



Fogarty International Center

Global Health Research at the NIH

**AAAS – ACC Professional Meeting:
Aging and Disaster Management**

March 19, 2024

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*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
Mr. Bialy has no conflicts of interest to disclose*



Fogarty International Center

Funds and Conducts Medical and Behavioral Research for the United States Government

1887 --- One-room “*Laboratory of Hygiene*”

Now **largest biomedical research agency in the world**



Mission:

“Science in pursuit of **fundamental knowledge** about the nature and behavior of living systems

and the **application** of that knowledge to extend healthy life and reduce illness and disability.”

Understanding the Dual Nature of NIH



Intramural Research

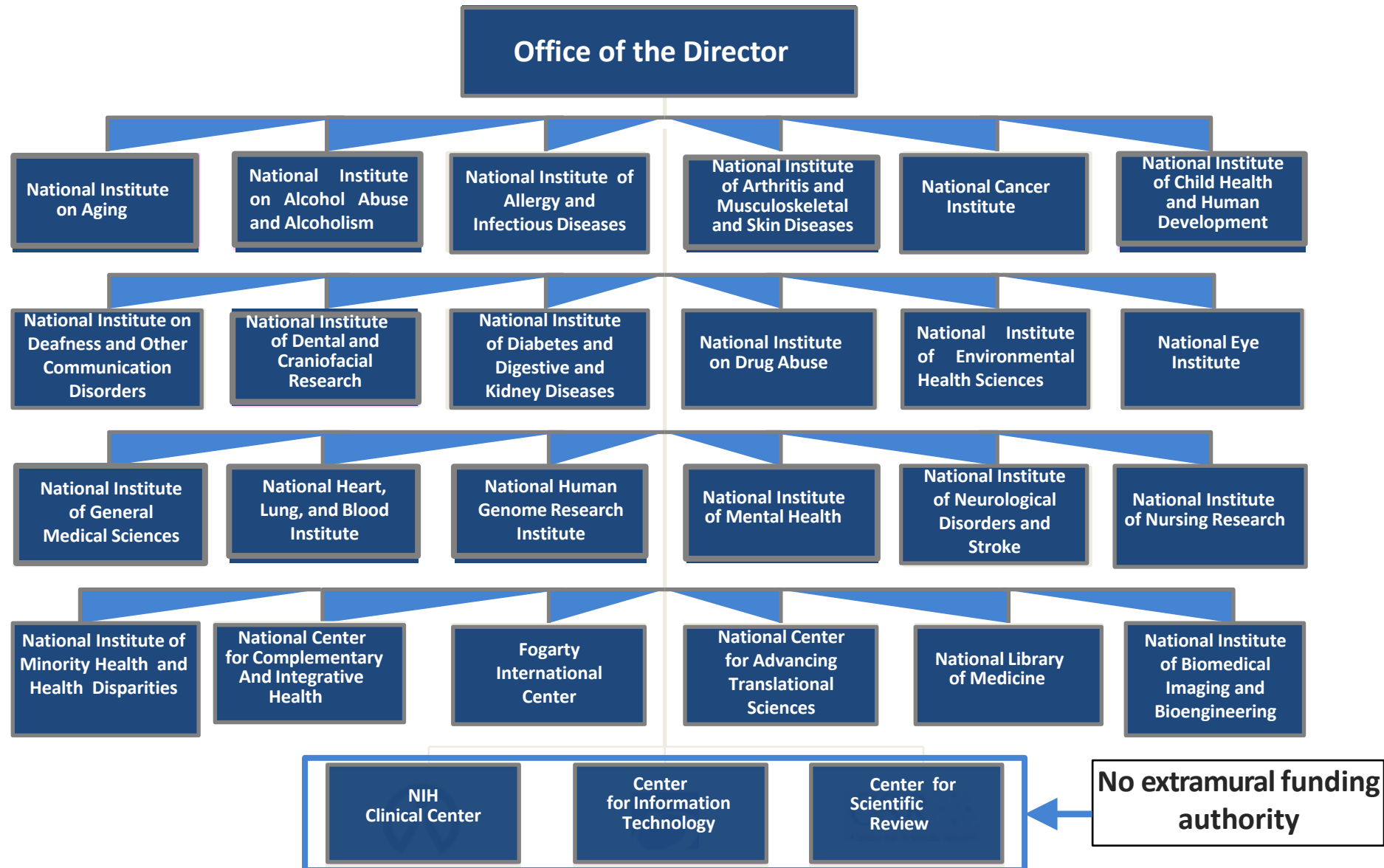
- ~6,000 scientists
- ~11% of NIH's budget



