

# AR Solutions *In Action*

CDC's Investments to Combat Antibiotic Resistance Threats

FISCAL YEAR  
**2020**



## GEORGIA

### \$7,161,242

Funding for AR Activities  
Fiscal Year 2020

1 local CDC fellow

One of 10 sites for the Emerging  
Infections Program

HIGHLIGHTS

## FUNDING TO STATE HEALTH DEPARTMENTS



\$860,496

**RAPID DETECTION & RESPONSE: State, territory, and local public health partners fight AR in healthcare, the community, and food.**

Programs use the AR Lab Network to rapidly detect threats and then implement prevention, response, and antibiotic stewardship to stop the spread of resistant germs. Additional resources, appropriated to CDC to fight COVID-19, will also help in the fight against AR by improving infection prevention and control in healthcare facilities.



\$336,924

**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 2020, Georgia will continue monitoring these isolates for resistance genes. When outbreaks are detected, local CDC-supported epidemiologists investigate the cases to stop spread.



\$108,098

**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 and while reducing unnecessary antibiotic use.



\$2,014,221

**EMERGING INFECTIONS PROGRAM (EIP) sites improve public health by translating population-based surveillance and research activities into informed policy and public health practice. This work is also funded in part by resources appropriated to CDC to support its response to COVID-19.**

The Georgia EIP performs population-based surveillance for candidemia, *C. difficile*, invasive *S. aureus*, and resistant Gram-negative bacteria; conducts HAI and antibiotic use prevalence surveys; develops and standardizes surveillance and outbreak response for foodborne infections; mold infection surveillance; works on a *C. difficile* projects; collaborates with the CDC Prevention Epicenters; and supports special projects. [Learn more: www.cdc.gov/hai/eip](http://www.cdc.gov/hai/eip).

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

[ARinvestments.cdc.gov](http://ARinvestments.cdc.gov)



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

### FUNDING TO UNIVERSITIES & HEALTHCARE PARTNERS



**\$699,118**

#### **UNIVERSITY OF GEORGIA: Microbiome Assessment & Intervention**

Researchers examined how commonly healthy people carry certain germs in their gut and the risk factors that may have exposed them to those germs. They will determine the full profile of all antibiotic resistance genes present in a person's stool sample and compare them to genes observed in healthcare, agricultural, and environmental settings. Researchers will evaluate risk factors including use of antibiotics and other prescription pharmaceuticals, age, housing, water source, lifestyle factors (e.g., travel, companion animals), bacteria spread within households, and diet.



**\$545,235**

#### **GEORGIA TECH: Discovering & Implementing What Works**

Researchers will use experimental model systems based on lungs that are infected by cystic fibrosis (CF) to test the effects of certain antibiotic drugs and their dosage and duration on AR. People with CF suffer from life-long lung infections. Sometimes these infections can be caused by antibiotic-resistant germs, which are difficult to treat. Findings from this study will help inform clinical decisions that balance CF treatment benefits with the risks of contributing to AR. This project builds on similar work Georgia Tech accomplished in 2017.



**\$67,850**

#### **EMORY UNIVERSITY: Innovative Prevention & Tracking**

Hospital medical specialists, working with CDC investigators, provide immediate cardiology and echocardiography expertise and skills at a critical juncture in the National Healthcare Safety Network's (NHSN) accelerating transition to automated methods, including natural language processing-aided case finding.



**\$121,203**

#### **EMORY UNIVERSITY: Innovative Prevention & Tracking**

Hospital medicine specialists, working with CDC investigators, provide technical assistance to the NHSN on the development of new HAI and AR measures. The goal is to enable electronic health record systems and laboratory information systems to serve as source systems for the new measures, with the benefits of providing new insights into HAI and AR challenges while streamlining reporting to NHSN.



**\$276,809**

#### **EMORY UNIVERSITY: Innovative Prevention & Tracking**

Hospital medicine specialists, working with CDC investigators, provide technical assistance to the NHSN on the use of health information technology and medical informatics strategies and solutions in order to streamline reporting to NHSN and use the healthcare data delivered to NHSN for clinical quality measurements that are meaningful and actionable for frontline practitioners.



**\$55,250**

#### **EMORY UNIVERSITY: Innovative Prevention & Tracking**

Neonatologists, working with CDC investigators, provide technical assistance to the National Healthcare Safety Network on the development of surveillance HAIs, AR, and antimicrobial use in the neonatal patient population. The goal of this work is to combat HAIs and AR and curb overuse of antimicrobials in neonatal intensive care and newborn units.



**\$171,480**

#### **NEPHROSCI LLC: Discovering & Implementing What Works**

Nephrologists work with CDC investigators to provide technical assistance to improve infection control practices in the dialysis setting.

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**GEORGIA AR Investments (cont.)**



**\$194,000**

## **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 South America to assess the implementation of carbapenem-resistant organization control policies in intensive care units (ICUs), assess the impact of widespread transmission of COVID-19 on antibiotic use and prevalence of multidrug-resistant organisms in adult ICUs, and pilot an IPC assessment tool in neonatal ICUs.



**\$261,900**

## **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 Nigeria to perform an evaluation of the early implementation of the Turn Nigeria Orange Infection Prevention and Control (IPC) Network and support the University of Lagos to provide training to IPC focal persons in the West Africa region.



**\$103,259**

## **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 to implement a network to detect, control, and prevent the spread of carbapenem-resistant Enterobacteriaceae in Thailand.



**\$347,000**

## **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 Georgia to support implementation of an AR surveillance system, analyze HAIs and AR, and provide IPC training to healthcare facilities. In addition, the partner supports regional meetings to review IPC and AR best practices in various regions.



**\$998,399**

## **inNOVETA BIOMEDICAL LLC: Discovering & Implementing What Works**

The goal of this project is to develop coatings or altered surfaces for indwelling urinary or intravascular catheters to reduce biofilm formation, thus reducing thrombosis and HAIs. Phase I of the project focused on developing a catheter interface that reduced biofilm formation by preventing bacterial and protein adhesion. Phase II of this project focuses on providing the data necessary to initiate clinical use of the improved devices.

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

**[ARinvestments.cdc.gov](https://www.cdc.gov/ARinvestments)**



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