



Webcast 2.1

# Who Might Benefit from PrEP? Population-Level Assessments

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# Overview

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- HIV data sources: national, state, and local
- Data interpretation (i.e. pulling it all together)
  - Placing the data into context
  - Developing local epidemiologic profiles
- Dissemination mechanisms and strategies

# Population versus Individual Risk

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Your jurisdiction's  
population

# Population versus Individual Risk

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Your jurisdiction's  
population



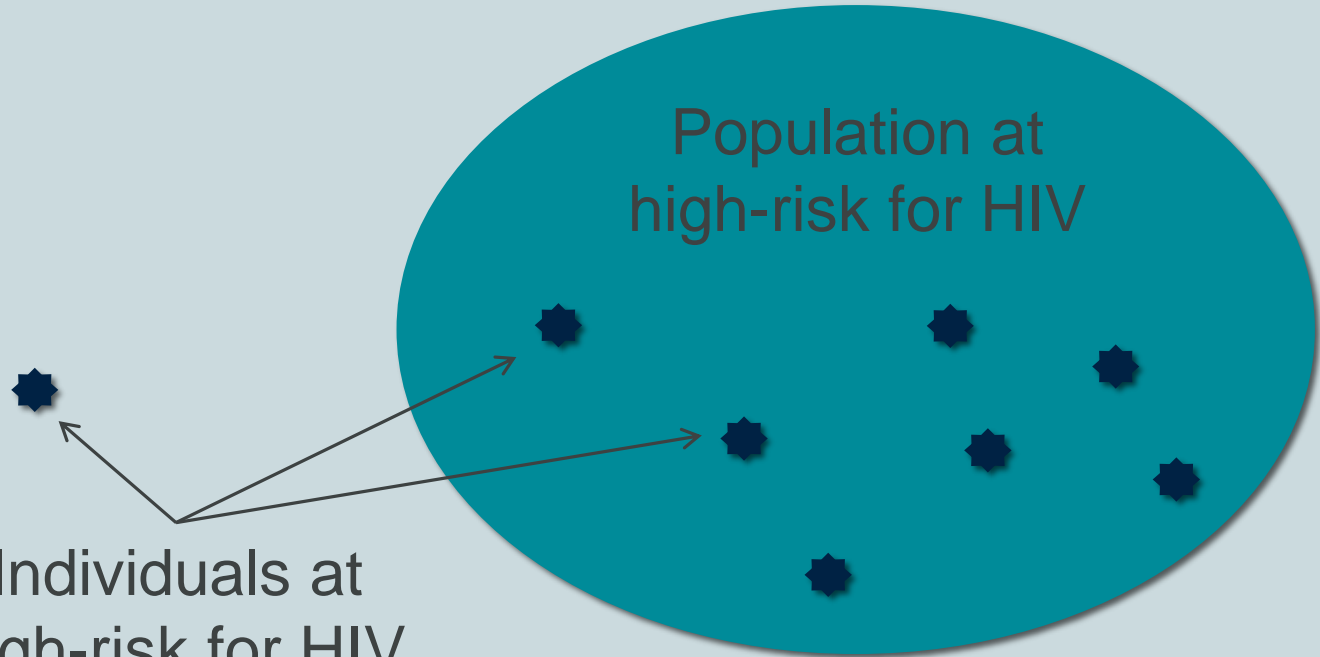
Population at  
high-risk for HIV

# Population versus Individual Risk

Your jurisdiction's  
population

Population at  
high-risk for HIV

Individuals at  
high-risk for HIV



# Key Data Sources

- Centers for Disease Control and Prevention (CDC)
- Kaiser Family Foundation
- State and local data sources
- [AIDSVu.org](http://AIDSVu.org)
- [HIVContium.org](http://HIVContium.org)

# CDC HIV/AIDS Surveillance Systems, Reports, and Tools

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- HIV Case Surveillance
- HIV Incidence Surveillance
- Medical Monitoring Project
- National HIV Behavioral Surveillance
- State Progress Reports
- NCHHSTP Atlas

More about CDC surveillance systems and reports at <http://www.cdc.gov/hiv/statistics>

# HIV Case Surveillance

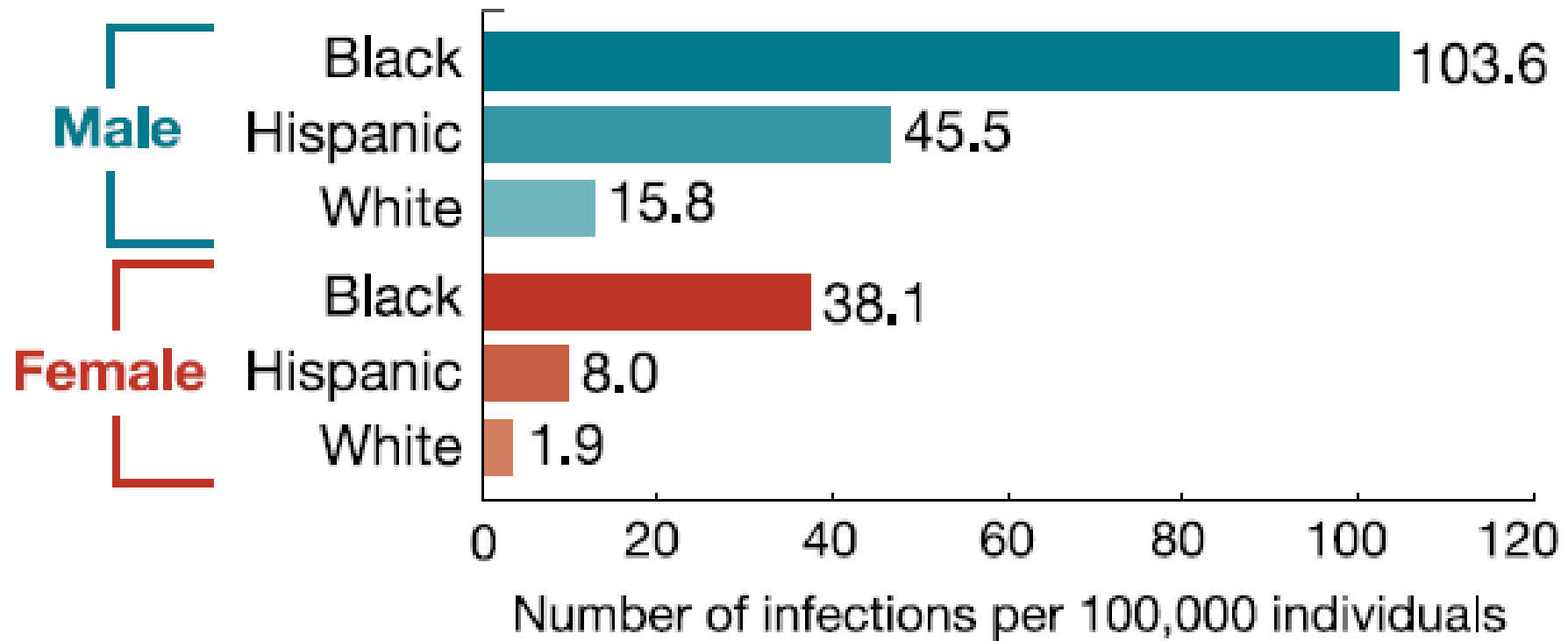
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- CDC'S National HIV Surveillance System is the primary source for monitoring HIV trends in the U.S.
- HIV cases reported through HARS (HIV AIDS Reporting System)
- Data updated based on events (e.g., new address, progression to AIDS, new opportunistic infection, death)
- More recently HARS includes CD4 and viral load data to assess HIV care continuum measures



