AR Solutions *In Action*

CDC's Investments to Combat Antimicrobial Resistance Threats

FISCAL YEAR 2022

CDC'S GLOBAL AR PROJECTS

$40,488,965

Funding for Global AR Activities
Fiscal Year 2022

HIGHLIGHTS

Nine local CDC experts across Guatemala, India, Kenya, Nigeria, Pakistan, Uganda, and Vietnam

SINGLE-COUNTRY AR PROJECTS

$150,000

icddr,b (previously INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASE RESEARCH): Building capacity for fungal disease surveillance in Bangladesh

Experts are building capacity for sentinel fungal disease surveillance at hospitals in **Bangladesh** through improved laboratory and clinical capacity to identify and treat priority fungal diseases, including antifungal-resistant germs. Experts are also assessing IPC baseline capacity and providing trainings tailored to existing resources and capacity, as well as trainings on best practices for IPC measures pertaining to *Candida auris*. This work is part of CDC's Global AR Lab & Response Network efforts.

$200,000

icddr,b (previously INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASE RESEARCH): Enhancing IPC and AR stewardship programs in Bangladesh

Experts enhance IPC and antimicrobial stewardship programs in a network of hospitals in metropolitan Dhaka, **Bangladesh**.

$740,000

icddr,b (previously INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASE RESEARCH): Improving understanding of the health and economic impacts of AR in Bangladesh

Experts in **Bangladesh** implement Antibiotic Resistance in Communities and Hospitals (ARCH) by conducting studies to understand the burden and risk factors for colonization with resistant bacteria. Experts are also assessing health and economic impacts of colonization with resistant bacteria. This work is part of CDC's Global AR Lab & Response Network efforts.

$971,507

UNIVERSITY OF PENNSYLVANIA: Improving understanding of the health and economic impacts of AR in Botswana

Experts implement activities as part of the Antibiotic Resistance in Communities and Hospitals (ARCH) program, conducting studies to understand the burden and risk factors for colonization with resistant bacteria in **Botswana**. Experts are also assessing health and economic impacts of colonization with resistant bacteria. This work is part of CDC's Global AR Lab & Response Network efforts.

$741,737

UNIVERSITY OF PENNSYLVANIA: Developing and evaluating a decolonization protocol for healthcare facilities in low- and middle-income countries

Investigators are working in **Botswana** to develop a low-cost, standardized protocol for chlorhexidine gluconate bathing for patients in low- and middle-income countries in intensive care units. In addition, they will assess the protocol's efficacy in reducing bacterial colonization and HAIs in hospitalized patients.

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Centers for Disease Control and Prevention

GLOBAL AR Projects (cont.)

$1,284,615

FOUNDATION FOR SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT IN HEALTH (FIOTEC): Strengthening AR surveillance across Brazil

Experts strengthen AR laboratory surveillance for phenotypic and genotypic characterization across **Brazil**. This includes training and validation of tests; standardization of methods; implementation of whole genome sequencing; and creation of data platforms for compilation and report generation. Two hospitals will institute IPC bundles on units with high rates of resistant bacterial infections or colonization. This work is part of CDC's Global AR Lab & Response Network efforts.

$447,775

FOUNDATION FOR SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT IN HEALTH (FIOTEC): Strengthening a national surveillance system for antimicrobial-resistant *Candida* in Brazil

Experts are expanding the Brazilian Antimicrobial Resistance Surveillance System (BR-GLASS) and sentinel lab capacity to improve monitoring of antimicrobial-resistant *Candida* species in **Brazil**. This work will expand and enhance IPC strategies, improve patient outcomes, and protect the healthcare workforce, including through technical support for *C. auris* outbreaks. This work is part of CDC's Global AR Lab & Response Network efforts.

$450,000

TRAINING PROGRAMS IN EPIDEMIOLOGY AND PUBLIC HEALTH INTERVENTIONS NETWORK: Enhancing IPC capacity in hospitals in Brazil

Experts support projects with the University of Sao Paulo in **Brazil**, including PREVCOVID-BR, to enhance IPC to respond to COVID-19 in 10 hospitals with assessments of facility IPC capacity, continuous quality improvement (CQI), and a community of practice (CoP). A Cesarean section (CS) surgical site infection (SSI) project will strengthen CS-SSI through the incorporation of post-discharge surveillance and data validation, as well as CQI and a CoP.

