AR Solutions in Action

CDC's Investments to Combat Antibiotic Resistance Threats

FISCAL YEAR 2018

\$2,426,605

Funding for AR Activities Fiscal Year 2018



FUNDING TO STATE HEALTH DEPARTMENTS



RAPID DETECTION AND RESPONSE to novel or high-concern drug-resistant germs is critical to contain the spread of these infections.

With 2017 funding, DC Health worked with a neighboring state to implement a *C. auris* containment investigation for a patient who received treatment in multiple healthcare facilities and settings. Through this coordinated response, no further spread of *C. auris* was detected in the impacted healthcare facilities.



HAI/AR PREVENTION works best when public health and healthcare facilities partner together to implement targeted, coordinated strategies to stop infections and improve antibiotic use.

With 2017 funding, the District of Columbia implemented a diagnostic stewardship intervention to improve testing in a facility with high *C. difficile* rates, resulting in an overall reduction in cases per month and a 50% reduction in rate per 10,000 patient days.



FOOD SAFETY projects protect communities by rapidly identifying drug-resistant foodborne bacteria to stop and solve outbreaks and improve prevention.

The District of Columbia uses whole genome sequencing to track and monitor local outbreaks of *Listeria*, *Salmonella*, *Campylobacter*, and *E. coli* and uploads sequence data into PulseNet for nationwide monitoring of outbreaks and trends. In Fiscal Year 2019, the District of Columbia will begin simultaneously monitoring these isolates for resistance genes. When outbreaks are detected, local CDC-supported epidemiologists investigate the cases to stop spread.



GONORRHEA RAPID DETECTION & RESPONSE works with state and local epidemiology and laboratory partners to test for and quickly respond to resistant gonorrhea to stop its spread in high-risk communities. Only one treatment option remains for gonorrhea and resistance continues to grow.

To help inform national treatment guidelines for gonorrhea, the District of Columbia participates in the Gonococcal Isolate Surveillance Project (GISP), testing how well antibiotics work on laboratory samples from sentinel STD clinics, which often are the first to detect the threat.

FUNDING TO UNIVERSITIES & HEALTHCARE PARTNERS



CENTER FOR DISEASE DYNAMICS, ECONOMICS & POLICY: Innovative Prevention & Tracking

CDC's global work to combat AR prevents the importation of AR threats into the United States. The project is focused on developing a computational model to describe the cost and cost-effectiveness of infection prevention and control programs for stopping the spread of AR in healthcare settings in low- and middle-income countries.

Page 1 of 2 This data represents CDC's largest funding categories for AR. It shows extramural funding that supports AR activities from multiple funding lines.

AR: antibiotic resistance HAI: healthcare-associated infection

U.S. Department of

Health and Human Services



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DISTRICT OF COLUMBIA AR Investments (cont.)



CENTER FOR DISEASE DYNAMICS, ECONOMICS & POLICY: Discovering & Implementing What Works

The Modeling Infectious Diseases in Healthcare Network (MInD-Healthcare) is a virtual laboratory where researchers investigate factors that drive the spread of HAIs and simulate prevention strategies to estimate their benefits in a timely and cost-effective manner. Investigators will use data to inform regional health policy decisions for hospital interventions by examining transfer of patients between facilities. Learn more: www.cdc.gov/hai/research/MIND-Healthcare



CENTER FOR DISEASE DYNAMICS, ECONOMICS & POLICY: Innovative Prevention & Tracking

Investigators are working with CDC to gather data on global challenges and opportunities to combat antibiotic resistance and improve antibiotic use, including an economic analysis of returns on investment of improving antibiotic use compared with developing new antibiotics.



CHILDREN'S RESEARCH INSTITUTE: Innovative Prevention & Tracking

CDC scientists are assessing healthcare systems in the United States and abroad, advising and training facility and public health staff on infectious diseases and infection control.



AMERICAN SOCIETY FOR MICROBIOLOGY: Global Expertise & Capacity Enhancements

CDC's global work to combat AR prevents the importation of AR threats into the United States. Experts are working in the countries of Georgia, India, Vietnam, Kenya, Bangladesh and Ethiopia to increase detection of AR threats by assessing and improving clinical microbiology laboratories and reference laboratories through training, on-site mentorship, data analysis and reporting capabilities.



PAN AMERICAN HEALTH ORGANIZATION (PAHO): Global Expertise & Capacity Enhancements

CDC's global work to combat AR prevents the importation of AR threats into the United States. Experts are working in various countries throughout Latin America to develop and implement a standardized guideline and protocol on infection prevention and control practices, HAI surveillance, and outbreak investigations. In addition, to improve antibiotic use and access, experts will pilot an antibiotic consumption protocol/point prevalence survey in select countries and develop a national reference document for antibiotic stewardship in collaboration with other partners.

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