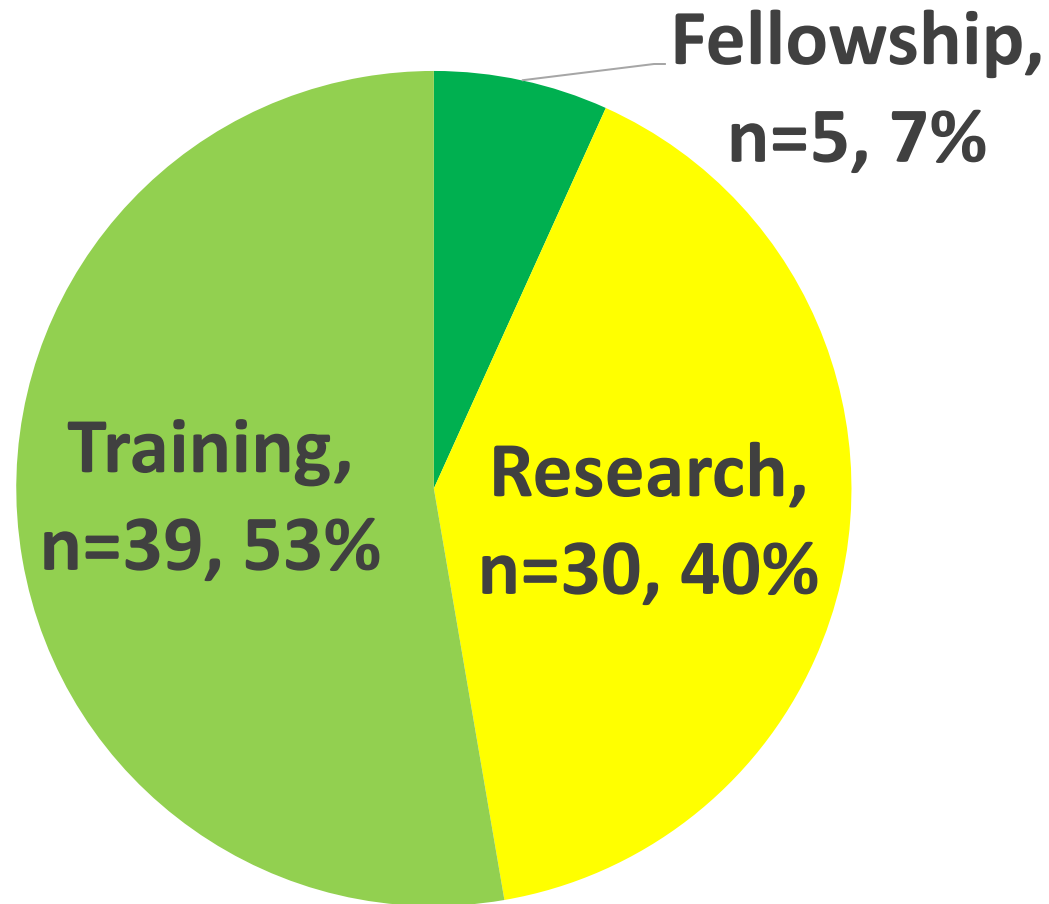
**Policy ≠
Implementation**

FIC FOAs that Mention Implementation Science by Program and Year (2000-2015)

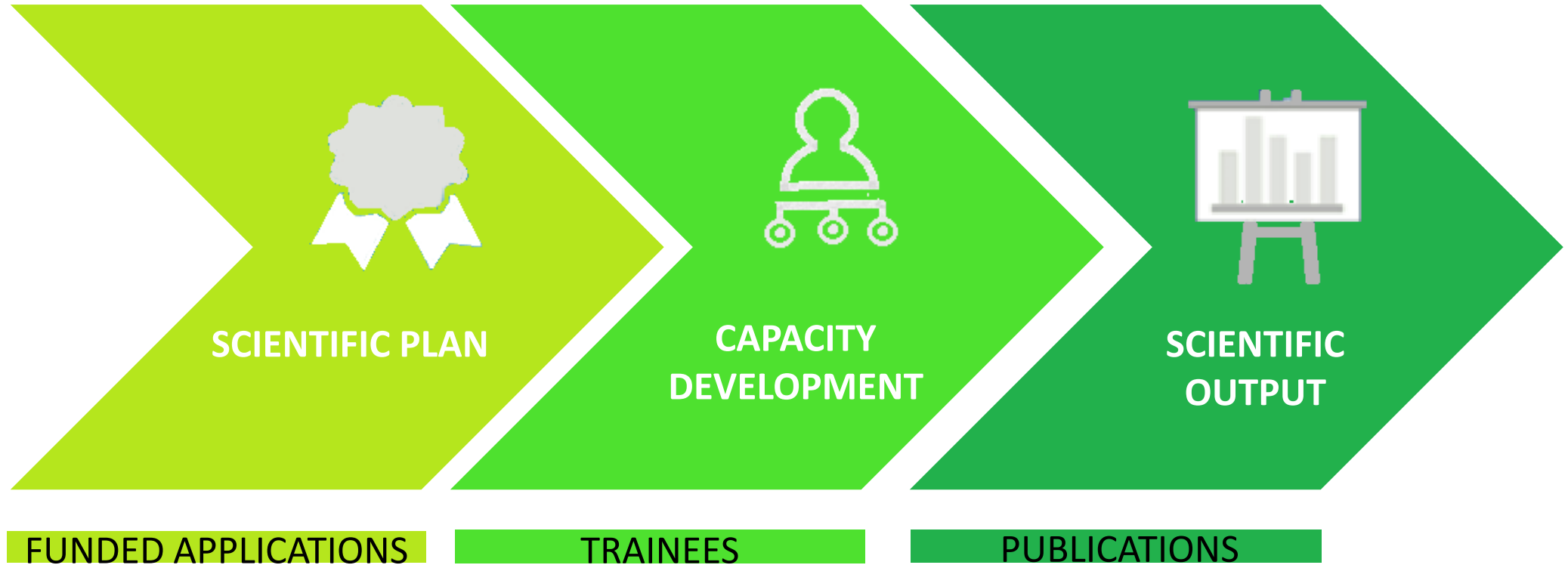
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
AITRP/HIVRT								✓			✓		✓	✓		
Bioethics																
Brain				✓		✓	✓	✓	✓✓			✓✓			✓✓	
E-capacity													✓			
EEID*								✓				✓	✓	✓	✓	✓
FICRS/GLBFLW																
FIRCA						✓✓	✓✓	✓	✓✓			✓✓				
FRAME/Sign/Innov						✓					✓		✓			
GeoHealth													✓		✓✓	
Genetics																
GID		✓				✓			✓		✓✓				✓✓	✓
GRIP																
ICBG									✓✓					✓		
ICOHRTA AIDS/TB			✓	✓✓	✓		✓		✓		✓					
ICOHRTA Malaria							✓		✓							
Informatics																
IRSDA/K43	✓	✓	✓		✓			✓								
ISGHA																
ITREOH		✓					✓									
MEPI/MEPI JF											✓	✓			✓	
mHealth															✓	
NCD Programs		✓					✓		✓		✓	0				
POP						✓										
STIGMA			✓													
Tobacco			✓				✓					✓				
TRAUMA										✓						

FOAs that include
IS = 74 (59%)

