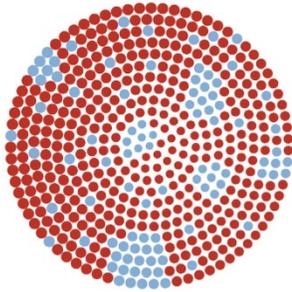


# HIV Cluster Detection

## What Is a Cluster?

A cluster is a group of people among whom there is suspected rapid transmission. Clusters of HIV may indicate “hot spots” where resources and efforts can be focused to halt ongoing transmission and new HIV infections.

Transmission is not uniform



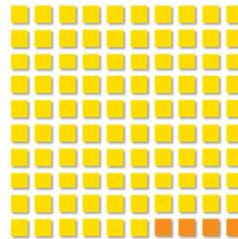
Identify networks in which HIV is spreading quickly



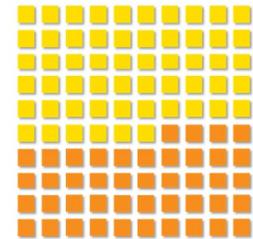
Help people get into care and prevent HIV

## Why Do We Detect Clusters?

- Cluster detection allows us to identify when HIV is spreading quickly.
- A cluster indicates gaps in our prevention services that need to be addressed to improve access to services and stop transmission.
- Cluster detection allows us to direct funds and resources to areas with high transmission.



General HIV transmission



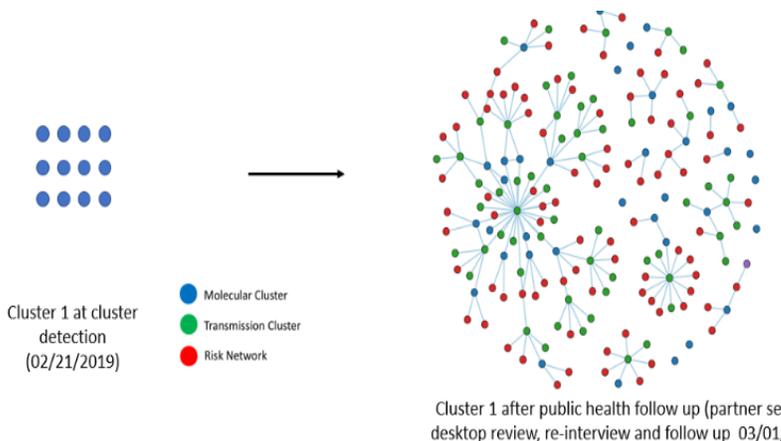
Transmission in a Rapidly Growing HIV Network

## Why Is Cluster Detection Important?

According to the Centers for Disease Control and Prevention (CDC), in rapidly growing clusters of HIV, it has been demonstrated that HIV transmission is occurring in these networks at 10-11 times the rate we see in the general population. Focusing prevention efforts in these areas and or groups allow public health staff to make the biggest impact. Clusters expand beyond people that already know they are living with HIV and allow us to find people that have not been diagnosed yet. This is demonstrated in the network diagram below.

## How Do We Detect Clusters?

- **Disease Intervention Specialist (DIS)/provider-identified clusters** happen when medical providers or DIS notice changes in diagnoses or transmission risk factors that seem higher than expected or outside what is considered typical in the area.
- **Molecular analysis** uses drug resistance HIV genotype data reported to HIV surveillance to detect clusters. This analysis looks for similar viral RNA sequences that can indicate that two viruses are closely related in a transmission network. This can mean that person-to-person transmission is happening in this network at a higher-than-expected rate.
- **Time/Space** cluster detection happens when a higher-than-expected number of new HIV cases are diagnosed in a geographic location, looking at monthly diagnoses by county over the past several years.



# HIV Cluster Response

## What Is Cluster Response?

HIV cluster response uses standard prevention activities in a more focused way. These activities include:

- Increased HIV/STD testing
- Linkage to care
- Partner testing
- PrEP/Prevention messaging and linkage
- Education about risk and harm reduction
- Relinkage to care
- Address barriers to care
- Help achieve viral suppression

▪ *Could look like...*

Increasing PrEP outreach and navigation services to community

Working with neighboring jurisdictions for clusters across states lines

## Responding to a Cluster

Partner services interviewing individuals in the cluster network to gather information

Increasing harm reduction programs and other substance use services

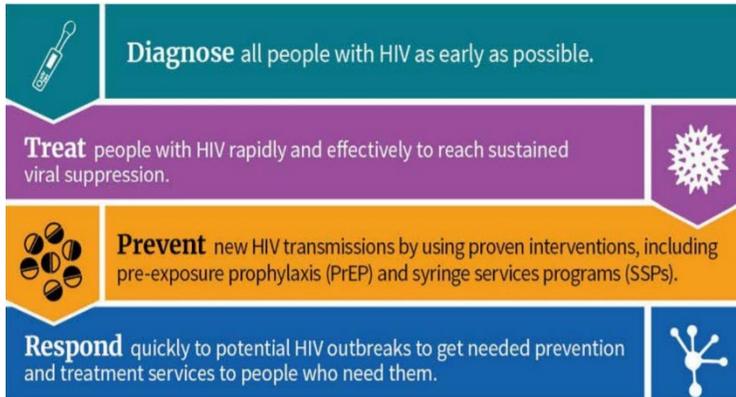
Educating providers on cluster trends

Sending a health alert to community/priority populations

Providing HIV testing to individuals linked to a cluster who haven't been tested for HIV

- ✓ Linkage to care for new diagnoses
- ✓ Address viral suppression and barriers
- ✓ Offering PrEP services to individuals who may be at risk

Increased targeted HIV testing or other prevention services in the community

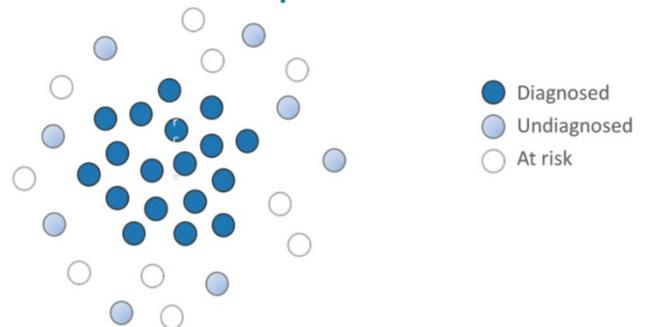


## Why Should I Get Tested?

As shown below, clusters can include people with and without HIV. It's important to know if you are living with HIV. HIV care is critical to the health of people living with HIV (PLWH). Proper care can help PLWH live long healthy lives and help prevent new infections. Early diagnosis and effective treatment of HIV are important to reducing new HIV transmission. PLWH are less likely to transmit HIV when effective treatment lowers the amount of virus in their bodies.

While there is no cure for HIV, recent advances in medications provide clear benefits to early treatment. People living with HIV can lead long and healthy lives by getting help early.

## Networks Include People with and without HIV



## How Can I Reduce My Risk of Getting HIV?

If you are at increased risk of getting HIV, talk to your doctor about PrEP. PrEP stands for Pre-exposure Prophylaxis. It involves taking anti-HIV medicine once a day to prevent HIV if you are exposed to it. Taking PrEP can greatly lower your risk of becoming HIV-positive.