

# ALLEGHENY COUNTY HEALTH DEPARTMENT

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## HIV EPIDEMIOLOGIC PROFILE 2014-2023

# **HIV EPIDEMIOLOGIC PROFILE, ALLEGHENY COUNTY, PA, 2014-2023**

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**Allegheny County Health Department**

Report prepared by  
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## Introduction

Human Immunodeficiency Virus (HIV) is a virus that attacks the body's immune system by destroying cells that fight disease and infection. HIV is typically spread by exposure to body fluids or tissue from an individual living with HIV; sex and injection drug use are the most common routes of transmission. If left untreated, HIV can lead to Acquired Immune Deficiency Syndrome (AIDS), the most severe stage of HIV infection. AIDS leads to debilitating infections that occur due to a badly damaged immune system. There is currently no effective cure for HIV, thus the infection lasts throughout life once acquired; however, with proper medical care, such as antiretroviral therapy (ART), HIV can be controlled, and individuals can live a long and healthy life without transmitting the virus to others.

The purpose of this report is to provide the general public, healthcare providers and researchers with updated information on the burden of the HIV epidemic in Allegheny County, Pennsylvania. These data are used to monitor trends in the epidemic and identify groups who may be disproportionately affected for prevention and outreach efforts.

## Newly Diagnosed HIV

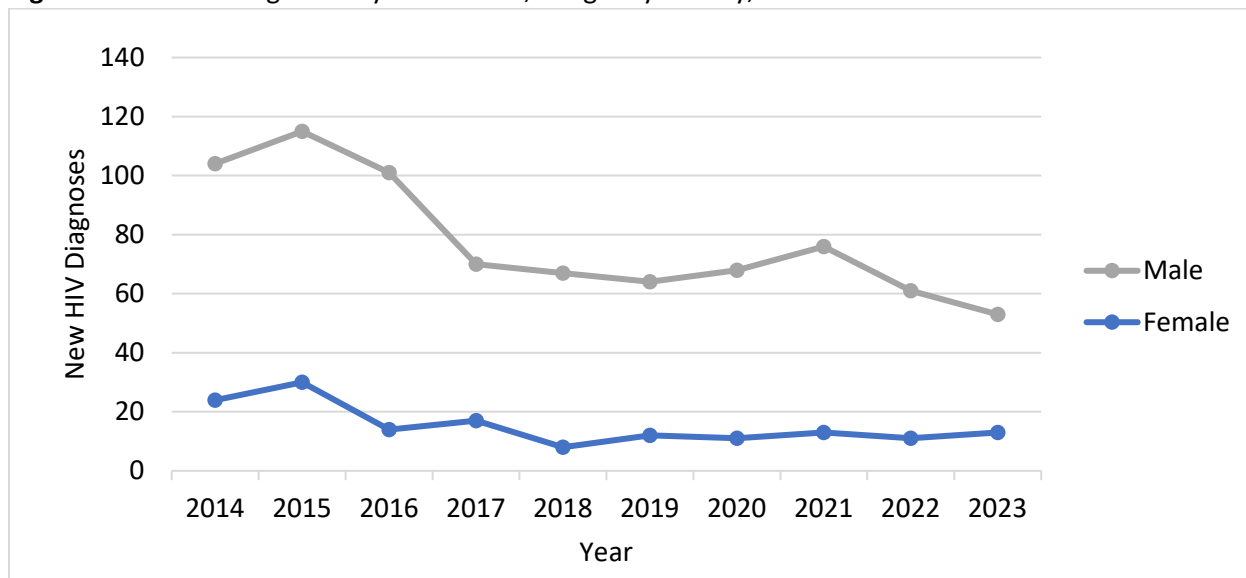
In 2023, 66 new diagnoses of HIV were reported among Allegheny County residents, down from 72 new diagnoses in 2022.<sup>1</sup> Most new diagnoses of HIV have occurred among males since the start of the epidemic, with 80% of new diagnoses among males in 2023 (Table 1). From 2014 to 2023, between 49-59% of all new HIV diagnoses were among Black non-Hispanic individuals. Within that same time period, most new cases were among 25-34 year olds. There were no diagnoses among persons <18 years reported in 2023. Men who have sex with men (MSM) have consistently been the largest group with newly diagnosed HIV from 2014-2023.