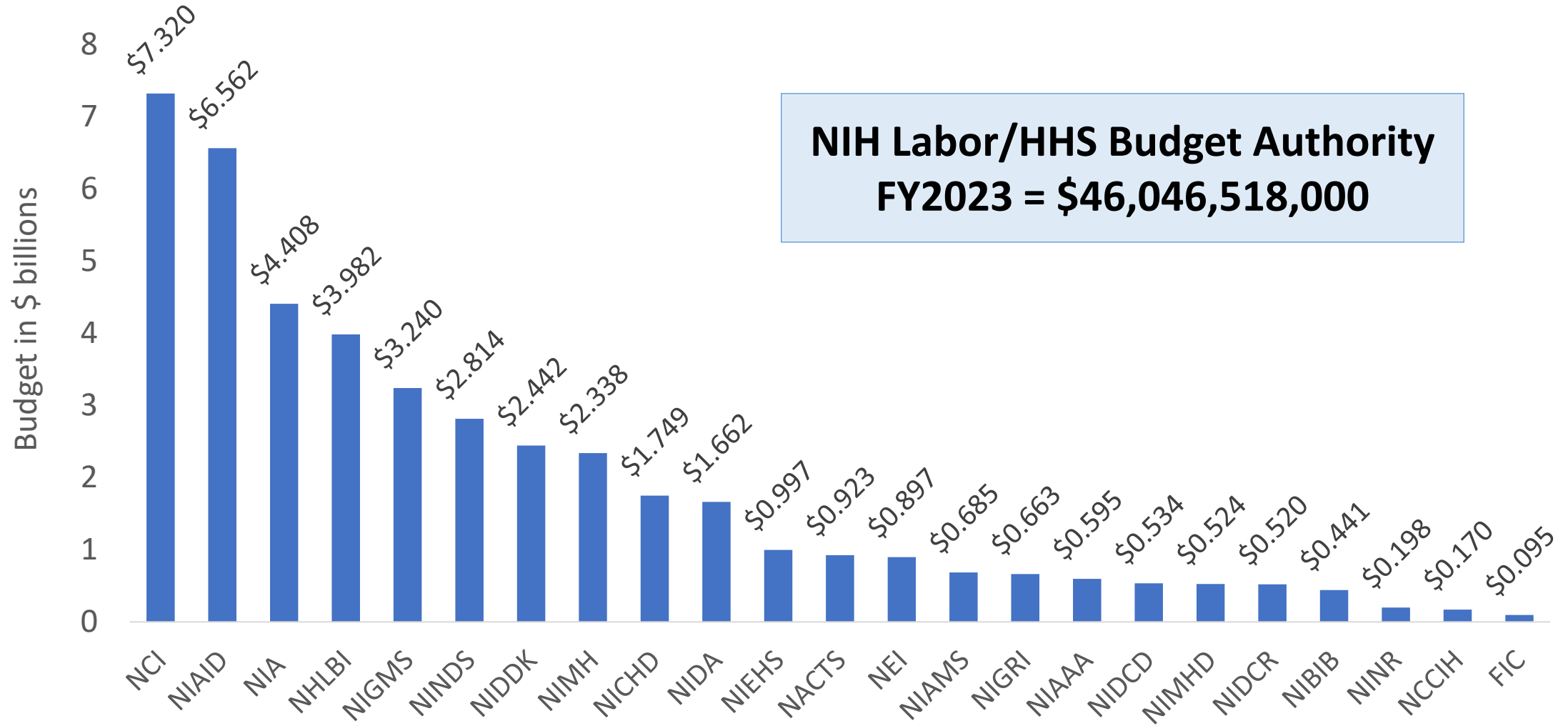
Extramural Research

- Supports research and training of scientists in universities, medical schools, hospitals, and research institutions in the United States and worldwide
- >2,500 institutions
- >400,000 scientists & research personnel
- ~80,000 applications and 45,000 awards annually
- ~81% of the NIH budget

National Institutes of Health



NIH Budget by Institute and Center – FY 2023



Why pursue global health research?

- Unique populations
 - Disease presentations
 - Genetics
- Unusual exposures, environment
 - Infections, diet, cultural context
- Unique interventions
 - Frugal/novel technologies, mobile health
- Insights & expertise of a diverse set of investigators
- Large, potentially treatment-naïve, patient populations
- Alternative health systems
- Increased early-career interest in global health

New tools needed to reach global health goals!



Image by DALL-E

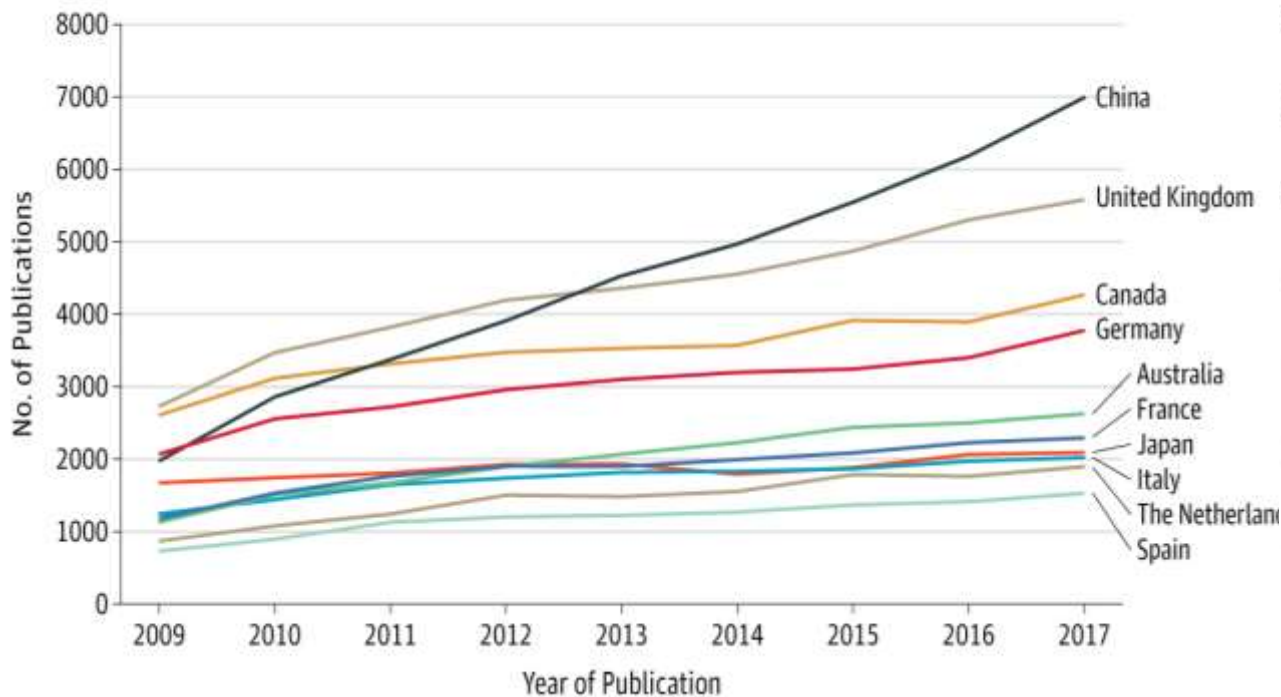
Coauthor Country Affiliations in International Collaborative Research Funded by the US National Institutes of Health, 2009 to 2017

Joshua C. Grubbs, BA; Roger I. Glass, MD, PhD; Peter H. Kilmarx, MD

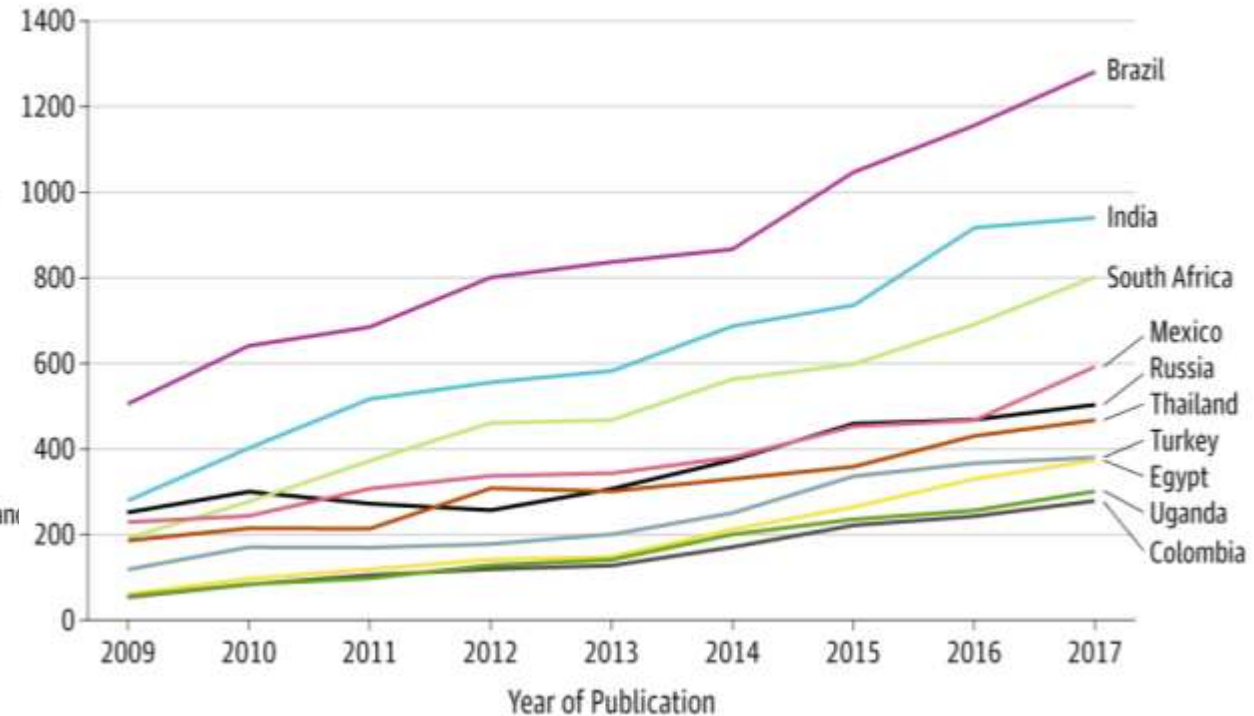


- 35% of all NIH-funded publications in 2017 had a non-U.S.-affiliated co-author
- Those with both U.S.- and non-U.S.-affiliated coauthors had greatest mean citation impact score

