AR Solutions *In Action*

CDC's Investments to Combat Antibiotic Resistance Threats

FISCAL YEAR **2020**

MARYLAND

$10,203,552

Funding for AR Activities
Fiscal Year 2020

HIGHLIGHTS

- 1 local CDC AR expert & 1 local CDC fellow
- Regional Lab for the AR Lab Network (Mid-Atlantic)
- One of 10 sites for the Emerging Infections Program
- CDC Prevention Epicenter

FUNDING TO STATE HEALTH DEPARTMENTS

$2,105,931

AR LABORATORY NETWORK REGIONAL LAB: Regional labs boost state and local testing capacity and technology to detect, support response to, and prevent AR threats across the nation—and inform new innovations to detect AR.
In 2020, Maryland provided testing surge capacity for AR outbreaks from other AR Lab Network regional labs overwhelmed by SARS-CoV-2 testing or other issues brought on by the pandemic, such as supply and personnel shortages in the labs. Some states have seen increased transmission of AR pathogens in COVID-19 wards, requiring screening support to identify transmission and inform public health response. By performing AR testing for states outside of their region, Maryland ensured outbreaks were identified and responded to swiftly, maintaining national AR testing capacity. These collaborations further display the flexibility of the AR Lab Network and how CDC's investments can be adapted during a crisis.

$3,049,185

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.

$127,434

FOOD SAFETY projects protect communities by rapidly identifying drug-resistant foodborne bacteria to stop and solve outbreaks and improve prevention.
Maryland 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, Maryland will continue monitoring these isolates for resistance genes. When outbreaks are detected, local CDC-supported epidemiologists investigate the cases to stop spread.

$106,524

FUNGAL DISEASE projects improve our ability to track antifungal resistance and stop it from spreading.
With funding for fungal disease surveillance, Maryland 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.

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

COVID-19: coronavirus disease 2019
AR: antibiotic resistance **HAI:** healthcare-associated infection

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

ARinvestments.cdc.gov

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

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MARYLAND AR Investments (cont.)

$142,000

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.

The STD Surveillance Network (SSuN) monitors adherence to national gonorrhea treatment guidelines for patients diagnosed and reported with gonorrhea from all provider settings across funded jurisdictions. The Gonococcal Isolate Surveillance Project (GISP) informs national treatment guidelines and monitors how well antibiotics work on laboratory samples collected from sentinel STD clinics, which often are the first to detect the threat. Select STD clinics also enhance surveillance by collecting additional gonococcal isolates from women and from extragenital sites.

$952,764

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 Maryland 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; and collaborates with the CDC Prevention Epicenters.
Learn more: www.cdc.gov/hai/eip.

FUNDING TO UNIVERSITIES & HEALTHCARE PARTNERS

$900,000

UNIVERSITY OF MARYLAND, BALTIMORE: CDC Prevention Epicenter

The Prevention Epicenters Program is a collaborative network between public health and experts in relevant fields of HAI and AR that responds to research priorities to protect patients. The network conducts research to support the translation of innovative infection control and prevention strategies for preventing HAIs, AR and other adverse events in all healthcare settings. This work is funded by resources appropriated to CDC to support its response to COVID-19.
Learn more: www.cdc.gov/hai/epicenters

$900,000

JOHNS HOPKINS UNIVERSITY: CDC Prevention Epicenter

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$1,138,422

UNIVERSITY OF MARYLAND: Innovative Prevention & Tracking

Investigators are studying the use of gowns and gloves during care of nursing home residents who have risk factors for acquiring antibiotic resistant germs. Strengthening infection prevention and control during high-touch activities in nursing homes could decrease the spread of germs by healthcare staff working with this frail and older adult population.

$781,292

UNIVERSITY OF MARYLAND: Discovering & Implementing What Works

Researchers will test the feasibility and impact of a new gown and glove strategy for healthcare providers in two nursing homes in Maryland to help prevent residents in ventilator units from getting infections from antibiotic-resistant germs. Residents in ventilator units are at a higher risk of getting infections and healthcare works can spread germs between residents if not taking proper precautions. This pilot study will help determine if a new gown and glove strategy can help prevent spread of germs.

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