**Table 1.** New and existing HIV diagnoses in Allegheny County, 2023

Characteristic	New Diagnoses	People Living w/ HIV
Total	66	3,970
Sex at Birth		
Male	53 (80)	3,130 (79)
Female	13 (13)	840 (21)
Race/Ethnicity		
Non-Hispanic White	21 (32)	1,663 (42)
Non-Hispanic Black	33 (50)	1,690 (43)
Other	12 (18)	617 (15)
Age at Diagnosis (years)		
<=14	0 (0)	6 (0.2)
15-24	16 (24)	98 (2)
25-34	27 (41)	668 (17)
35-44	10 (15)	809 (20)
45-54	13 (11)	745 (19)
55-64	6 (9)	1,025 (26)
>=65	0 (0)	619 (16)
Risk Factor		
MSM <sup>a</sup>	37 (52)	
IDU <sup>b</sup>	ND	
MSM & IDU	ND	
Heterosexual Contact	9 (20)	
Perinatal Mode	0 (0)	
Other <sup>c</sup>	14 (20)	
<sup>a</sup> MSM = Men who have Sex with Men, <sup>b</sup> IDU = Injection Drug Use, <sup>c</sup> Other = No identified risk or no reported risk, <sup>d</sup> ND = Not displayed due to small numbers (1-4)		

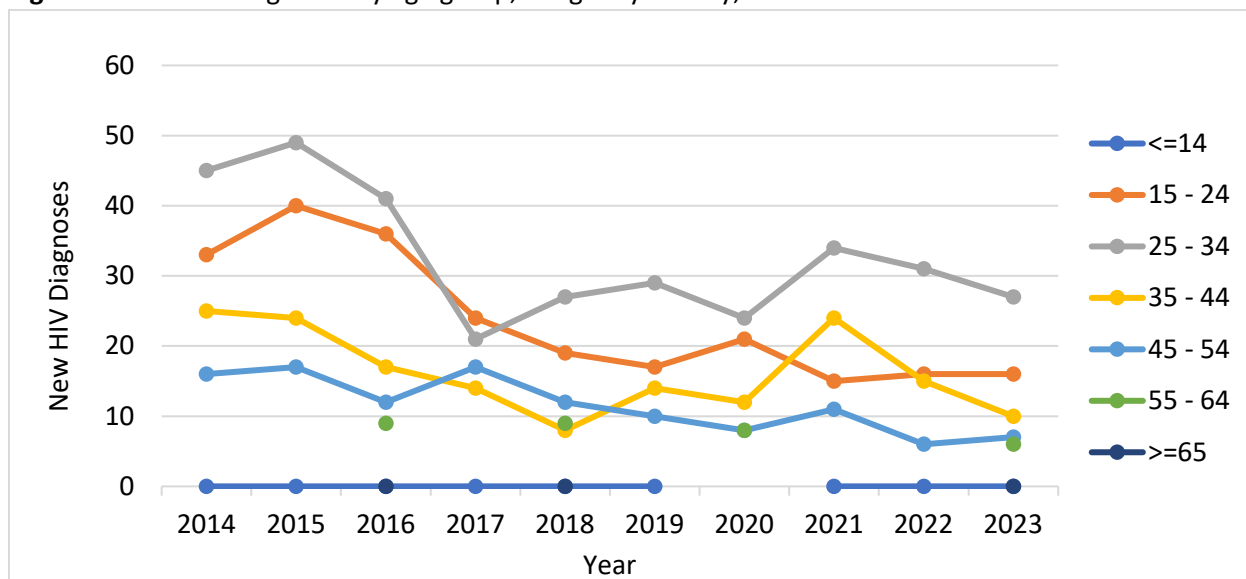
The number of new diagnoses in males decreased by about 30% from 2021 to 2023, following an increase from 2019 to 2021 (Figure 1). New diagnoses among females have been relatively stable with between 11 and 13 new diagnoses per year since 2019.

**Figure 1.** New HIV diagnoses by sex at birth, Allegheny County, 2014-2023



The largest decreases in new diagnoses occurred in individuals ages 35-44 and 25-34 years old, with a 58% and 21% decrease, respectively, from 2021 to 2023 (Figure 2). New diagnoses in the other age groups have remained relatively stable between 2021 and 2023.

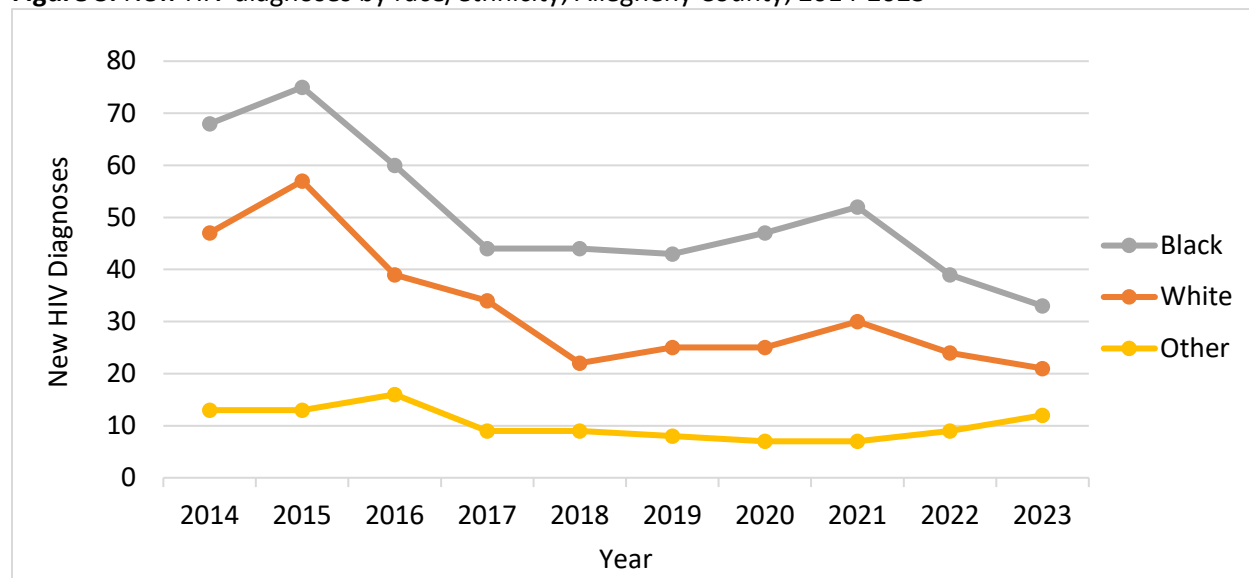
**Figure 2.** New HIV diagnoses by age group, Allegheny County, 2014-2023



