

AMD Projects

Innovate • Transform • Protect

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

AMD Projects: Tracking STD Transmission

Integrating data to understand better the transmission networks involved in the spread of infectious disease and drug resistance

HIV, other sexually transmitted diseases, hepatitis, and tuberculosis (TB) affect millions of people in the United States. These infections can be spread in many ways, including sexual contact, contact with bodily fluids of an infected person, and via air droplets. Even though scientists know that certain groups—such as gay and bisexual men and persons who inject drugs—are more likely to be affected, less is known about the connections between people that result in the spread of these infections. In addition, using epidemiological data alone may not always identify links between infected persons. Understanding these connections is critical to stopping the spread of disease.

CDC scientists are using genetic information (sequence data, including next generation sequencing) for the viruses and bacteria that cause these diseases, together with demographic, geographic, and clinical data from infected persons—such as risk group, age, location, and health status—to understand more about how infected people are connected. Combined, this information helps scientists to identify more precisely how these diseases are spreading so that outbreaks can be stopped.

These new tools, help CDC characterize transmission networks more quickly and easily to better target rapid responses to stop the spread of infection.

By improving the tools that are currently available, CDC can learn how diseases are spreading. With this knowledge, scientists can focus additional prevention tools to help protect health and reduce infections.



Syphilis is one of many sexually transmitted diseases that can have very serious complications when left untreated.