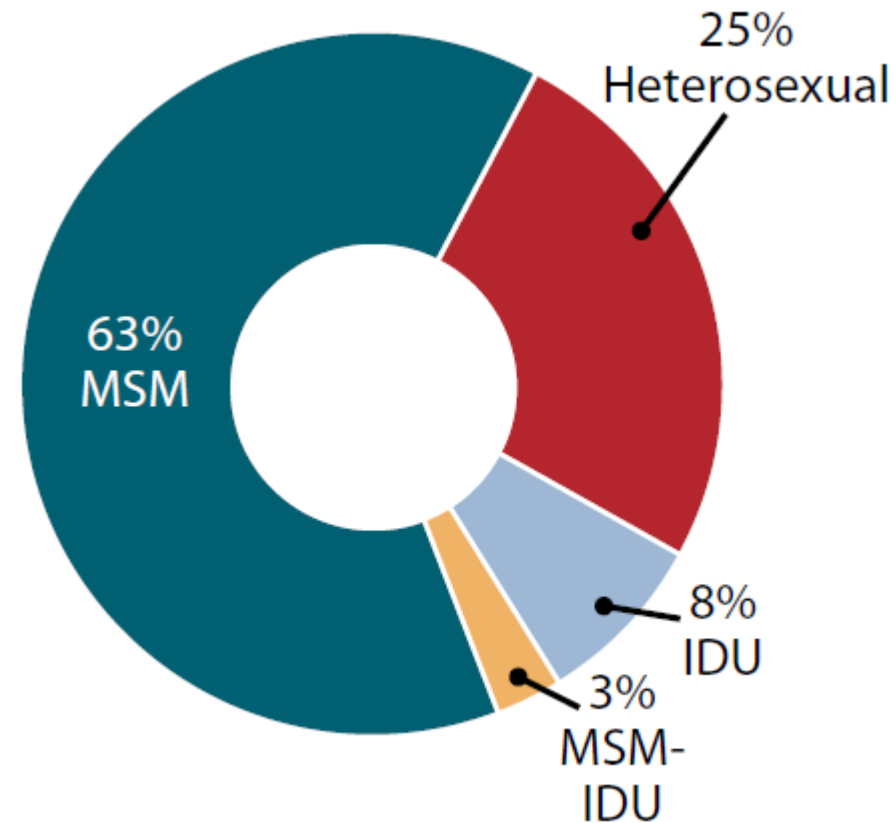
# Estimated Rate of New HIV Infections, 2010

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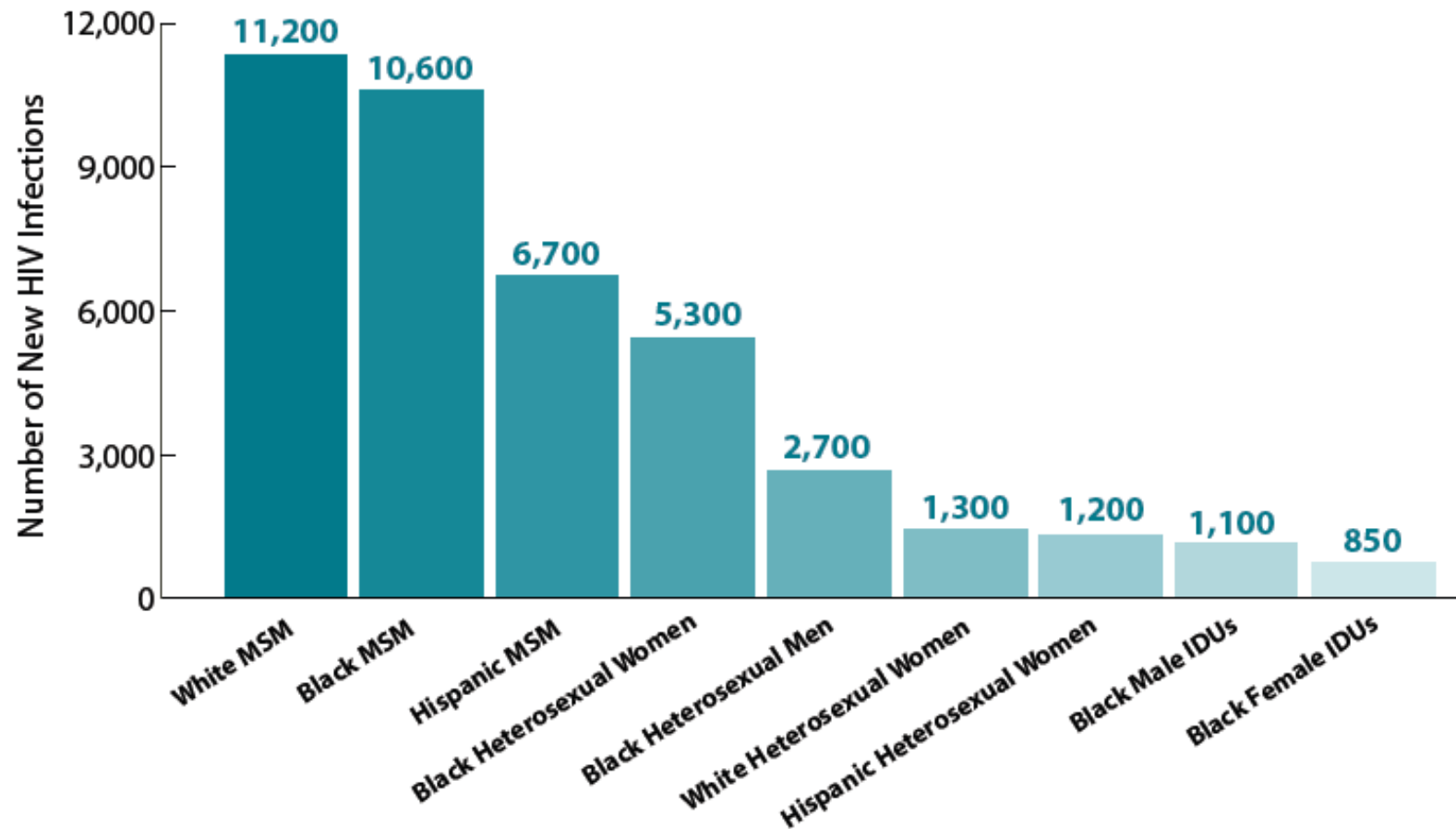


