2022 LOS ANGELES COUNTY ANNUAL HIV SURVEILLANCE REPORT

DIVISION OF HIV AND STD PROGRAMS
DEPARTMENT OF PUBLIC HEALTH
COUNTY OF LOS ANGELES

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COUNTY OF LOS ANGELES
Public Health
Division of HIV and STD Programs

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October 2023

Dear Colleague:

Forty-two years ago, on June 5, 1981, the US Centers for Disease Control and Prevention (CDC) published a *Morbidity and Mortality Weekly Report* that described a rare lung infection among a cluster of gay men in Los Angeles which would later be known as the first cases of Acquired Immune Deficiency Syndrome (AIDS), a disease caused by the Human Immunodeficiency Virus (HIV). Since then, HIV has ravaged the globe with devastating impacts. Globally, an estimated 84.2 million people have been infected with HIV and nearly 40.1 million people have died from AIDS-related illness. Each year, nearly 650,000 people still die from HIV and an estimated 1.5 million people become newly infected with HIV.

On this 42nd anniversary of the first report of AIDS in the US, we are releasing the 2022 *Los Angeles County Annual HIV Surveillance Report*. This report provides community and academic partners, public health planners, policymakers, and other stakeholders with insights into the evolving HIV epidemic in Los Angeles County. The report also describes achievements in our shared public health response to HIV, outlines opportunities for improving our response, and offers critical data points to facilitate decision-making to achieve our shared *Ending the HIV Epidemic* goals.

The report includes HIV surveillance data reported to the Department of Public Health since the beginning of the HIV epidemic through December 31, 2022. Also included are annual estimates of the number of people newly infected with HIV and the number of people living with HIV based on the Centers for Disease Control and Prevention's CD4 depletion model. Due to refinements in the model's methodology and increased HIV surveillance data availability, prior year estimates going back to 2010, have been adjusted.

The main findings from this report are summarized in an Executive Summary. Additional context for the epidemiologic and surveillance findings are described in detail in the various sections of the report. The *Data to Action* summary is presented at the end of each section to contextualize programmatic and policy implications for the local response to HIV.

Importantly, our surveillance data highlight disparities in HIV outcomes across race/ethnicity groups, age, gender, and key populations engaging in high-risk behavior. These findings reinforce the need to better understand the social and structural drivers of these inequities to ensure that health systems are strengthened for populations that experience challenges in access to and use of healthcare services and who are at greatest risk for poor health outcomes.

The Division of HIV and STD Programs continues to work in full partnership with a broad cross-section of community partners and stakeholders to evolve programs and services to meet the specific needs of populations that are most vulnerable to HIV. These efforts are done in coordination and alignment with the goals for *Ending the HIV Epidemic* in Los Angeles County by 2030. The current program priorities include enhancing HIV testing and screening efforts to ensure that we diagnose all persons with HIV as early as possible; characterizing the intersections of HIV and STD disease to maximize prevention and care; providing rapid and high-quality treatment for all persons living with HIV so that they achieve sustained viral suppression; implementing high impact interventions to prevent new HIV transmissions, and; identifying and characterizing foci where HIV is being transmitted so that we can respond quickly and provide services to populations that need them the most.

The 2022 *Los Angeles County Annual HIV Surveillance Annual Report,* is available at: http://publichealth.lacounty.gov/dhsp/Reports/HIV/Annual_HIV_Surveillance_Report_2022_LAC_Final.pdf under the Reports link. We hope that you find this report helpful and look forward to our continued collaboration and partnership to end the HIV epidemic in Los Angeles County.

Sincerely yours,

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Ekow K. Sey, PhD, MPH
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The 2022 Los Angeles County Annual *HIV Surveillance Report* is published by the Los Angeles County Department of Public Health's Division of HIV and STD Programs.