$969,540

UNIVERSIDAD DEL DESARROLLO: Improving understanding of the health and economic impacts of AR in Chile

Experts implement activities as part of the Antibiotic Resistance in Communities and Hospitals (ARCH) program, conducting studies to understand the burden and risk factors for colonization with resistant bacteria in **Chile**. Experts are also assessing health and economic impacts of colonization with resistant bacteria. This work is part of CDC's Global AR Lab & Response Network efforts.

$50,000

CHINA CENTERS FOR DISEASE CONTROL AND PREVENTION: Expanding IPC efforts and establishing a tuberculosis laboratory network in China

Experts support the Chinese National Center for Tuberculosis (TB) Prevention and Control to scale-up and implement projects to strengthen TB surveillance, improve IPC in healthcare facilities, and build a quality TB laboratory network. Experts are also working to support the **China** Field Epidemiology Training Program TB track.

$150,000

INSTITUTO NACIONAL DE SALUD: Building lab capacity for AR in Colombia

Experts are building national fungal reference laboratory capacity and improving public health laboratory capacity to identify antifungal-resistant germs in **Colombia**. Experts are also building bioinformatics and whole genome sequencing capacity as part of FungiNet Global. This work is part of CDC's Global AR Lab & Response Network efforts.

$225,000

INSTITUTO NACIONAL DE SALUD: Evaluating the national surveillance System for AR, HAIs, and emerging threats in Colombia

Experts are evaluating the national surveillance system for HAIs, multidrug-resistant organisms and emerging pathogens, and HAI outbreak response in healthcare facilities in **Colombia**. Experts are also studying the incidence and risk factors for lower respiratory infections among COVID-19 patients hospitalized in intensive care units.

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GLOBAL AR Projects (cont.)

$225,000

COLUMBIA UNIVERSITY: Supporting IPC capacity building and training in the Democratic Republic of Congo

Experts support IPC capacity building at the national level in the **Democratic Republic of Congo** by providing technical assistance to the national IPC program, supporting cohorts of the Fundamentals of IPC training course, and providing technical assistance on IPC guidance development.

$300,000

COLUMBIA UNIVERSITY: Supporting IPC capacity building efforts in Ethiopia

Experts support IPC capacity-building efforts at national, sub-national, and facility levels in **Ethiopia**. Experts provide IPC support to eleven facilities across five regions through the Intensive Effort Initiative project. At the national level, experts support the National IPC Unit in key IPC initiatives, workshops, meetings, and the development of reports. Experts provide technical assistance to Ethiopia's Regional Health Bureaus at the sub-national level.

$125,000

ETHIOPIAN PUBLIC HEALTH INSTITUTE: Strengthening AR surveillance in Ethiopia

Experts support and strengthen the AR surveillance system in **Ethiopia**.

$150,000

ETHIOPIA FEDERAL MINISTRY OF HEALTH: Supporting the National IPC Unit in Ethiopia

CDC supports two staff in the National IPC Unit In **Ethiopia**. The National IPC unit has accomplished several key IPC capacity-building activities, holds key national IPC review meetings, and provides ongoing support to the Regional Health Bureaus.

$ 1,173,786

THE OHIO STATE UNIVERSITY: Implementing the Global Action in Healthcare Network in Ethiopia

Experts work in **Ethiopia** as part of the Global Action in Healthcare Network (GAIHN), developing a global network to address emerging infectious diseases threats in healthcare facilities through rapid detection and collaborative surveillance, prevention, and response. GAIHN works as part of CDC's Global AR Lab & Response Network to address priority AR healthcare pathogens.

$75,000

GEORGIA NATIONAL CENTER FOR DISEASE CONTROL: Strengthening AR surveillance and laboratory capacity in Georgia

Experts are establishing a national AR surveillance system in **Georgia**, strengthening the national external quality assessment (EQA) program, and supporting the National Reference Laboratory to become an accredited EQA provider for AR.

$100,000

INTERNATIONAL ASSOCIATION OF NATIONAL PUBLIC HEALTH INSTITUTES: Supporting the National Public Health Organization of Greece to detect and prevent AR

Experts support the National Public Health Organization (NPHO) of **Greece**, the Greek national public health institute with the mission of protecting and improving the population's health through detecting, monitoring, and reporting communicable diseases. One of the key areas of the NPHO is the detection and prevention of HAIs, including AR infections.

$1,500,000

VANDERBILT UNIVERSITY MEDICAL CENTER: Implementing the Global Action in Healthcare Network in Greece

Experts work in **Greece** as part of the Global Action in Healthcare Network (GAIHN), developing a global network to address emerging infectious diseases threats in healthcare facilities through rapid detection and collaborative surveillance, prevention, and response. GAIHN works as part of CDC's Global AR Lab & Response Network to address priority AR healthcare pathogens.