Note: values between 1 and 4, and the next highest category are suppressed for privacy concerns

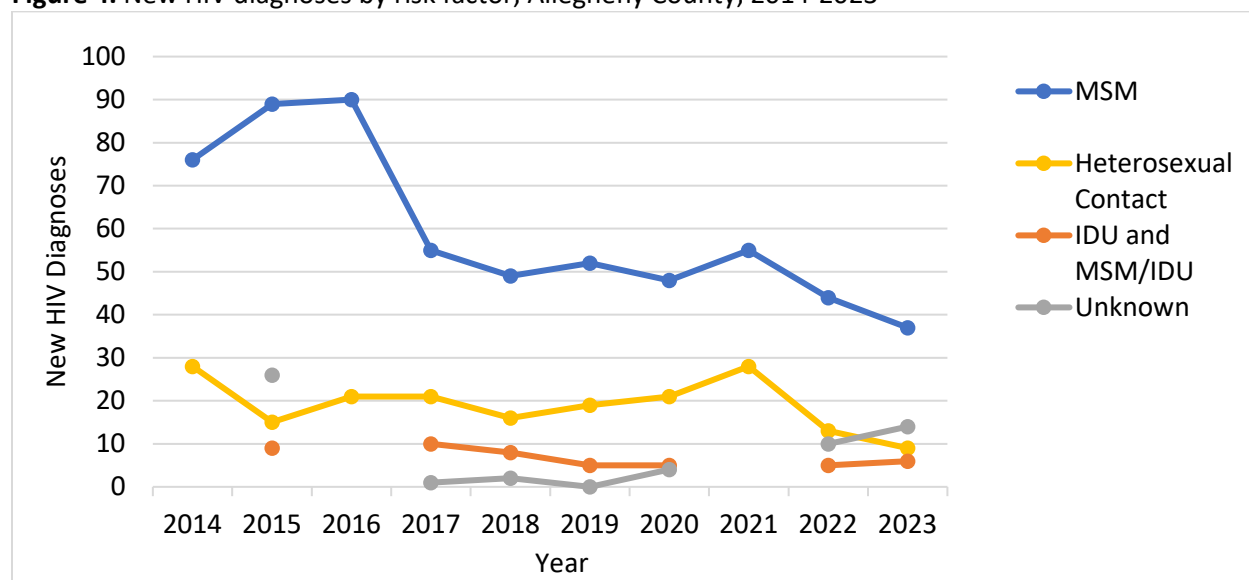
From 2021 to 2023, the number of new HIV diagnoses among non-Hispanic Black and non-Hispanic white individuals decreased 37% and 30%, respectively (Figure 3).

**Figure 3.** New HIV diagnoses by race/ethnicity, Allegheny County, 2014-2023



New HIV diagnoses among MSM decreased by 33% from 2021 to 2023, while new diagnoses decreased 68% among those with heterosexual contact in the same period (Figure 4). However, individuals with unknown risk factor have increased since 2019, so decreases in other categories should be interpreted with caution.