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Acknowledgements

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We would like to thank the following individuals and groups without whom this report would not be possible: (1) the community of persons living with HIV whose aggregated health information are described in this report; (2) Division of HIV and STD Programs (DHSP) staff that collect, manage, analyze and provide oversight for HIV case reporting and HIV surveillance in Los Angeles County (LAC): Essam Botros, Laura Cervantes, Victoria Dominguez, Raymond Embrack, Maggie Esquivel, Jesse Exconde, Alejandro Flores, Mariana Gallegos de Galleta, Andrea Garcia, Erika Garcia, Shnorik "Nora" Grigoryan, Mi Suk Harlan, Christina "Nina" Hohe, Virginia Takeuchi, Eddie Javelosa, Priyamvada Kumar, Chun-Mai Kuo, Colleen Lam, Alice Lee, Keisha Macon, Carolina Magaña, Sameh Mansour, Baharak Mohandessi, Monica Muñoz, Azita Naghdi, Erin Nguyen, Priya Patel, Kathleen Poortinga, Stephanie Reyes, Sophia Rumanes, Mona Seino, Alexander Serrano, Zhijuan Sheng, Erica St Clair, Salvador Tello, Mary C. Vitale, and Erica Quang; (3) DHSP staff that support the analysis of STD case reporting data: Juli Carlos-Henderson, Janice Casil, and Jianning Luo; (4) the Bio-Behavioral Surveillance Team at DHSP: Sara Alvarez, Pierre Chambers, Angela Cristobal, Shaunte Crosby, Benny Deng, Sandra Duarte, Mirza Garcia, Gia Olaes, and Hugo Santacruz; (5) the participants supporting the Medical Monitoring Project and National HIV Behavioral Surveillance for Los Angeles County, from which select data are presented in this report; (6) LAC DPH Office of Health Assessment and Epidemiology (OHAE), Population Health Assessment Team; (7) LAC DPH OHAE, GIS Unit Team: Margaret Carlin, Nicole Richardson; (8) LAC DPH OHAE, Vital Records and Demography Unit: Louise Rollin Alamillo.

This report is inclusive of all gender, age, and racial/ethnic groups in Los Angeles County (LAC). Due to variability in some results for populations with very small numbers of HIV relative to the total number of persons with diagnosed HIV in LAC, data for children aged <13 years, transgender persons, Native Hawaiian and Pacific Islanders, American Indian and Alaska Natives, and persons of multiple race/ethnicities may be limited.

Notice to Health Care Providers and Laboratories Responsible for Disease Reporting

California Code of Regulations, Title 17, Section 2500 requires that all diagnosed or suspected cases of AIDS as defined by CDC must be reported within seven (7) days to the Health Officer. California Code of Regulations, Title 17, Section 2600/2641.5-2643.20 require both health care providers and laboratories to report HIV cases by name to the Health Officer within seven (7) days. In addition, Senate Bill (SB) 1184 requires each clinical laboratory to report all CD4+ T-cell tests within seven (7) days of completing a CD4+ T-cell test.17 CCR 2500(h) and (k).

Acute HIV Reporting: Effective June 2016, Title 17 CCR 2500(h) and (k) requires all health care providers report cases of acute HIV within one (1) working day to the local health officer of the jurisdiction in which the patient resides by telephone. If evidence of acute HIV is based on presence of HIV p24 antigen, providers shall not wait until HIV-1 RNA is detected before reporting to the local health officer. To report an acute HIV case, please call (213) 351-8516.

For more information on HIV reporting requirements, obtain a copy of HIV case report forms, or report a HIV case, please visit: http://publichealth.lacounty.gov/dhsp/ReportCase.htm#HIV_Reporting_Information or contact the Division of HIV and STD Programs, 600 South Commonwealth Avenue, Suite 1260, Los Angeles, CA 90005. Phone (213) 351-8516.