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GLOBAL AR Projects (cont.)

$400,000

WASHINGTON STATE UNIVERSITY: Improving understanding of the health and economic impacts of AR in Guatemala

Experts implement activities as part of the Antibiotic Resistance in Communities and Hospitals (ARCH) program, conducting studies to understand the burden and risk factors for colonization with resistant bacteria in **Guatemala**. Experts are also assessing health and economic impacts of colonization with resistant bacteria. This work is part of CDC's Global AR Lab & Response Network efforts.

$100,000

AFRICAN SOCIETY FOR LABORATORY MEDICINE: Strengthening whole genome sequencing capacity to detect and monitor AR in India

Experts are working in **India** to expand whole genome sequencing capacity to detect drug-resistant (DR) tuberculosis (TB) and analyze DR-TB transmission patterns.

$100,000

AFRICAN SOCIETY FOR LABORATORY MEDICINE: Supporting laboratory networks and improving quality assurance systems in India

Experts are working in **India** to support laboratory networks, communities of practice, and quality assurance systems through structured laboratory quality improvement program activities for tuberculosis (TB) and multidrug-resistant TB and the Lab ECHO network. Experts are also continuing external quality assessments for Truenat TB tests.

$650,000

SOCIETY FOR HEALTH ALLIED RESEARCH AND EDUCATION INDIA: Improving prevention, detection, and treatment of drug-resistant tuberculosis in India

Experts in **India** are conducting active household contact tracing for active and latent tuberculosis (TB) intervention. Experts are evaluating latent TB infection treatment for contacts of multidrug-resistant TB patients, expanding IPC and airborne infection control measures, and developing and implementing a community scorecard to assess and improve uptake of TB/HIV services.

$475,000

ALL INDIA INSTITUTE OF MEDICAL SCIENCES: Strengthening HAI surveillance and improving IPC capacity across India

Experts strengthen HAI surveillance in **India**. Thirty-nine sites conduct HAI surveillance for bloodstream infections, urinary tract infections, and surgical site infections and report them through an online portal. Experts also support IPC, training, quality improvement methodology, and improved use of antibiotics.

$830,000

AMERICAN SOCIETY FOR MICROBIOLOGY: Improving understanding of health and economic impacts of AR in India

Through the project Antibiotic Resistance in Communities and Hospitals (ARCH), experts conduct studies to understand the burden and risk factors for colonization with resistant bacteria and assess the health and economic impacts. In addition, experts support the National Center for Disease Control in **India** in coordinating collaborations nationally and at the state level on COVID-19 and other health security activities.

$2,284,616

JOHNS HOPKINS UNIVERSITY: Implementing the Global Action in Healthcare Network in India

Experts work in **India** as part of the Global Action in Healthcare Network (GAIHN), developing a global network to address emerging infectious diseases threats in healthcare facilities through rapid detection and collaborative surveillance, prevention, and response. GAIHN works as part of CDC's Global AR Lab & Response Network to address priority AR healthcare pathogens.

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GLOBAL AR Projects (cont.)

$500,000

KOPERASI JASA INSTITUT RISET EIJKMAN: Improving capacity to detect and monitor emerging AR in bacterial respiratory pathogens in Indonesia

Experts are enhancing the capacity of clinical laboratories at select secondary or tertiary hospitals in **Indonesia** for identification and characterization of antimicrobial-resistant respiratory germs, with a focus on *Streptococcus pneumoniae*. This work will also create guidelines and opportunities for other regional facilities to replicate the laboratories' success. This work is part of CDC's Global AR Lab & Response Network efforts.

$20,000

KOPERASI JASA INSTITUT RISET EIJKMAN: Expanding AR detection and capacity building across Indonesia

Experts assessed hospital capacity across 12 hospitals in **Indonesia** to identify potential healthcare facilities to participate in a capacity building project to improve bacterial detection.

$971,507

U.S. CIVILIAN RESEARCH AND DEVELOPMENT FOUNDATION (CRDF GLOBAL): Strengthening surveillance and IPC in Jordan

Experts work in **Jordan** as part of the Global Action in Healthcare Network (GAIHN), developing a global network to address emerging infectious diseases threats in healthcare facilities through rapid detection and collaborative surveillance, prevention, and response. GAIHN works as part of CDC's Global AR Lab & Response Network to address priority AR healthcare pathogens.

