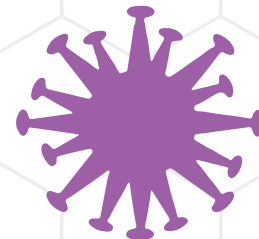


AR & COVID-19 Funding Help Stop Spread of Emerging Threats



Fiscal Year 2021 Sampling of Shared Activities

Many of the nation's efforts to prevent the spread of SARS-CoV-2 will also help in the fight against antibiotic resistance, including investments in infection control and prevention (IPC), training, surveillance, and public health personnel. The following represent many of those shared public health activities that CDC led in Fiscal Year 2021 using appropriations for AR or COVID-19.



\$2,000,000

SARS-CoV-2 acquisition and transmission in international travelers

Building upon the established GTEN platform, and as more and more Americans begin to resume travel, Massachusetts General Hospital and Harvard University are investigating SARS-CoV-2 acquisition and burden among vaccinated compared to unvaccinated travelers, variant strain emergence and detection among vaccinated and unvaccinated travelers, and assessing other interventions in reducing the risk of SARS-CoV-2 among travelers.



\$100,000

Antimicrobial Stewardship Pilot Project

Experts are working with CDC to develop an implementation bundle and checklist that domestic antibiotic stewardship programs can use to improve prescribing for respiratory illnesses at their hospitals during and after the COVID-19 pandemic.



\$447,000

Scaling up the Brazilian Antimicrobial Resistance Surveillance System (BR-GLASS)

Experts are working in Brazil to reinforce actions in the context of Brazil's Global Antimicrobial Resistance Surveillance System (BR-GLASS) at a country level.



\$300,000

Expanding IPC in Brazil

Experts are working in Brazil to build capacity and strengthen hospital infection control through detection, prevention, and response.



\$839,000

Enhancing antimicrobial surveillance in Chile in health care, the community, and the environment

Experts are transforming surveillance for emerging infectious diseases in Chile, focusing on AR as an ever-evolving health threat by improving human, laboratory, and bioinformatic capacities for detection, identification of AR drivers, and improving early response. These efforts will incorporate AR colonization surveillance in healthcare facilities, the community, and the environment to inform global containment of AR.



\$401,000

Evaluating the genetic relatedness of AR bacteria among humans in health care and the community in Chile

Experts in Chile are building off their previous CDC-funded research to determine the genetic relatedness of multi-drug resistant organisms in hospitals and the community by performing whole genome sequencing to understand the relationship between colonization within hospitals and between hospitals and communities, helping inform public health interventions.

**This work was funded by COVID-19 supplemental appropriations, such as the American Rescue Plan or the CARES Act. The work funded through COVID-19 supplemental appropriations is summarized on this FY21 AR Investment Map COVID-19 Fact Sheet.*

COVID-19 AR Investments (cont.)



Implementing a national AR surveillance system and enhancing IPC in health facilities across Pakistan

Experts are working in Pakistan to implement their national AR surveillance plan and enhance IPC in healthcare facilities.

\$2,350,000



Assessing current antibiotic stewardship programs across multiple countries

Experts are using validated tools to assess current antibiotic stewardship programs, practices, and needs in hospital networks in four lower and upper middle-income countries in Asia to target stewardship interventions to reduce and improve overall antibiotic use.

\$600,000



Expanding IPC in Ethiopia

Experts are working in Ethiopia to provide technical support for improved coordination and monitoring of IPC response activities.

\$150,000



Enhancing antimicrobial surveillance in Ethiopia

Experts are working in Ethiopia to conduct AR surveillance.

\$50,000



Monitoring AR in intensive care units (ICUs) and evaluating COVID-19's impact on antibiotic use and AR

Experts are working in South America to assess the implementation of carbapenem-resistant organisms control policies in ICUs in select facilities, to assess the impact of widespread transmission of COVID-19 on antibiotic use and prevalence of multidrug-resistant organisms in adult ICUs, and to pilot an IPC assessment tool in neonatal ICUs.

\$694,000



Preventing infections in Indian hospitals

Experts are working in India to build capacity and strengthen hospital infection control through detection, prevention, and response.

\$505,000



Supporting IPC in Tanzanian health facilities

Experts are working in select regions in Tanzania to provide technical support for strengthening IPC at prioritized facilities in support of the COVID-19 response.

