AR Solutions *In Action*

CDC's Investments to Combat Antibiotic Resistance Threats

FISCAL YEAR 2018

MISSOURI

$1,861,518

Funding for AR Activities
Fiscal Year 2018

FUNDING TO STATE HEALTH DEPARTMENTS

$123,816

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

With 2017 funding, Missouri assisted with investigations of two reports of "nightmare bacteria" CRE in the state, including ensuring that appropriate infection prevention precautions were implemented and any related cases were identified.

$22,716

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, Missouri collaborated with its State Hospital Association and other local partners to promote antibiotic resistance and stewardship activities, and disseminate educational information and updates.

$179,144

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

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

$15,232

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.

To help inform national treatment guidelines for gonorrhea, Missouri participates in the Gonococcal Isolate Surveillance Project (GISP), testing how well antibiotics work on laboratory samples from sentinel STD clinics, which are often the first to detect the threat.

FUNDING TO UNIVERSITIES & HEALTHCARE PARTNERS

$500,000

WASHINGTON UNIVERSITY: CDC Prevention Epicenter

CDC collaborates with medical academic investigators to conduct innovative infection control and prevention research in healthcare settings. One of the projects in Missouri will determine whether intervention on the microbiome (germs in an on our bodies) can reduce drug-resistant urinary-tract infections. Another study is examining opportunities to improve antibiotic use in surgical patients to improve patient outcomes.
Learn more: www.cdc.gov/hai/epicenters

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

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$533,761

WASHINGTON UNIVERSITY: Innovative Prevention & Tracking

This study will look at the shedding of *C. difficile*, which can cause deadly diarrhea, by asymptomatic carriers (patients who may carry *C. difficile* but do not show symptoms) and symptomatic patients with *C. difficile* infection (CDI) among cancer (hematopoietic cell transplant and leukemia) patients admitted to the Siteman Cancer Center. In addition, the immediate surrounding patient care environments associated with these patients in the facility will be sampled to understand environmental contamination. This study will help determine if additional CDI prevention measures are needed for these patients.

$486,849

WASHINGTON UNIVERSITY: Microbiome Assessment & Intervention

Researchers will use a mouse model to study the effects of antibiotics on the microbiomes (communities of microbes living in and on us) of infants.

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