$659,174

UNIVERSITY OF NAIROBI: Monitoring and preventing antimicrobial-resistant *Candida auris* in Kenya

Experts will improve the capacity to detect, monitor, and control emerging antimicrobial-resistant *Candida auris* in **Kenya's** healthcare settings. This work will enhance IPC strategies, improve patient outcomes, and protect the healthcare workforce. This work is part of CDC's Global AR Lab & Response Network efforts.

$65,000

AMERICAN SOCIETY FOR MICROBIOLOGY: Supporting AR surveillance and strengthening lab capacity in Kenya

Experts support the national AMR secretariat in **Kenya** to conduct surveillance data analysis and annual report writing. Experts have also developed and are evaluating a program, ECHO AMR, to transfer technical skills, knowledge, and capacity to laboratorians for the identification and reporting of certain bacteria resistant to antibiotics.

$825,000

COLUMBIA UNIVERSITY: Improving capacity to detect, monitor, and reduce transmission of AR pathogens in Kenya

Experts conduct the Global Healthcare Detection and Response (DARE) AR Project to improve facility and laboratory capacity to detect, monitor, and mitigate the transmission and emergence of AR pathogens in **Kenya**. Activities include estimating the burden of AR, enhancing AR surveillance, improving antimicrobial stewardship, and developing quality improvement capacity for antimicrobial use and IPC in healthcare settings.

$50,000

KENYA MINISTRY OF PUBLIC HEALTH AND SANITATION: Establishing national IPC and AR indicators, strengthening AR stewardship capacity, and developing a national IPC monitoring and evaluation system in Kenya

Experts in **Kenya** are establishing national IPC and AR indicators, codified within the National Hospital Insurance Fund as key accreditation requirements for health facilities; strengthening antimicrobial stewardship teams; supporting county antimicrobial stewardship committees; and developing a national IPC monitoring and evaluation system.

$475,000

UNIVERSITY OF WASHINGTON (ITECH): Strengthening IPC and HAI surveillance in Kenya

Experts strengthen **Kenya's** ability to prevent, detect, and respond to infectious disease outbreaks through partnerships with the Kenya Ministry of Health and other stakeholders. The experts' work focuses on strengthening IPC for COVID-19 at selected hospitals and developing and implementing Cesarean section surgical site surveillance and quality improvement projects at selected hospitals.

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$800,000

WASHINGTON STATE UNIVERSITY: Improving understanding of the health and economic impacts of AR in Kenya

Experts implement activities as part of the Antibiotic Resistance in Communities and Hospitals (ARCH) program, studying the burden and risk factors for colonization with resistant bacteria in **Kenya**. Experts are also assessing health and economic impacts of colonization with resistant bacteria. This work is part of CDC's Global AR Lab & Response Network efforts.

$600,000

FAMILY HEALTH INTERNATIONAL 360: Improving water, sanitation, hygiene and environmental monitoring in Kenya to address antimicrobial-resistant enteric pathogen transmission

Experts are developing environmental monitoring in **Kenya** to address antimicrobial-resistant enteric pathogen transmission. Experts work with local laboratories in Kenya to develop environmental monitoring of antimicrobial-resistant enteric pathogens in household water, water sources, and environmental samples and work to assess risk factors for exposure to those pathogens to understand and improve prevention measures. This work is part of CDC's Global AR Lab & Response Network efforts.

$300,000

APIN PUBLIC HEALTH INITIATIVES: Strengthening whole genome sequencing capacity to detect and monitor AR in Nigeria

Experts in **Nigeria** are working to expand whole genome sequencing capacity for detecting drug-resistant (DR) tuberculosis (TB) and analyze DR-TB transmission patterns.

$200,000

AFRICAN FIELD EPIDEMIOLOGY NETWORK - NIGERIA: Delivering IPC training and implementing IPC interventions in Nigeria

Experts work with the College of Medicine, University of Lagos (CMUL) in **Nigeria** to deliver and evaluate CMUL's IPC Training Program, a six-month supervised training program for healthcare professionals during which trainees acquire in-depth knowledge and practical experience in IPC. This project also supports CMUL in implementing environmental cleaning and hand hygiene interventions at the Lagos University Teaching Hospital.

$250,000

INSTITUTE OF HUMAN VIROLOGY, NIGERIA: Strengthening IPC capacity at healthcare facilities in Nigeria

Experts are establishing patient and healthcare worker screening programs for COVID-19 and tuberculosis at thirty health facilities in Nasarawa State and the Federal Capital Territory, **Nigeria.** Experts have also provided IPC and quality improvement training to IPC focal persons at these health facilities.

