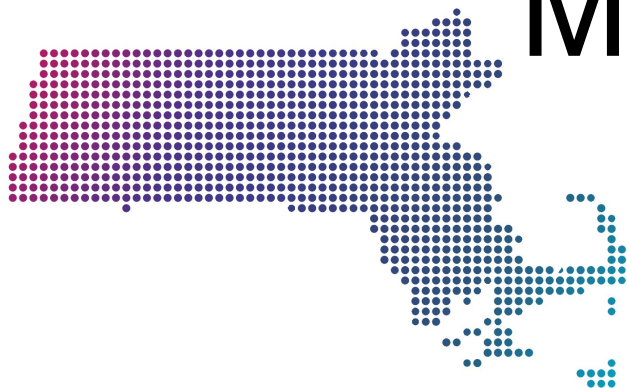


Advanced Molecular Detection

National investment to advance genomic sequencing capacity

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



Massachusetts

Total Investment¹: \$28,890,066

State and Local Investment: \$12,585,994

Research Awards: \$6,604,072

Centers of Excellence (FY22-23): \$9,700,000

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

Massachusetts is part of the Northeast 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

Massachusetts' **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



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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. **Massachusetts's Domain Leader** facilitates collaboration between OAMD and the public health community for the IT Security and Privacy 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 **New England Pathogen Genomics Center of Excellence** is led by the Massachusetts Department of Public Health in partnership with the Broad Institute of MIT and Harvard as lead academic partner. Other partners from Massachusetts and Connecticut include Boston University, Massachusetts General Hospital/Mass General Brigham health care system, Yale University, Fathom Information Design, and Theiagen Genomics. In addition, it will serve as lead CoE for education with Harvard Medical School/Massachusetts Consortium on Pathogen Readiness (MassCPR) and the Broad Institute of MIT and Harvard.

University and Research Partners in Massachusetts

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.

Broad Institute, Massachusetts Department of Public Health, and Fathom Information Design

Enabling integrated analysis of multi-modal data for state epidemiologists (2022—\$2,226,582)

In collaboration with Massachusetts Department of Public Health and Fathom Information Design, the Broad Institute will work to develop an intuitive dashboard for integration, storage, analysis, and visualization of genomic and other data types.

Broad Institute, Massachusetts General Hospital, and Massachusetts Department of Public Health

Real-time SARS-CoV-2 genomic surveillance to support clinical and public health response and monitor functionally relevant mutations (2020—\$4,377,490)

This project will enhance SARS-CoV-2 genomic surveillance in Massachusetts. Coupling a logical sampling plan with epidemiological and clinical data will enhance understanding of regional transmission patterns and link genetic variants to clinical outcomes. It will support the broader public health genomics community by developing bioinformatics tools for open data analysis, easy data sharing, and privacy controls.