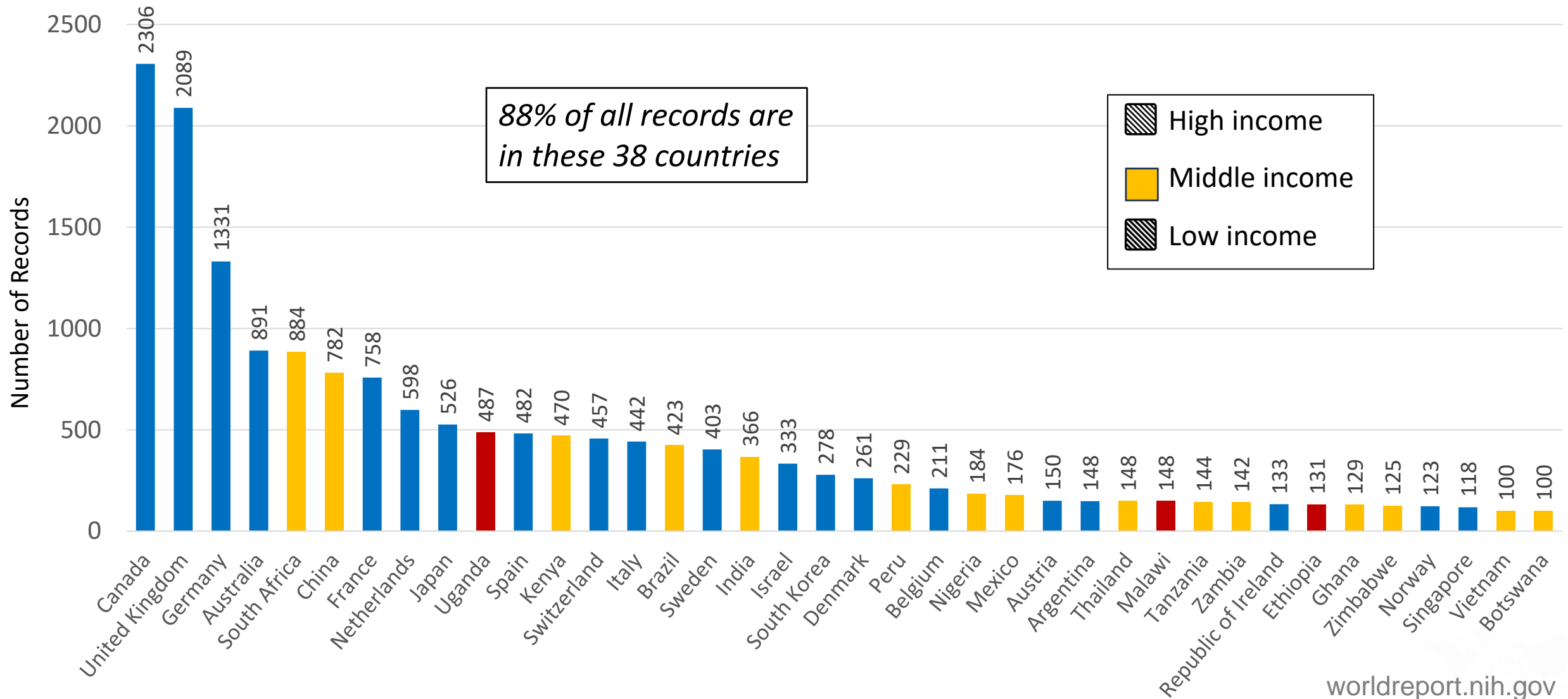
Non-US author affiliations



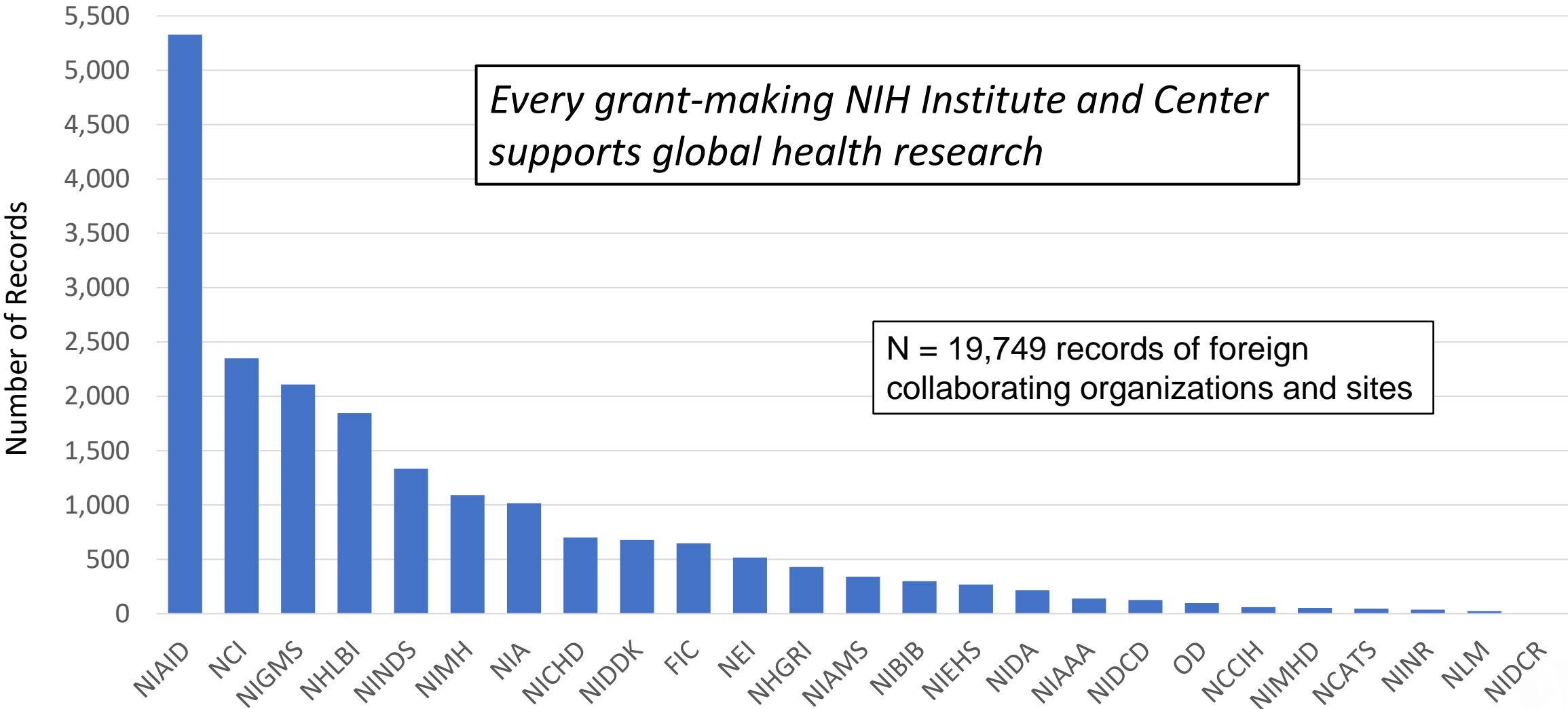
affiliations from low- to middle-income countries