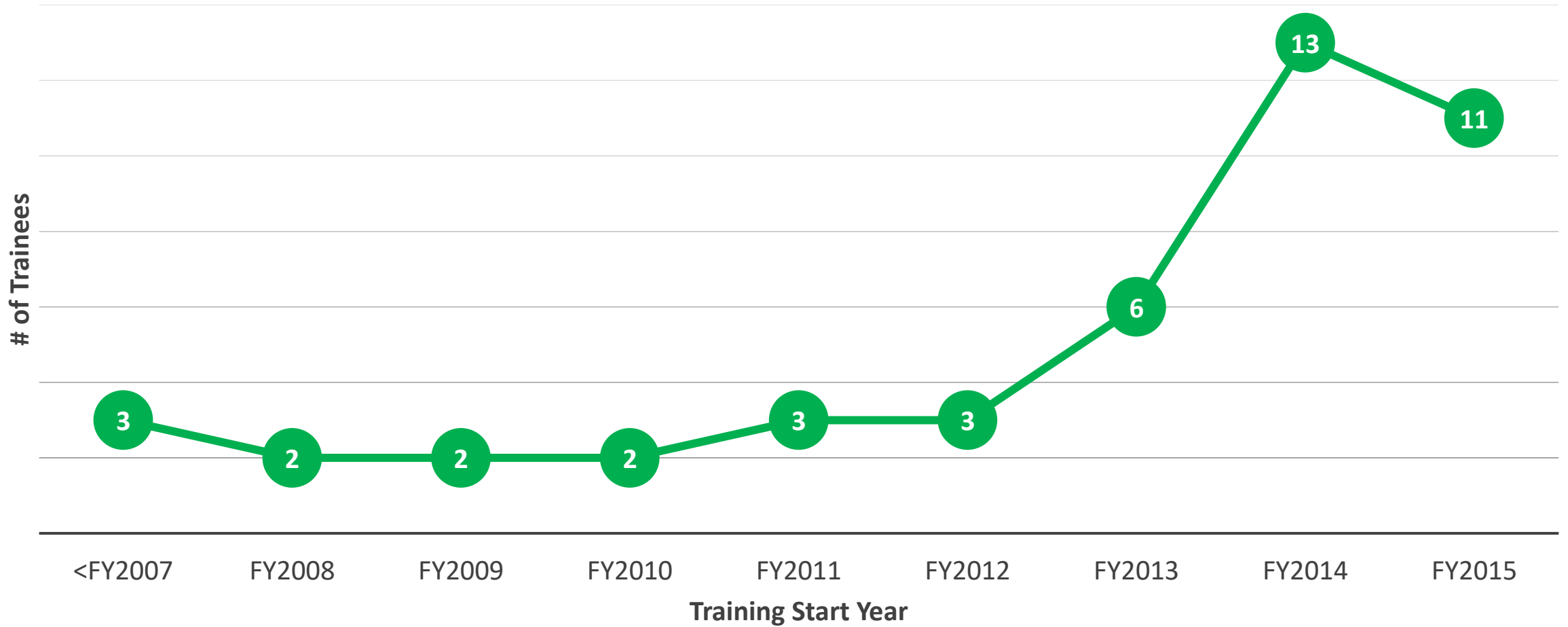
Fogarty IS FOAs by Mechanism (2000-2015)