\$150,000



Establishing laboratory capacity to detect and monitor AR

Experts are implementing active and passive surveillance to detect and monitor emerging and known AR pathogens (carbapenem-resistant organisms and *Candida auris*) through culture and whole genome sequencing.

\$1,119,000



Assessing effectiveness of IPC activities in Latin America

Experts will conduct a multifaceted assessment of IPC activities in Latin America.

\$867,000



Training healthcare workers on COVID-19 triage and evaluating environmental cleaning across countries

Experts are training healthcare workers in Pakistan on COVID-19 triage and supervising improvements. Experts are also evaluating the effectiveness of CDC's Best Practices for Environmental Cleaning in Low-Resource Settings Toolkit in Southern Africa by measuring antibiotic use and AR infections changes in southern Africa and South America as well as enhancements to healthcare worker COVID-19 symptom monitoring and reporting in Central and East Africa.

\$1,200,000

COVID-19 AR Investments (cont.)



Improving surveillance and IPC activities in two Indian hospitals

Experts are evaluating routine clinical culture data from ICU patients for carbapenem-resistant Enterobacterales surveillance and to monitor and guide infection prevention practices in two hospitals in India.

\$1,391,000



Building infectious disease response networks in the Democratic Republic of Congo

Experts will enhance detection and response to infectious disease threats, including AR, HAIs, and COVID-19, in healthcare facilities in the Democratic Republic of Congo by developing networks to implement prevention and containment strategies at local, national, and regional levels.

\$835,000



Building an IPC community of practice to respond to COVID-19 in East Africa

Experts are recruiting IPC champions from at least 10 healthcare facilities in four East African countries to participate in an international network/community of practice to respond to COVID-19.

\$400,000



Strengthening IPC practices to prevent and respond to COVID-19 in Nigerian health facilities

Experts are building capacity in Nigeria for the Nigerian Centre for Disease Control IPC Unit to prevent transmission and respond to outbreaks of emerging infectious diseases, including COVID-19, in health care.

\$200,000



Establishing a healthcare network to prevent, detect, respond, and contain infectious disease threats in Eastern Africa

Experts are establishing a network of healthcare facilities and reference laboratories within Ethiopia and Eastern Africa to rapidly detect, respond, and prevent infectious disease threats. Experts will strengthen, develop, and support IPC programs, antibiotic stewardship programs, and laboratory quality assurance and capacity of the network through guideline development, training, mentoring, and monitoring and evaluation.

\$801,000



Establishing a network to strengthen the detection, response, and containment of AR and HAIs in Botswana

Experts are establishing a network of organizations (Botswana Ministry of Health and Wellness (MOHW), the University of Botswana (UB), the University of Pennsylvania, the Children's Hospital of Philadelphia (CHOP), and University of British Columbia (UBC)) to support the Ministry of Health and Welfare in Botswana in strengthening the detection, response, and containment of AR and HAIs in healthcare facilities.

\$593,000



Assessing antibiotic stewardship practices and IPC needs in health facilities in Botswana

Experts are working with stakeholders in Botswana, South Africa, and Zimbabwe to assess antibiotic stewardship practices, identify IPC needs at the national and hospital levels, and gain a deeper understanding of factors that influence antibiotic stewardship program implementation. Experts are creating an antibiotic stewardship implementation toolkit to build capacity across stakeholders in Botswana.

\$1,477,000



Slowing the spread of COVID-19, AR, and infectious disease threats in South Africa

Experts are building capacity in the National Department of Health in South Africa to support the efforts to control the spread of COVID-19, other emerging diseases, and AR in healthcare facilities.

\$350,000



Strengthening coordination and monitoring of IPC activities in Tanzania

Experts are working in Tanzania to provide technical support for improved coordination and monitoring of IPC activities.

\$50,000

COVID-19 AR Investments (cont.)



\$963,000

Enhancing IPC activities, AR surveillance and laboratory capacity, and antibiotic stewardship in Greece

Experts are developing a multinational project to improve genomic surveillance of resistance, identify risk factors for resistant Gram-negative bacilli bloodstream infections, enhance training in IPC and antibiotic stewardship, and strengthen laboratory capacity for AR detection in Greece.