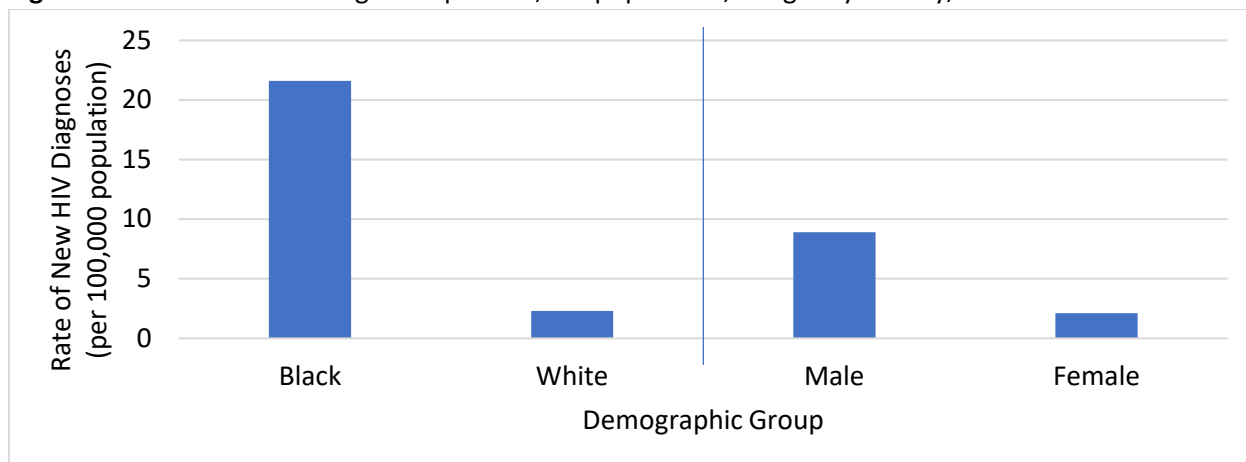
**Figure 4.** New HIV diagnoses by risk factor, Allegheny County, 2014-2023



Note: values between 1 and 4, and the next highest category are suppressed for privacy concerns

In 2023, the rate of new HIV diagnoses among Black individuals (21.6 per 100,000 population) was almost 10 times higher than the rate among white individuals (2.3 per 100,000 population). The overall rate among males was 8.9 per 100,000 population, while the overall rate among females was 2.1 per 100,000 population. (Figure 5).

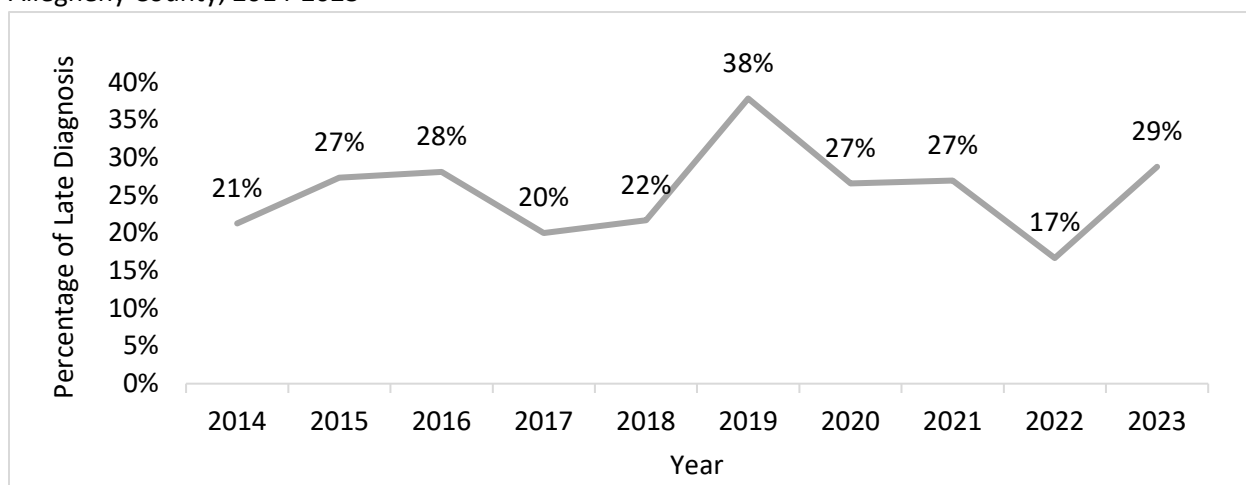
**Figure 5.** Rate of new HIV diagnoses per 100,000 population, Allegheny County, 2023



## Late Diagnosis

Late diagnosis is defined as an AIDS diagnosis within 90 days of a new HIV diagnosis. Individuals who have a late diagnosis receive initial care in later stages of HIV infection, leading to worse health outcomes and an increased risk of death. The percentage of new HIV diagnoses with a concurrent AIDS diagnosis increased from 17% in 2022 to 29% in 2023 (Figure 6). The total number of individuals with a late diagnosis increased from 12 to 19 while total diagnoses fell from 72 to 66.

**Figure 6.** Percentage of new HIV diagnoses with an AIDS diagnosis within three months by year, Allegheny County, 2014-2023

