AR Solutions *In Action*

CDC's Investments to Combat Antibiotic Resistance Threats

FISCAL YEAR 2018

NORTH CAROLINA

$5,408,048

Funding for AR Activities
Fiscal Year 2018

FUNDING TO STATE HEALTH DEPARTMENTS

$539,072

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

With 2017 funding, North Carolina responded to 33 outbreaks in healthcare settings, 10 serious infection prevention breaches in long-term care facilities and provided consultation on 32 sentinel HAI case investigations, including 12 sentinel cases of possible healthcare associated *Legionella* and 20 sentinel cases of Group A *Streptococcus*.

$35,126

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, North Carolina collaborated with federal, state, and local partners to improve antibiotic use through education of 650 healthcare providers on antibiotic stewardship and resistance, increasing provider commitment to this issue.

$460,588

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

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

$508,971

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.

During July 2017–June 2018, the North Carolina Strengthening the United States Response to Resistant Gonorrhea (SURRG) project increased testing to about 25% of the more than 1,900 gonorrhea cases reported in Guilford County. North Carolina identified nine samples that did not respond optimally to recommended antibiotics, and grantees adhered to protocols for following up with those patients and their sex partners.

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

FUNDING TO UNIVERSITIES & HEALTHCARE PARTNERS

$2,199,126

DUKE UNIVERSITY & UNIVERSITY OF NORTH CAROLINA: 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 North Carolina will assess whether non-critically ill patients with suspected sepsis (the body's overwhelming and life-threatening response to infection) can safely stop antibiotics after 72 hours. Another study will test how effectively novel disinfectants can reduce germ contamination in healthcare rooms.
Learn more: www.cdc.gov/hai/epicenters

$794,907

DUKE UNIVERSITY: Discovering & Implementing What Works

To reduce *C. difficile* infections (CDI) in U.S. acute care facilities, CDC developed a prevention strategies framework and is working with researchers to evaluate the feasibility of the strategy.

$356,850

DUKE UNIVERSITY: Discovering & Implementing What Works

Researchers will identify patient and facility level factors associated with antibiotic use that can be captured in electronic health records and can be used for benchmarking antibiotic use.

$513,408

RESEARCH TRIANGLE INSTITUTE: Discovering & Implementing What Works

The Modeling Infectious Diseases in Healthcare Network (MInD-Healthcare) is a virtual laboratory where researchers investigate factors that drive the spread of HAIs and simulate prevention strategies to estimate their benefits in a timely and cost-effective manner. Investigators will model patient movement through areas of high risk for "nightmare bacteria" CRE and *C. difficile* transmission (which can cause deadly diarrhea), including hospitals and long-term care facilities.
Learn more: www.cdc.gov/hai/research/MIND-Healthcare