

NIAID International Research Activities FY 2020 Americas and the Caribbean Region

About NIAID

The National Institute of Allergy and Infectious Diseases (NIAID), part of the U.S. National Institutes of Health (NIH), conducts and supports basic and clinical research to better understand, treat, and prevent infectious, immunologic, and allergic diseases. For more than 60 years, NIAID research has led to new therapies, vaccines, diagnostics, and preventive strategies that have improved the health of millions of people in the United States and around the world.

Figure 1. Countries/Territories With NIAID-Funded Research



Research Priorities

NIAID priorities in the Americas and the Caribbean include research on SARS-CoV-2, HIV/AIDS, allergy and immunology, influenza, tuberculosis (TB) and other bacterial diseases, dengue fever, chikungunya, Zika, malaria and other parasitic diseases, and neglected tropical diseases such as leishmaniasis and Chagas disease.

Regional Projects

NIAID supported 354 research projects in 24 countries and 1 territory in the Western Hemisphere (excluding the United States) in fiscal year (FY) 2020 (Figure 1). Total NIAID international health research funding in the Americas and the Caribbean, not including the United States, was \$139.5 million.

Countries/Territories With NIAID-Funded Research

Argentina	El Salvador	Panama
Barbados	French Guiana	Paraguay
Bolivia	Grenada	Peru
Brazil	Guatemala	Saint Kitts and Nevis
Canada	Haiti	Trinidad and Tobago
Chile	Honduras	Trinidad and Tobago
Colombia	Jamaica	Uruguay
Costa Rica	Mexico	Venezuela
Ecuador	Nicaragua	

Selected Special Events

NIH Visitors

- Canadian Institutes of Health Research, Canada

Selected NIAID Regional Programs

The **Antibacterial Resistance Leadership Group (ARLG)** designs, implements, and manages a clinical research agenda to increase knowledge of antibacterial resistance.

The **Caribbean, Central and South America network for HIV epidemiology (CCASAnet)** brings together Vanderbilt University and clinical and research sites in Argentina, Brazil, Chile, Haiti, Honduras, Mexico, and Peru to create a shared repository of HIV data from Central and South America and the Caribbean. They use the data to answer questions about characteristics of the regional HIV epidemic and improve the quality and consistency of clinical research activities at member sites.



The Centers for Research in Emerging Infectious Diseases (CREID) network is a coordinated group of emerging infectious disease research centers that conducts pathogen/host surveillance, studies pathogen transmission, examines pathogenesis and immunologic responses in the host, and develops reagents and diagnostic assays.

COVID-19 Prevention Network (CoVPN) brings networks and global partners together to address the pressing need for vaccines and monoclonal antibodies against SARS-CoV-2. Partners include the HIV Vaccine Trials Network (HVTN), HIV Prevention Trials Network (HPTN), Infectious Disease Clinical Research Consortium, and AIDS Clinical Trials Group (ACTG).

HIV/AIDS Clinical Trials Networks study critical questions related to HIV and AIDS through the ACTG, HPTN, HVTN, International Maternal Pediatric Adolescent AIDS Clinical Trials (IMPAACT) Network, and Microbicide Trials Network (MTN).

The **International Centers of Excellence for Malaria Research (ICEMR)** conduct research to enhance malaria prevention and control in endemic regions of Africa, Asia, the Pacific Islands, and Latin America.

The **Mexican Emerging Infectious Disease Clinical Research Network (La Red)** promotes clinical research on the nature and behavior of emerging infectious diseases, influenza, and other viruses to improve health.

The **Tropical Medicine Research Centers (TMRCs)** support tropical medicine research in disease-endemic countries. They focus on neglected tropical diseases such as leishmaniasis, neurocysticercosis, and Chagas disease.

The **Tuberculosis Research Units Network (TBRU-N)** integrates scientific and clinical research to study aspects of TB in endemic countries. It is composed of multiproject awards to study TB latency and persistence and their relation to active TB disease in humans.

The **Regional Prospective Observational Research in Tuberculosis (RePORT)** consortium advances TB science globally, with emphasis on translational research to provide new tools for TB control.

The **U.S.-Brazil Collaborative Biomedical Research Program** supports collaborative research projects in the areas of allergy, immunology, and infectious diseases, including HIV/AIDS and its comorbidities, cancer, neurological disorders and stroke, and environmental health sciences.

NIAID Office of Global Research (OGR)

OGR facilitates and coordinates NIAID's international activities and collaborative research programs. OGR works closely with other NIH Institutes and

Selected NIAID-Supported Science Advances

- Using a pediatric cohort in Nicaragua, NIAID-supported investigators found that prior Zika infection creates an increased risk for infection by dengue virus serotype 2 (DENV2) and severe dengue disease. The observation identifies challenges for the development of dengue and Zika vaccines.
- A study conducted by scientists at the Federal Universities of Sergipe and São Carlos, the University of São Paulo, and the Oswaldo Cruz Foundation—all in Brazil—along with investigators at NIAID suggests that transmission of a protozoan parasite from insects may also cause leishmaniasis-like symptoms in people. The parasite, however, does not respond to treatment with standard leishmaniasis drugs.
- An experimental chikungunya vaccine has been shown to be safe and to confer durable immune responses in healthy volunteers. Researchers from NIAID led the trial, which enrolled 400 adults ages 18–60 at six sites in Puerto Rico, Haiti, the Dominican Republic, Martinique, and Guadalupe. The vaccine, which was developed by scientists at NIAID's Vaccine Research Center, generates an immune response to chikungunya virus for at least 16 months after vaccination.
- Influenza A virus (IAV) is a highly infectious upper respiratory tract (URT) disease that can be aggravated by bacterial co-infections. NIAID-supported investigators in the United States and Chile found that IAV-infected humans and ferrets exhibited large changes in their microbiomes' bacterial community composition, specifically an increase in the presence of *Pseudomonadales*. Upon viral clearance and recovery, the presence of *Pseudomonadales* decreased and healthy ecostates returned. This study supports the rationale that maintaining microbiome homeostasis may be a potential therapeutic target to prevent IAV-associated bacterial co-infections.

Centers, offices and agencies of the U.S. Department of Health and Human Services, and numerous foreign government agencies.

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