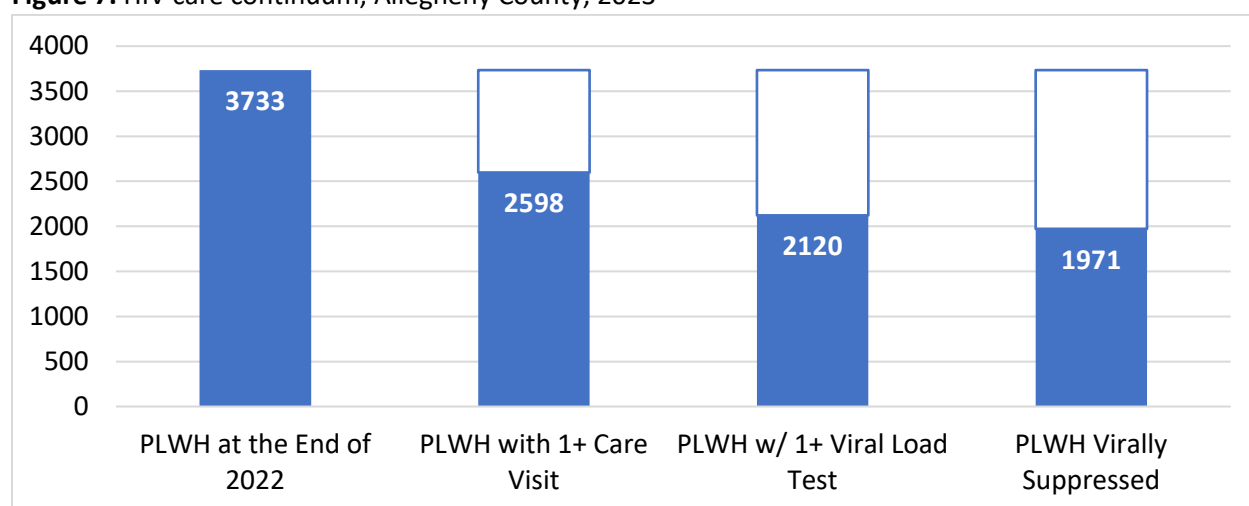




## HIV Care Continuum

The HIV care continuum is an indicator of how well patients remain engaged in care after their HIV diagnosis. Care includes attending clinic visits, starting antiretroviral therapy, and receiving viral load tests to evaluate treatment effectiveness. At the end of 2022 in Allegheny County there were an estimated 3,733 people living with HIV (PLWH) who had been diagnosed in 2021 or earlier. In 2023, 2,598 (70%) of these PLWH had an HIV care visit, which is defined by the CDC as having a CD4 cell count, viral load, or HIV genotyping test during the calendar year. Of the 3,733 PLWH, 2,120 (57%) received at least one viral load test in 2023, and 1,971 (53%) were virally suppressed. Among individuals who received at least one viral load test, 93% were virally suppressed (Figure 7).

**Figure 7.** HIV care continuum, Allegheny County, 2023



\*PLWH at end of 2022= PLWH diagnosed by end of year 2022 and alive at the end of 2023

\*1+ Care Visit = documentation of  $\geq 1$  CD4 or VL or HIV-1 genotype test during the calendar year.

## HIV Co-infection with Other Sexually Transmitted Infections

Table 2 shows the reported sexually transmitted infection cases who were ever diagnosed with HIV in 2022 and 2023. For 564 individuals diagnosed with early syphilis, 34.8% had an existing or new HIV diagnosis.

**Table 2.** Percentage of New STI Cases Ever Diagnosed with HIV

STI	Reported STI Cases, 2022-2023	Reported STI cases in 2022-2023 ever diagnosed with HIV	Percentage of New STI Cases Ever Diagnosed with HIV
Chlamydia	10,877	267	2.5 %
Gonorrhea	4,987	349	7.0 %
Early Syphilis*	564	196	34.8 %
Hepatitis C	1,311	18	1.4 %

## HIV-Related Hospitalizations

From 2014 through 2023, there were a total of 6,358 hospitalizations in Allegheny County with HIV as a primary (n= 486) or secondary diagnosis (N= 5,872) (Table 3). The number of hospitalizations per year ranged from 545 to 712.

**Table 3.** Percentage of Hospitalizations with any Primary or Secondary HIV Code by Year, Allegheny County, 2014-2023

Year	HIV-related Hospitalizations (n)	Total Hospitalizations (N)	Percentage of Hospitalizations with HIV-related code (%)
2014	712	169,046	0.42
2015	683	166,905	0.41
2016	674	164,219	0.41
2017	619	162,381	0.38
2018	706	159,246	0.44
2019	676	151,211	0.45
2020	547	134,591	0.41
2021	593	136,150	0.44
2022	545	126,793	0.43
2023	603	129,571	0.47
<b>Total</b>	<b>6,358</b>	<b>1,500,113</b>	<b>0.42</b>

Most of the hospitalizations were at acute care hospitals, with about 7% of annual hospitalizations at psychiatric hospitals and just over 1% of hospitalizations occurred at specialty, long-term acute care, or rehabilitation hospitals. The most common HIV-related ICD codes in the 10-year period were for ‘HIV disease’, with ‘asymptomatic human immunodeficiency virus (HIV) infection status’ as the second most common. See Appendix for information on data source and analysis methodology.

Among the 6,358 HIV-related hospitalizations in 2014 to 2023, 56% occurred in individuals aged 50+ years, while 43% occurred in those aged 20-49 years. A large disparity was observed between racial groups; Black individuals accounted for 57% of HIV-related hospitalizations, while white persons only accounted for 40%. Males accounted for most (73%) of the HIV-related hospitalizations in this period.