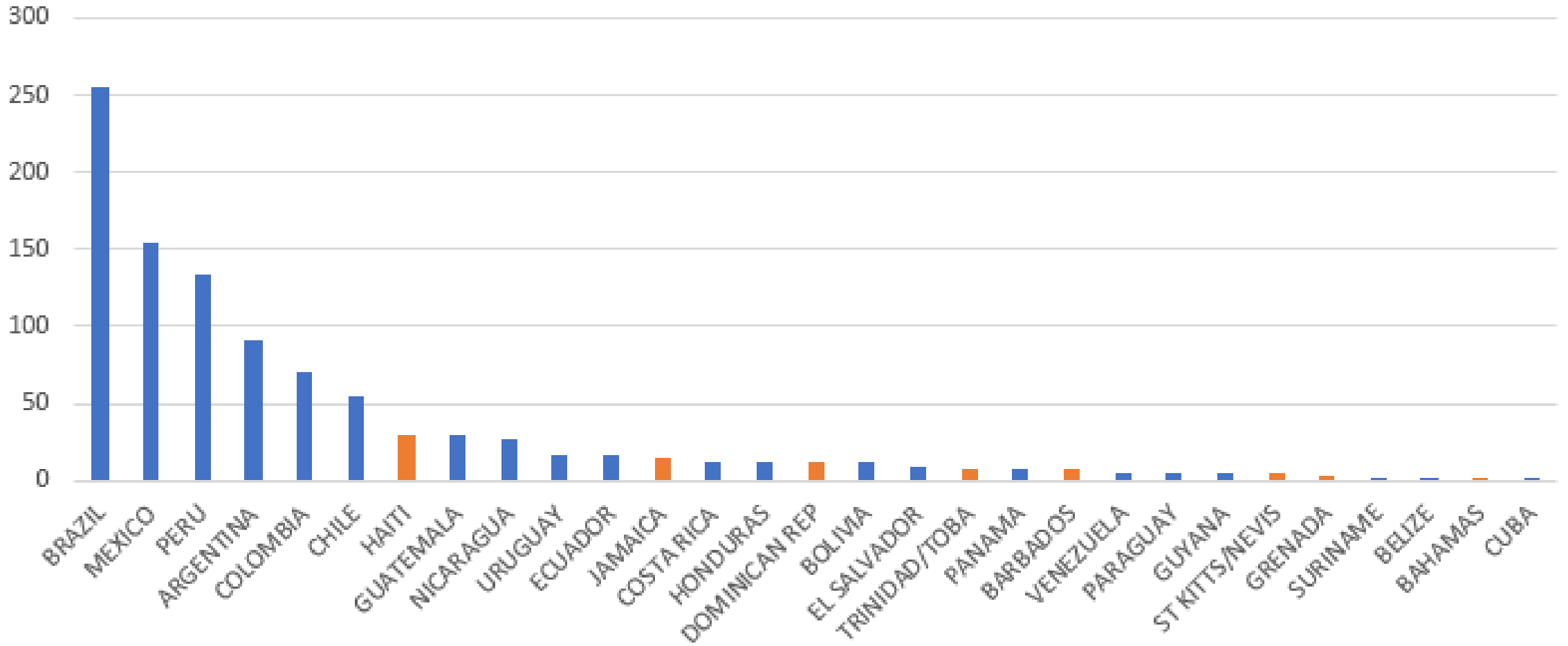
Number of foreign NIH-funded records in World RePORT by Country in Countries with 100+ Records – FY2022



Number of foreign NIH-funded records in World RePORT by NIH ICO – FY2022



NIH Awards in Latin America and the Caribbean, FY 2022



The Mission of the Fogarty International Center

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

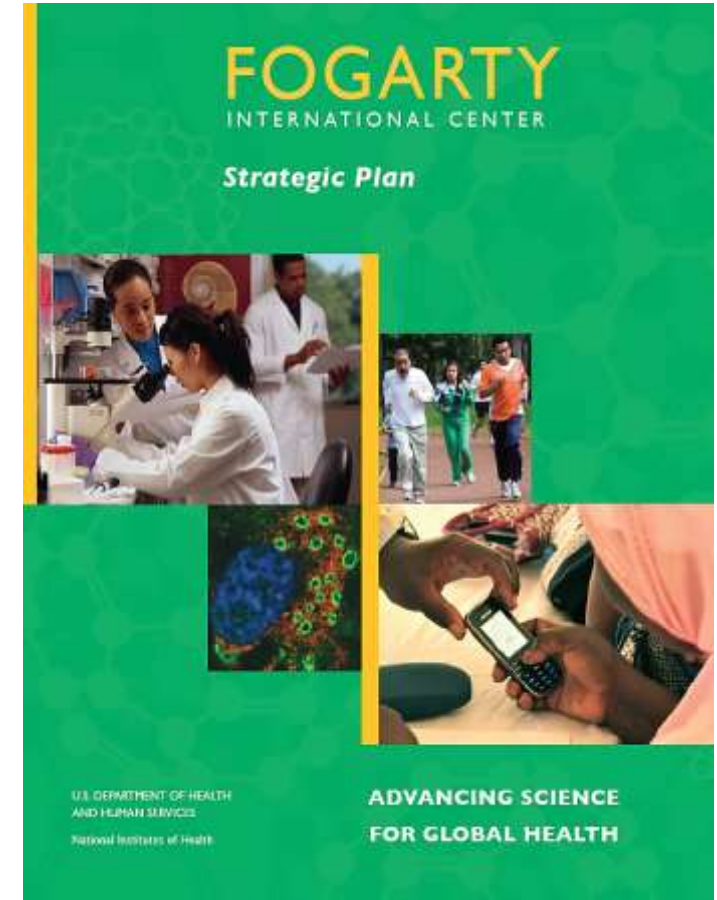
“Advancing Science for Global Health”



“Expanding research is one, perhaps *the* one, truly global effort in which all nations can and will join as real partners.” *Rhode Island Congressman John E. Fogarty*