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List of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AIAN	American Indian and Alaska Native
ART	Antiretroviral therapy
COVID-19	Coronavirus Disease 2019
CDC	Centers for Disease Control and Prevention
DHSP	Division of HIV and STD Programs
EHARS	Enhanced HIV/AIDS Reporting System
EHE	Ending the HIV Epidemic
HET	Heterosexuals at increased risk for HIV
HIV	Human Immunodeficiency Virus
HUD	U.S. Department of Housing and Urban Development
IDU	Injection drug use
LAC	Los Angeles County
Mpox	An infectious disease caused by the monkeypox virus
MSM	Men Who Have Sex with Men
NHPI	Native Hawaiian and Pacific Islander
OMB	Office of Management and Budget
PEP	Post-Exposure Prophylaxis
PLWH	Persons Living with HIV
PLWDH	Persons Living with Diagnosed HIV
PWDH	Persons with Diagnosed HIV
PrEP	Pre-Exposure Prophylaxis
PWID	Persons who Inject Drugs
SPA	Service Planning Area
TG	Transgender Persons
US	United States
VL	Viral load

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Executive Summary

The 2022 Los Angeles County Annual HIV Surveillance Report describes the status of the HIV epidemic in Los Angeles County and demonstrates the use of HIV surveillance data to inform prevention, care, and treatment programs in Los Angeles County.

The report includes information on persons living with diagnosed HIV (PLWDH) collected from mandated HIV case reporting and population-based surveys conducted among key populations at increased risk for HIV and PLWDH. HIV case reporting data reflect information from reports received by the Department of Public Health for PLWDH from the beginning of the HIV epidemic through December 31, 2022. Population-based surveys include Los Angeles County data collected for the CDC-funded HIV Behavioral Surveillance System from 2004 to 2022 and Medical Monitoring Project from 2015 to 2020.

The report is divided into four sections: (1) HIV Epidemic Monitoring; (2) Vulnerable Populations; (3) HIV Surveillance to Partner Services Continuum; and (4) HIV Care Continuum. At the end of each section, a Data to Action summary is included to discuss program and policy implications for the data presented. We summarize key findings for the four sections below and provide hyperlinks to the referenced Tables and Figures.

Report changes

The 2022 Los Angeles County Annual HIV Surveillance Report includes new data reports on:

- HIV among transgender persons (Figure 27, Figure 28)
- Types of drugs injected in the past 12 months among people who inject drugs, LAC 2009-2022 (Figure 34, Figure 35)
- Needs assessment for shelter or housing assistance among PLWDH (Table 7)
- Mpox and HIV co-infection (Figures 43, Table 8)
- Main causes of death among people diagnosed with HIV aged ≥13 years by demographic and risk information (Table 7A)

Key findings in HIV epidemic monitoring

- As of year-end 2022 there were a total 53,599 persons (adult and pediatric cases) living with diagnosed HIV in LAC.
- As of year-end 2022 there were 53,577 persons living with diagnosed HIV in LAC aged > 13 years.
- Males are disproportionately impacted by HIV in LAC (Figure 1, Figure 2).
- In 2021, 1,518 persons aged 13 years and older were *newly diagnosed* with HIV, up from 1,414 persons in 2020 (Table 1, Table 3A). Eight percent of persons with a new HIV diagnosis in 2021 were classified as having acute HIV (i.e., infected within 60 days prior to HIV diagnosis). In contrast, 19% were classified as stage 3 (i.e., late stage HIV) at the time of diagnosis (Table 3).

