# AR Solutions in Action

CDC's Investments to Combat Antibiotic Resistance Threats Nationwide

FISCAL YEAR

VIRGINIA \$2,971,981

**Funding for AR Activities** Fiscal Year 2017



1 local CDC fellow



## **FUNDING TO STATE HEALTH DEPARTMENTS**



\$550,240

RAPID DETECTION & RESPONSE to emerging drug-resistant germs is critical to contain the spread of these infections.

With 2016 funding, Virginia successfully coordinated with healthcare facilities and the state public health lab to detect, respond to and contain two separate mcr-1 cases. The mcr-1 gene can make bacteria resistant to the strongest antibiotics.



\$668,624

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, Virginia collaborated with partner agencies to hold a statewide antibiotic stewardship event for nursing, pharmacy, clinicians and public health. Facilities left with an increased interest in the role of nurses in improving antibiotic prescribing and use.



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

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

# **FUNDING TO UNIVERSITIES & HEALTHCARE PARTNERS**



#### **LEIDOS: Discovering & Implementing What Works**

Resistant germs may cause bacterial meningitis and sepsis, the body's extreme response to an infection. To count cases consistently for public health surveillance, CDC develops case criteria to define the diseases. Investigators are validating CDC's new case criteria for late onset sepsis and meningitis found in newborn children to ensure the definition produces consistent and reliable surveillance results. Improved surveillance can help inform prevention.



#### INFECTIOUS DISEASES SOCIETY OF AMERICA: Innovative Prevention & Tracking

This project establishes a fellowship for infectious disease physicians to bridge clinical infectious disease and public health work in the areas of antibiotic resistance and antibiotic stewardship.

Page 1 of 2 This data represents CDC's largest funding categories for AR. It shows domestic, extramural funding that supports AR activities from multiple funding lines. AR: antibiotic resistance HAI: healthcare-associated infection



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VIRGINIA AR Investments (continued)



### THE RECTOR AND VISITORS OF THE UNIVERSITY OF VIRGINIA: Healthcare, Agriculture, and the Non-Healthcare **Environment**

\$550,000

This project will track carbapenemase-producing organisms in healthcare facilities, in part by using a controlled sink lab to recreate a healthcare facility setting, to help guide facilities experiencing the transmission of these organisms from the healthcare environment or plumbing.



### UNIVERSITY OF VIRGINIA SCHOOL OF MEDICINE: Innovative Prevention & Tracking

With CDC, investigators are using a "sink gallery" to measure what germs, including resistant germs, may be found in sinks and sink drains, and to better understand how these threats may spread to people or the environment. This work will help CDC and public health experts stop germs from spreading in the healthcare environment or plumbing to protect patients.

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