# Estimated New HIV Infections, 2010, by Transmission Category

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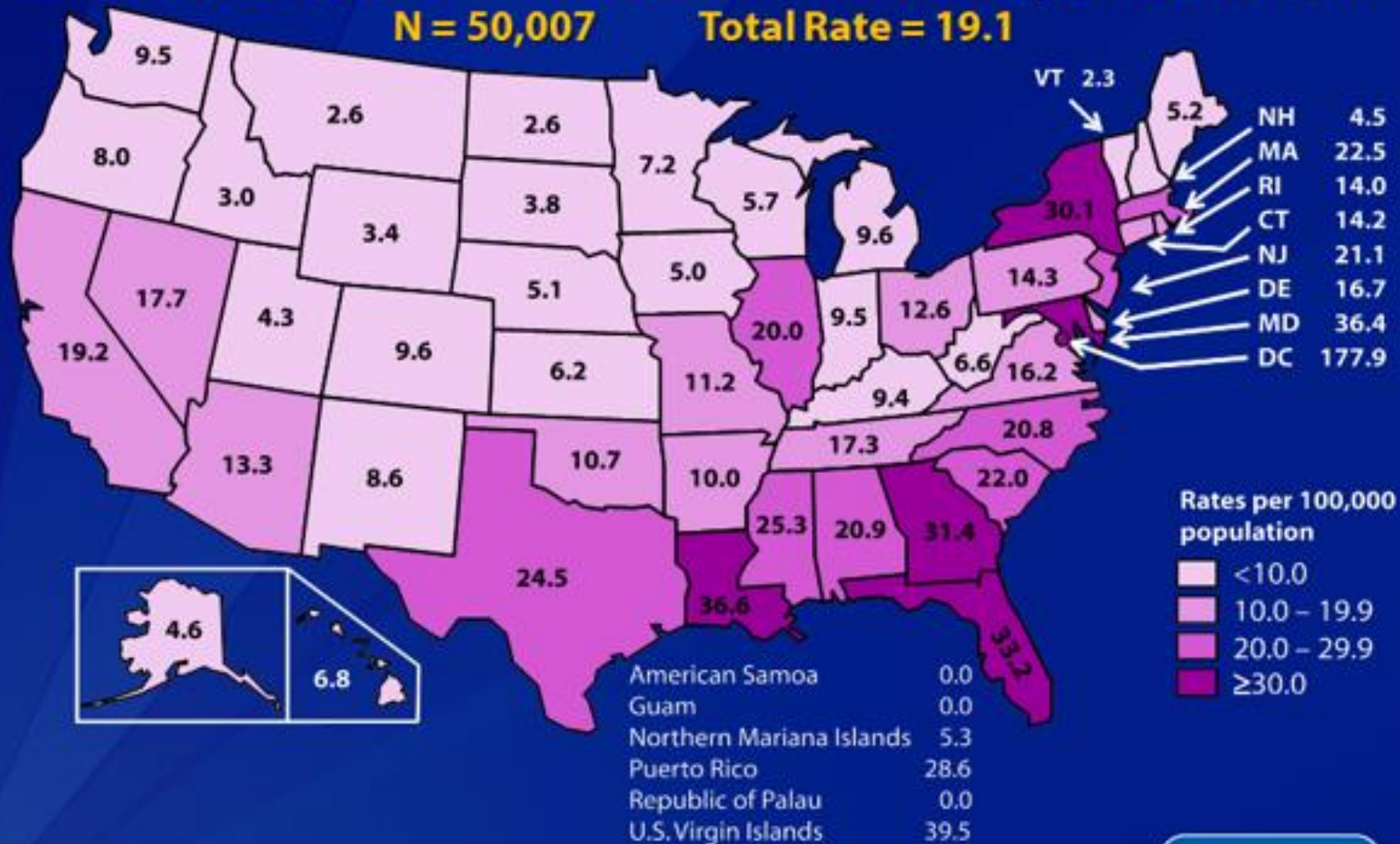


# Estimated New HIV Infections, 2010, for the Most-affected Sub-populations



# Rates of Diagnoses of HIV Infection among Adults and Adolescents, 2011—United States and 6 Dependent Areas

N = 50,007 Total Rate = 19.1



Note. Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. All displayed data have been statistically adjusted to account for reporting delays, but not for incomplete reporting.



# HIV Incidence Surveillance

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- Select surveillance programs conduct incidence surveillance in conjunction with routine case surveillance
- Additional data elements collected include:
  - Testing and antiretroviral use history
  - Results from additional testing of remnant diagnostic HIV-positive blood specimens
- Detuned ELISA used to assess for recent infection (within the last 180 days), as opposed to “long-standing” infection
- Incidence data, along with case surveillance data, extrapolated to general population to estimate incidence; modeling used to assess incidence rates for specific populations

# Medical Monitoring Project

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- National population-based surveillance system that collects information on clinical outcomes and behaviors of HIV-infected persons receiving care in the U.S.
- Information gathered through interviews with persons living with HIV and in care and abstraction of medical records

## Jurisdiction-level data

- 23 state, territorial, and local jurisdictions representing 80% of HIV/AIDS case

## Healthcare facility-level data

- 25-50 healthcare facilities sampled every 2 years from each jurisdiction

## Individual-level data

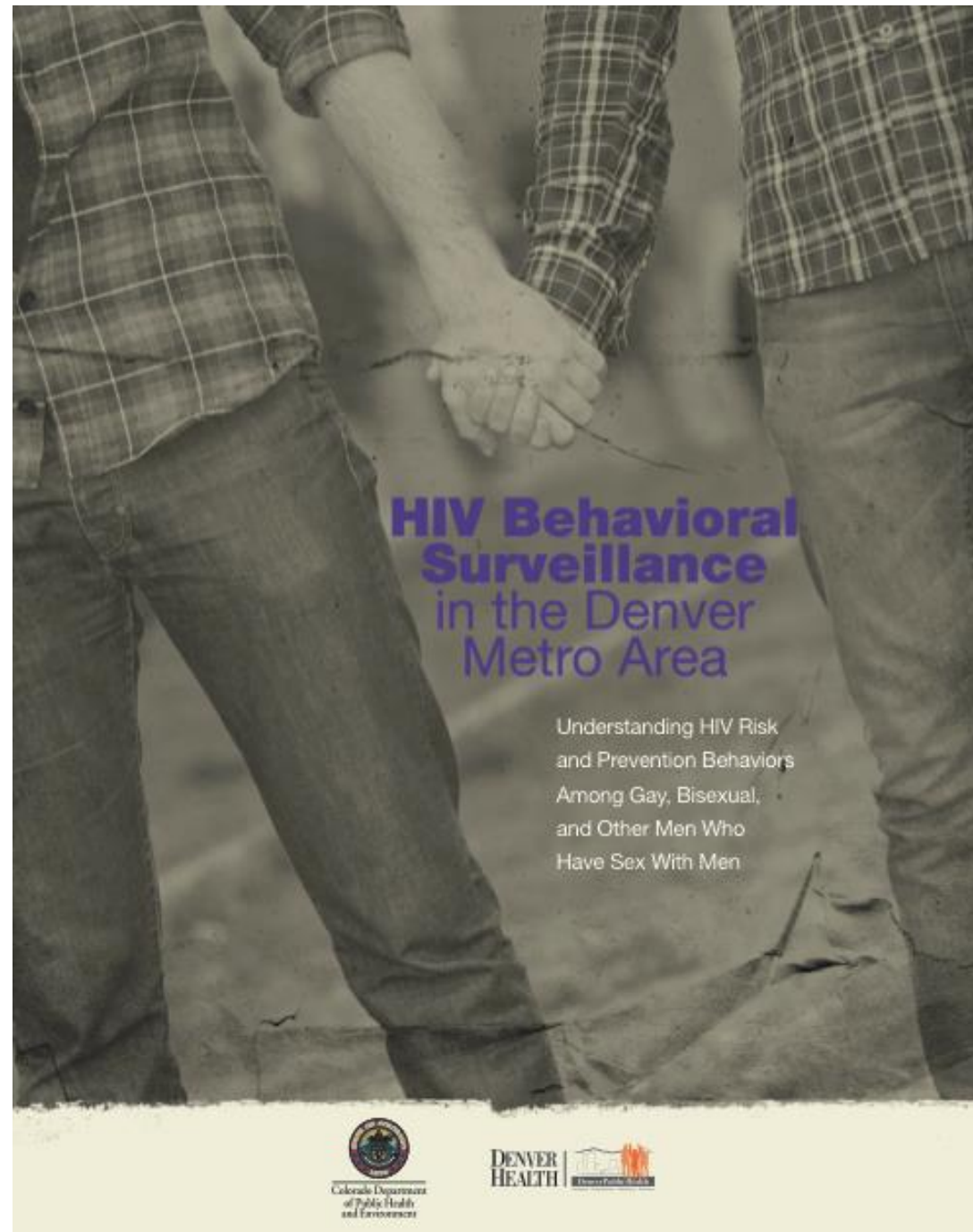
- 400 persons with HIV sampled/surveyed each year from each jurisdiction

# National HIV Behavioral Surveillance System (NHBS)

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- System for conducting behavioral surveillance among persons at highest risk for HIV infection in the U.S.
- Risk, testing, and prevention behaviors assessed via community-based survey
- Population surveyed rotates by year: MSM, IDU, HET
- Conducted in 20 jurisdictions with high AIDS prevalence
- In many settings, blinded HIV (and hepatitis C) screening also implemented, allowing assessments of undiagnosed HIV infection