$250,000

NIGERIA CENTRE FOR DISEASE CONTROL: Establishing IPC centers of excellence in Nigeria

Experts are establishing and expanding the Orange Network, a network of tertiary public health facilities in **Nigeria** that receive training and mentorship to become IPC centers of excellence. Experts are piloting a protocol for surgical site infection surveillance, strengthening hand hygiene compliance, and implementing a diagnostic stewardship program in select health facilities.

$70,000

UNIVERSITY OF LAGOS COLLEGE OF MEDICINE: Strengthening *Candida auris* epidemiology and laboratory capacity in Nigeria

Experts are strengthening the prevention, monitoring, and response to AR in **Nigeria**, specifically for *Candida auris*, by providing training on laboratory and epidemiology practices.

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GLOBAL AR Projects (cont.)

$175,000

HEALTH SECURITY PARTNERS: Improving prevention and response efforts for antimicrobial-resistant typhoid in Pakistan

Experts are improving ongoing prevention and response efforts for typhoid in **Pakistan** by assessing risk factors such as current practices or typhoid by healthcare providers (i.e., prescription practices), vaccine hesitancy and access, as well as water, sanitation, and hygiene. Experts are also building on current data systems and providing linkages between vertical reporting systems as needed to inform future vaccination strategies. This work is part of CDC's Global AR Lab & Response Network efforts.

$448,898

NATIONAL INSTITUTE OF HEALTH PAKISTAN: Monitoring and preventing antimicrobial-resistant *Candida auris* in Pakistan

Experts will improve the capacity to detect, monitor, and control emerging antimicrobial-resistant *Candida auris* in **Pakistan** healthcare settings. This work will enhance IPC strategies, improve patient outcomes, and protect the healthcare workforce. This work is part of CDC's Global AR Lab & Response Network efforts.

$500,000

NORTHWESTERN UNIVERSITY: Surveillance of antimicrobial-resistant *Candida auris* in a Pakistan healthcare system

Experts will build local capacity to detect, track, and report antimicrobial-resistant *Candida auris* and other antimicrobial-resistant *Candida* species at Aga Khan University Hospital in **Pakistan**, with an emphasis on a description of molecular mechanisms of AR. This work will inform the response when threats are detected and put into place the mechanisms for molecular detection of outbreaks. This work is part of CDC's Global AR Lab & Response Network efforts.

$497,519

RESEARCH TRIANGLE INSTITUTE: Investigating the impacts of HAIs on health systems and patients in limited-resource settings

Investigators estimate the frequency and economic burden associated with surgical site infections (SSI) in **Pakistan** following Caesarean section at both the health system and patient levels in limited-resource settings to inform the justification for the resources and efforts required for effective SSI prevention activities.

$100,000

ICAP AT COLUMBIA UNIVERSITY: Implementing an advanced IPC certificate course in Sierra Leone

Experts are implementing an Advanced IPC Certificate Course in **Sierra Leone**.

$150,000

WITS HEALTH CONSORTIUM: Building regional surveillance capacity for AR

Experts are building regional surveillance capacity for antifungal-resistant germs, with priority on *Candida* species and *Cryptococcus* species. Experts are also building capacity for fungal bioinformatics and whole genome sequencing in South Africa, with plans to incorporate data from **South Africa** and regional country partner labs into FungiNet Global. This work is part of CDC's Global AR Lab & Response Network efforts.

$365,000

SOUTH AFRICA NATIONAL HEALTH LABORATORY SERVICE: Expanding drug-resistant tuberculosis detection and capacity building across South Africa

Experts in **South Africa** are working to expand whole genome sequencing capacity for detecting drug-resistant (DR) tuberculosis (TB) and analyze DR-TB transmission patterns.

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GLOBAL AR Projects (cont.)

$225,000

AMREF HEALTH AFRICA - TANZANIA: Strengthening and evaluating IPC implementation in healthcare facilities in Tanzania

Experts strengthen the capacity of healthcare workers in **Tanzania** to implement national policies, guidelines, and standards for IPC in a sustainable manner, enhance monitoring and evaluation frameworks for IPC interventions in healthcare facilities in project regions, and evaluate previously implemented activities in the Kigoma region.

$100,000

TANZANIA MINISTRY OF HEALTH AND SOCIAL WELFARE: Strengthening IPC and implementing a national IPC monitoring and evaluation system in Tanzania

Experts in **Tanzania** strengthen the capacity of IPC focal points and healthcare workers and facilitate the implementation of a national monitoring and evaluation system and subsequent data quality assurance activities.

$150,000

BANGKOK METROPOLITAN ADMINISTRATION: Preventing and responding to AR, enhancing IPC, and improving antibiotic use in Thailand

Experts enhance IPC best practices, implement activities to prevent and respond to AR pathogens, and evaluate and improve antibiotic use in **Thailand**.