\$400,000

Developing a national AR reporting and response system in Thailand

Experts are working in Thailand to strengthen AR surveillance through the development of a national AR reporting and response system to monitor and control AR.



\$200,000

Strengthening health facility capacity in Vietnam

Experts are strengthening health care in Vietnam through capacity building and quality improvement.



\$831,000

Building capacity of the Jordan HAI/AMR Surveillance and Prevention Network

Experts are implementing a technical assistance program built on the capacity of the Jordanian healthcare system via the national Jordan HAI/AMR Surveillance and Prevention Network.



\$200,000

Evaluating AR detection in the Eastern Mediterranean Region

Experts are assessing capacity for detection of AR in the Eastern Mediterranean Region.



\$512,000

Improving IPC activities in health facilities across Vietnam

Experts are working to implement COVID-19 IPC activities in the Vietnam Ministry of Health's IPC model hospital network including monitoring healthcare workers for COVID-19 and improving triage practices through quality improvement approaches.



\$200,000

Evaluating AR organism colonization in Guatemalan communities and hospitals

Experts are developing and testing a period prevalence survey of multidrug-resistant organism colonization in communities and hospitals in Guatemala.



\$886,000

Strengthening IPC and establishing national AR surveillance systems in Latin America

Experts are working in Latin America to implement national policy, guidelines, and tools to strengthen IPC capacities to decrease HAI burden and contain communicable diseases in healthcare facilities. The Pan American Health Organization is supporting countries to establish national AR surveillance systems to report laboratory and epidemiology information to the World Health Organization.



\$75,000

Expanding laboratory support through Project Extension for Community Healthcare Outcomes (ECHO) in Kenya

Experts are working in Kenya to provide Project ECHO laboratory training and support and an evaluation of the system.



\$400,000

Expanding AR detection and reporting in Indian laboratories

Experts are working in India to implement and sustain laboratory-based AR detection and reporting of all eight priority pathogens across the country.

COVID-19 AR Investments (cont.)



\$750,000

Evaluating and designing resilient IPC capacity globally

Experts are designing and implementing a pilot study to describe healthcare service reductions due to COVID-19 and the potential contribution of IPC disruptions to service reductions in Kenya and Cameroon. They are also conducting a webinar series focused on practical advice and implementation considerations for IPC in healthcare settings globally.



\$4,235,000

Strengthening health facilities to respond to infectious disease threats

Experts are building strong healthcare networks within Brazil, Indonesia, and the Philippines to integrate interventions to prevent, detect, and respond to infectious disease threats, including AR, HAIs, and COVID-19.



\$400,000

Evaluating CDC's Best Practices for Environmental Cleaning in Low-Resource Settings in Southeast Asia

Experts are working in Southeast Asia to evaluate the effectiveness of CDC's Best Practices for Environmental Cleaning in Low-Resource Settings Toolkit, evaluate enhancements to healthcare worker symptom monitoring and reporting in the context of the COVID-19 pandemic, and evaluate changes in antibiotic use and AR infections.



\$60,000

Implementing IPC guidelines to support the COVID-19 response in Latin America

Experts are translating and implementing IPC guidelines, standard operating procedures, and tools in Latin America to support the COVID-19 response.



varies by jurisdiction

Supporting state, territorial, and local health departments: Epidemiology and Laboratory Capacity for Prevention and Control of Emerging Infectious Diseases (ELC)

AR funding supports hundreds of epidemiologists, laboratorians, and other public health professionals that serve in their states and local communities. These experts are critical to the nation's COVID-19 response, especially in health care. CDC provided funding to states, territories, and local jurisdictions through the ELC cooperative agreement to expand their capacity for COVID-19 response, including activities that will also help fight AR, such as improving healthcare infection control, especially in high-risk settings, and more effectively using data to drive prevention of emerging threats.



Funded by FY20 CDC support to EIP sites

Strengthening surveillance for COVID-19 and related conditions in healthcare personnel and facilities: Emerging Infections Program (EIP)

With COVID-19 funding, EIP sites (CA, CT, MN, NM, OR, CO, TN, MD, GA, and NY) have expanded HAI/AR surveillance projects to include COVID-19 surveillance among healthcare personnel. CO, TN, MD, GA, and NY EIP are also testing a new surveillance definition for respiratory infections in nursing homes. GA and NY EIP are also conducting surveillance for sepsis in hospitals. [Learn more: www.cdc.gov/hai/eip](http://www.cdc.gov/hai/eip).



