

# HIV Testing and Diagnosis in Pennsylvania



**PennState**  
College of Education

The Pennsylvania Expanded HIV Testing Initiative  
Penn State University

# Disclosures

Since the data collected are CDC data, there is often inadequate information regarding gender. Unless otherwise specified, any gender designation is the sex assigned at the time of birth.

# HIV Remains a Major Concern

- In 2023, approximately 60MM people died worldwide and 630,000 died from HIV-related illnesses. HIV accounted for 1.05% of worldwide deaths.
- Medications for treating HIV are highly effective
  - U=U
- We currently have all the tools needed to end the epidemic – it all starts with testing

Unaid.org, WHO

# Screening vs. Testing

**Screening** = early detection

A preventive measure used to detect potential health issues or diseases before symptoms appear

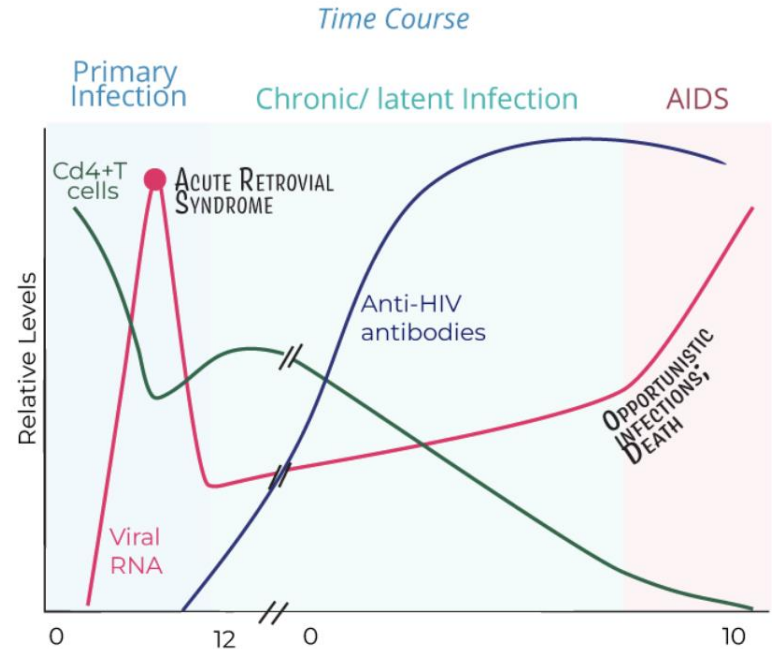
**Testing** = diagnosing or managing

Used to diagnose a specific condition or confirm the presence of disease in one with symptoms or with a suspected condition

PEHTI supports both

# The Importance of Early Detection of HIV

- HIV is a retrovirus that attacks mainly immune cells
- Historically, HIV testing looked for the body's response to HIV
- If untreated, HIV destroys the body's immune system
- With ART, the immune system can rebound
- Many people don't have symptoms until late stage
- **Testing is vital to saving lives and ending transmission.**



Ditki Medical and Biological Sciences

# HIV Transmission

- For HIV, the probability of transmission is quite low (+/- 1%)... unless it is not (early acute=7.2x, STIs=10x)
- Transmission probability during the acute phase of HIV
  - Transmitted/founder virus
  - Viral load
  - Non-adherence/lack of access to ART
- HIV (lentivirus) has very few symptoms in early stages. Testing is vital to determine who can benefit from ART

Wawer 2015, <https://www.cdc.gov/hiv/risk/estimates/riskfactors.html>

# CDC's Testing Recommendations - Pre 2006

- Focused on risk-based and symptom-driven testing rather than routine testing
  - Men who have sex with men
  - People who inject drugs
  - Multiple sexual partners
  - Sex workers
  - People with history of sexually transmitted infections
  - Pregnant people (not universally)

# Limitations of Opt-in Testing

- Opt-In Approach – people had to agree to be tested after undergoing pre-test counseling
  - People don't always disclose vulnerabilities
- Testing in healthcare settings
- Testing for symptomatic individuals – signs of late-stage HIV or opportunistic infections

# Higher Testing Rates, Earlier Diagnosis, Reduced Stigma

2016 study (Zuger et al.) tested acceptance to opt-in, opt-out approaches.

- You can let me, your nurse, or doctor know if you want a test. [38%]
- Would you like a test today? [51%]
- You will be tested today unless you decline. [66%]

# Improvements to Testing Guidelines – 2006+

Routine, Opt-out screening

**Individuals aged 13 to 64 should be tested for HIV at least once as part of routine healthcare**

How are we doing?