The annual average rate of HIV-related hospitalizations was highest among Black males (151.7 per 100,000 population, followed by Black females (72.6 per 100,000 population) (Figure 8). White males had a rate of 22.5 per 100,000 population, while white females had the lowest rate at 4.2 per 100,000 population.

**Figure 8.** The annual average HIV-related hospitalization rate per 100,000 population by race and sex, Allegheny County, 2014-2023

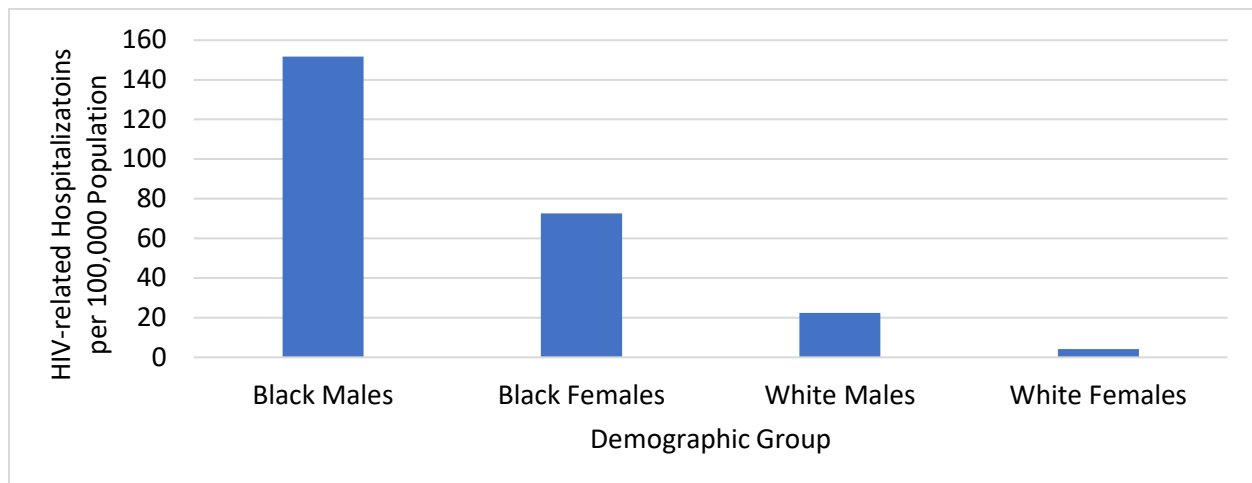


Table 4 shows the most common zip codes of residence for patients with HIV-related hospitalizations from 2014 through 2023. Of the 6,358 HIV-related hospitalizations in that period, the five most common zip codes of residence were in the areas of Wilkinsburg, Forest Hills, Braddock Hills, East Allegheny, North Shore, Brighton Heights, McKeesport, and Versailles.

**Table 4.** Most Common Zip Codes of Residence for Patients with HIV-Related Hospitalizations in Allegheny County, 2014-2023 (N=6,358)

Zip Code	Neighborhood	HIV-Related Hospitalizations	Percent all HIV-Related Hospitalizations
15221	Wilkinsburg, Forest Hills, Braddock Hills	495	7.8%
15212	East Allegheny, North Shore, Brighton Heights	441	6.9%
15132	McKeesport, Versailles	351	5.5%
15210	Mt. Oliver, Carrick	314	4.9%
15214	Perry South, Summer Hill, Northview Heights	302	4.7%
15206	East Liberty, Larimer, Highland Park, Morningside	298	4.7%
15235	Penn Hills, Churchill, Lincoln Park, Eastvue	260	4.1%
15219	Hill District, Downtown	233	3.7%
15208	Point Breeze, Homewood	198	3.1%
15104	Braddock	153	2.4%

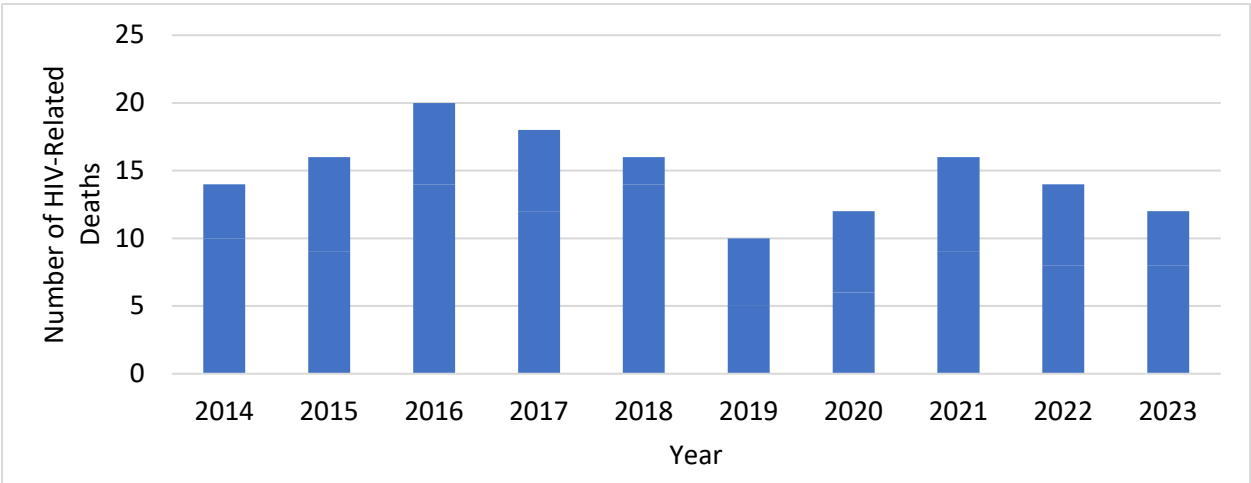
There was a wide range of primary diagnoses for hospitalizations with HIV as a secondary diagnosis. Of the 6,358 hospitalizations from 2014 to 2023, 61 (3.3%) had sepsis as the primary diagnosis. Additional common primary diagnoses included alcohol dependence, major depressive disorder, and pneumonia.