Fogarty's strategic goals – 2014 Strategic Plan

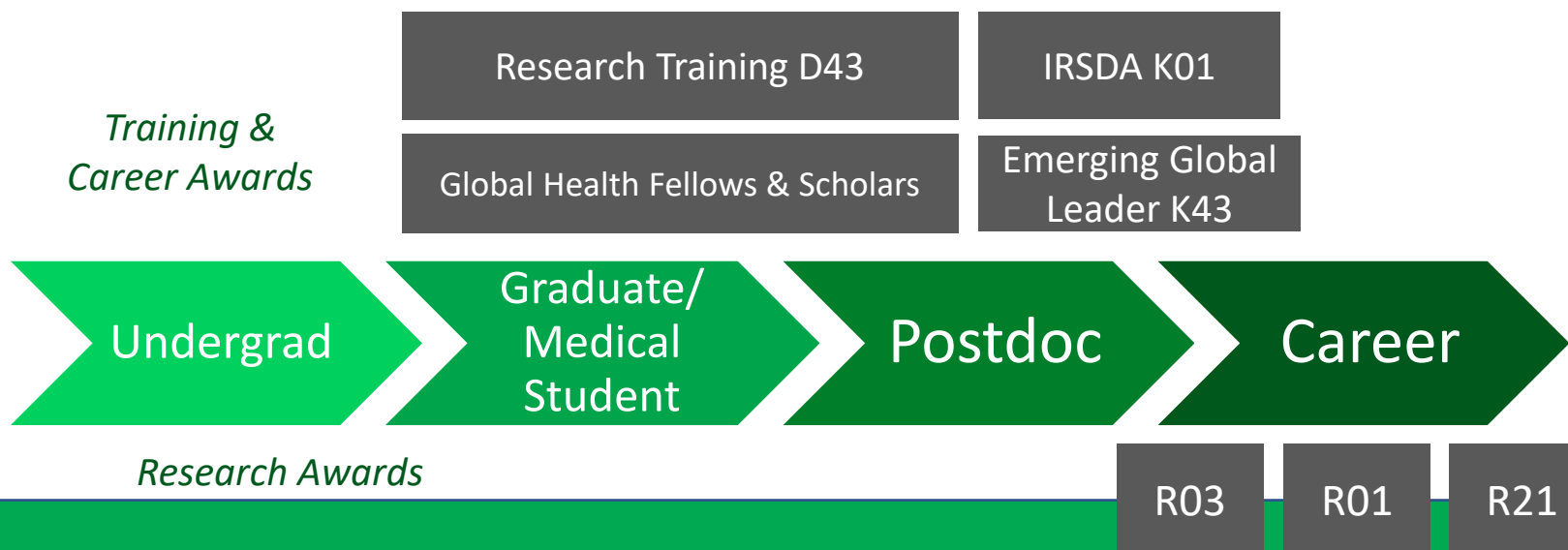
1. Build research capacity of **individuals, institutions, & networks** to meet future & evolving global health challenges
2. Stimulate **innovation** in the development & evaluation of technologies to address global health problems
3. Support research & research training in **implementation science**
4. Advance research on prevention & control of the **dual burden** of communicable & non-communicable diseases & disability
5. Build & **strengthen partnerships** to advance global health research & research capacity



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

- 7,000+ scientists worldwide have received significant research training
- Support for 500+ 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



WHERE DID FIC SPEND ITS EXTRAMURAL MONEY IN FY23?

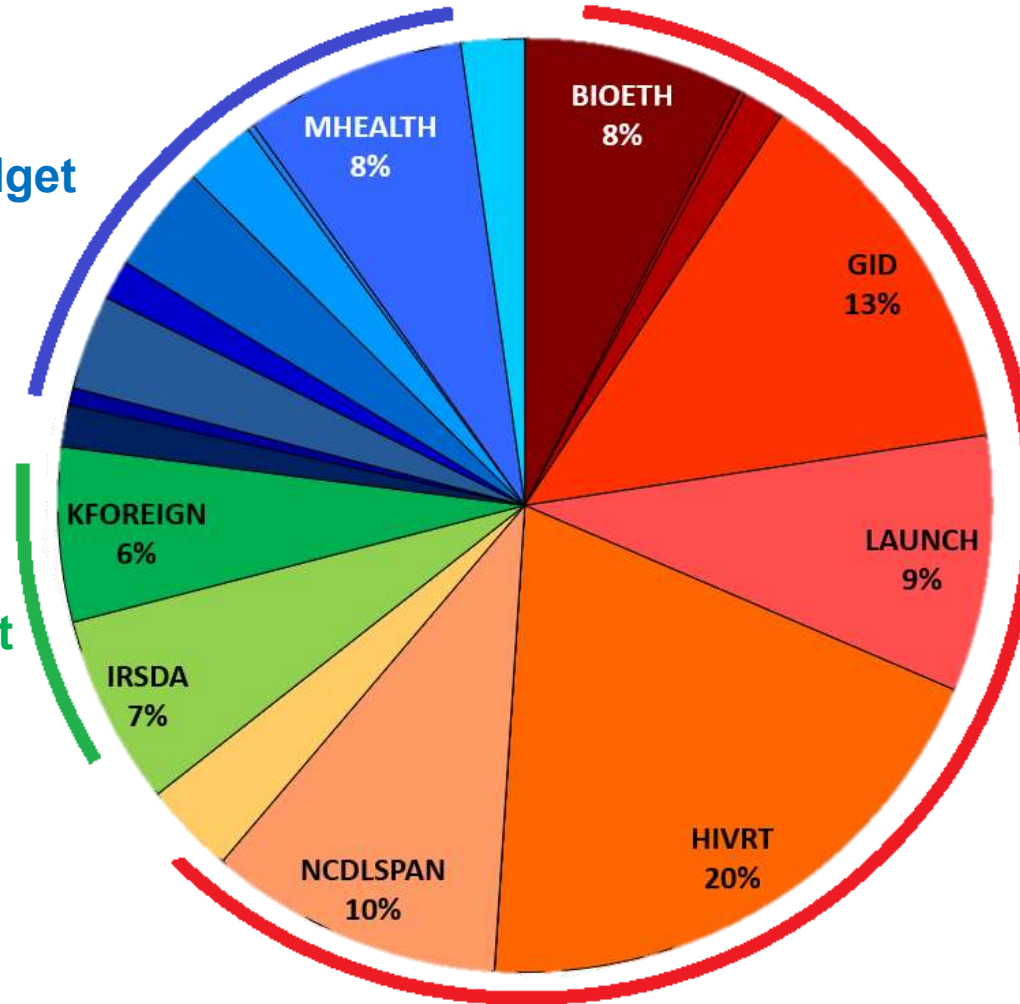
Includes all Fogarty expenditures on all FIC and non-Fogarty extramural programs (n=455 unique funded grants)

TOTAL \$68.1 M

RESEARCH (RPGs)
23% of FIC's extramural budget
185 funded awards

CAREER DEVELOPMENT (Ks)
13% of FIC's extramural budget
84 funded awards

TRAINING (D43, U2R, R25, etc)
64% of FIC's extramural budget
186 funded awards



WHERE ARE OUR TRAINEES FROM?

1884 long-term trainees from FY2019 to FY2023

Top 5 LMICs:

1. Uganda (n=580)
2. Peru (n=194)
3. Nigeria (n=88)
4. South Africa (n=79)
5. Kenya (n=64)



Aging, Disaster Research, and Climate Change



The National Institute on Aging:

Strategic Directions for Research, 2020-2025



NIA Strategic Directions include international focus

- “NIA will continue to support research on the social, economic, and demographic consequences of the aging population in the U.S. and other countries”
- “Support the development of internationally harmonized biological, social, and behavioral longitudinal data on aging to foster cross-national research”
- “Support international comparative research on risk factors, incidence, and prevalence of cognitive impairment and dementia”

Health and Retirement Study (HRS)



[About](#) ▾ [Documentation](#) ▾ [Data Products](#) ▾ [Media & Publications](#) ▾

International Family of Studies

The HRS has become the model for a growing network of longitudinal aging studies around the world. These surveys not only provide data for individual countries but also offer the opportunity for cross-national comparisons.