# Out-Out Screening in Pennsylvania

As of 2019, approximately 46% of Pennsylvania residents have been screened at least once

- 50% of females 42% of males\*
- Testing rates vary significantly by age:
  - 38% of people aged 18-29
  - 59% of people aged 30-44
  - 41% of individuals aged 45-64

2019 Behavioral Risk Factor Surveillance System

\*Sex assigned at birth

# Underscores Ongoing Testing for Vulnerable Populations

- **Individuals vulnerable to HIV, such as:**
  - those with multiple sex partners
  - people who inject drugs
  - men who have sex with men
  - history of STIs

**to be tested at least annually**

- **Ongoing testing for vulnerable populations**

# Underscores Ongoing Testing for Vulnerable Populations

- According to the CDC, approximately 25% of individuals vulnerable for HIV are tested annually (2023).
- People on PrEP are usually tested 2 to 6 times a year.
- Home self-testing is available and easy to use, but has limitations
  - False positives/negatives, difficulty reading
  - Window period
  - LEVI syndrome

[www.cdc.gov/hivnexus/media/pdfs/2024/04/cdc-hiv-together-brochure-integrateroutinescreening-provider.pdf](https://www.cdc.gov/hivnexus/media/pdfs/2024/04/cdc-hiv-together-brochure-integrateroutinescreening-provider.pdf)

# Screening During Each Pregnancy

All pregnant people should be tested as early as possible during each pregnancy. People [deemed more vulnerable] should be retested in the third trimester.

# Screening During Each Pregnancy

- Testing is a key component of efforts to prevent vertical transmission of HIV. With interventions, the transmission probability is  $<1\%$ .
- In the US, approximately 85-90% of pregnant people are tested for HIV during each pregnancy
- Universal screening really works!

# **HIV Screening for MSM**

**Sexually active gay and bisexual men  
recommended to be tested every 3-6  
months**

# HIV Screening for MSM

- Data from a 2023 study suggests that 78% of gay and bisexual men reported being tested for HIV in the past 12 months.
- This is a significant improvement from a 2011 study that suggested 67% of gay and bisexual men reported being testing in the past 12 months.

MMWR 62(47);958-962

# HIV Statistics in the US

- 1.2 million in the US living with HIV
- 158,500 (13%) are unaware of their status
- In 2022, over 38,000 people received an HIV diagnosis in the US and territories.
- The number of yearly HIV transmissions has decreased by about 12% since 2018
- Geographically, the Southern US continued to account for more than half (52%) of all diagnoses.

PA.gov, CDC.gov

# HIV Statistics in Pennsylvania

- Since 1981, approximately **65,000** PA residents have been diagnosed with HIV
- Currently, there are approximately **36,300** individuals in PA living with HIV
- In 2023, there were **909** new HIV diagnoses
- People who identify as male accounted for over **75%** of new diagnoses

PA.gov

# Alarming Rates of Late Diagnoses in Pennsylvania

- Approximately **24%** of new diagnoses from 2019-2023 were concurrent with late-stage (AIDS) diagnosis.
- Among those aged 50 and older, the concurrent diagnosis rate was **42%**
- In the US, **women over 45** are more likely than any other group to receive a concurrent diagnosis than any other group.

HPCP, 2025, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6775941>

# HIV Patterns in Pennsylvania

- The majority of new diagnoses are 25-44 years of age
- Nearly 16% of new diagnoses from 2019-2023 were aged 50 and older
- Black/African American people make up 12.2% of the state's population, but 44.9% of the new HIV diagnoses
- Hispanic/Latino people make up 8.6% of the state's population, but 24% of new cases

HPCP, 2025

# Disproportionate Burden of HIV

Why is there greater prevalence of HIV in Black/AA and Hispanic/Latino populations?

- Healthcare access barriers
- Higher prevalence in communities
- Stigma and misinformation
- Socioeconomic inequalities
- Higher rates of undiagnosed/untreated HIV
- Limited access to prevention programs

# Data Do Not Support Stigmatizing Racial Stereotypes

Why is there greater prevalence of HIV in Black and Hispanic populations?

