10 FAQs about Molecular HIV Surveillance

1. What is molecular HIV surveillance?
Molecular HIV surveillance (MHS) is the collection of HIV genetic data to support local and state health departments in monitoring trends in HIV transmission and antiretroviral (ARV) drug resistance.

2. How is MHS information used?
MHS can be used to assess prevalence and trends in HIV drug resistance; evaluate HIV genetic diversity; and describe HIV transmission patterns. Health departments use MHS to identify and investigate clusters of HIV infections in order to guide public health strategies. Health departments can also use the information to examine the impact of HIV prevention strategies, guide public health action, and enhance our understanding of the burden of HIV in an area or within groups.

3. Why is HIV genetic data detect drug-resistant mutations?
HIV genetic data is used to identify the presence of mutations associated with ARV drug resistance. HIV genotypic testing for detecting ARV resistance is a part of the standard of care for persons infected with HIV. The U.S. Department of Health and Human Services and the International Antiviral Society-USA recommends that HIV genotypic testing be performed at entry into care and again as needed to guide treatment.

4. How can MHS data be used to identify genetic diversity?
There are two types of HIV: HIV-1 and HIV-2. Most HIV infections in the United States and around the world are caused by HIV-1. Standard methods that identify mutations associated with ARV resistance can be used to distinguish between subtype and variants of HIV.

5. How are HIV transmission patterns identified?
Surveillance staff examine how closely related different viruses are based on the similarities and differences between the DNA sequence patterns. When combined with information on a person’s demographics, geographic location, and risk characteristics, this analysis can help describe likely transmission patterns between persons. There is much debate about whether clear directionality can be determined. Analysis of these transmission patterns or networks can help guide HIV prevention efforts and optimize the allocation of resources by identifying persons at highest risk of being infected with
HIV. Identifying active HIV transmission is key in HIV prevention and care efforts. It is important to identify growing clusters in order to interrupt transmission.

6. Are MHS data shared with the CDC?
Yes, MHS data are shared with the CDC. As with all surveillance data, identifying information, such as a name, is removed from data before being sent to the CDC. MHS data are transferred to CDC via a secure system on a regular basis.

7. How does CDC use MHS data?
By collecting MHS data, CDC can provide information on transmission relationship, construct transmission networks that link persons infected with genetically similar HIV variants, identify growing clusters, and prioritize prevention efforts. CDC also analyzes national surveillance data for clusters, discusses cluster findings with relevant state or local health departments, collaborates with health departments on cluster investigations and interventions, and provides updates on new cases added to previously identified clusters.

8. Does reporting MHS information violate the Health Insurance Portability and Accountability Act (HIPAA)?
No, reporting MHS data does not violate HIPAA. HIPAA regulations state an entity may use or disclose protected health information without the written authorization of an individual when “a public health authority that is authorized by law to collect or receive such information for the purpose of preventing or controlling disease, injury, or disability, including, but not limited to, the reporting of disease, injury, vital events such as birth or death, and the conduct of public health surveillance, public health investigations, and public health interventions.”

9. Is the data released to the public?
CDC is prevented from publically releasing data by federal laws and regulations. Identifying information, such as a name, is removed from data before being sent to the CDC. While local, state, and federal public health programs may publish or release MHS data, this information will only be released in aggregate and in a way that it could not be used to identify an individual person.

10. What are some concerns people have about collecting this data?
In discussing the best way to use this information, one of the fears that people have is that it will be used to invade privacy, incite stigma, encourage discrimination, and/or further HIV criminalization and anti-immigration laws for example. Laws and operating procedures vary by state and health department. Please contact your health department for more information about how your health department protects MHS data and responds to subpoenas in your jurisdiction.
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