Going beyond grant analysis

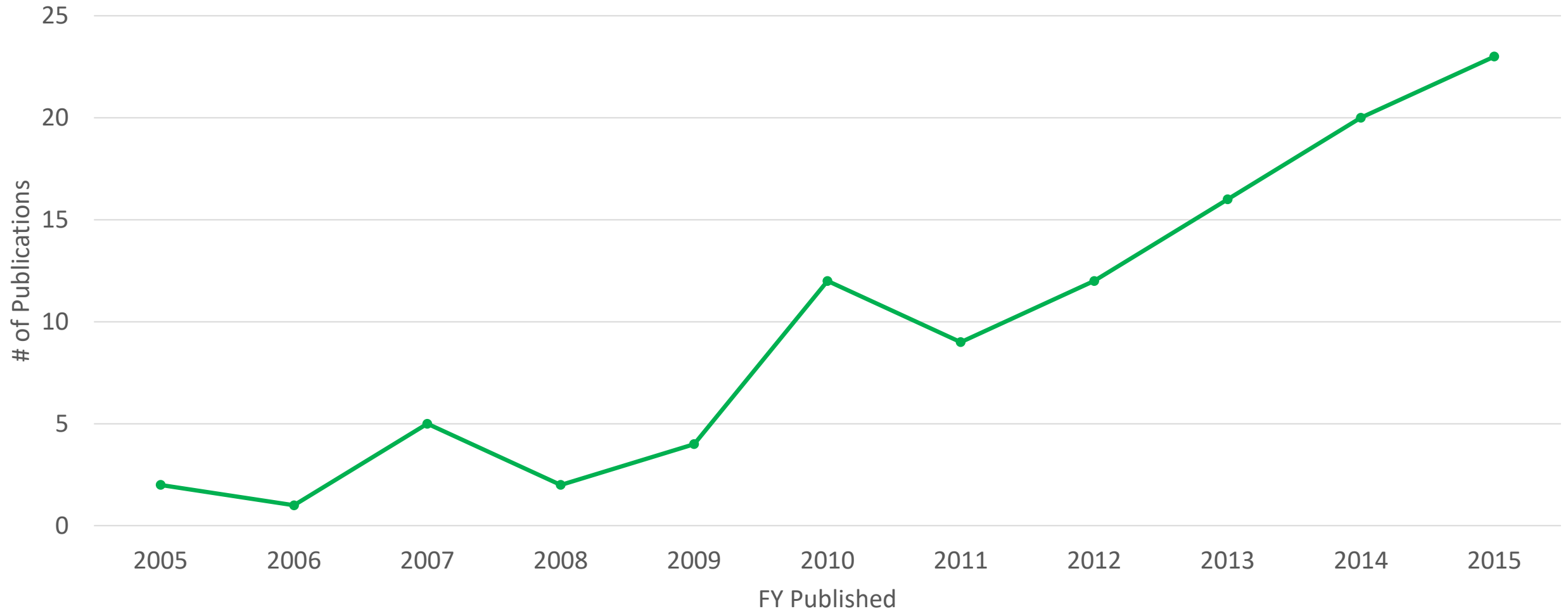


Trainees Studying IS by FY



Total Number of LT Trainees = 45

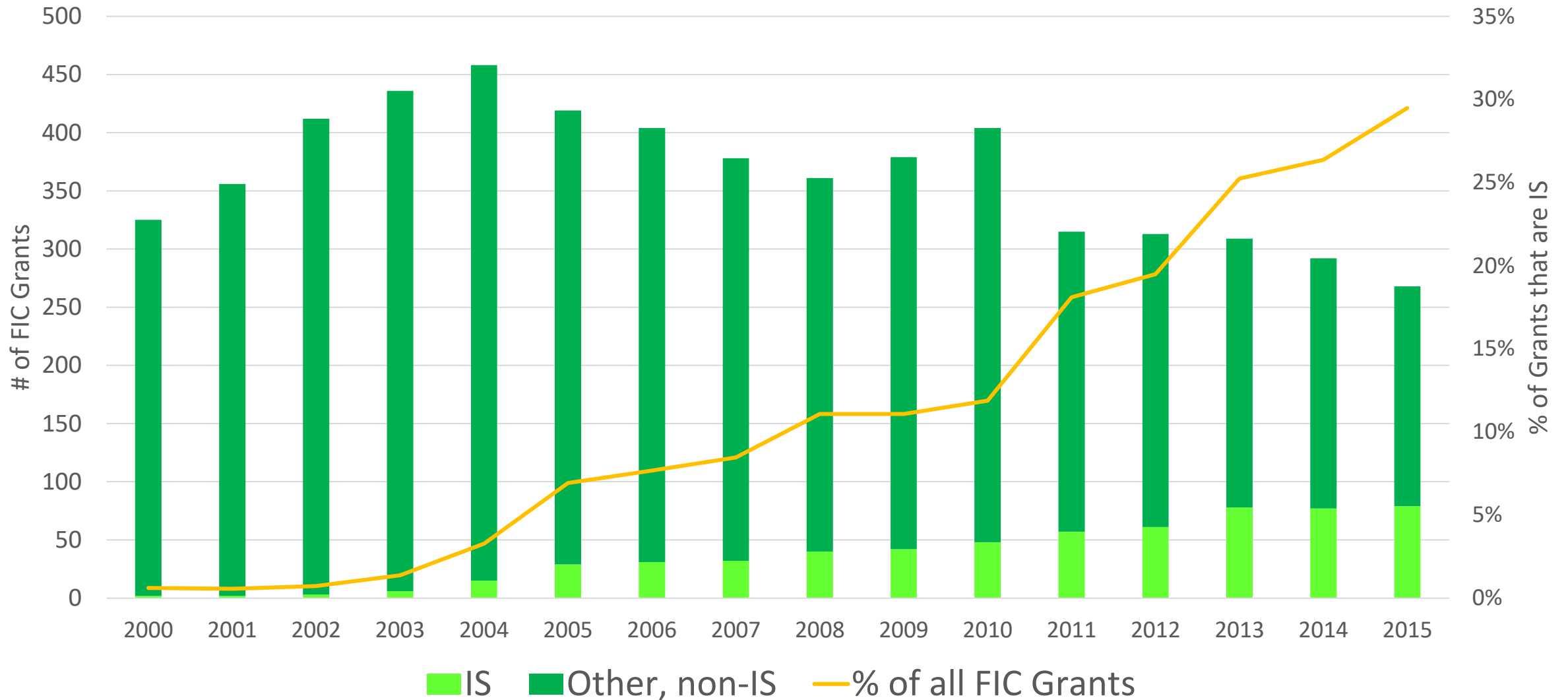
IS Findings from Publication Analysis: Publication Count by FY



Total Number of Publications = 106

There were 10,696 publications in PubMed citing FIC during this time period.

IS Analysis: All Fogarty Grants by Year

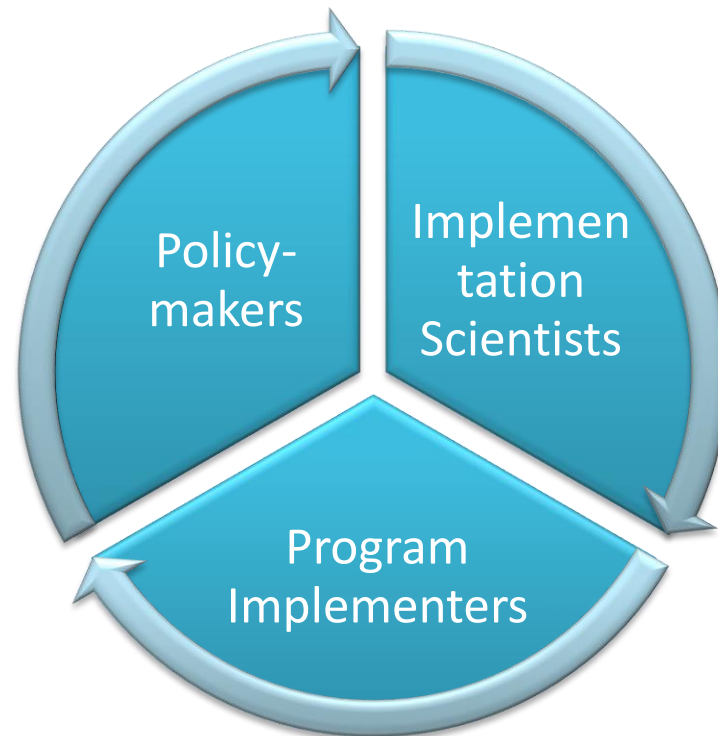


GOAL 3 *Support research and research training in implementation science*

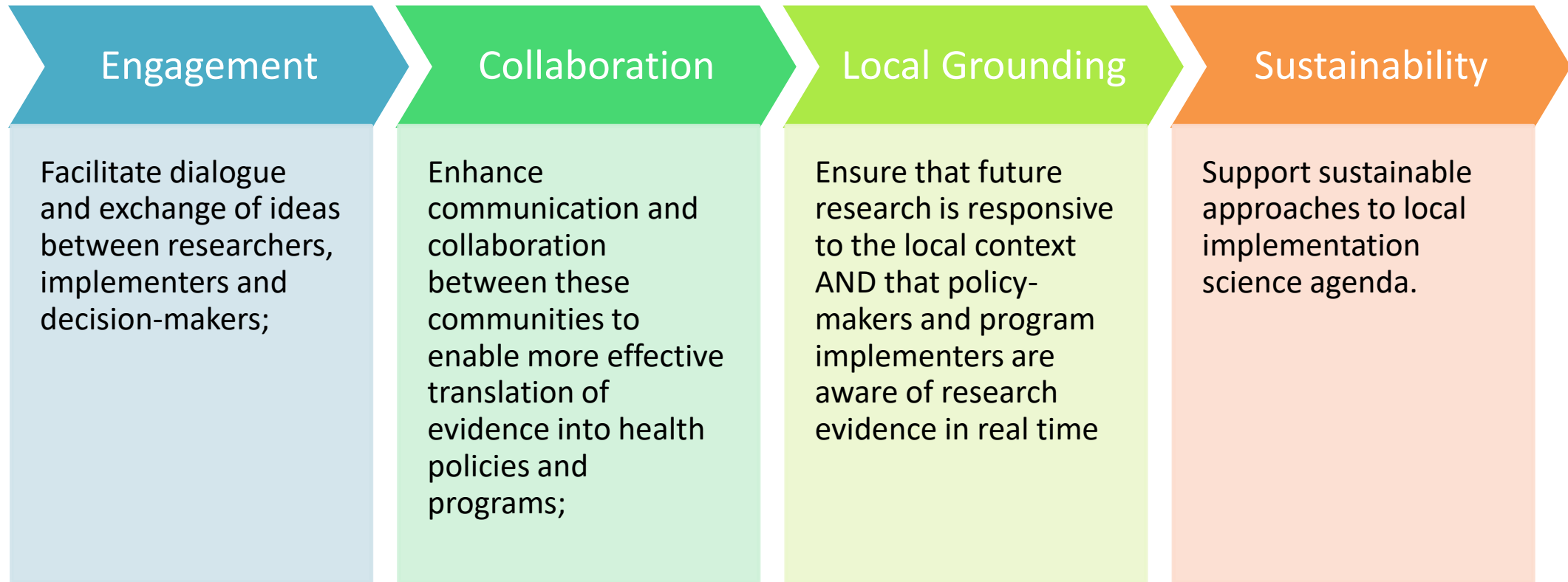
- ***Strategic Priority 1: Expand investment in research and research training in implementation science across programs***
- ***Strategic Priority 2: Catalyze interaction between researchers, policymakers and program implementers to promote uptake of evidence into global health policy and practice***

Extending the Reach of the Research: The Implementation Science Alliance Model

Goal: Using implementation science to enhance the effective use of evidence and help overcome implementation challenges



Implementation Science Alliance Objectives



NIH-PEPFAR PMTCT Implementation Science Alliance

- Leveraged the funding opportunity NIH/PEPFAR Collaboration for Advancing Implementation Science in PMTCT (R01)
- Launched in May 2013 and ran for two years (?)
 - engaged policymakers and program implementers to articulate key implementation challenges and opportunities in the context of PMTCT in LMICs
 - built upon this dialogue to enhance understanding of the role of implementation science methodologies and share lessons learned on successful collaborations
 - Developed case studies on XX
 - Provide an implementation science training for Alliance members
 - Presented and discussed their implementation science results and reflected on the lessons learned during the Alliance and future steps