# Example: Denver NHBS Report





# CDC State HIV Prevention Progress Reports

Figure 1. HIV testing (ever): persons aged 18-65 years, by state, 2011

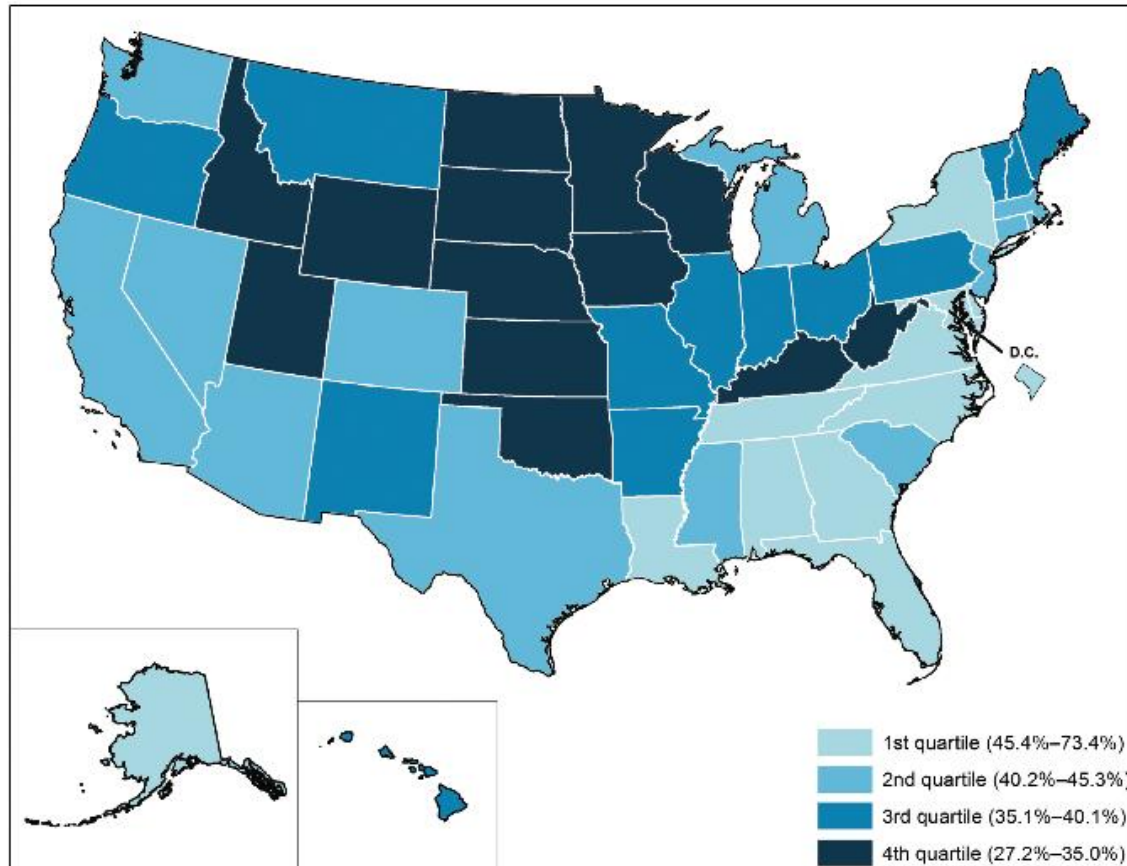
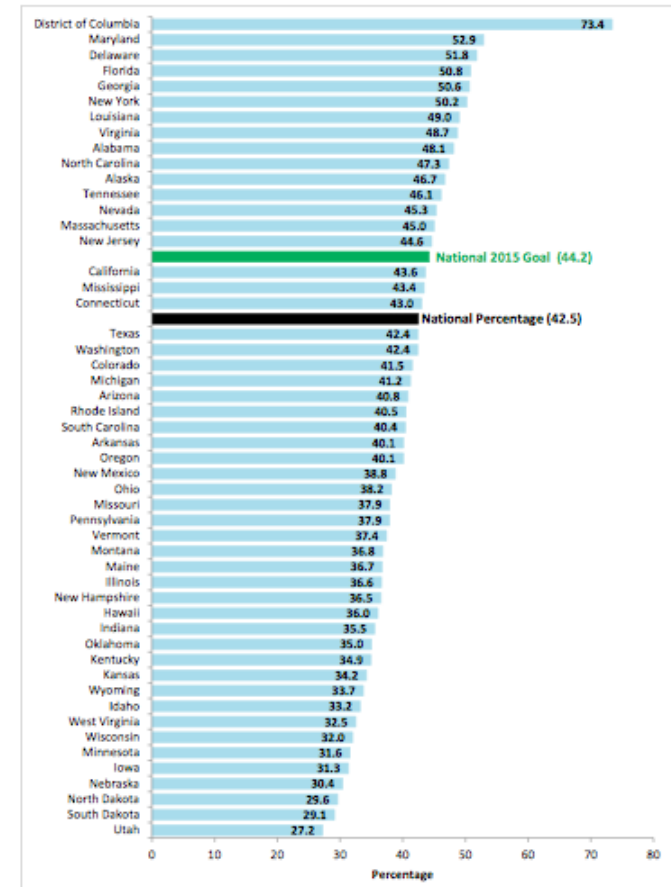


Figure 2. HIV testing (ever): persons aged 18-65 years, by state, 2011



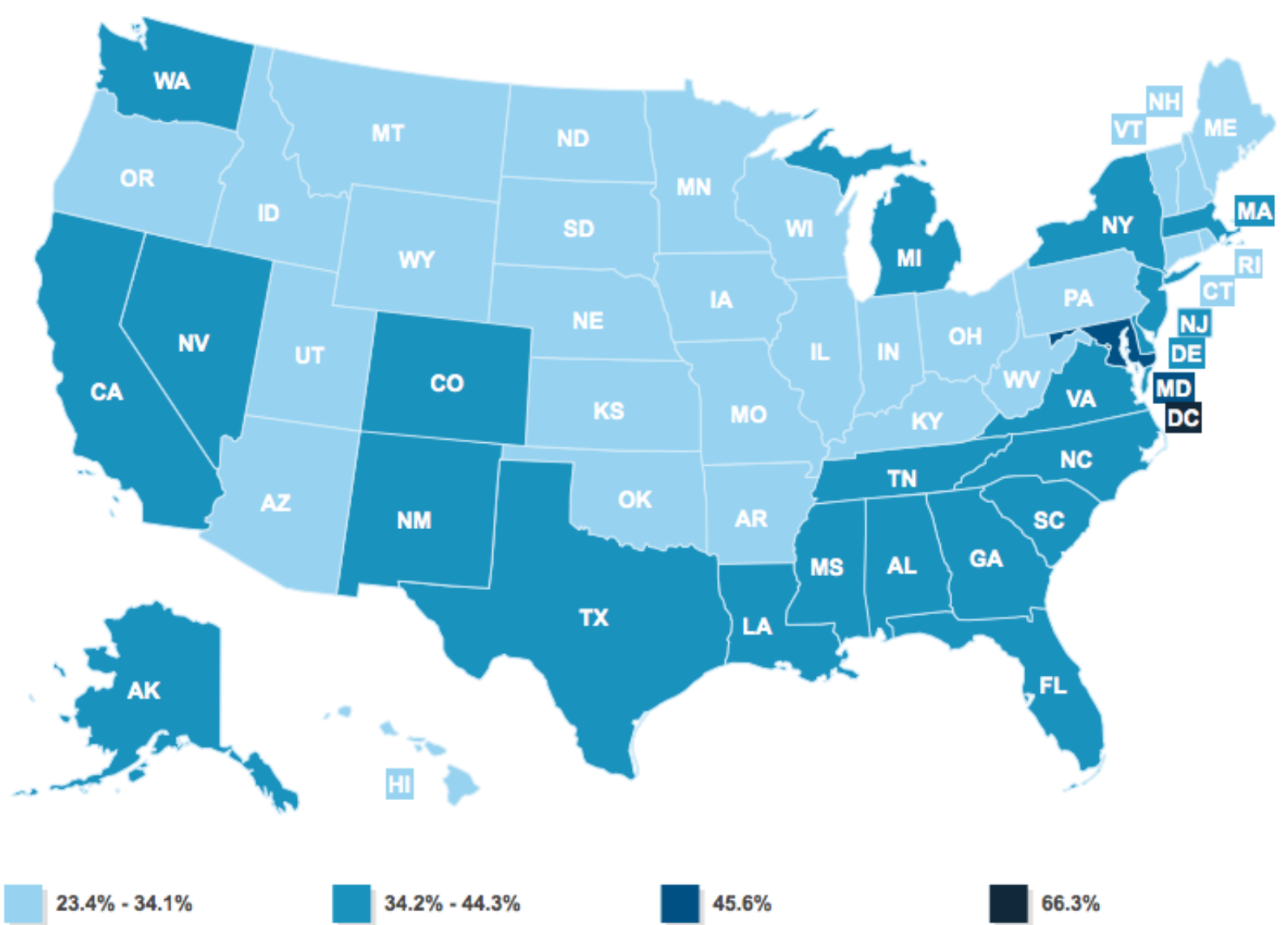
# Kaiser Family Foundation (KFF) State HIV/AIDS Profiles