$400,000

THAILAND MINISTRY OF PUBLIC HEALTH: Enhancing AR surveillance, prevention, and response in Thailand

Experts in **Thailand** implement AR surveillance and isolate referral for detection of new and emerging AR pathogens. Experts are also conducting enhanced prevention and response to AR pathogens.

$800,000

INFECTIOUS DISEASE INSTITUTE LIMITED: Strengthening hospital capacity to implement HAI surveillance and AR detection in Uganda

Experts support the development of a network of five regional referral hospitals across **Uganda** to strengthen structures for implementing HAI surveillance and identifying antimicrobial-resistant organisms. Objectives include using surveillance data to inform the implementation of interventions to monitor and prevent HAIs and for the identification of and response to antimicrobial-resistant threats.

$175,000

MAKERERE UNIVERSITY SCHOOL OF PUBLIC HEALTH: Developing a national IPC monitoring system in Uganda

Experts are developing a national IPC monitoring system in **Uganda**, including the development of IPC indicators, a dashboard, and data quality assessments.

$300,000

MAKERERE UNIVERSITY SCHOOL OF PUBLIC HEALTH: Developing a national post-graduate IPC certificate curriculum and national community of practice in Uganda

Experts in **Uganda** are developing a national post-graduate IPC certificate course curriculum and establishing a national community of practice for IPC.

$220,000

VIETNAM NATIONAL LUNG HOSPITAL/NATIONAL TUBERCULOSIS PROGRAM: Improving diagnosis and surveillance of multidrug-resistant tuberculosis in Vietnam

Experts in **Vietnam** are working to improve the diagnosis and surveillance of multidrug-resistant and extensively drug-resistant (XDR) tuberculosis (TB) through rifampin resistance surveillance. Experts are establishing rapid XDR TB diagnosis and treatment and supporting the Vietnam National TB Reference Laboratory as a TB supranational reference laboratory.

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$150,000

ASSOCIATION OF PUBLIC HEALTH LABORATORIES: Enhancing IPC quality improvement strategies and improving laboratory capacity to detect and monitor AR in Vietnam

Experts enhance IPC best practices, implement quality improvement in IPC and AR prevention, expand national surveillance for HAIs and AR, and improve laboratory detection for AR in **Vietnam**.

$450,000

PATH: Strengthening IPC capacity and AR detection in Vietnam

Experts enhance IPC best practices; implement quality improvement in IPC and AR prevention; expand national surveillance for HAIs and AR; and improve laboratory detection for AR in **Vietnam**.

$150,000

VIETNAM ADMINISTRATION FOR MEDICAL SERVICES: Strengthening IPC and enhancing HAI and AR prevention and detection in Vietnam

Experts in **Vietnam** enhance IPC best practices; develop national guidelines and standards for IPC, HAIs, AR prevention; and expand national surveillance for HAIs and AR.

MULTI-COUNTRY AR PROJECTS

$775,000

AFRICAN FIELD EPIDEMIOLOGY NETWORK - HEADQUARTERS: Developing national IPC programs across Africa

Experts develop and coordinate national IPC programs across **Africa** in collaboration with the Africa Centres for Disease Control and Prevention (Africa CDC) and the Infection Control Africa Network. This project also supports Africa CDC in hiring IPC and AR technical officers and in developing continent-wide IPC and AR guidance, policies, and trainings.

$1,200,000

AMERICAN SOCIETY FOR MICROBIOLOGY: Enhancing global laboratory capacity in Mexico and Brazil to detect, assess, and respond to emerging AR

Experts work with partners to strengthen laboratory system data reporting and improve AR detection and response for *Bordetella pertussis*. *Bordetella pertussis*, a vaccine-preventable disease, was recently added to CDC's AR Watch List as a potential growing threat. Experts work with partners in **Mexico** and **Brazil** to identify emerging resistance in this pathogen and help respond when and where outbreaks occur. This work is part of CDC's Global AR Lab & Response Network efforts.

$600,000

ASSOCIATION OF PUBLIC HEALTH LABORATORIES: Improving detection and characterization of gut pathogens in the Asia-Pacific region

Experts work across **Australia**, **Bangladesh**, **China**, **Hong Kong**, **India**, **Japan**, **Malaysia**, **New Zealand**, **the Philippines**, **the Republic of Korea**, **Taiwan**, **Thailand**, and **Vietnam** to increase enteric disease data and facilitate data sharing between countries. The information collected helps the scientific community understand the spread of enteric bacterial disease and AR in these countries. This work is part of CDC's Global AR Lab & Response Network efforts.