PMTCT Implementation Science Alliance Outcomes

- 15 paper special Supplement in Journal of AIDS
- Concept mapping of PMTCT IS Challenges and Solutions
- New, sustained collaborations
- Launch of the Nigerian IS Alliance modeled after PMTCT IS Alliance
- Helped support independent research careers



- *“I was awarded a K24 focused on PMTCT implementation science. In many ways, the work extends from our Alliance meetings... I think we are just starting to see the downstream impact.” –PMTCT Member*

Adolescent HIV Prevention and Treatment Implementation Science Alliance (AHISA)

Goal: enhance the effective use of evidence and help overcome implementation challenges related to prevention, screening and treatment of HIV among adolescents (ages 10 to 24) in sub-Saharan Africa

Led by Steering Committee of

NIH: NIMH, NIAID, NICHD, OAR,

USG: USAID, CDC, OGAC

Multilaterals: UNICEF, WHO

Other: EGPAF, Desmond Tutu HIV Foundation, FIC Advisory Board Members



26 teams from 11 countries

AHISA Activities

Annual meetings

- In person and virtually from 2017-2023
- In collaboration with NICHD and NIMH

Action groups

- Sustainability
- Use of IS frameworks and models in SSA

Conference presentations and attendance

- IAS Satellites
- Youth sponsorship
- NISA

Youth engagement

- Support to AHISA team efforts
- Youth group to guide AHISA activities

AHISA Capacity Building

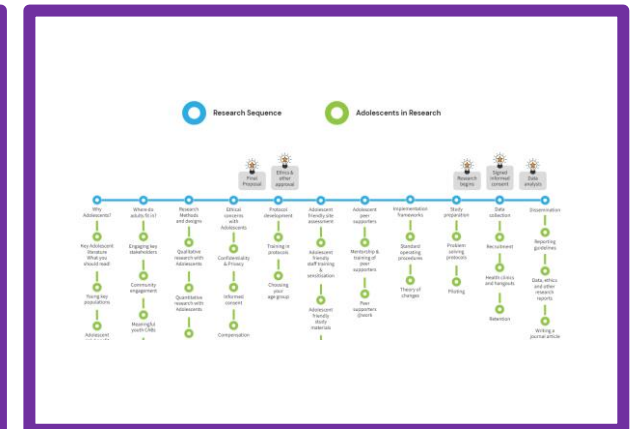
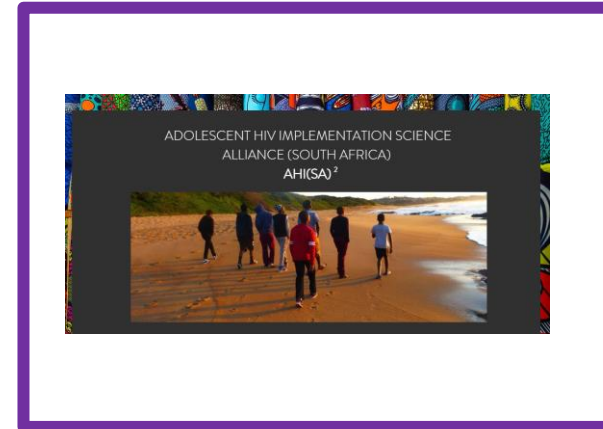
- Intensive Training for AHISA members
- Engagement of IS experts
- HIGH-IRI Scholars
- Support of Collaborative Team Efforts
- Distributed in local alliances

“The intensive IS training to strengthen current research designs and inform future IS grants... was reflected in the shared research protocols, with increasing use of IS frameworks in the most recently developed protocols.” –Beima-Sofie, 2023



Supporting Collaborative Team Efforts

- Local HIV IS Alliances
- Youth and Stakeholder Engagement
- Building Capacity
- Adaptation to COVID



Towards Sustainability: AHISA Local Alliances



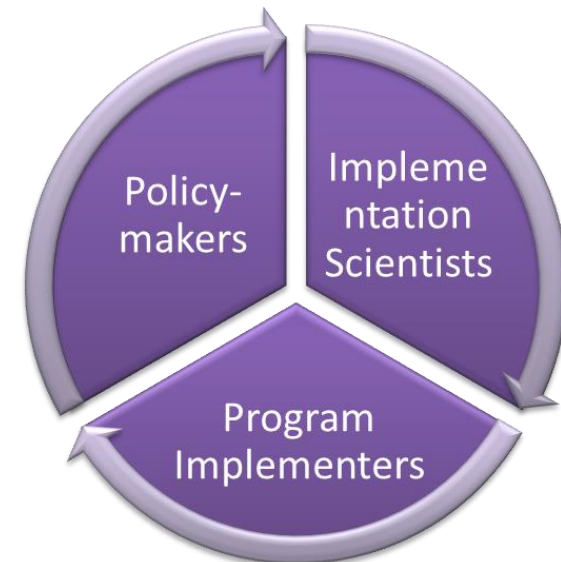
- **Goal:** to catalyze long-term region-/country-specific collaborations that will enhance the quality of HIV prevention and care for adolescents through IS by
 - responding to local issues and
 - increasing capacity
- 2019, 2020, 2021, & 2022



Common Local Alliance Goals

Expand implementation of successful interventions focused on improving each step along the adolescent HIV continuum of prevention and care.

- Build network of researchers, program implementers and policy-makers
- Build implementation science capacity
- Identify evidence-based interventions to support response strategies
- Enhance translation of evidence into policy and practice



Examples of Outcomes to Date

Seminal Publications & Resources

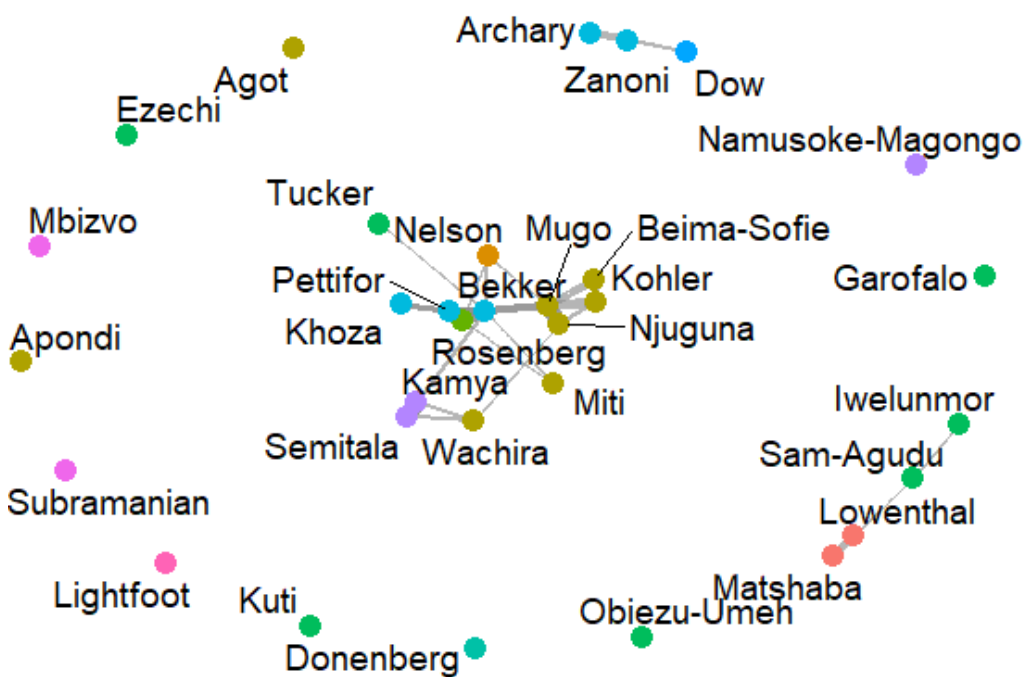
- *AIDS & Behavior* supplement & IAS Presentation
 - Use of Implementation Science in Adolescent HIV
 - Timely topics and innovative approaches
 - Enhance adolescent-specific approaches
- Concept mapping for implementation determinants and mechanisms, *IS Communications*
- Adolescents In Research Toolkit- Online comprehensive clinical, logistical, ethico-legal toolkit to facilitate the safe and effective involvement of adolescents in implementation