\$16,620,788

Preventing SARS-CoV-2 transmission in healthcare settings: Prevention Epicenters

Prevention Epicenters focused studies on preventing COVID-19 transmission in health care and COVID-19's impact on HAIs and antibiotic use. Studies included understanding risk factors and exposures to COVID-19 among healthcare personnel, improving personal protective equipment use, evaluating the role of the healthcare environment in transmission, COVID-19 testing to prevent infections in healthcare settings, and the impact of telemedicine on outpatient antibiotic use.

COVID-19 AR Investments (cont.)



\$798,650

Infectious disease modeling to support prevention and response

CDC's Modeling Infectious Diseases in Healthcare (MIND-Healthcare) Network and partners use mathematical modeling to guide prevention needs for AR pathogens. Recipients have developed statewide models of hospital and nursing home capacity, COVID-19 transmission dynamics within health care, including specialty facilities, and tools to leverage electronic health record data to improve decision making.

[Learn more: www.cdc.gov/hai/research/MIND-Healthcare.html](http://www.cdc.gov/hai/research/MIND-Healthcare.html).



\$600,000

Preventing SARS-CoV-2 transmission among dialysis patients

Through a cooperative agreement, CDC supported nephrologists, other kidney care providers, and frontline clinicians caring for COVID-19 patients in outpatient and inpatient dialysis settings to assist with the modification of facilities, processes, and activities to create safer care settings.



\$50,827,271

Building healthcare worker infection control capacity: Project Firstline

CDC's Project Firstline works with a diverse group of health departments, academic institutions, and non-governmental partners to provide engaging and innovative infection control training and education to ensure the U.S. healthcare and public health workforces are equipped to protect themselves, their coworkers, and their patients from infectious disease threats, including COVID-19 and AR. [Learn more: www.cdc.gov/ProjectFirstline](http://www.cdc.gov/ProjectFirstline).



\$25,431,000

Preventing and responding to COVID-19 around the world

AR funding has expanded the agency's work to improve healthcare IPC around the world. This critical work was expanded by more than \$25 million to support COVID-19 prevention and response in countries across Africa, Asia, and South America. These investments strengthened healthcare facility and personnel IPC capacity through training, mentorship, and provision of guidance and technical support.



\$6,610,000

Expanding the reach of CDC's COVID-19 response: Partnership with national organizations

CDC supports cooperative agreements with national partner organizations, including the National Association of County and City Health Officials, the American Hospital Association Health Research and Educational Trust, the Infectious Diseases Society of America, and the Council of State and Territorial Epidemiologists. Efforts include supporting fellows for COVID-19 IPC activities, strengthening IPC capacity at the state and local levels, strengthening the public health-healthcare connection, and establishing a Living Learning Network for U.S. health systems and facilities to share COVID-19 response lessons learned and promising practices.



\$8,484,976

Providing healthcare surveillance: National Healthcare Safety Network (NHSN)

With COVID-19 funding, NHSN leverages its flexible platform for HAI/AR and COVID-19 healthcare surveillance data. During FY21, CDC rapidly scaled up COVID-19 vaccination data collection across all 15,400 U.S. nursing homes, covering more than 2 million residents and staff. CDC's analysis of these data is key to evaluating vaccine effectiveness in nursing homes and helping drive policy decisions for booster doses in this population. [Learn more: www.cdc.gov/nhsn](http://www.cdc.gov/nhsn).



\$3,200,000

Wastewater surveillance

Wastewater surveillance In 2018, CDC supported research on the infection risk from antibiotic-resistant bacteria in wastewater. Supplementary funding to support CDC's COVID-19 response enabled CDC to build upon this prior investment to provide critical data to support wastewater surveillance for COVID-19 and develop best practices for National Wastewater Surveillance System partners.

[Learn more: www.cdc.gov/healthywater/surveillance/wastewater-surveillance/wastewater-surveillance.html](http://www.cdc.gov/healthywater/surveillance/wastewater-surveillance/wastewater-surveillance.html).