AR Solutions *In Action*

CDC's Investments to Combat Antimicrobial Resistance Threats

FISCAL YEAR 2022

MICHIGAN

$4,324,133

Funding for AR Activities
Fiscal Year 2022

HIGHLIGHTS

AR Lab Network's National Tuberculosis Molecular Surveillance Center

FUNDING TO STATE HEALTH DEPARTMENTS

$1,886,873

AR LABORATORY NETWORK REGIONAL LAB: The National Tuberculosis Molecular Surveillance Center (NTMSC) uses universal whole genome sequencing (WGS) of Mycobacterium tuberculosis isolates from all culture-confirmed cases in the U.S. to support outbreak investigations and provide surveillance of AR.

Since implementing whole genome sequencing (WGS) for *Mycobacterium tuberculosis* in 2018, NTMSC has sequenced isolates from all culture-confirmed cases of tuberculosis in the U.S. As of September 2022, NTMSC has sequenced more than 34,000 isolates and identified 2,326 clusters of patients infected with genetically similar strains of *M. tuberculosis*. The WGS data are used to detect and support outbreak investigations and surveillance of resistance, including a rifampicin resistance alert that has identified 495 resistant isolates.

$939,650

RAPID DETECTION & RESPONSE: State, territory, and local public health partners fight AR in health care, the community, and food.

CDC-funded HAI/AR Programs form a network of health departments that detect, prevent, respond to, and contain HAI/AR threats and promote appropriate use of antibiotics and antifungals. CDC's AR Lab Network provides nationwide lab capacity to rapidly detect AR and inform local prevention and response activities to stop the spread of resistant germs and protect people.

$235,439

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

Michigan 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 2022, Michigan continued monitoring these isolates for resistance genes. When outbreaks are detected, local CDC-supported epidemiologists investigate the cases to stop the spread.

$24,713

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 Gonococcal Isolate Surveillance Project (GISP) informs national treatment guidelines for gonorrhea by monitoring 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. Some work received full or partial funding from COVID-19 supplemental appropriations, such as the American Rescue Plan Act or the CARES Act.

AR: antimicrobial resistance **COVID-19:** coronavirus disease 2019
HAI: healthcare-associated infection **IPC:** infection prevention and control
NHSN: National Healthcare Safety Network

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

ARinvestments.cdc.gov

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

FUNDING TO UNIVERSITIES & HEALTHCARE PARTNERS

$1,196,068

ARBOR RESEARCH COLLABORATIVE FOR HEALTH: Discovering & Implementing What Works

Investigators are conducting a pilot test of the NHSN Electronic Health Record Implementation Guide for Nursing Homes. The purpose of this project is to ensure that the implementation guide enables electronic health record systems to abstract complete and accurate data in accordance with NHSN protocols on behalf of nursing homes.
Learn more: www.cdc.gov/hai/research/safehealthcare.html

$41,390

UNIVERSITY OF MICHIGAN: Innovative Prevention & Tracking

A University of Michigan expert is working with CDC investigators to provide informatics and information technology expertise to identify, develop, and support automated data collection and reporting in NHSN.

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