Stimulate and Inform Research Funding

- Informed the development of NICHD's original PATC3H Program in 2018
- Informed the development of NICHD's new PATC3H-IN Program in 2022

Collaborations: Bibliometrics-Based Network Analysis

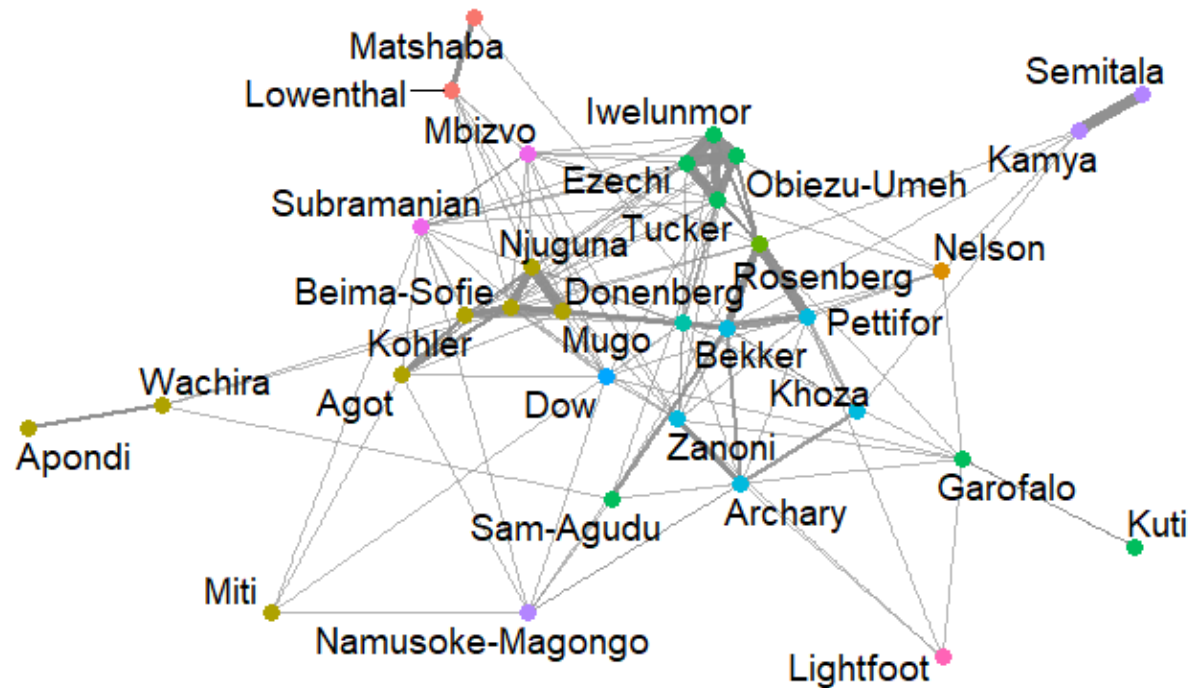
2015-2017 Network



2021-2023 Network

Country

- Botswana
- Ghana
- Kenya
- Malawi
- Nigeria
- Rwanda
- South Africa
- Tanzania
- Uganda
- Zambia
- Zimbabwe

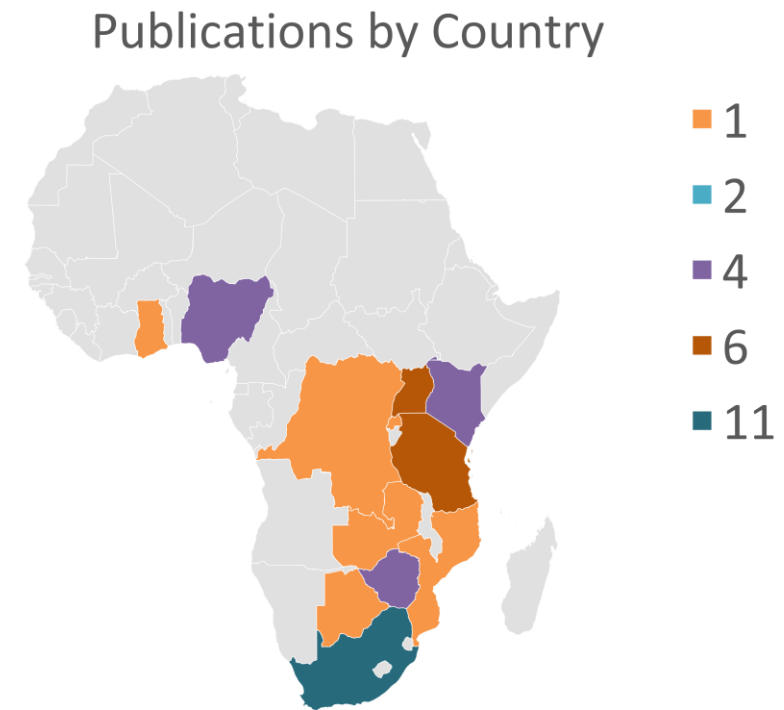


Transition to Practice: Policy or Practice Change

- Two AHISA Projects were associated with moving research results from their underlying NIH-funded projects into policy guidance:
 - Project YES! (Zambia): Evidence-based Project YES! intervention is now incorporated into the Zambian differentiated service delivery (DSD) model, partially because of advocacy of the Youth Task Force supported by the AHISA Project
 - ATTACH (Kenya): Evidence-based ATTACH intervention is incorporated into draft national policy guidelines; policymakers reached out to the AHISA Project team to participate in drafting process; ATTACH transition readiness assessment also incorporated into electronic medical record system in one Kenya province
- U-AHISA's work on TB prevention in HIV/AIDS patients has been included in Uganda's guidelines