- An estimated 1,400 (95% confidence interval [CI]: 900 - 1,900) persons aged 13 years and older acquired HIV in 2021. New HIV infections, or "HIV incidence," is different from the number of people diagnosed with HIV during a year. Some people may have HIV but not know it (Figure 13). Notably, estimates are not considered true values and should be interpreted along with a range of values that are likely to contain the true value with a certain degree of confidence (such as a 95% confidence interval). In 2021, the 95% confidence interval for the estimated number of new infections ranged from a low of 900 infections to a high of 1,900 infections.
- As of year-end 2021, an estimated 59,300 (95% CI: 57,500 – 61,200) persons aged 13 years and older were living with HIV in LAC. Among these, an estimated 6,800 (95% CI: 4,900 – 8,600) were *unaware of their infection* (Figure 14). As noted above, estimates are not true values and should be carefully considered with the 95% confidence interval in mind.
- Among persons living with HIV in 2021, the aforementioned CDC mathematical model estimated that younger persons were less likely to know their HIV status. Only 57% of persons aged 13-24 and 75% of persons aged 25-34 with HIV were aware of their HIV-positive status, compared to 86% and 95% among persons aged 35-44 and 45 over, respectively (Figure 15).
- There are disparities in HIV diagnosis by population and location. Rates of new HIV diagnosis are higher among males than females (Figure 6). Among males, the highest rates of HIV diagnoses were in the Central Health District, but rates were also elevated in the Hollywood-Wilshire, South, and Southwest Health Districts. Among females, the highest rates were in the Southeast Health District followed by the Central and South Health Districts (Table 2A). In 2021, across age groups, males aged 20-39 years and females aged 30-49 years had the highest rates of new HIV diagnosis (Figure 7, Figure 10). Blacks had higher rates of HIV diagnosis compared with all the other racial/ethnic groups (Figure 8, Figure 11).
- In 2021, 21% of newly diagnosed LAC HIV cases for whom eligible genotyping sequences were available exhibited laboratory evidence of resistance to one or more antiretroviral drugs. Of the three major drug classes, transmitted drug resistance continues to be highest in non-nucleoside reverse transcriptase inhibitors (NNRTI) (Figure 19).
- In 2021, molecular HIV surveillance identified clusters where recent and rapid HIV transmission could be occurring (high priority clusters). Persons in these clusters were more likely to be men, aged 20-29 years, Latinx, and have MSM transmission risk compared with persons newly diagnosed with HIV who were not associated with a priority cluster. Persons in high priority clusters were also more likely to reside in Antelope Valley, South, or East SPAs, report methamphetamine use and anonymous partners, and have a syphilis co-infection (Figure 20).
- Overall death rates for PWDH have declined over time, with rates of death due to HIV falling below rates of death due to non-HIV-related causes (Figure 21). In 2021, approximately three in four deaths among PWDH were due to non-HIV

related causes. As of December 2022, eight percent of deaths among PWDH that occurred in 2021 are still missing an underlying cause of death (Figure 22).

Key findings for Vulnerable Populations

- Between 2021-2022, 95% of pregnant women living with diagnosed HIV received at least one arm of ART during pregnancy and/or during labor and delivery. There has been one perinatally infected infant born in LAC since 2021. This infant was born to a mother who was confirmed to have received ART during pregnancy and/or labor and delivery (Table 5).
- Persons living with diagnosed HIV who are unhoused continue to experience suboptimal outcomes along the HIV care continuum. Compared with housed persons, unhoused persons had lower rates of receiving HIV care, retention in care, and achieving viral suppression in 2021 (Figure 49).
- HIV biobehavioral surveys in LAC confirm that in 2019 transgender (TG) women had the highest HIV positivity rate (1 in 3 were HIV-positive) compared with other populations at elevated risk for HIV (Figure 29). Black transgender (TG) women had the highest HIV positivity rate (52%) compared with Latinx (30%) and White (9%) TG women (Figure 37). MSM also had high positivity levels (21%) while persons who inject drugs (PWID) (5%) and heterosexual persons (HET) (<1%) had much lower positivity levels (Figure 29).
- Among MSM and TG women, PrEP knowledge was high, however use of PrEP among HIV-negative MSM and TG women in the past 12 months was low (Figure 33**Figure 33**, Figure 38**Figure 38**).
- Among PWID, methamphetamine injection within the past 12 months increased significantly from 29% in 2009 to 77% in 2022 (Table 34**Error! Reference source not found.**). Among those reporting methamphetamine injection within the past 12 months, 56% reported injecting methamphetamine at least once a day. Syringe sharing was more common among young PWID (aged 18-29 years), which puts them at high risk for HIV and other infections (Figure 35).
- Based on self-reported information, sexually active PLWDH did not commonly engage in high-risk sexual activity and reported practicing a variety of prevention strategies with their partners, including having sex while virally suppressed, using condoms during sex, and having sex with partners on PrEP (Table **6**6).
- In 2021, nearly half of people newly diagnosed with HIV were diagnosed with an STD in the same year as their HIV diagnosis (Figure 39). Co-infection with HIV and syphilis was more common than co-infection with HIV and gonorrhea or chlamydia (Figure 40).