## HIV-Related Deaths

From 2014 to 2023, a total of 148 HIV-related deaths occurred among residents of Allegheny County, an average of nearly 15 deaths per year. The average annual HIV-related mortality rate is 0.98 per 100,000

population. Figure 9 shows the number of deaths per year with HIV as either the underlying cause of death or a contributing cause. The highest number of deaths (20) occurred in 2016. See Appendix for data source and methodology.

**Figure 9.** HIV-related deaths by year, Allegheny County, 2014-2023



Males died from HIV-related causes at a rate almost 4 times that of females from 2014 to 2023. The average annual rate of HIV-related deaths among males was 2.1 deaths per 100,000, while the rate among females was 0.6 deaths per 100,000 during this 10-year period.

HIV disproportionately contributed to deaths among Black individuals in Allegheny County from 2014 to 2023 compared to white individuals (Figure 10). From 2014 to 2023, the average annual HIV-related mortality rate among Black persons was 4.5 deaths per 100,000, more than five times that of white persons (0.8 deaths per 100,000).

**Figure 10.** Annual average HIV-related mortality rate per 100,000 population by race, Allegheny County, 2014-2023

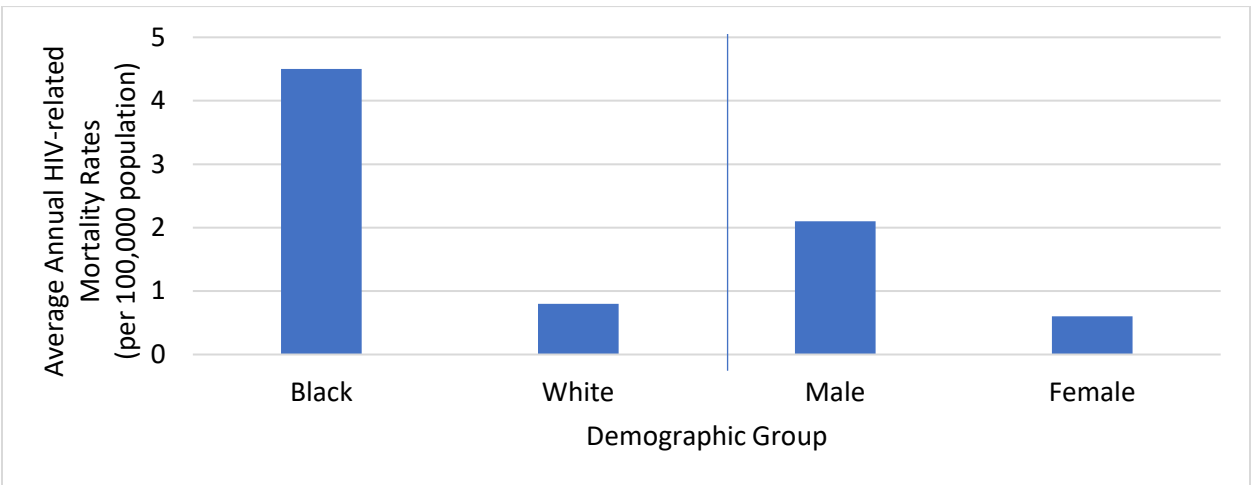
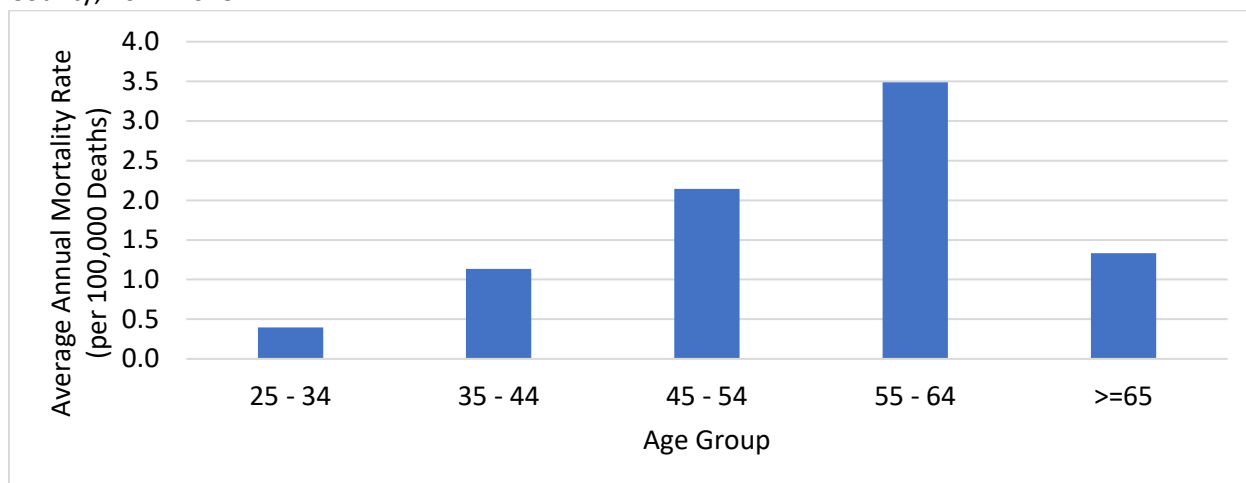