- Nationally-representative
- Longitudinal
- Multi-disciplinary
- Innovative
- Internationally comparable (harmonized)
- Publicly available

HRS studies have been conducted in over 40 countries



Caribbean American Dementia and Aging Study (CADAS)



The Caribbean American Dementia and Aging Study (CADAS) seeks to expand understanding of the lifecourse determinants and consequences of Alzheimer's Disease and related dementias (AD/ADRD) in Caribbean-origin populations.

We are collecting new *nationally representative* household survey data among adults ages 65+ in Puerto Rico (n=1500) and Dominican Republic (n=1500) to estimate the prevalence of dementia and to capture the variation in lifecourse exposures to AD/ADRD risk factors, as well as family and societal effects of dementia.

We build on previous research by the [10/66 Dementia Research Group](#)[®] that indicates a remarkably high dementia prevalence of 10-12% among metro-dwelling adults aged 65+ in Puerto Rico, Dominican Republic and Cuba, whose similar histories but richly varying societal structures over the past century offer great promise for better understanding AD/ADRD. These Hispanic Caribbean sites are also the origin of the vast majority of Caribbean immigrants to the U.S., and we will also compare experiences in sending countries with experiences among U.S. immigrants. Our surveys are designed for cross-harmonization with both past 10/66 surveys as well as the global network of recent surveys using the [Harmonized Cognitive Assessment Protocol](#)[®], including the U.S. [Health and Retirement Study](#)[®].

- Allows in-country and cross-national comparative research on dementia prevalence, determinants, social consequences, and health policy needs
- Puerto Rico & Dominican Republic – funded by NIA
- Cuba – supported by Davos Alzheimer's Collaborative

*The **NINDS Office of Global Health and Health Disparities (OGHHD)** leads the coordination and development of programs and initiatives that foster national and international research on disparities and inequities in neurological disease.*

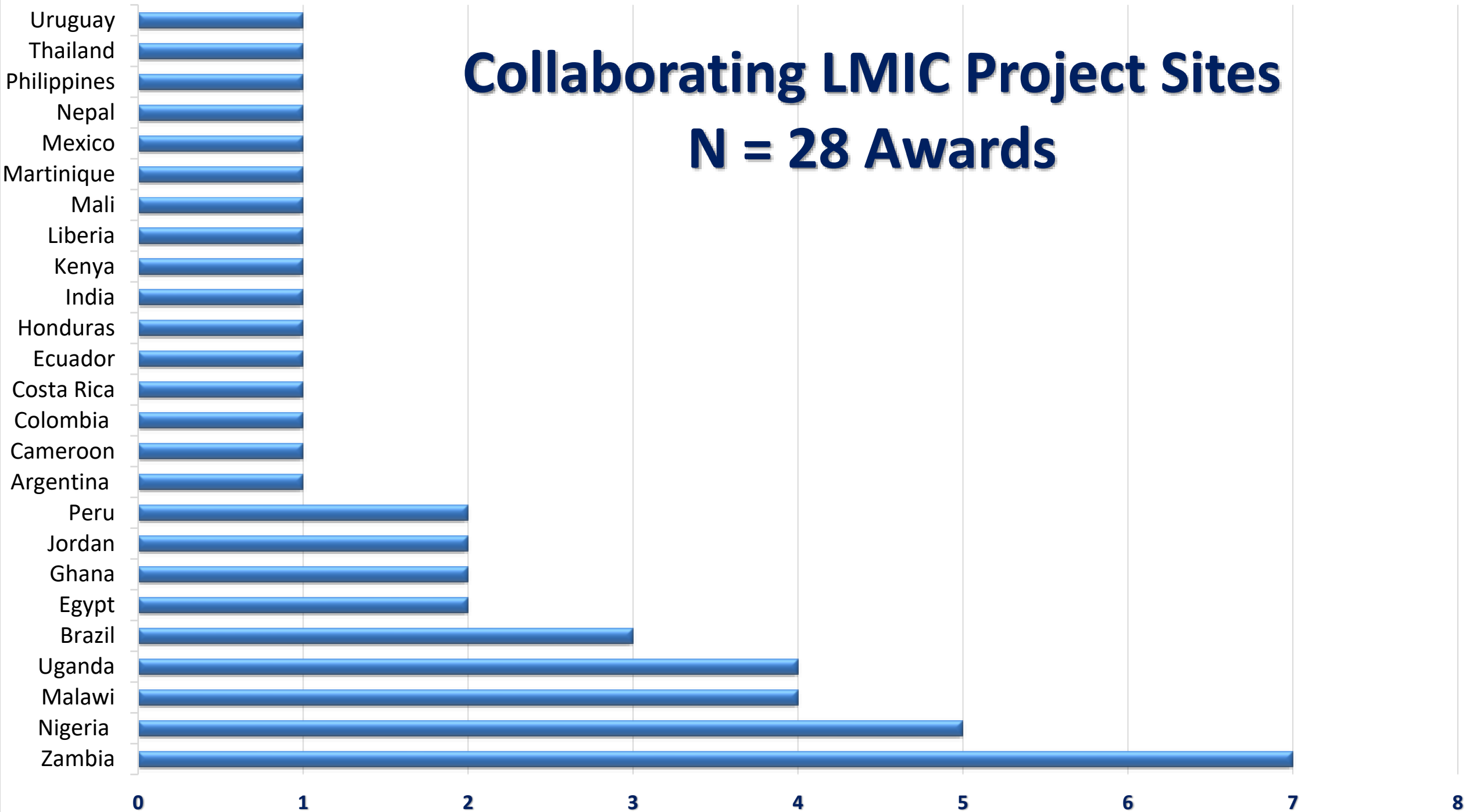
NINDS **Global Health Research** aims to support research partnerships aimed at the following:

- Strengthening our understanding of neurological disease and identifying opportunities for improved diagnostics, treatment, and prevention strategies.
- Building sustainable capacity in low-and middle-income (LMICs) countries to enable the conduct of research and training in neurological disorders and stroke in low-resource settings is also of interest.