Key findings in HIV surveillance to Partner Services continuum

- In 2021, 71% of persons newly diagnosed with HIV were assigned for a Partner Services interview and 62% of these persons were interviewed. Persons interviewed represented 44% of all persons newly diagnosed with HIV in 2021 (Figure 44).

- The Ending the HIV Epidemic (EHE) target for Partner Services is for 85% of newly diagnosed persons to be interviewed by Partner Services staff within 7 days of HIV diagnosis. Only 11% of persons newly diagnosed with HIV were interviewed within this 7-day window, while 38% were interviewed within 30 days and 62% were interviewed within 60 days (Figure 45).
- Of the partners that were named by PLWDH during the Partner Services interview, 88% were located. Among those partners, 41% were HIV-positive and 26% were HIV-negative. About half of HIV-positive partners had been previously diagnosed with HIV, and among those newly diagnosed with HIV through Partner Services, 79% were linked to care (Figure 46).

Key findings in the HIV care continuum

- The EHE target for linkage to care is 95% of PLWDH linked to care within 1 month of HIV diagnosis. In 2021 among persons newly diagnosed with HIV aged 13 years and older, 53% were linked to care within 7 days, and 76% were linked within 1 month of diagnosis (Figure 50).
- Populations with the lowest linkage to care were women, Black/African American persons and those classified as other race, persons aged 13 to 19 years, and persons whose transmission risk was IDU (Figure 51).
- Once linked to HIV care, performance along the HIV care continuum remains low. In 2022, only 7 in 10 PLWDH received care services, 5 in 10 were retained in care, and 6 in 10 were virally suppressed (Figure 47).
- Timeliness from HIV diagnosis to treatment initiation has improved over time but still needs improvement. Among persons newly diagnosed with HIV in 2021 with treatment information included in their case reports, 92% had initiated treatment within 3 months of diagnosis and 78% within 1 month of diagnosis (Figure 58).
- Timeliness from HIV diagnosis to viral suppression has also improved over time but early viral suppression is lagging. Among persons diagnosed in 2021, only 51% of PLWDH were virally suppressed within 3 months of diagnosis while 78% of PLWDH were virally suppressed within 12 months of diagnosis (Figure 59).
- The lowest levels of viral suppression were among Blacks, women and transgender persons, persons aged 30-49 years, and persons whose transmission risk included injection drug use (Figure 60).
- By geographic area, suppressed viral load was lowest in the Central Health District, followed by the South, Southeast, West, Hollywood-Wilshire, Southwest, and Harbor Health Districts (Figure 61).
- A major driver for the low viral suppression rates among PLWDH is delayed treatment among PLWDH and low adherence to ART among those on treatment. In a representative sample of PLWDH, only 8 in 10 were on ART, and 100% adherence to ART doses in the past 30 days was low at 50%. ART adherence was lower among Black (46%) and Latinx (48%) PLWDH compared to White (58%) PLWDH, and lower among those aged 18-29 years (29%) than other age groups (Table 9).

Progress towards national Ending the HIV Epidemic goals

- New HIV infections: An estimated 1,400 new infections occurred in LAC in 2021. This highlights the significant gap in meeting the 2025 EHE target of no more than 380 new infections per year and 2030 EHE target of no more than 150 new infections per year (Table 1).
- New HIV diagnoses: 1,518 persons were newly diagnosed with HIV in 2021, also underscoring the wide gap in reaching the 2025 EHE target of 450 new diagnoses and 2030 EHE target of 180 new diagnoses (Table 1). Of note, the number of new diagnoses is expected to remain high until we have far fewer persons with newly acquired HIV and persons living with undiagnosed HIV each year.
- Knowledge of HIV-positive status: An estimated 89% of persons living with HIV were aware of their HIV status in 2021, falling 6 percentage points below the 2025/2030 EHE target of 95% (Table 1).
- Linkage to HIV care: 76% of persons newly diagnosed with HIV in 2021 were linked to care within 1 month, falling 19 percentage points below the 2025/2030 EHE target of 95% (Table 1).
- Viral suppression: Only 61% of PLWDH were virally suppressed, falling 34 percentage points below the 2025/2030 EHE target of 95% (Table 1).
- PrEP: An estimated 53% of priority populations were prescribed PrEP in 2021, exceeding the 2025/2030 EHE target of 50% by 3 percentage points (Table 1).
- Housing instability is a significant barrier to HIV care and treatment. In a representative sample of PLWDH, over 1 in 4 reported they needed shelter or housing assistance; of those, 2 in 5 did not receive either (Table 7).

