

AMD Projects

Innovate • Transform • Protect

CDC's Advanced Molecular Detection (AMD) initiative fosters scientific innovation to transform public health and protect people from disease threats.

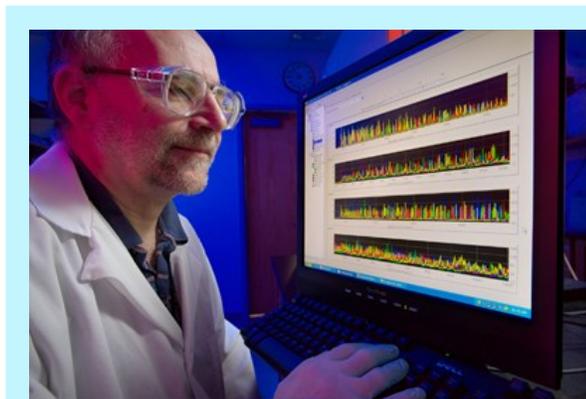
AMD Projects: Expanding MicrobeNet

Expanding data collection and curation for CDC's reference database for identification of infectious pathogens (MicrobeNet)

CDC's MicrobeNet is an online tool that scientists use to find information on the microorganisms that make people sick. Designed as a massive database, MicrobeNet makes the information CDC's laboratories collect on microbes available to state and local health laboratories. This system provides access to crucial information that can identify disease outbreaks, track new and emerging diseases, and develop new ways of responding to illnesses.

Laboratory scientists use MicrobeNet to find a complete portrait of different species of bacteria or fungi. This includes images, information on antibiotic resistance, or the better ways to test for and identify them. Many of the searches performed in MicrobeNet are for rare or unusual pathogens, which are often difficult to grow and identify.

Since 2013, CDC has collected detailed information on approximately 500 species of microorganisms. However,



With MicrobeNet public health laboratories anywhere in the world will be able to run diagnostic tests and match results against CDC's unique collection of pathogens.



information about more than 4,000 organisms still needs to be added to MicrobeNet. To do this, CDC scientists must grow the organism, perform DNA sequence analysis and many other tests, and process each species.

Expanding MicrobeNet will allow public health laboratories anywhere in the world to run diagnostic tests and match results against CDC's unique collection of pathogens, making it faster and easier for them to identify and respond to dangerous diseases.



2016 Update

In the first two years of this project, CDC scientists have expanded MicrobeNet to include 1,668 species of microorganisms—more than tripling the number available when the project started in 2014. The project team is on target to increase the number of reference microbes to over 2,000 strains by the end of 2016. Moving forward, scientists will continue to develop high-quality reference genomes on strains available in MicrobeNet while continuing to add reference data on new strains, including many rare and unusual species from CDC's collection of pathogens.

Updated: March 2016