$1,400,000

ASSOCIATION OF PUBLIC HEALTH LABORATORIES: Developing information technology solutions for global AR networks

Experts support CDC and global partners to develop information technology solutions for collection, tracking, and reporting of data within the Global AR Lab & Response Network, within the Global Action in Healthcare Network, and to CDC. This work is part of CDC's Global AR Lab & Response Network efforts.

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GLOBAL AR Projects (cont.)

$200,000

BAYLOR COLLEGE OF MEDICINE: Improving drug-resistant tuberculosis diagnosis and prevention across Africa
Experts are working in **Botswana**, **Eswatini**, **Lesotho**, **Malawi**, **Tanzania,** and **Uganda** to optimize approaches for the diagnosis and prevention of tuberculosis (TB), including multidrug-resistant TB, in adults and children living with HIV.

$75,000

COLUMBIA UNIVERSITY: Supporting IPC capacity building across Africa
Experts support the **East Africa** IPC Network, a community of practice that includes the following key activities: IPC performance monitoring, learning network activities, IPC focal point capacity building, and quality improvement. The project aims to reduce incidence of COVID-19 and HAIs in participating hospitals by improving compliance with IPC standards.

$50,000

ELIZABETH GLASER PEDIATRIC AIDS FOUNDATION: Evaluating the impact of COVID-19 on healthcare IPC in South Africa
Experts are studying IPC-related disruptions to essential health services in the context of COVID-19. The project was piloted in about 120 facilities in **Kenya** and **Cameroon**, and the expanded study was conducted in about 120 facilities in **Cote d'Ivoire**, **Uganda**, and **South Africa**.

$100,000

GENERAL SECRETARIAT OF THE CENTRAL AMERICAN INTEGRATION SYSTEM: Building IPC capacity across Central America
Experts support selected facilities in **Central America** to conduct IPC and hand hygiene assessments, develop improvement plans, host national workshops for IPC capacity building, and establish communities of practice within each country.

$500,000

GLOBAL SCIENTIFIC SOLUTIONS FOR HEALTH: Improving detection and response to antimicrobial-resistant meningococcal disease in Burkina Faso and Togo
Experts are reinforcing surveillance systems for antimicrobial-resistant *Neisseria meningitidis* in **Burkina Faso** and **Togo** and creating tailored work plans for each country. The data and findings from this project will guide public health decision making and planning for how to track and respond to the threat of meningitis outbreaks in partner countries and the broader region. This work is part of CDC's Global AR Lab & Response Network efforts.

$2,600,000

HEALTH SECURITY PARTNERS: Evaluating the impact of the COVID-19 pandemic on AR in Brazil, Indonesia, and the Philippines
Experts work in **Brazil, Indonesia**, and the **Philippines** as part of the Global Action in Healthcare Network (GAIHN), developing a global network to address emerging infectious diseases threats in healthcare facilities through rapid detection and collaborative surveillance, prevention, and response. GAIHN works as part of CDC's Global AR Lab & Response Network to address priority AR healthcare pathogens.

$700,000

HEALTH SECURITY PARTNERS: Supporting IPC collaboration between the U.S. and Southeast Asia
Experts work with the Association of Southeast Asian Nations (ASEAN) to develop the ASEAN-United States IPC Task Force, which will serve as a regional resource for effective detection, prevention, and response to emerging infectious disease threats, including HAIs and AR in healthcare facilities in **Southeast Asia**.

This data represents CDC's largest AR funding categories and shows extramural funding that supports AR activities from multiple funding lines. Some work received funding from COVID-19 supplemental appropriations, such as the American Rescue Plan Act or the CARES Act.

AR: antimicrobial resistance **COVID-19:** coronavirus disease 2019
HAI: healthcare-associated infection **IPC:** infection prevention and control
NHSN: National Healthcare Safety Network

CDC provides critical support in the U.S. and abroad to protect people from antimicrobial resistance.

ARinvestments.cdc.gov

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

GLOBAL AR Projects (cont.)

$75,000

INTEGRATED QUALITY LABORATORY SERVICES: Improving laboratory practices to improve AR data around the World

Experts developed the Laboratory Assessment of Antibiotic Resistance Testing Capacity (LAARC), a tool that helps clinical bacteriology laboratories in resource-limited settings identify and correct laboratory practices that contribute to inaccurate AR data. The tool is available on CDC's website in English, French, Spanish, and Portuguese. LAARC generates numerical indicators in real-time heatmaps and provides guidance for improvement.

