Advanced Molecular Detection

National investment to advance genomic sequencing capacity

Midwest AMD Training Lead and Community of Practice Domain Lead

Michigan

Total Investment[1]: $9,149,577

State and Local Investment: $8,096,976

Research Awards: $1,052,601

CDC's Advanced Molecular Detection (AMD) program builds and integrates laboratory, bioinformatics, and epidemiology technologies across CDC and nationwide. Since 2014, AMD has received support from Congress through an annual appropriation of $30 million—which was raised to $35 million in 2022—to implement these technologies in public health programs. Through investments in AMD technologies, CDC is improving both public health outcomes and preparedness in dozens of areas including foodborne disease, influenza, antibiotic resistance, hepatitis, pneumonia, and meningitis.

With funding from the American Rescue Plan Act of 2021, the AMD program has developed a multi-year plan to expand its support to state, local, and territorial public health laboratories with more staff and resources to collect specimens for COVID-19 testing, sequence them to identify and track SARS-CoV-2 variants, and share data, now and future years.

Workforce Development

Michigan is part of the Midwest region. In 2018, the AMD program established seven workforce development regions across the country. Each region has an AMD training lead and a bioinformatics lead. This provides a network of customized AMD support which helps develop skills and provides training assistance to public health labs across the country.

Michigan's **AMD Training Lead** provides support to labs in the region on pathogen-specific training and cross-cutting AMD training to help staff develop the critical skills necessary to extract, analyze, and interpret sequencing data. From the Midwest region's training resources, Michigan receives lab support on data analysis and how to interface with IT departments.

[1] Funding to public health departments includes support from the American Rescue Plan of 2021, AMD annual appropriations, and NCEZID annual appropriations. Awards to university and research partners were funded through appropriations supporting the COVID-19 response.

www.cdc.gov/amd

AMD Platform Community of Practice (CoP)

The Office of AMD has established five communities of practice to build processes and tools for relevant interests, concerns, and priorities regarding the AMD Platform. The AMD Platform will serve CDC programs and STLT partners by providing a common infrastructure to perform genomic epidemiology and contribute high-quality data to publicly available data repositories. Michigan's **Domain Leader** facilitates collaboration between OAMD and the public health community for the AMD Data Modernization CoP.

University and Research Partners in Michigan

These awards are intended to fill knowledge gaps and promote innovation in the U.S. response to the COVID-19 pandemic. Funding awards are determined through a competitive selection process based on scientific needs and available funds.

University of Michigan
SARS-CoV-2 sequencing to study virus evolution in a vaccinated population (2021—$1,052,601)
The study will combine viral genomic data with vaccination status, prior infection status, and antibody data to better understand risk factors and outcomes in SARS-CoV-2 reinfection. The same surveillance system will capture cases of SARS-CoV-2 reinfection.

University of Michigan (Collaboration with University of Wisconsin, Madison)
Defining the role of college students in SARS-CoV-2's spread in the Upper Midwest
This study will use viral genomics to understand university students' role in driving the transmission of SARS-CoV-2 within their communities over two years, beginning in fall 2020. It will be positioned to detect the emergence and potential spread of genetic variants over the longer term, such as viruses that could pass from person to person faster or be less recognizable to the body's immune system.