AR Solutions *In Action*

CDC's Investments to Combat Antibiotic Resistance Threats Nationwide

FISCAL YEAR 2017

GEORGIA

$6,555,608

Funding for AR Activities
Fiscal Year 2017

HIGHLIGHTS

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

FUNDING TO STATE HEALTH DEPARTMENTS

$510,636

RAPID DETECTION & RESPONSE to emerging drug-resistant germs is critical to contain the spread of these infections.
With 2016 funding, Georgia increased its capacity to respond to emerging threats. The HAI/AR program and state lab have coordinated on early implementation of a surveillance network and increased lab testing capabilities for the "nightmare bacteria" CRE.

$559,000

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 2016 funding, Georgia used CDC's Targeted Assessment for Prevention strategy to identify facilities with high rates of *Clostridium difficile*, a potentially deadly diarrhea associated with antibiotic use. Several facilities improved their ability to rapidly identify and treat patients and decrease antibiotic use in colonized patients.

$493,233

FOOD SAFETY projects protect communities by rapidly identifying drug-resistant foodborne bacteria to stop and solve outbreaks and improve prevention.
Georgia implemented whole genome sequencing of *Listeria*, *Salmonella*, *Campylobacter* and *E. coli* isolates submitted to its lab and began uploading sequence data into PulseNet for nationwide monitoring of outbreaks and trends. In Fiscal Year 2018, Georgia will begin simultaneously monitoring these isolates for resistance genes. When outbreaks are detected, local CDC-supported epidemiologists investigate the cases to stop spread.

$1,036,740

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.
With 2016 funding, Georgia increased their local response capacity and initiated rapid antibiotic susceptibility testing—which determines how well a gonorrhea strain will respond to specific antibiotics. Georgia conducted rapid antibiotic susceptibility testing on 40 gonorrhea specimens in May. Test results are used to inform local outbreak response action, national treatment guidelines and antibiotic resistance trends.

$1,343,844

EMERGING INFECTIONS PROGRAM (EIP) sites conduct in-depth studies to improve surveillance, prevention, and control of emerging infectious diseases like antibiotic-resistant infections.
The EIP network collects and analyzes patient, healthcare facility, and lab data to track resistant infections across communities and healthcare facilities, identifying prevention strategies to improve program impact. Learn more: www.dph.georgia.gov/EIP.

 This data represents CDC's largest fundng categories for AR. It shows domestic, extramural funding that supports AR activities from multiple funding lines. **AR:** antibiotic resistance **HAI:** healthcare-associated infection

CDC provides critical support to every state to protect Americans from antibiotic resistance.

www.cdc.gov/ARinvestments

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

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GEORGIA AR Investments (continued)

FUNDING TO UNIVERSITIES & HEALTHCARE PARTNERS

$382,485

EMORY UNIVERSITY: Innovative Prevention & Tracking
Investigators will develop computational tools to differentiate and analyze different types of DNA mixed in one sample. This project will help laboratories better understand the make-up of a mixture and its threat level.

$301,682

GEORGIA TECH APPLIED RESEARCH CORPORATION: Microbiome Assessment & Intervention
Researchers will continue this project from last year to identify novel probiotic and antibiotic intervention strategies for patients with cystic fibrosis. The project will validate and improve new treatment strategies by implementing them in a small group of patients.

$362,668

GEORGIA TECH APPLIED RESEARCH CORPORATION: Healthcare, Agriculture, and the Non-Healthcare Environment
This project will assess the types of antibiotic-resistant organisms in poultry houses, in addition to the amount of these organisms in a poultry house and further downstream in environmental waters. Researchers will also measure the amount of veterinary antibiotic residues in downstream environmental waters.

$507,954

THE UNIVERSITY OF GEORGIA: Healthcare, Agriculture, and the Non-Healthcare Environment
Investigators will sample surface water to analyze it for human and agricultural waste and antibiotic-resistant bacteria. This project will help to determine how antibiotics, pathogens and resistance elements move across environments and potentially pose a risk to human health.

$197,798

UNIVERSITY OF GEORGIA RESEARCH FOUNDATION, INC.: Healthcare, Agriculture, and the Non-Healthcare Environment
Researchers will collect and characterize azole-resistant fungal strains from agricultural and horticultural sites. Azoles are used to protect crops from fungi, but azole-resistant fungi can infect people and cause disease that is difficult to treat and can lead to death.

$96,783

EMORY UNIVERSITY: Innovative Prevention & Tracking
In collaboration with CDC, researchers are investigating changes to the human microbiome that occur in two populations. The first is both donors and recipients of kidney transplants around the time of the transplant. The second is persons before and after international travel. These data can help understand international spread of antibiotic resistance as well as improve the detection, prevention and treatment of HAI/AR threats such as *C. difficile,* which can cause deadly diarrhea.

$68,825

EMORY UNIVERSITY: Innovative Prevention & Tracking
Researchers are using bioinformatics techniques to further define genetic markers of drug-resistant gonorrhea. This data can help predict future types of antibiotic resistance in gonorrhea and identify transmission networks.

$137,170

EMORY UNIVERSITY: Innovative Prevention & Tracking
Researchers will help solicit international isolates and support special studies for CDC.

$29,426

EMORY UNIVERSITY: Innovative Prevention & Tracking
With CDC, researchers are conducting a large-scale investigation to determine causes of sepsis (the body's extreme response to an infection) and identify potential interventions.

$108,364

EMORY UNIVERSITY: Innovative Prevention & Tracking
With CDC, investigators will evaluate special studies on how resistant germs spread in dialysis centers, make recommendations for preventing HAIs and resistant infections in patients receiving dialysis, and promote infection prevention measures and improved antibiotic use throughout the renal community.

$419,000

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 country 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.

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