AR Solutions *In Action*

CDC's Investments to Combat Antibiotic Resistance Threats

FISCAL YEAR 2018

GEORGIA

$5,343,753

Funding for AR Activities
Fiscal Year 2018

HIGHLIGHTS

- 2 local CDC fellows
- One of 10 sites for the Emerging Infections Program

FUNDING TO STATE HEALTH DEPARTMENTS

$435,856

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

With 2017 funding, Georgia improved its ability to detect and contain "nightmare bacteria" CRE by making it reportable within the state and developing a relationship with a laboratory that serves more than 100 nursing homes in Georgia, ensuring early identification of cases in this setting.

$544,871

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, Georgia decreased their *C. difficile* infection rates by 26% from 2015 to 2017 by using the Targeted Assessment for Prevention strategy to identify and intervene in facilities with high infection rates.

$957,980

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

Georgia 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, Georgia will begin simultaneously monitoring these isolates for resistance genes. When outbreaks are detected, local CDC-supported epidemiologists investigate the cases to stop spread.

$121,155

FUNGAL DISEASE projects improve our ability to track antifungal resistance and stop it from spreading.

With funding for fungal disease surveillance, Georgia increased their ability to identify fungal diseases, monitor for new and emerging resistance, and implement strategies to prevent its spread in high-risk areas. Improving detection for fungal diseases, like *Candida auris*, means patients receive appropriate treatment while reducing unnecessary antibiotic use.

$1,703,664

EMERGING INFECTIONS PROGRAM (EIP) sites improve public health by translating population-based surveillance and research activities into informed policy and public health practice.

CDC's EIP network is a national resource for surveillance, prevention, and control of emerging infectious diseases—like antibiotic-resistant bacteria and fungi. Learn more: www.cdc.gov/ncezid/dpei/eip.

AR: antibiotic resistance **HAI:** healthcare-associated infection

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

www.cdc.gov/ARinvestments

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

FUNDING TO UNIVERSITIES & HEALTHCARE PARTNERS

$509,880

THE UNIVERSITY OF GEORGIA: Microbiome Assessment & Intervention

Understanding what bacteria, viruses, and fungi (which together form a microbiome) exist in a healthcare environment, and how they interact with each other and their immediate environment, can help prevent and control infections. Researchers will develop protocols to detect microbes and characterize the microbiomes in healthcare settings using next-generation DNA sequencing. These methods will improve the sensitivity and efficiency of detection, while providing more information about the microbes than current methods.

$241,404

THE UNIVERSITY OF GEORGIA: Innovative Prevention & Tracking

Aspergillus fumigatus causes deadly infections in immunocompromised patients, and strains have emerged in the United States that are resistant to all azoles, which are the main antifungals used for treatment. Similar azole chemicals are used as agricultural fungicides to treat crops. Researchers will identify and isolate *Aspergillus fumigatus* samples from agricultural sites in multiple U.S. regions to better understand the emergence and sources of azole resistance. This study builds upon work supported by a previous project.

$18,805

EMORY UNIVERSITY: Innovative Prevention & Tracking

Researchers are assisting CDC in developing and evaluating new definitions of sepsis in order to track trends and measure the impact. This work, in collaboration with key researchers and stakeholders, will improve healthcare quality by integrating public health and health care.

$155,417

EMORY UNIVERSITY: Innovative Prevention & Tracking

Researchers are working with CDC to build capacity throughout the AR Lab Network for antibiotic resistance detection and characterization, as well as establishing international collaborations to study emerging antibiotic resistance.

$277,491

EMORY UNIVERSITY: Innovative Prevention & Tracking

In collaboration with CDC, Emory Healthcare physicians contribute to the development and use of National Healthcare Safety Network (NHSN) surveillance modules for healthcare-associated infections in newborn children, adult medical patients, and surgical patients.

$107,230

EMORY UNIVERSITY: Innovative Prevention & Tracking

Researchers are conducting a pilot observational study of travelers, studying their intestinal microbiome (germs in and on our bodies) and acquisition of antibiotic resistance before and after travel.

$270,000

THE TASK FORCE FOR GLOBAL HEALTH/TEPHINET: 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 Republic of Georgia to support the Ministry of Labour, Health and Social Affairs and the National Center for Disease Control and Public Health to develop an infection control and prevention program to prevent and control the spread of HAIs and drug-resistant germs. Experts are also working with the International Health Policy Program in Thailand to implement a national point prevalence survey and assessment of international prevention and control core components at the facility level.

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