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- Searchable data by state
- HIV/AIDS prevalence and diagnosis data
- HIV prevention and care funding
- HIV service provision (e.g., testing, care sites)
- Intersectional data (e.g., HIV services and Medicaid coverage)

More about KFF data and reports at  
<http://kff.org/state-category/hivaids/>

# Example: KFF Data on HIV Testing Rates



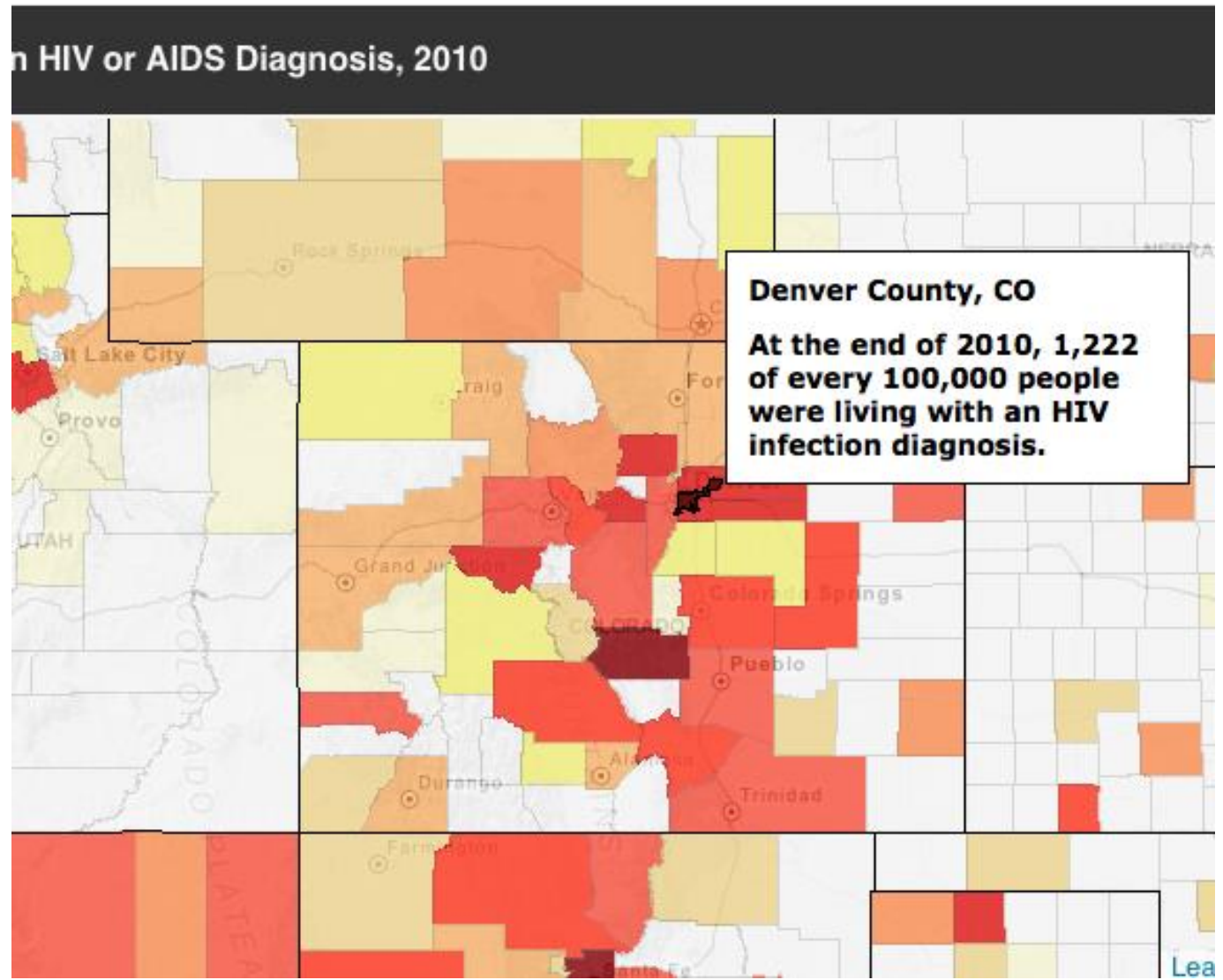
Percentage of Persons Aged 18-64 Who Reported Ever Receiving an HIV Test

# AIDSVu.org

- Interactive county- and city-level HIV data
- Dynamic maps
- Local profiles

The screenshot displays the AIDSVu.org website interface. At the top left is the AIDSVu logo, which includes a red square with a white outline of the United States. To the right of the logo are three navigation menus: 'LOCAL STATISTICS' with a line graph icon, 'TESTING & CARE' with a location pin icon, and 'RESOURCES' with a document icon. Below the navigation is a large banner area. On the left side of the banner, there is a text box with the headline 'AIDSVu Releases 11 New Interactive City Maps' and a sub-headline: 'City maps now display nearly 60 percent of the nation's HIV epidemic, demonstrating where the needs for prevention, testing and treatment services are the most urgent.' Below this text is a purple button labeled 'VIEW YOUR CITY'. To the right of the text is a map of the United States with a color-coded overlay representing HIV data. Several cities are labeled with red boxes: Oakland, Milwaukee, Baton Rouge, Jackson, Jacksonville, Richmond, Columbia, Newark, Boston, New Haven, and Bridgeport. At the bottom of the banner are three small white circles, with the middle one being purple. The footer of the website is dark grey and contains the text 'POWERED BY' followed by the AIDSVu logo and the HIV CONTINUUM logo.

# Example: AIDSVu HIV Prevalence Data for Denver County



# State-developed Epidemiologic Profiles

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- Most states have HIV epidemiologic profiles
- Many are categorized by demographic and risk factors
- Many include geocoded data
- Overlays with other social determinants

# Example: Oregon Epidemiologic Profile

## HIV infection in Oregon among men who have sex with men

### Newly diagnosed HIV infection among men who have sex with men, 2008–2012

Men who have sex with men (MSM) accounted for 63% (807/1,271) of all Oregon HIV/AIDS cases\* diagnosed during 2008–2012 among all genders, and 72% (807/1,117) of all new cases among men (Figure 1). Nationally, MSM\*\* account for about three out of five (63%)<sup>1</sup> of all newly diagnosed HIV infections. This is the only category in the United States for which new HIV infections are increasing.

### HIV infection and MSM at a glance:

- MSM represent 64% of all Oregon HIV cases living at the end of 2012.
- Among living MSM, Oregon HIV cases, 35% had AIDS upon or within 12 months of diagnosis.
- Only 8% of all living MSM Oregon HIV cases are under the age of 30, but from 2007 to 2012, 35% of MSM HIV diagnoses were under the age of 30.