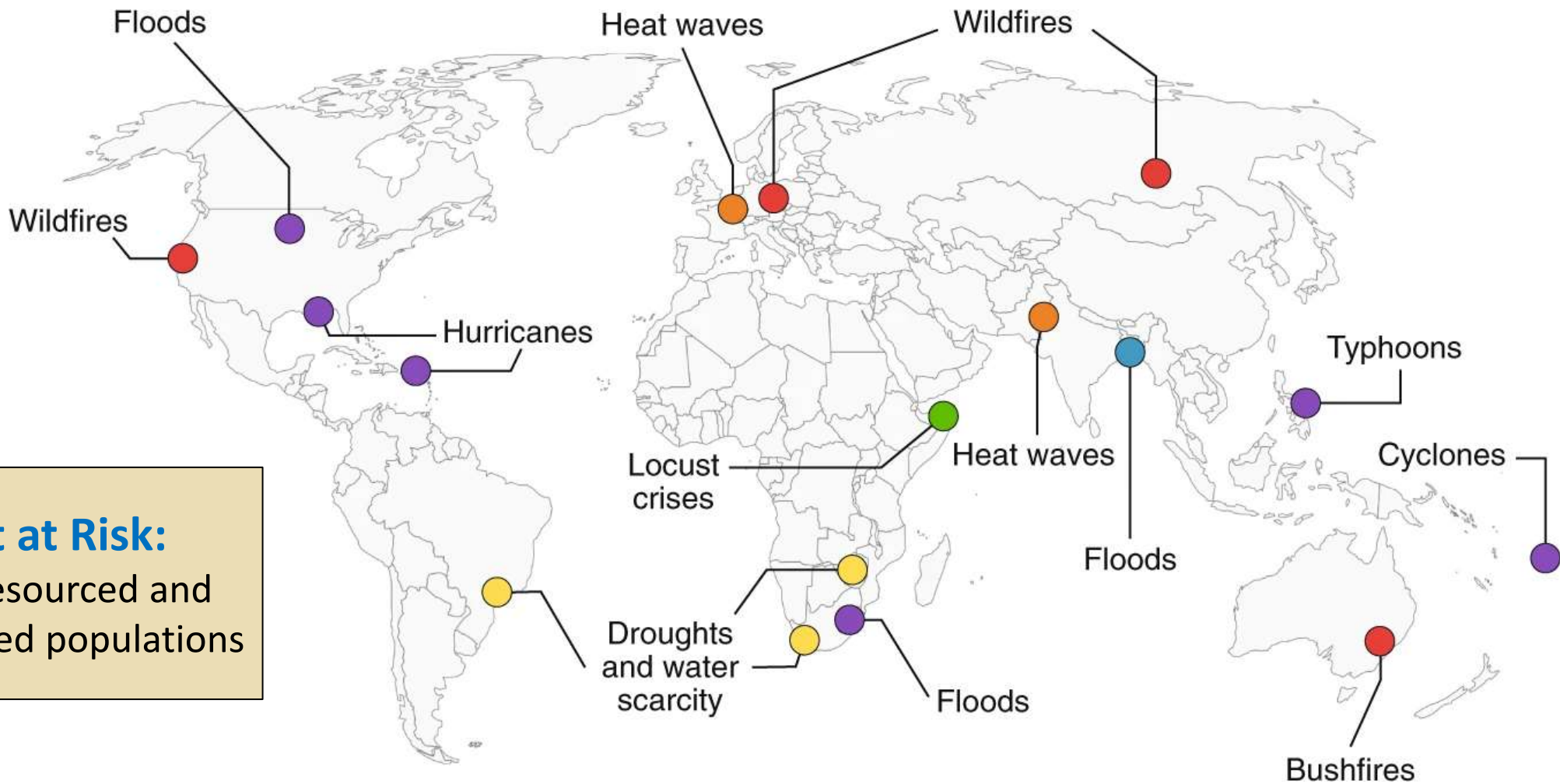
Collaborating LMIC Project Sites

N = 28 Awards





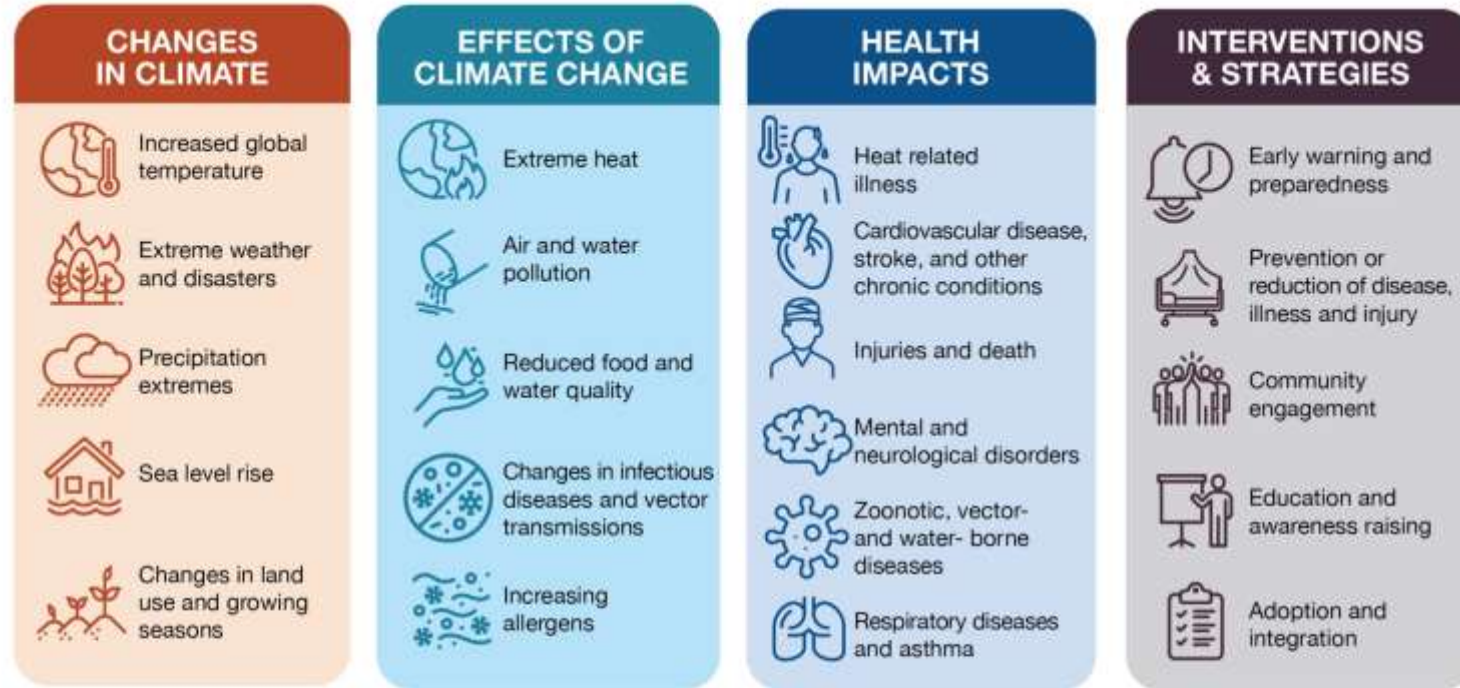
Global View of Climate Related Disasters and Events During 2019-2020



Most at Risk:
Under-resourced and
marginalized populations



Impacts of Climate Change on Human Health



Disaster Research

- Under-resourced populations are most at risk from natural disasters.
- More, high-quality research is needed to fill evidence gaps, improve preparedness, and strengthen response to disasters.

NIEHS Disaster Research Response Program (DR2)



NIMH Global Mental Health and Human Mobility Research Program



FIC Health Research in Humanitarian Crises





Research Needs

EXAMPLES OF NEEDED RESEARCH



What are the new and emerging health risks from climate change?



Who is most at risk?



What health interventions are effective?



Can we predict future health outcomes from climate models?



What health benefits or costs come with climate actions?



How can disaster warning systems best save lives?



How can health care systems prepare for challenges to providing adequate care?