$1,288,006

JHPIEGO: Evaluating the impact of the COVID-19 pandemic on AR in multiple countries

Experts describe SARS-CoV-2 infection in healthcare workers in **Ethiopia** after the COVID-19 vaccine rollout and enhance IPC policy, training, and capacity at provincial, district, and facility levels in **Pakistan**. Experts are evaluating the impact of the COVID-19 pandemic on antibiotic use and AR in **Argentina**, **Brazil**, and **Chile**, and evaluating immunochromatography for direct colonization screening in Brazil.

$849,069

JOHNS HOPKINS UNIVERSITY: Analyzing impacts of the healthcare environment on AR

Investigators identify and characterize contamination of the healthcare environment with multidrug-resistant organisms (MDROs) and study the role environmental reservoirs may play in the transmission of high-priority MDROs to and between patients in intensive care units in **low- and middle-income countries**.

$1,718,934

PAN AMERICAN HEALTH ORGANIZATION: Implementing the Global Action in Healthcare Network in multiple countries

Experts work in **Argentina**, **Belize**, **Chile**, **Costa Rica**, **Uruguay**, and **Ecuador** as part of the Global Action in Healthcare Network (GAIHN), developing a global network to address emerging infectious diseases threats in healthcare facilities through rapid detection and collaborative surveillance, prevention, and response. GAIHN works as part of CDC's Global AR Lab & Response Network to address priority AR healthcare pathogens.

$107,707

PAN AMERICAN HEALTH ORGANIZATION: Strengthening fungal disease surveillance in Latin America & the Caribbean

Experts are strengthening the prevention, monitoring, and response to AR in **Latin America** and the **Caribbean** by establishing a regional AR surveillance network for invasive fungal infections (Global Antimicrobial Resistance and Use Surveillance System (GLASS) Candidemia Surveillance), including providing training on surveillance practices.

$194,000

TRAINING PROGRAMS IN EPIDEMIOLOGY AND PUBLIC HEALTH INTERVENTIONS NETWORK: Assessing IPC policies and practices in Chile and Colombia

Experts conduct a mixed-methods assessment of IPC in 30 long-term care facilities in **Chile**; a mixed-methods assessment of the implementation of COVID-19 IPC policies and practices in hospitals in **Colombia**; and a study to understand risks of bloodstream infections among COVID-19 patients in Colombia.

$150,000

U.S. CIVILIAN RESEARCH AND DEVELOPMENT FOUNDATION (CRDF GLOBAL): Evaluating detection, containment, and response capacity across the Middle East

Experts assess detection, containment, and response capacity in the **Middle East** for carbapenem-resistant organisms (CROs) and, specifically, for carbapenemase-producing CROs. Two CROs are listed as Urgent Threats in CDC's 2019 AR Threats Report: www.cdc.gov/drugresistance/biggest-threats.html.

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ARinvestments.cdc.gov

U.S. Department of Health and Human Services
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$135,000

WATER ENVIRONMENT FEDERATION: Developing a global community of practice for wastewater and environmental surveillance

Experts are developing and piloting a strategic document for the design and implementation of a Global Wastewater Surveillance Community of Practice for future implementation with international partners. This work is part of CDC's Global AR Lab & Response Network efforts.

$1,330,575

WORLD HEALTH ORGANIZATION: Strengthening global and national surveillance systems for antimicrobial-resistant *Neisseria gonorrhoeae*

Experts will expand the Enhanced Gonococcal Antimicrobial Surveillance Programme (eGASP), a CDC and World Health Organization initiative monitoring trends in antimicrobial susceptibility of *Neisseria gonorrhoeae*, in **Thailand**, the **Philippines**, **Cambodia**, and **South Africa**. Data from eGASP sites will strengthen understanding of how antimicrobial-resistant gonorrhea spreads in geographically diverse areas and inform national and international clinical treatment guidelines. This work is part of CDC's Global AR Lab & Response Network efforts.

$150,000

WORLD HEALTH ORGANIZATION: Strengthening global surveillance for fungal diseases

Experts are strengthening the prevention, monitoring, and response to AR by establishing a **global** AR surveillance network for invasive fungal infections (Global Antimicrobial Resistance and Use Surveillance System (GLASS) Candidemia Surveillance), including providing training on surveillance practices, with a special emphasis on countries in **Latin America**.

Learn more about CDC's work to combat antimicrobial resistance globally:

www.cdc.gov/DrugResistance
www.cdc.gov/infectioncontrol/iicp
www.cdc.gov/InfectionControl
www.cdc.gov/GlobalHIVTB

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