Ending the HIV Epidemic in Los Angeles County

Ending the HIV Epidemic in the US (EHE) is a federal plan, launched in 2020, that aims to reduce new HIV infections in the US by 75% by 2025 and by 90% by 2030. In February 2020, the US Department of Health and Human Services awarded 57 high burden states and counties, inclusive of LAC, with large investments to expand HIV prevention and care activities to accelerate progress towards achieving the national EHE goals.

Ending the HIV Epidemic in LAC focuses on four key pillars of diagnosing, preventing, treating, and responding to HIV. Within these pillars, LAC Public Health is committed to a local response that is high quality and rapidly deployed, prioritizing the highest impact interventions to optimize performance along the steps of the HIV care continuum, and using local evidence at the most granular level possible to identify where and among whom HIV is transmitted so that we can then target interventions to where they are needed most.

In Table 1, we list the key metrics that are being tracked to measure progress towards targets in the EHE initiative and progress to date in LAC. The forthcoming sections in this annual report provide additional detail to contextualize LAC achievements and identify where we need to improve HIV prevention and care activities to meet our set targets, reduce HIV transmission, and ensure that all Angelenos living with HIV can live long and healthy lives.

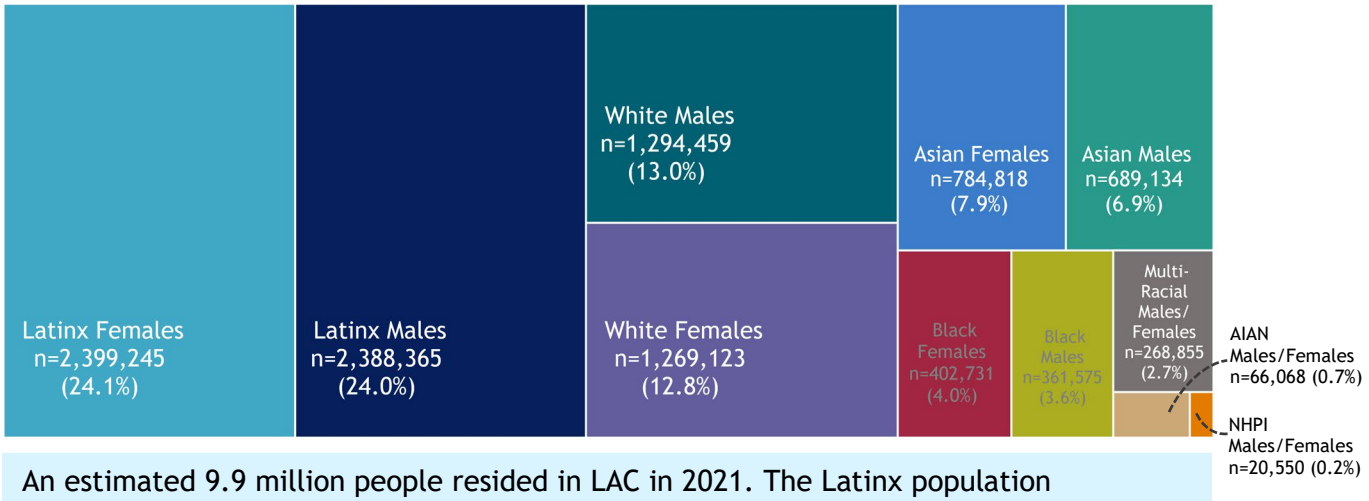
Table 1: Tracking achievements in national targets for the EHE initiative, 2021-2022