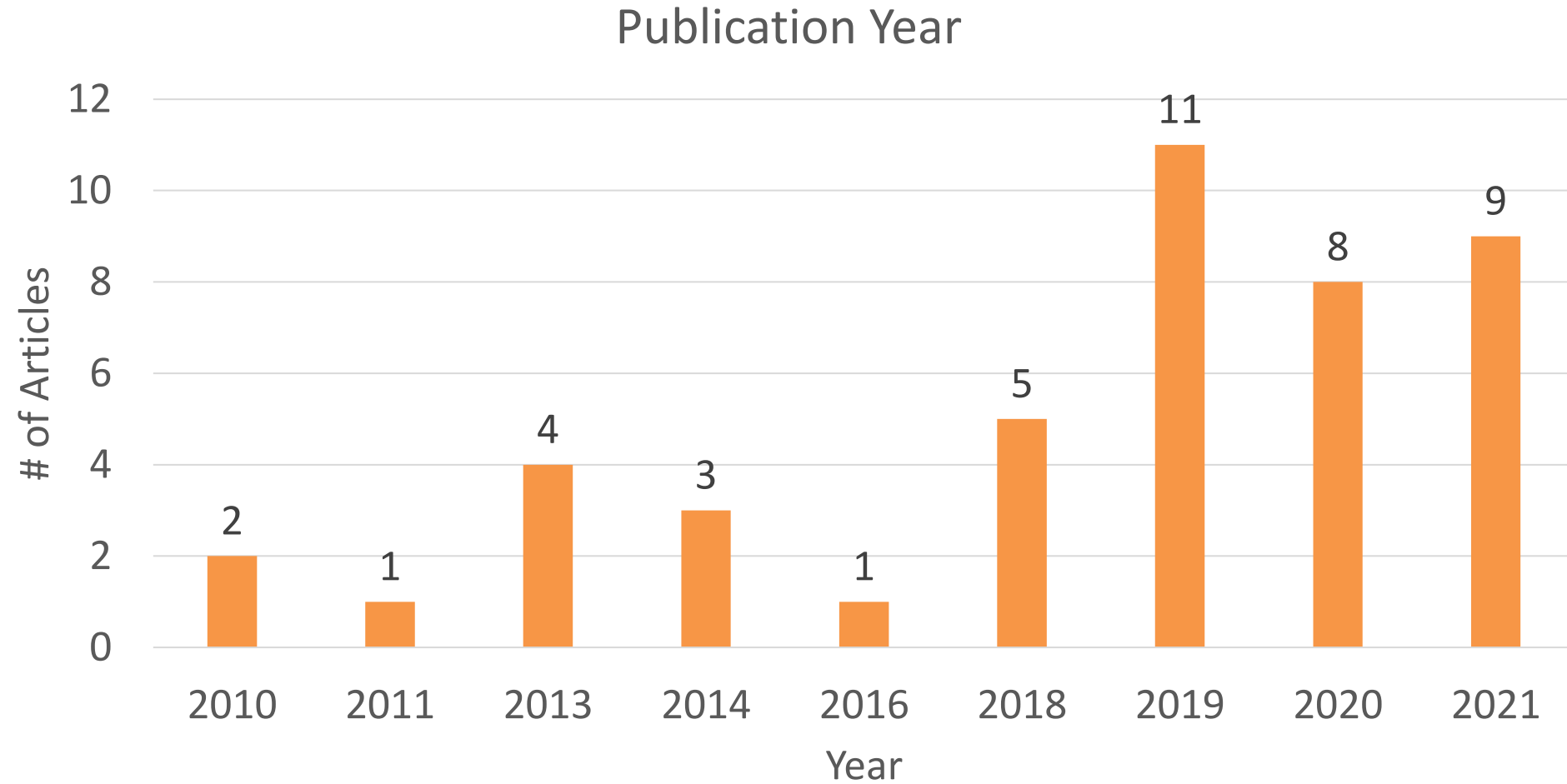
Adolescent HIV & IS Scoping Review

- **Objective:** examined the use of implementation research in adolescent HIV studies conducted in sub-Saharan Africa (SSA) from 2013-2023
- **Findings:**
 - 44 articles in 13 SSA countries
 - Most were in East (52.3%) and South Africa (27.3%)
 - Half focused exclusively on HIV prevention components of the care continuum
 - Increase in studies in recent years

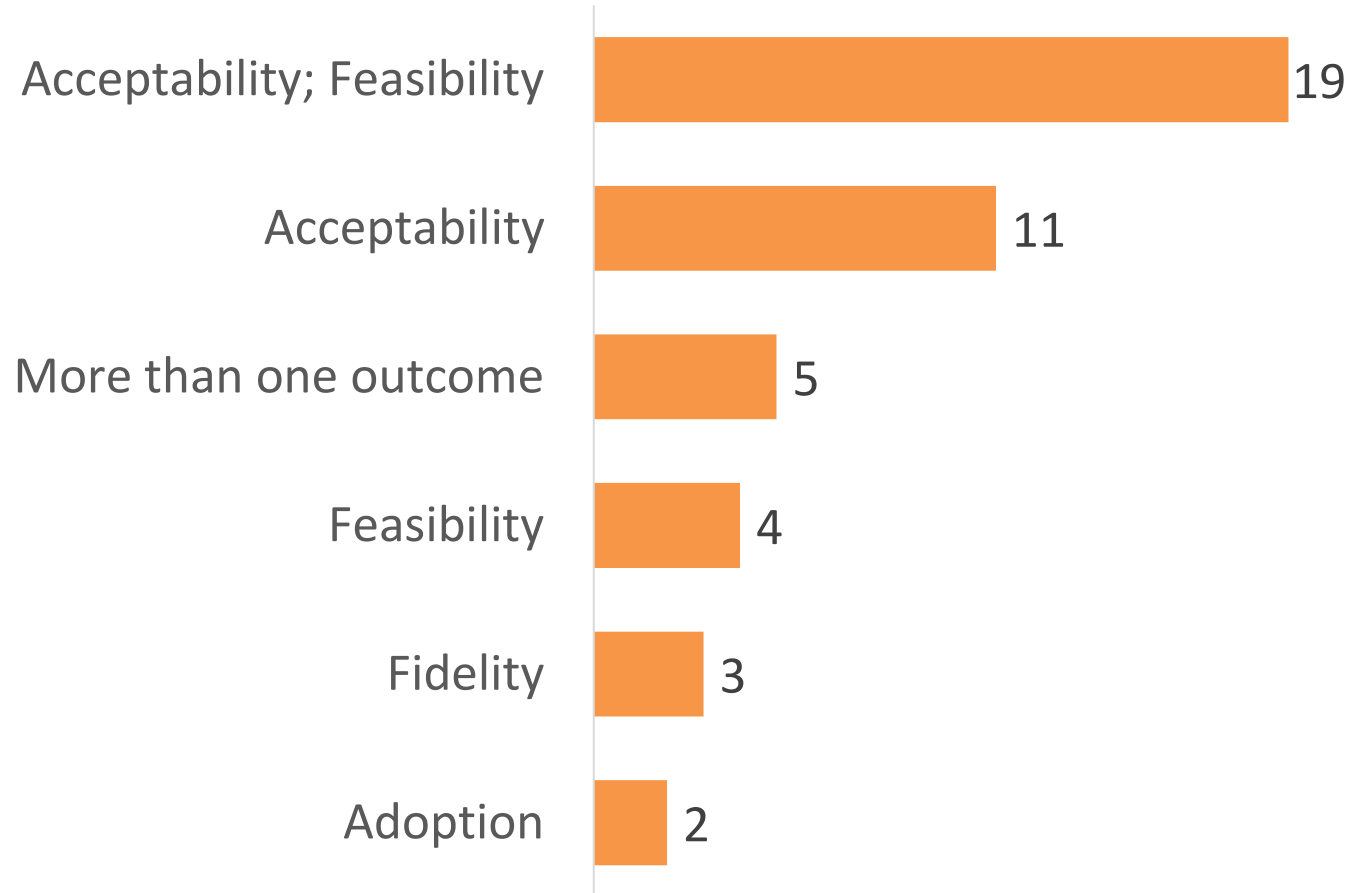


Does it need a reference?

