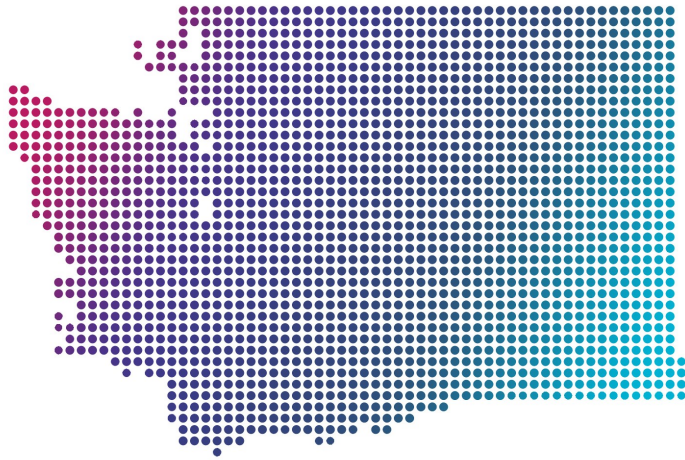# Advanced Molecular Detection

National investment to advance genomic sequencing capacity

Western Bioinformatic Regional Resource Lead, Western AMD Training Lead, and Community of Practice Domain Lead

Washington

Total Investment[1]: $23,470,226

State and Local Investment: $13,521,905

Research Awards: $2,748,321

Centers of Excellence (FY22-23): $7,200,000

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—now a $40 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 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

Washington is part of the Western region. In 2018, the AMD program established 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.

Washington's **Bioinformatic Regional Resource Lead** acts as a regional consultant. They provide support to labs within the region on data analysis and how to interface with IT departments. Its **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.

[1] Funding to public health departments includes support from the American Rescue Plan of 2021 and AMD annual appropriations in FY2021-2023. Awards to university and research partners were funded through appropriations supporting the COVID-19 response.

www.cdc.gov/amd

September 5, 2023

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. **Washington's Domain Leader** facilitates collaboration between OAMD and the public health community for the AMD Data Modernization CoP.

US Pathogen Genomics Centers of Excellence (PGCoE) network

The US Pathogen Genomics Centers of Excellence (PGCoE) network will foster and improve innovation and technical capacity in the use of pathogen genomics, molecular epidemiology, and bioinformatics in the field of public health. The **Washington Pathogen Genomics Center of Excellence** is led by the Washington State Department of Health in partnership with the University of Washington, Fred Hutchinson Cancer Center, the Washington Animal Disease Diagnostic Laboratory, and Public Health – Seattle & King County.

University and Research Partners in Washington

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 Washington

Collaborative technology development and analyses to support genetic epidemiology in Washington State (2022—$1,998,410)
Investigators will build on infrastructure for multi-pathogen respiratory disease surveillance to understand transmission dynamics of SARS-CoV-2 and co-circulating respiratory pathogens. They will collaborate with the Washington Department of Health to understand emerging SARS-CoV-2 variant outcomes and transmission dynamics.

Viral genome sequencing and open-source software development to support genetic epidemiology in Washington State (2021—$749,911)
This project will provide whole-genome sequencing and phylogenetic analyses of SARS-CoV-2 for the state of Washington and the surrounding region. Based on this analysis, the team will report on variants in the area, detect emerging variants, and determine how the variant proportions change as more of the population are vaccinated.