- There is no strong evidence that these communities engage in sexual behaviors with higher transmission probability than the general population
- Rates of sexual behaviors with higher transmission probability (multiple partners, condomless sex, etc.) are similar across all racial and ethnic groups when adjusted for socioeconomic factors and access to healthcare

# Pennsylvania Expanded HIV Testing Initiative - PEHTI

- Assist Pennsylvania Department of Health's efforts
- PEHTI partners with testing providers that interface with people at a greater vulnerability to HIV
- PEHTI provides training and, in some cases, testing supplies for some groups
- Emergency Department Initiatives
- Mobile Units
- Harm Reduction Vending Machines
- HIV Home Self-testing
- Conference Presentations
- Education materials



# Screening in Emergency Settings

The CDC recommends HIV screening in EDs because it is an effective way to identify undiagnosed cases, reduce transmission, improve health outcomes

- Members of vulnerable populations without consistent access to care
- Increases diagnosis rates, improves patient outcomes, reduce transmission

## PEHTI ED Pilot Program

- 15 months, 8,932 tested
- 10 new diagnoses



# Pennsylvania Expanded HIV Testing Initiative

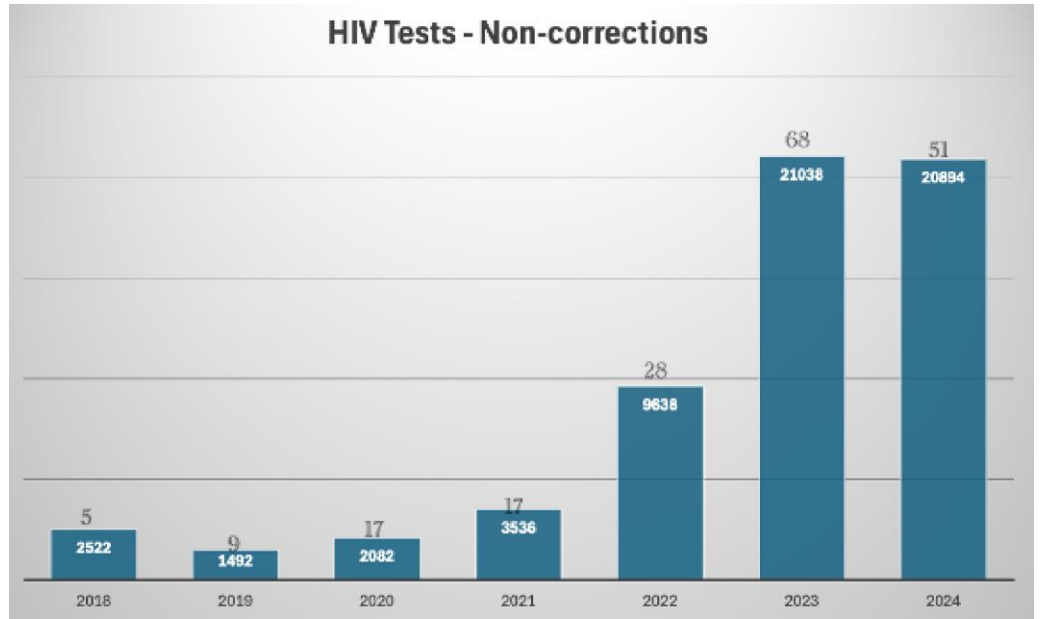
In 2024, PEHTI and its partners tested 20,894 people for **HIV** in a **non-corrections** setting. There were 51 new HIV diagnoses from these tests.

.24% positivity

$$\begin{array}{r} 51 \\ \hline 20,894 \end{array}$$

# Pennsylvania Expanded HIV Testing Initiative

Since 2018, PEHTI and partners have provided 61,202 HIV tests (non-corrections) that led to the diagnosis of 195 people.



# Pennsylvania Expanded HIV Testing Initiative

In 2024, PEHTI and its partners tested 21,127 people for **hepatitis C** in a **non-corrections** setting. There were 4,157 new, active hepatitis C diagnoses from these tests.