Publications by Year



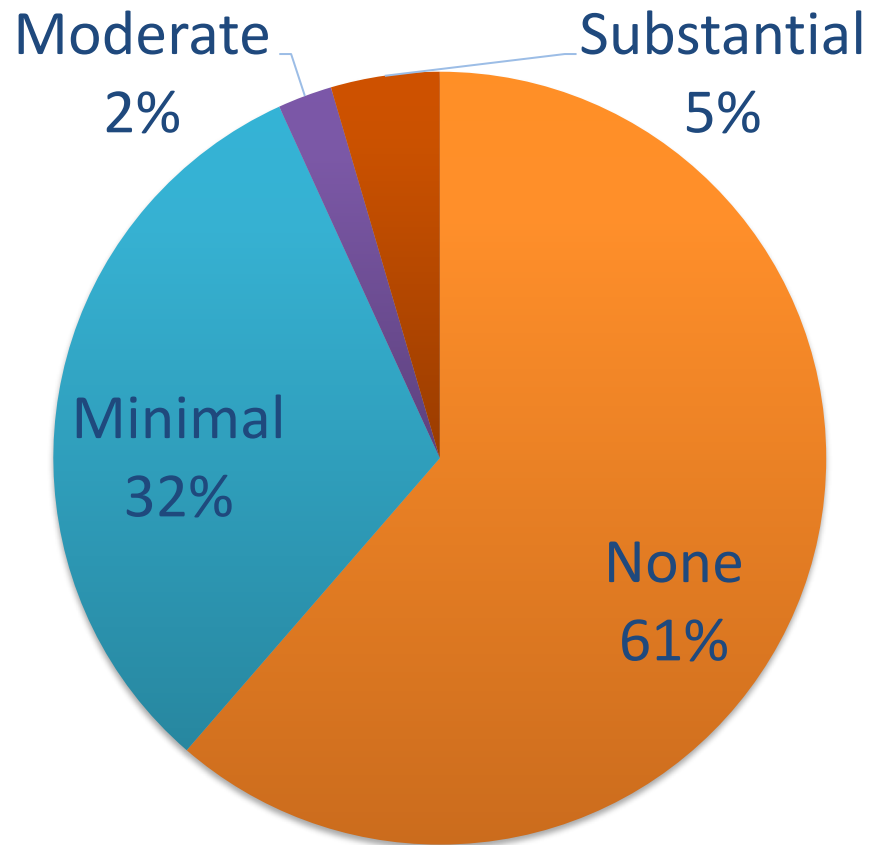
Use of Implementation Outcomes and Frameworks



Only 4 used IS TMF

- ADAPT
- Diffusion of Innovations
- Precede-proceed
- EPIS (Exploration, Preparation, Implementation, Sustainment)

Youth Engagement



- No youth engagement - the absence of participatory approaches or activities
- Minimal youth engagement - consulted on their opinions, assigned specific roles, or informed about research activities, without any decision-making power
- Moderate youth engagement - adult-initiated activities with shared decision making between youth and adults
- Substantial youth engagement - research activities that were youth-initiated and directed

Community Engagement in NIH-Funded IS

Table 4 Characteristics of implementation domains for all included grants, and by whether or not they were engaged research

	Number (% of total grants <i>N</i> = 103)	Number (% of grants with engagement <i>n</i> = 90)	Number (% of grants without engagement <i>n</i> = 13)
Study type			
Dissemination	0 (0)	0 (0)	0 (0)
Implementation	76 (74)	65 (72)	11 (85)
De-implementation	2 (2)	2 (2)	0 (0)
Both D&I	23 (22)	23 (26)	0 (0)
Modeling only	2 (2)	0 (0)	2 (15)

Gaps and Opportunities for Community Engagement in IS

Gap Identified	Opportunity for Future Research
Engagement predominantly at lower levels (consultation) and in formative research; Less engagement in implementation-only and intervention delivery studies	Deeper, longitudinal engagement (collaboration & partnership) across research continuum (theory development, intervention design, conducting evaluation)
Further diversification of partner types engaged needed	Engagement of policymakers, social service and public health professionals, implementation support practitioners, product makers, purchasers, payers, health equity experts
Further diversification of engagement strategies to support deeper engagement (beyond advisory committees and key informant data collection) needed	Apply and evaluate longitudinal or hands-on engagement strategies that facilitate participation of implementers and intervention beneficiaries (e.g., human-centered design processes, systems mapping, etc.)
Lack of descriptions of engagement approaches, indicators of equity, metrics of engagement	Specify approach to engagement and describe and study structures of relationships in more detail. Measure engagement processes and outcomes, and incorporate research questions to advance the science of engagement in addition to main implementation science aims
Further application of health disparities or equity-focused research and engagement of diverse populations beyond racial/ethnic minorities	Apply health equity or implementation science theories, models, and frameworks with equity-extensions and engage underserved diverse populations

Fig. 2 Summary of gaps and opportunities in community engaged implementation science

OPPORTUNITIES for IS in Global Health

- Capacity building
- Strengthen community engagement in the context of IS
- Planning for sustainability
- More effectively capturing impact

Summary

- NIH and Fogarty are strongly engaged and supportive of implementation science for global health



PAST EVENT

16th Annual Conference on the Science of Dissemination and Implementation in Health

Raising Expectations for D&I Science: Challenges and Opportunities

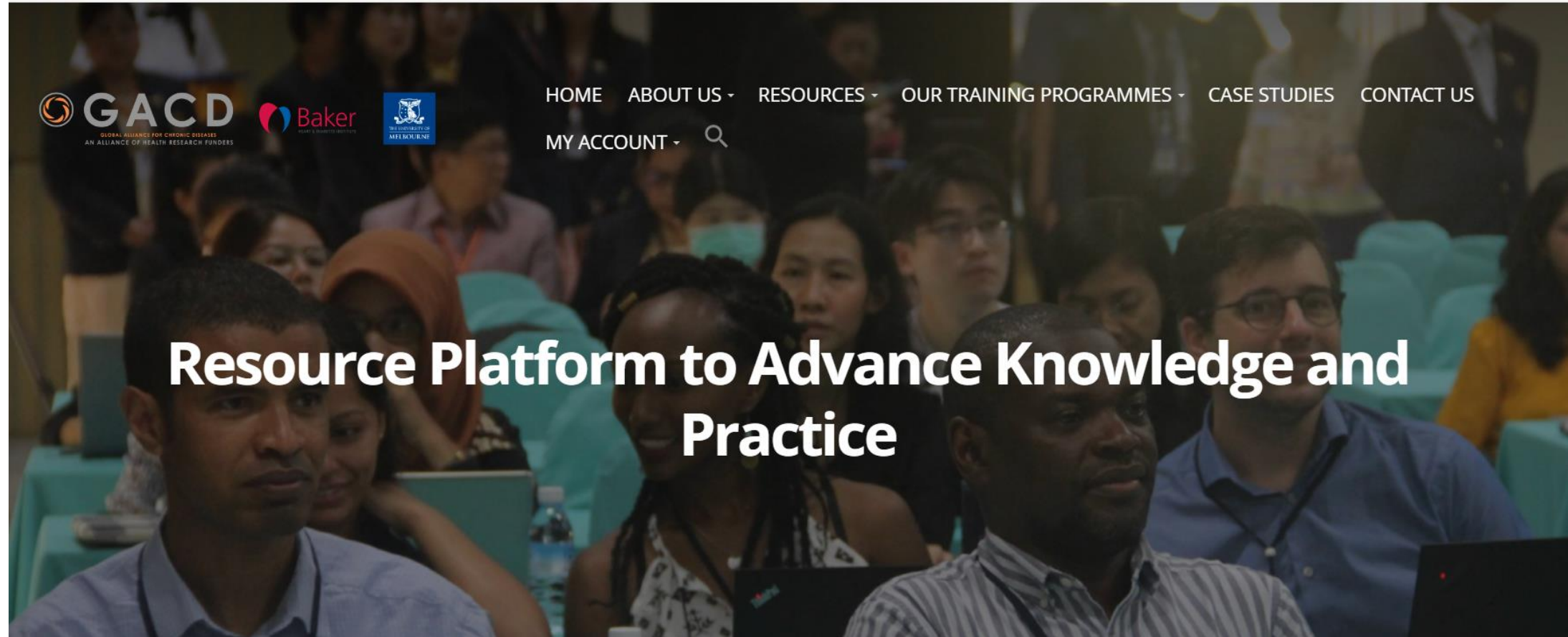
DATE & TIME December 10-13, 2023 LOCATION Crystal Gateway Marriott | Arlington, VA

