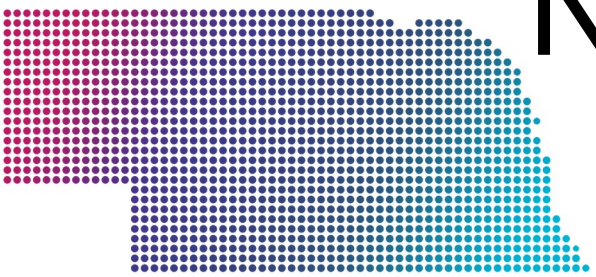
Advanced Molecular Detection

National investment to advance genomic sequencing capacity

Central Region



Nebraska

Total Investment[1]: $4,591,305

State and Local Investment: $2,101,525

Research Awards: $2,489,780

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 a $30 million per year appropriation 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

Nebraska is part of the Central 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.

Through the Central region's training resources, Nebraska receives lab support on data analysis and how to interface with IT departments. They also receive both pathogen-specific training and cross-cutting instruction to help staff develop the critical skills necessary to extract, analyze, and interpret sequencing data.

[1] Funding to public health departments includes support from the American Rescue Plan of 2021 and AMD annual appropriations. Awards to university and research partners in 2020 and early 2021 were funded through appropriations supporting the COVID-19 response.

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University and Research Partners in Nebraska

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 Nebraska Medical Center ($2,489,780)

SARS-CoV-2 Viral Evolution and Spread within Nebraska and Surrounding States

The study will provide SARS-CoV-2 whole-genome sequencing support and variant tracking for Nebraska and surrounding states. Sequencing efforts will focus on samples of reinfection cases, vaccine escape cases, and cases in which severe symptoms are present. Data generated from the study will be public and in real-time, so clinicians and researchers can see if they are dealing with similar cases and have access to samples for further testing.