### Male transmission categories among Oregon cases of HIV infection, 2008–2012

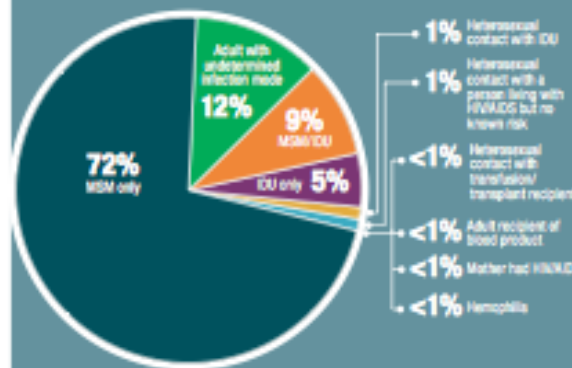


Figure 1

An additional 9% of male cases reported having sex with other men in addition to having used injection drugs (MSM/IDU). Heterosexual transmission among men is relatively rare in Oregon. During 2008–2012, about 2% (n=23) of newly diagnosed men were assumed to have acquired the infection from a female partner who was infected with HIV or used injection drugs.

<sup>1</sup> CDC fact sheet "HIV and AIDS among Gay and Bisexual Men," March 2013. <http://www.cdc.gov/hiv/topics/msm/pdf/msm.pdf>

\* For this report, a "case" is defined as an Oregon resident diagnosed with HIV/AIDS before being diagnosed in another state. Only those cases reported to the Oregon Health Authority HIV Program were included. People living with HIV in Oregon not counted in this report include those who resided in another state when they were diagnosed and approximately 1,010 who are infected but have yet to be tested [Hall, H. (2013). "Differences in human immunodeficiency virus care and treatment among subpopulations in the United States." JAMA Intern Med 173(14): 1337–1344].

\*\* For the purposes of this report, men who have sex with men (MSM) is defined as a male who has anal and/or oral sex with another male.

# Data Interpretation

- What data is relevant?
- What other data might be helpful?
- Placing HIV prevalence, incidence, and risk data within the broader context
- Developing local epidemiologic profiles to guide prevention planning and decision making



# Placing the Data into Context

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- “Triangulate” HIV data from multiple sources
  - National
  - State
  - Local

# A Framework for Looking at the Data

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## National-level data

- Begin to focus on the epidemic
- May profile the local epidemic

## State-level data

- Begin to hone in on the epidemic
- Remember nationally collected data sources
- May be more helpful to local providers than national data

## Local-level data

- Fine-tune data on the epidemic
- Community partners and healthcare providers likely to be more responsive to local data

# What HIV-specific factors should you be looking at?

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- Gender
- Race and ethnicity
- Age
- Risk behavior
- Geographic patterns
- Testing rates or history of testing
- Overlap with STD, and possibly pregnancy, data

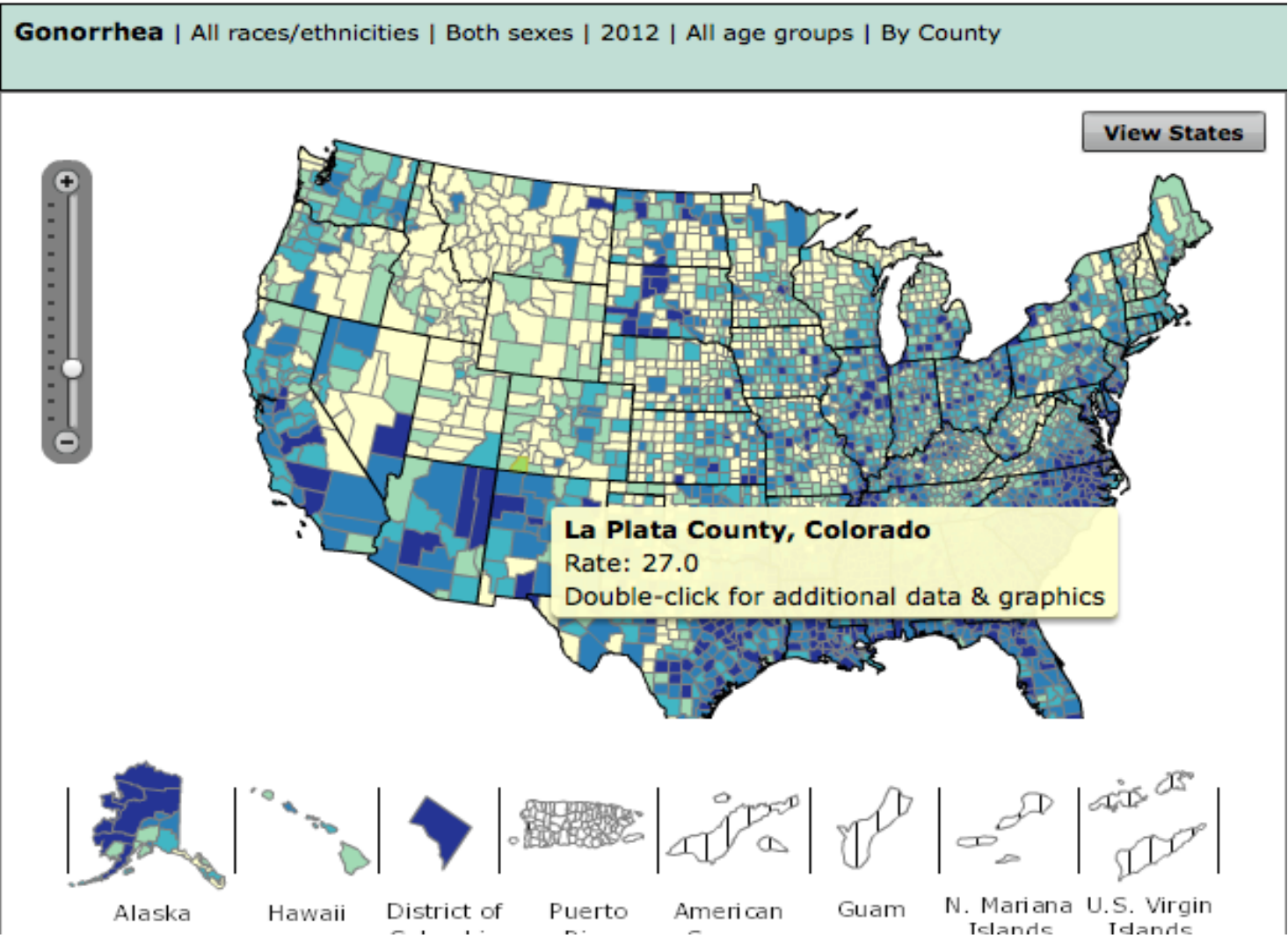
# Placing the Data into Context

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- “Triangulate” HIV data from multiple sources
  - National
  - State
  - Local
- Cross-reference with other data and information sources
  - STD surveillance data
  - Pregnancy and birth rates
  - Other experts: healthcare providers, HIV planning bodies, etc.

Created to provide an interactive platform for accessing data collected by CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP).

