AR Solutions *In Action*

CDC's Investments to Combat Antibiotic Resistance Threats

FISCAL YEAR 2021

PHILADELPHIA, PA

$6,532,793

Funding for AR Activities
Fiscal Year 2021

HIGHLIGHTS

- One AR field staff & one local CDC fellow
- CDC Prevention Epicenter

FUNDING TO STATE HEALTH DEPARTMENTS

$502,316

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 (IPC) in healthcare facilities.

$4,932

FOOD SAFETY projects protect communities by rapidly identifying drug-resistant foodborne bacteria to stop and solve outbreaks and improve prevention.
Philadelphia uses whole genome sequencing to track and monitor local outbreaks of *Listeria*, *Salmonella*, *Campylobacter*, and *Escherichia coli* and uploads sequence data into PulseNet for nationwide monitoring of outbreaks and trends. In Fiscal Year 2021, Philadelphia continued monitoring these isolates for resistance genes. When outbreaks are detected, local CDC-supported epidemiologists investigate the cases to stop spread.

$91,871

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 sexually transmitted disease (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.

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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PHILADELPHIA, PA AR Investments (cont.)

FUNDING TO UNIVERSITIES & HEALTHCARE PARTNERS

$1,637,796

UNIVERSITY OF PENNSYLVANIA: 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 IPC 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

$749,948

UNIVERSITY OF PENNSYLVANIA: Discovering & Implementing What Works

Investigators are using electronically derived automated reports of appropriate antibiotic use to inform, implement, and assess antibiotic stewardship interventions in frequently encountered infections in inpatient and outpatient settings.

$1,024,397

UNIVERSITY OF PENNSYLVANIA: Discovering & Implementing What Works

Experts are evaluating current antibiotic stewardship practices, needs, and implementation successes and challenges in healthcare facilities in Latin America, South and Southeast Asia, and Southeast Africa, identifying gaps and context-specific factors associated with implementation to improve antibiotic use.

$451,533

UNIVERSITY OF PENNSYLVANIA: Innovative Prevention & Tracking

Experts are building off their previous CDC-funded work to determine the genetic mechanisms of resistance and relatedness of multidrug-resistant Gram-negative extended-spectrum cephalosporin-resistant Enterobacterales (ESCrE) and carbapenem-resistant Enterobacterales (CRE) in Botswana through whole genome sequencing, helping to determine prevalence and new testing strategies to decrease ESCrE and CRE in the area.

$593,000

UNIVERSITY OF PENNSYLVANIA: Global Expertise & Capacity Enhancements

CDC's global work to combat AR prevents the importation of AR threats into the United States. Experts are establishing a network of organizations (Botswana Ministry of Health and Wellness (MOHW), the University of Botswana (UB), the University of Pennsylvania, the Children's Hospital of Philadelphia (CHOP), and University of British Columbia (UBC) to support the Ministry of Health and Welfare in Botswana in strengthening the detection, response, and containment of AR and HAIs in healthcare facilities.

$1,477,000

UNIVERSITY OF PENNSYLVANIA: Global Expertise & Capacity Enhancements

CDC's global work to combat AR prevents the importation of AR threats into the United States. Experts are working with stakeholders in Botswana, South Africa, and Zimbabwe to assess antibiotic stewardship practices, identify IPC needs at the national and hospital levels, and gain a deeper understanding of factors that influence antibiotic stewardship program implementation. Experts are creating an antibiotic stewardship implementation toolkit to build capacity across stakeholders in Botswana.

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