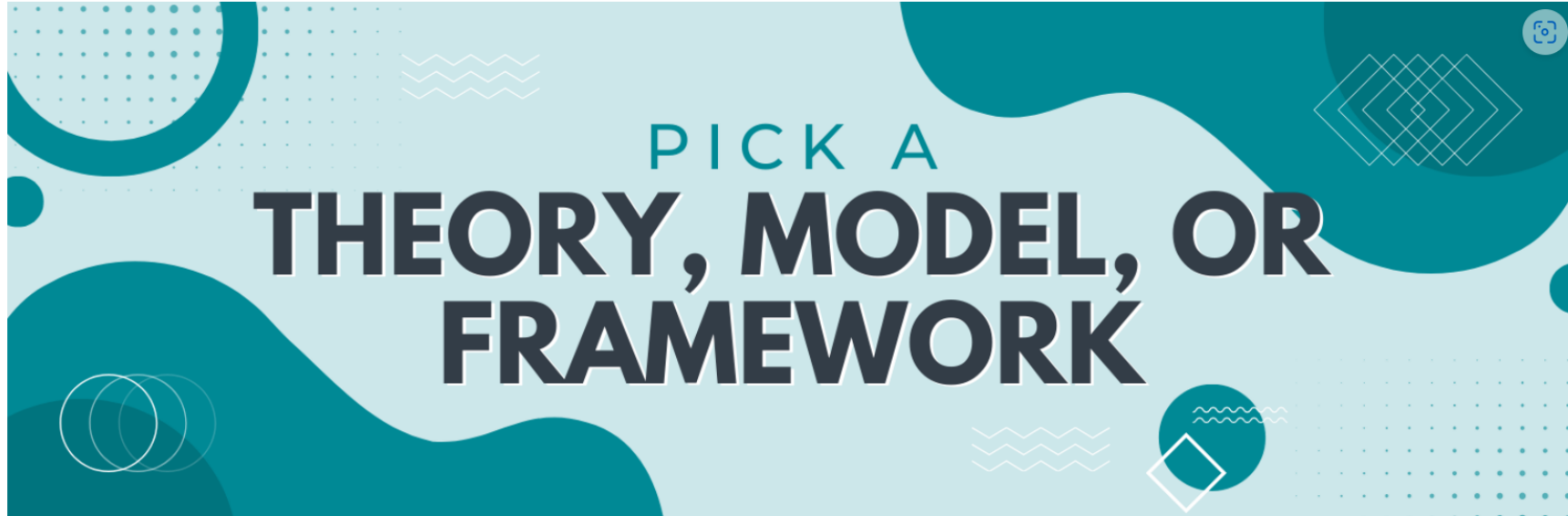
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Resource Platform to Advance Knowledge and Practice





Lessons from the field: case studies in global implementation science



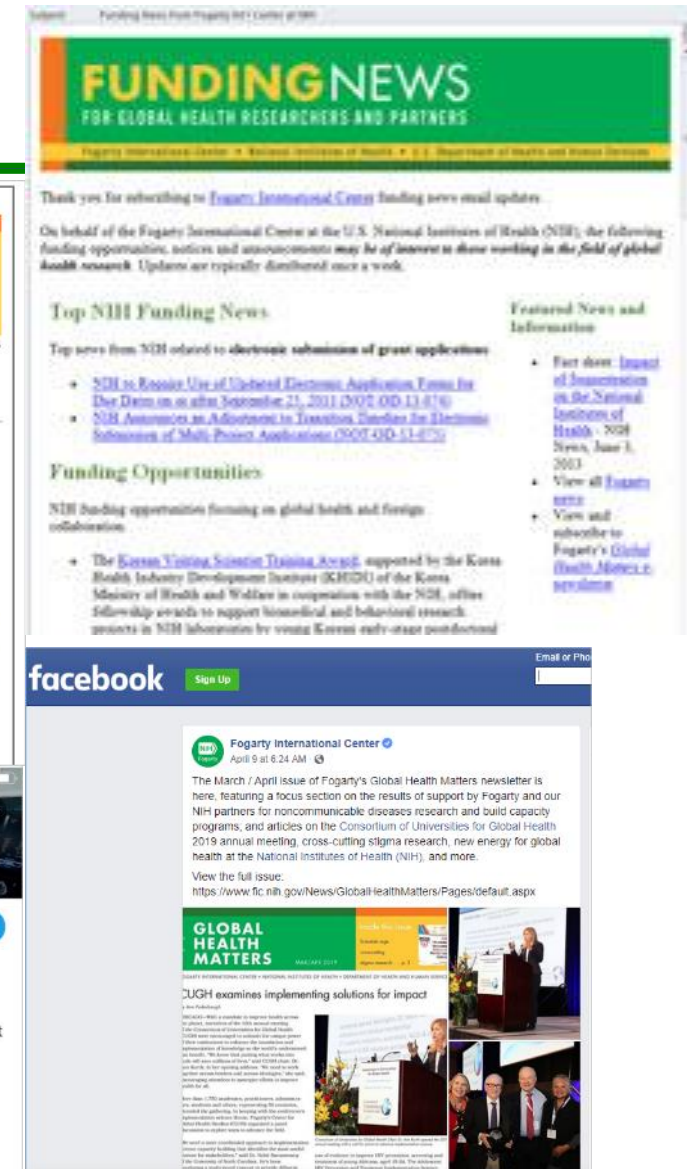
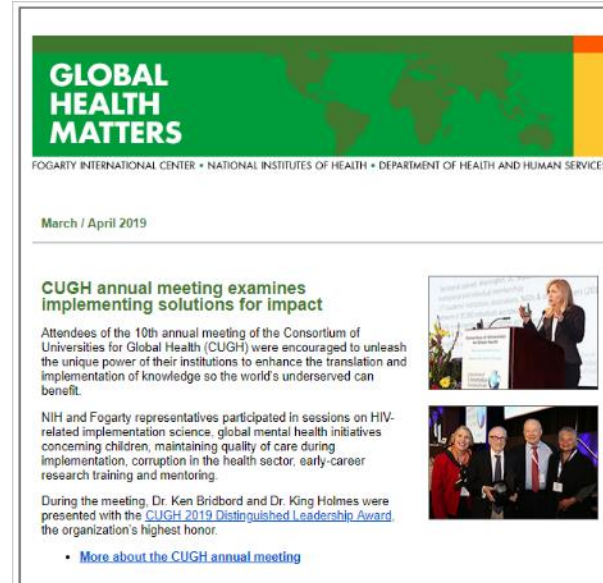
Collection Organisers: Blythe Beecroft, *Fogarty International Center, USA*; Gila Neta, *National Cancer Institute, USA*; Rohit Ramaswamy, *Cincinnati Children's Hospital Medical*

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Fundamentals

2024 Implementation Science Seminar Series



Hosted by:

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Kelly Aschbrenner, PhD, DCIS Co-Director
Sarah Lord, PhD, DCIS Co-Director

Monthly on the 2nd Tuesday*

(*Note: 4th Tuesday for April only)

February

March

April

May

***Five Considerations for
Developing an
Implementation Science
Research Question***

Kelly Aschbrenner, PhD
DCIS Co-Director

Tuesday, February 13

***From Concept to Impact:
Exploring
Implementation Models
and Frameworks***

Sara Malone, PhD
Washington University

Tuesday, March 13

***Measuring Context,
Process and
Implementation***

Katie Rendle, PhD
University of Pennsylvania

Tuesday, April 23*

***Implementation
Frameworks:
PRISM & RE-AIM***

Tina Studts, PhD
University of Colorado
Samantha Harden, PhD
Virginia Tech

Tuesday, May 14