# NCHHSTP Atlas



# NCHHSTP Atlas

- Data available by state or county: syphilis, gonorrhea, chlamydia, and HIV
- Can filter data by disease, year, race/ethnicity, sex, age, and transmission category

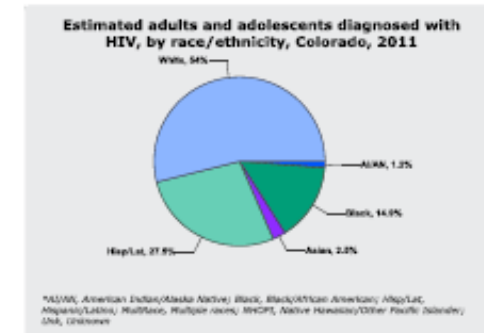
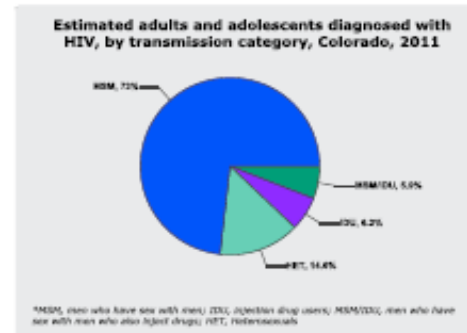
The screenshot displays the 'Query' tab of the NCHHSTP Atlas interface. It features a navigation bar with 'Query', 'Map Options', 'Export', and 'Tell us what you think!'. Below the navigation bar, there are two links: 'Basic Query' and 'Recommended Queries'. The main content area is divided into five numbered sections:

- 1 Disease:** A dropdown menu is set to 'Gonorrhea'. To the right, there is an information icon (i) and the text '\* county data available'.
- 2 Map Type:** Two radio buttons are present: 'By state' (unselected) and 'By county' (selected). An information icon (i) is to the right.
- 3 Years:** A dropdown menu is set to '2012'. An information icon (i) is to the right.
- 4 Race/Ethnicity, Sex, Transmission Category, and Age Group:** This section contains four dropdown menus: 'All races/ethnicities' (Race/Ethnicity), 'Both sexes' (Sex), 'All transmission categories' (Transmission Category), and 'All age groups' (Age Group). Each dropdown has an information icon (i) to its right.
- 5 Update Map and Reset to default query:** Two buttons are located at the bottom: a green 'Update Map' button and a grey 'Reset to default query' button.

## HIV/AIDS Epidemic

In 2011, an estimated 49,081 people in the United States were diagnosed with HIV, the virus that causes AIDS. About 1 in 6 people with HIV in the United States do not know that they are infected.

In 2011, an estimated 404 adults and adolescents were diagnosed with HIV in Colorado. Colorado ranked 25th among the 50 states in the number of HIV diagnoses in 2011.



## Adolescent and School Health

Many young people engage in sexual risk behaviors that can result in unintended health outcomes. Sexual risk behaviors place adolescents at risk for HIV infection, other sexually transmitted diseases, and unintended pregnancy.

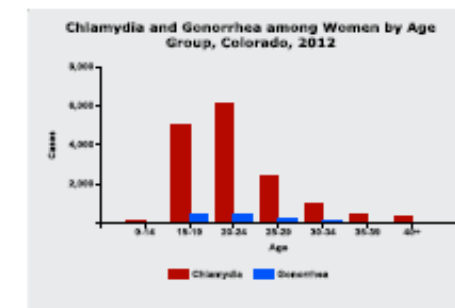
## Sexually Transmitted Diseases (STDs)

**Syphilis – Primary and secondary (P&S) syphilis** (the stages in which syphilis is most infectious) remains a problem, primarily in the southern United States and some urban areas.

- In Colorado, the rate of primary and secondary syphilis was 2.6 per 100,000 in 2008 and 4.1 per 100,000 in 2012. Colorado now ranks 21st in rates of P&S syphilis among 50 states.
- There were 0 cases of congenital syphilis from 2008 through 2012.

**Chlamydia and Gonorrhea – Untreated STDs** are a common cause of pelvic inflammatory disease, infertility and chronic pelvic pain. In addition, they can increase the spread of HIV, and cause cancer. Pregnant women and newborns are particularly vulnerable. In 2012, Colorado:

- Ranked 28th among 50 states in chlamydial infections (422.7 per 100,000 persons) and ranked 37th among 50 states in gonorrheal infections (55.2 per 100,000 persons).
- Reported rates of chlamydia among women (607 cases per 100,000) that were 2.5 times greater than those among men (239.8 cases per 100,000).



# Consult with Local Experts and Stakeholders

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- Providers delivering PrEP
- Other clinical providers
- HIV prevention and care planning bodies
- HIV prevention practitioners: CBOs, ASOs, etc.
- Primary care providers: What do you need to know about the population at risk before discussing or prescribing PrEP?
- Populations at risk for HIV: What might you want to know that might encourage you to consider your HIV prevention options, including PrEP?



# Placing the Data into Context

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- “Triangulate” HIV data from multiple sources
  - National
  - State
  - Local
- Cross-reference with other data sources
  - STD surveillance data
  - Pregnancy and birth rates
  - Other experts: healthcare providers, HIV planning bodies, etc.
- Overlap with non-sexual health data sources
  - Poverty rates, educational attainment, etc.

# HIV Data Fits within a Broader Set of Social Determinants

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- Poverty
- Employment
- Neighborhood
- Race/ethnicity
- Educational attainment
- Incarceration
- Insurance coverage
- Transportation
- Housing
- Immigration status
- Substance use
- Mental health
- Relationship recognition
- Access to healthcare
- Intersection of all of the above

# Constructing Local-use Profiles

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- Likely to be as many local reports as there are localities
- Consider your audience: persons at risk for HIV, healthcare providers, prevention providers, politicians and other decision-makers (others?)
- Consider what would be most useful for the local population
  - What might best inform providers about who might benefit from PrEP?
  - What might best encourage persons at risk for HIV to consider their HIV prevention options, including PrEP?

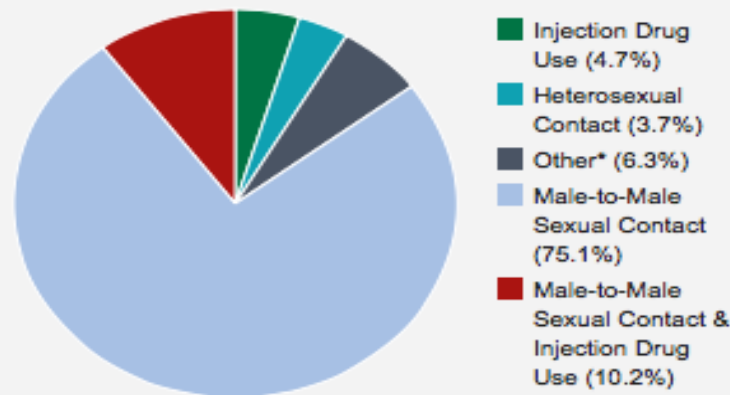
# Local Report Framework: AIDS Vu Example

## Late HIV Diagnoses: Estimated Percent of Adults/Adolescents Diagnosed with AIDS Within 12 Months of Initial HIV Infection Diagnosis: 2011