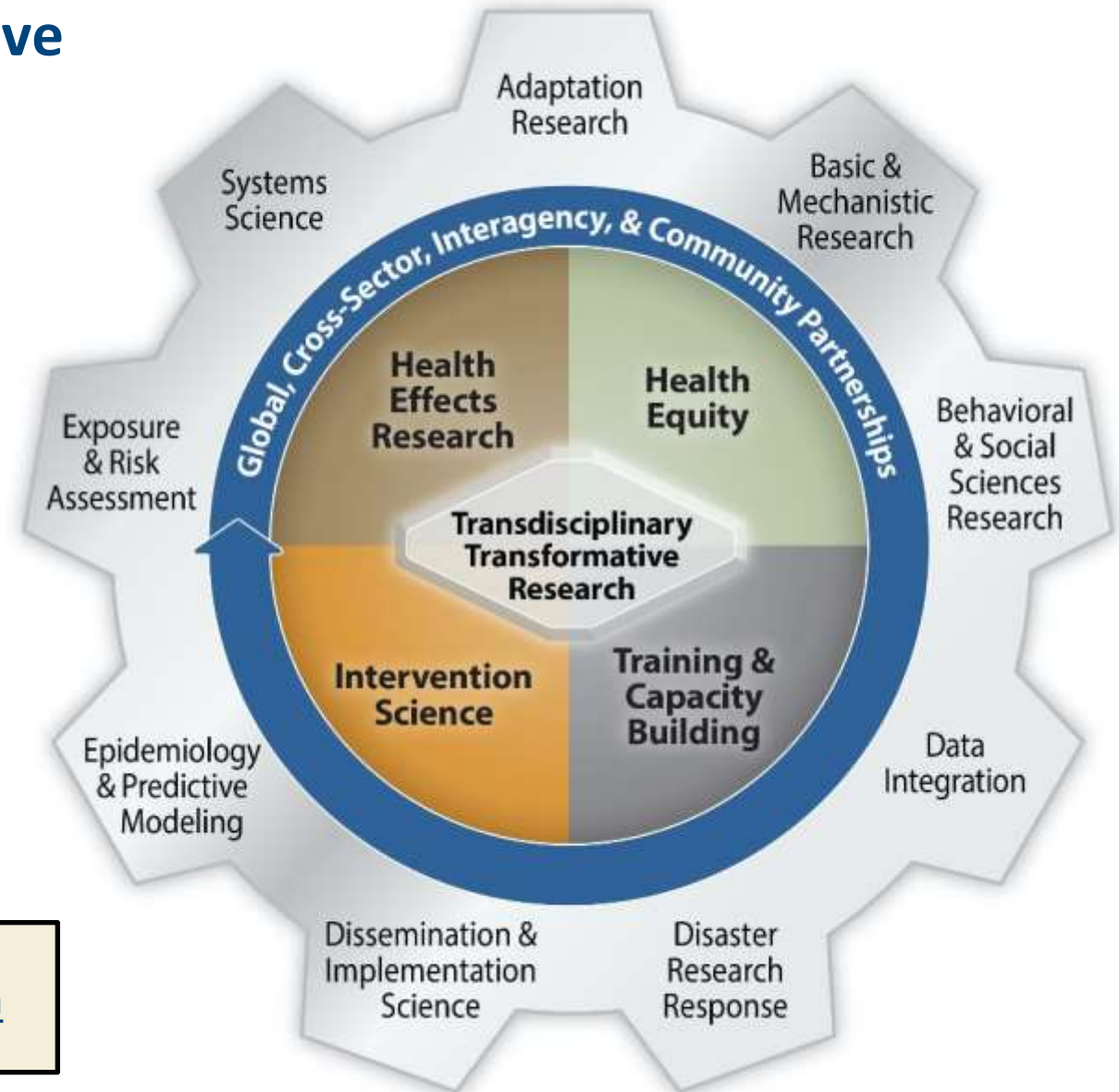


How can communities best adapt to a changing climate?



NIH Climate Change and Health Initiative

- Research Coordinating Center - Boston
University SPH - Harvard TH Chan SPH
- Alliance for Community Engagement –
Climate and Health
- NIH Climate and Health Scholars Program
- Exploratory Grants for Climate Change
and Health Research Center Development
- Notices of Special Interest (NOSI)



<https://www.nih.gov/climateandhealth>

March 30, 2016 - Forging our Scientific Relationships

*Dr. Francis Collins, NIH Director, and
Dr. José Angel Portal Miranda, Cuba's Vice Minister of Public Health*

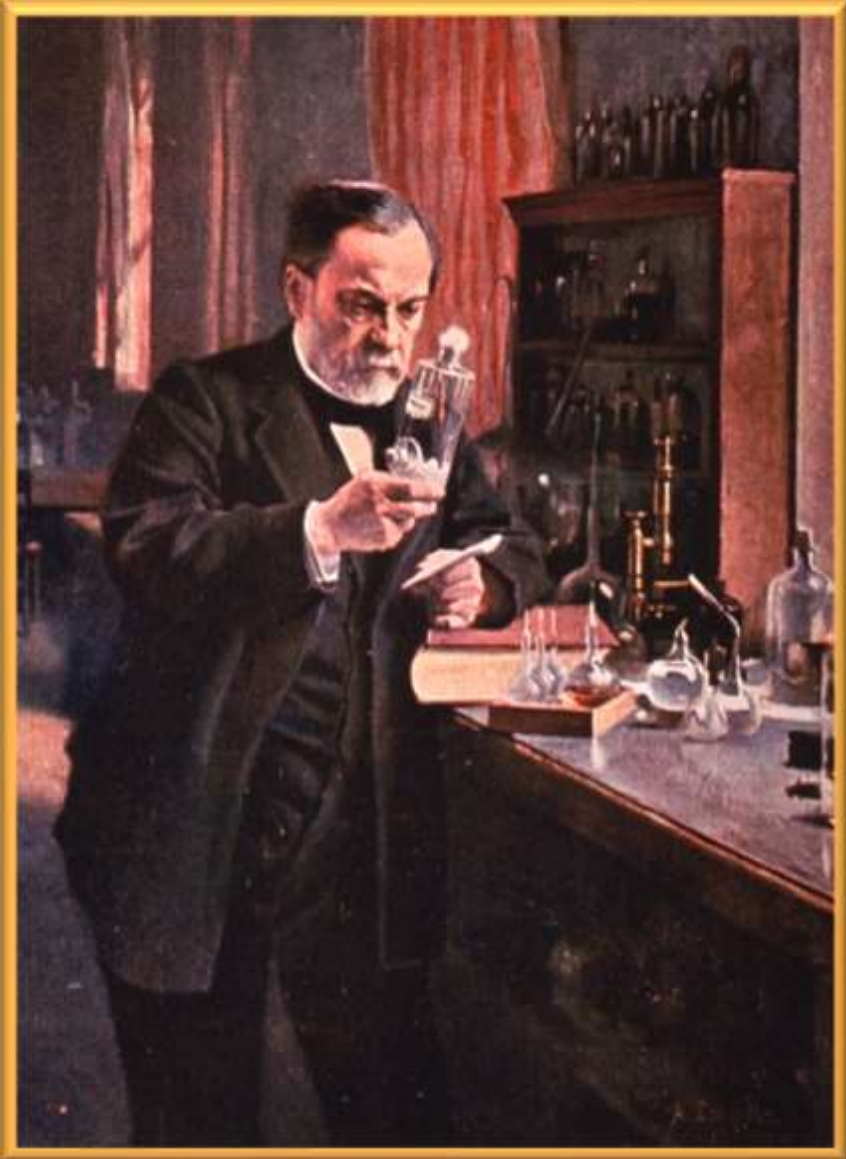


Summary

- Strong support from NIH for diverse international research partnerships
- Strong support from Fogarty for research training and capacity building
- Research capacity strengthening and partnerships are the keys to global health resilience

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Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world

– *Louis Pasteur*