Figure 11 shows the annual average HIV-related mortality rate by age group from 2014 to 2023. The highest rate of HIV-related deaths occurred in individuals aged 55-64 years, followed by those aged 45-54 years.

**Figure 11.** Annual average HIV-related mortality rate per 100,000 population by age group, Allegheny County, 2014-2023



**Note:** No deaths occurred among those aged 0-24 years.

## HIV Resources

For more information on the incidence of HIV disease in the U.S. and CDC recommendations for HIV prevention and testing, visit these websites:

- [MMWR article: Estimated Annual Number of HIV Infections](#)
- [CDC HIV Prevention](#)
- [CDC HIV Testing](#)

Locally, AIDS Free Pittsburgh (AFP) is a public health movement aimed at ending the HIV epidemic by 2030. It is a collaborative initiative by government agencies, healthcare institutions, and community-based organizations. AFP strives to reduce the incidence of HIV infections in Allegheny County and to improve the care of people living with HIV. For more information on AFP, visit their [website](#).

For information on HIV testing and resources in Allegheny County, click on these links:

- [Allegheny County Health Department Public Health Clinic](#)
- [Allegheny County Free Condom Distribution Program](#)
- [AIDS Free Pittsburgh HIV Testing](#)
- [AIDS Free Pittsburgh PrEP](#)
- [Prevention Point](#) syringe exchange program

## Appendix

### **HIV-Related Hospitalization Methodology**

To assess the number of HIV-related hospitalizations among Allegheny County residents, we analyzed hospital inpatient discharge data from 2014 through 2023. Data were provided by the Pennsylvania Health Care Cost Containment Council (PHC4), which collects statewide inpatient discharge data from hospitals and ambulatory surgical centers. PHC4 collects information from the [Uniform Claims and Billing Form](#); most of the data are provided based on Uniform Billing standards. For this analysis, we included all hospitalizations for which an HIV diagnosis code was recorded. Some HIV-related hospitalizations may not be counted if an HIV diagnosis was not listed in these billing codes; conversely, some hospitalizations may be counted even if HIV status was not related to the hospitalization if an HIV code was listed as a diagnosis for the admission.

We analyzed the inpatient discharge data among Allegheny County residents by year to assess the number of hospitalizations related to HIV. Hospitalizations were considered related to HIV if the primary or any secondary diagnosis included an ICD code that designated a condition related to HIV. At the time of writing this report, hospitalization data were available up to 2023; we report on the 10-year period prior. Of note, facilities switched from using ICD-9 codes to using ICD-10 codes in October of 2015. Below is a list of the ICD-9 and ICD-10 codes we used to search for HIV-related hospitalizations before and after October 1, 2015.

#### **ICD-9 Codes:**

- 042 - Human immunodeficiency virus [HIV] disease
- 079.53 - Human immunodeficiency virus, type 2 [HIV-2]
- V08 - Asymptomatic human immunodeficiency virus (HIV) infection status

#### **ICD-10 Codes:**

- B20 - Human immunodeficiency virus [HIV] disease
- B97.35 - Human immunodeficiency virus, type 2 [HIV 2] as the cause of diseases classified elsewhere
- Z21 - Asymptomatic human immunodeficiency virus [HIV] infection status

### **HIV-Related Deaths Methodology**

To assess the number of HIV-related deaths among Allegheny County residents, we analyzed death certificate data from 2014 through 2023. Data were abstracted from vital records from the PA Department of Health Bureau of Health Statistics and Registries. Deaths were classified as HIV-related if the death certificate had HIV disease (ICD-10 codes B20-B24) listed as a cause of death or contributing cause. Population data were taken from the [United States Census Bureau American Community Survey](#) estimates, and estimates for the number of PLWH were taken from the [PA Annual HIV Surveillance Report](#).