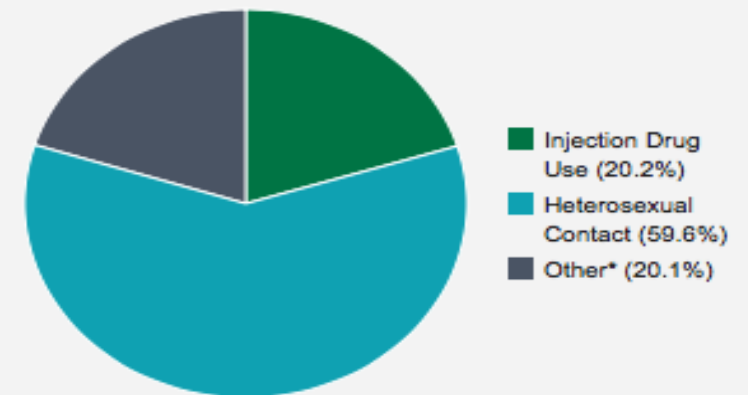


## Estimated Percent of Persons Living with an HIV Diagnosis at the End of 2011

### Male Transmission Categories



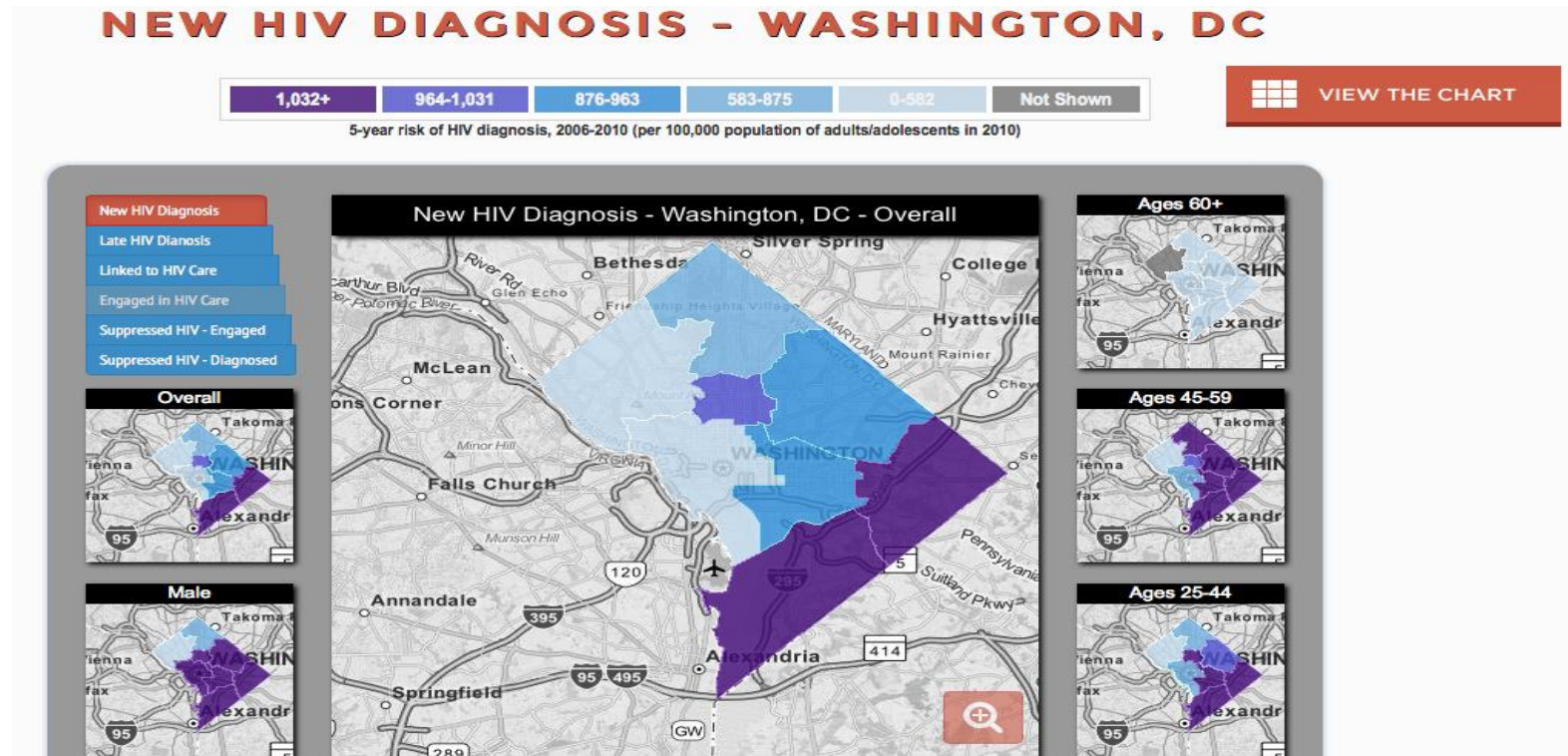
### Female Transmission Categories



\*Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified.

# Local Report Framework: HIVContinuum.org Example

- Local reports for select cities: Washington, DC; Philadelphia; Atlanta
- Potential guide or framework for local profiles



# Dissemination Mechanisms

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**Communicate risk profiles and HIV prevention messages to healthcare providers, HIV prevention partners, and communities at risk**

- Policy briefs
- Print media
- Earned media: press release, news reports, editorials
- Social media: Facebook, Twitter, Instagram, etc.
- Newsletters
- Conference presentations
- Local medical society connections
- HMO/healthcare organization medical director/quality control officer
- Insurance plan medical directors
- Medicaid program staff
- Prevention and care advisory groups
- Local community healthcare provider associations

# Pulling it All Together

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No need for PrEP

# Pulling it All Together

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No need for PrEP



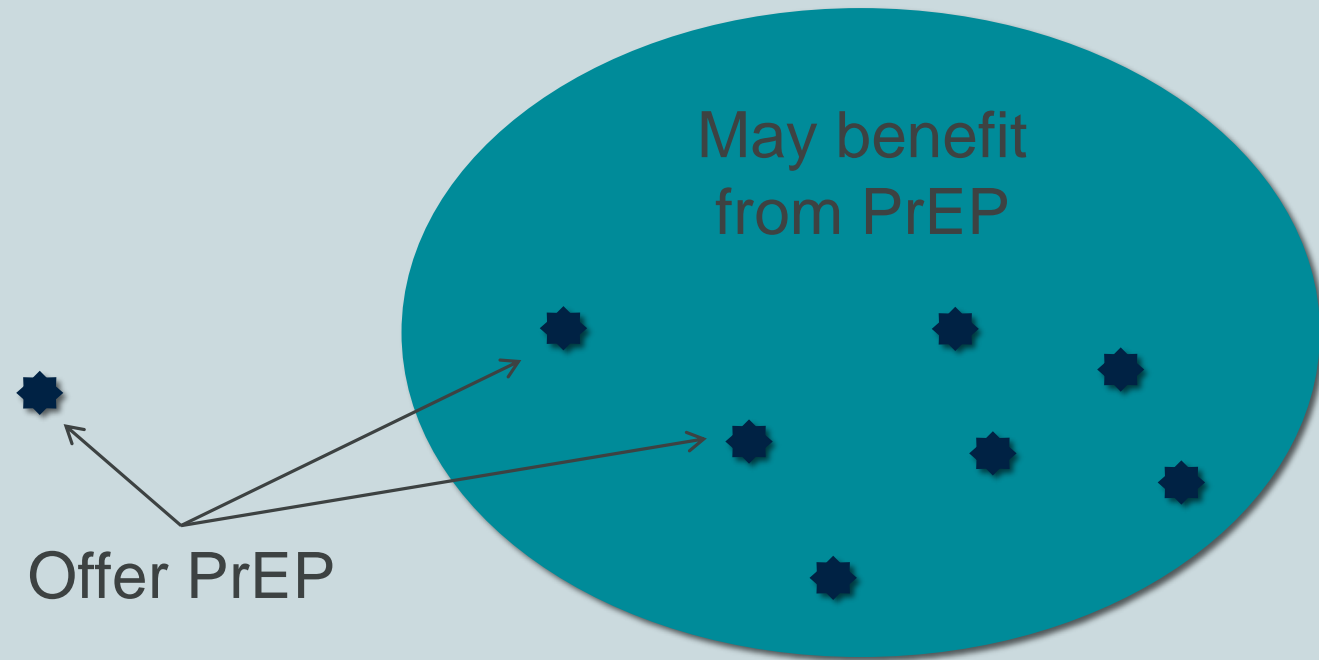
May benefit  
from PrEP



# Pulling it All Together

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No need for PrEP



# NACCHO's Educational Series on PrEP and Local Health Departments

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## Module 1

PrEP for HIV Prevention: An Introduction

Beyond the Basics: The Science of PrEP

US Public Health Service Clinical Practice Guidelines for PrEP

## Module 2

**Who Might Benefit from PrEP: Population-level Assessments**

Who Might Benefit from PrEP: Individual-level Assessments

## Module 3

Increasing PrEP Awareness and Knowledge in Your Jurisdiction

Incorporating PrEP into Comprehensive HIV Prevention Programs

# PrEP Poses Many Questions

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After watching the webcasts in Modules 1 and 2,  
join us for a live webinar discussion on

**Friday, November 21, 2014**

**from 1:00-2:00 PM ET.**

Register at <http://www.naccho.org/topics/HPDP/hivsti/prep.cfm>.

The webinar will be archived and made available via [naccho.org](http://naccho.org).