4,157

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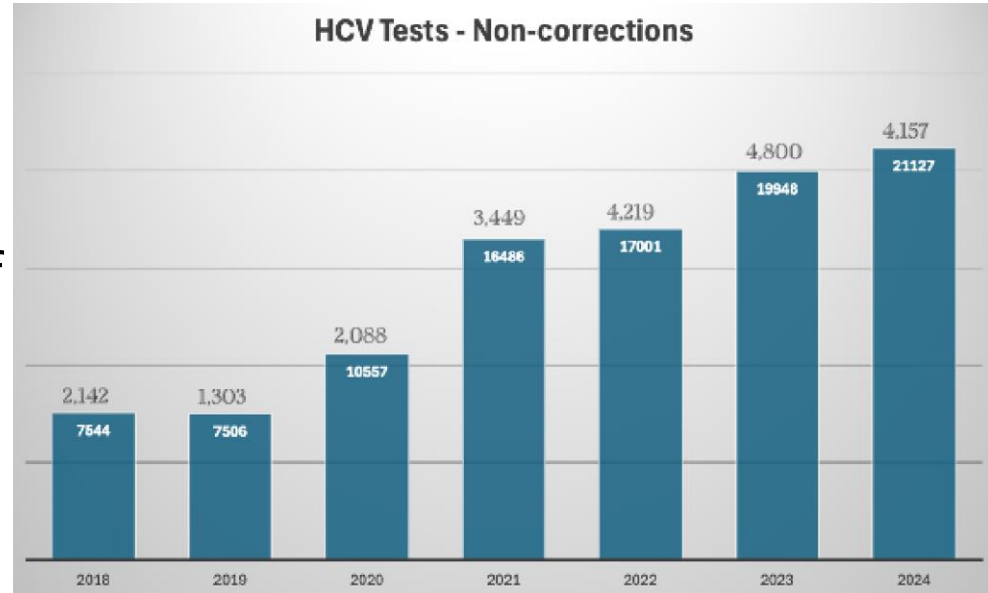
21,127

19.67% positivity

# Pennsylvania Expanded HIV Testing Initiative

Since 2018, PEHTI and partners have performed 100,169 hepatitis C tests that led to the diagnosis of 22,158 people.

22.12% positivity



# Pennsylvania Expanded HIV Testing Initiative

In 2024, PEHTI and its partners tested 19,808 people for HIV in a carceral setting. There were 31 new HIV diagnoses from these tests.

.16% positivity

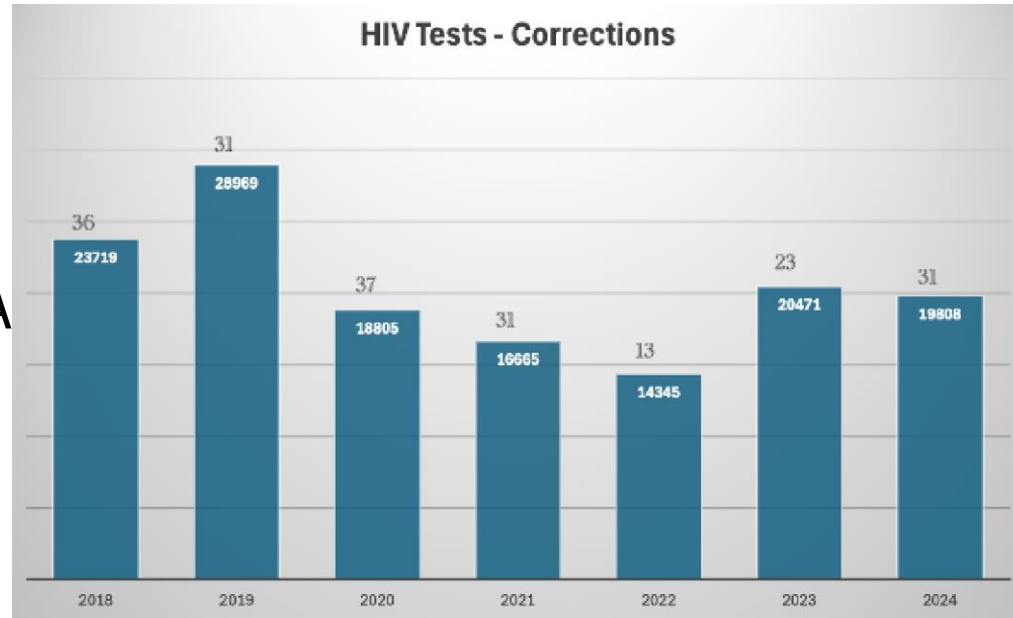
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19,808

# Pennsylvania Expanded HIV Testing Initiative

Since 2018, PEHTI and partners have provided 142,782 HIV tests to incarcerated individuals in PA leading to 202 new HIV diagnoses.



# Pennsylvania Expanded HIV Testing Initiative

In 2024, PEHTI, HPCP, and DOH mailed out 788 HIV home self-test kits.

Since 2020, 4,780 kits have been mailed out.



# Questions...

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