

AMD Projects

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Innovate • Transform • Protect

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

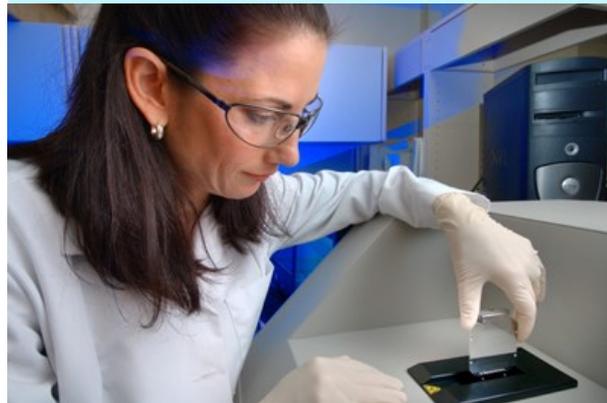
AMD Project: Deadly Disease Databases

Whole genome analysis and database development for anthrax (*Bacillus anthracis*), melioidosis (*Burkholderia pseudomallei*), and Brucellosis (*Brucella spp.*)

Epidemiologists and forensic professionals can use whole genome sequencing—a way of determining an organism's complete, detailed genome—and large databases to determine the source of dangerous germs. Having a large, accessible collection of disease pathogens could help scientists quickly find out if a certain illness is naturally occurring or the result of bioterrorism.

CDC is establishing a public database where scientists from around the world can share information about these potentially deadly diseases. CDC scientists have begun sequencing the organisms that cause anthrax (*Bacillus anthracis*), brucellosis (*Brucella spp.*), and melioidosis (*Burkholderia pseudomallei*), three pathogens that could occur naturally or as the result of bioterrorism.

Current methods of determining the genetic structure of these organisms are not standardized and sometimes not effective. Using whole genome sequencing for these pathogens will allow scientists to accurately and quickly find the geographic origin of the isolates and will improve overall knowledge and understanding of them. Having a detailed database of these genomes will also ensure quicker and more effective responses to outbreaks.



CDC is establishing public databases so that scientists from around the world can share information about deadly diseases like anthrax, brucellosis, and melioidosis.