	EHE 2025 targets	EHE 2030 targets	LAC results
Estimated number of new infections[1]	380	150	1,400 [900-1,900] (2021)
Number of new HIV diagnoses[2]	450	180	1,518 (2021)
Estimated percentage of PLWH with knowledge of HIV-positive status[1]	95%	95%	89% [86% - 91%] (2021)
Percentage of PLWDH linked to HIV care within 1 month of diagnosis[2]	95%	95%	76% (2021)
Percentage of PLWDH with viral suppression[2]	95%	95%	61% (2022)
Estimated percentage of HIV-negative persons with indications for PrEP who have been prescribed PrEP[3]	50%	50%	53% (2021)

[1] Using the CD4-based model developed by the Centers for Disease Control and Prevention, modified for use by Los Angeles County.
[2] Using Los Angeles County HIV surveillance data in the CDC Enhanced HIV/AIDS Reporting system (eHARS). Viral suppression: numerator includes PLWDH whose last VL test in 2022 was suppressed (HIV-1 RNA < 200 copies/mL); denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence.
[3] Using Los Angeles County data from the HIV case and laboratory surveillance systems, National HIV Behavioral Surveillance system, STD clinic data, online Apps survey, COE program data, and AHEAD dashboard.

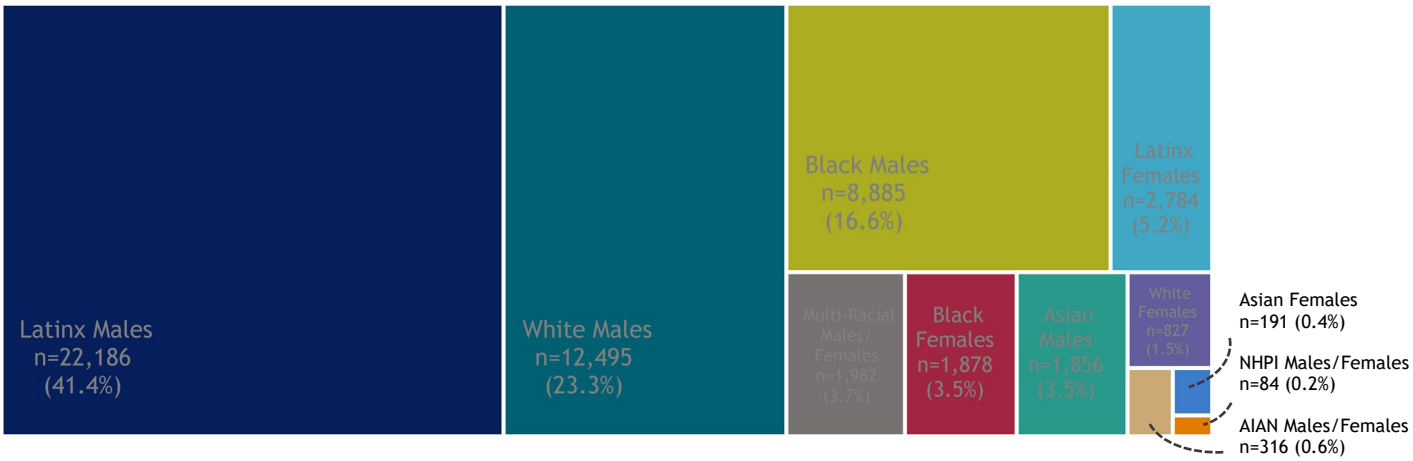
HIV Epidemic Monitoring

Figure 1: Distribution of sex[4] and race/ethnicity[5] among LAC residents in 2021 (N=9,944,923)



An estimated 9.9 million people resided in LAC in 2021. The Latinx population represented the largest population group (48%), followed by White (26%), Asian (15%), Black (8%) and multi-racial populations (3%). American Indians and Alaska Natives (AIAN) and Native Hawaiians and Pacific Islanders (NHPI) represented less than 1% of the total LAC population and were presented for males and females combined due to limited visibility on the graph.

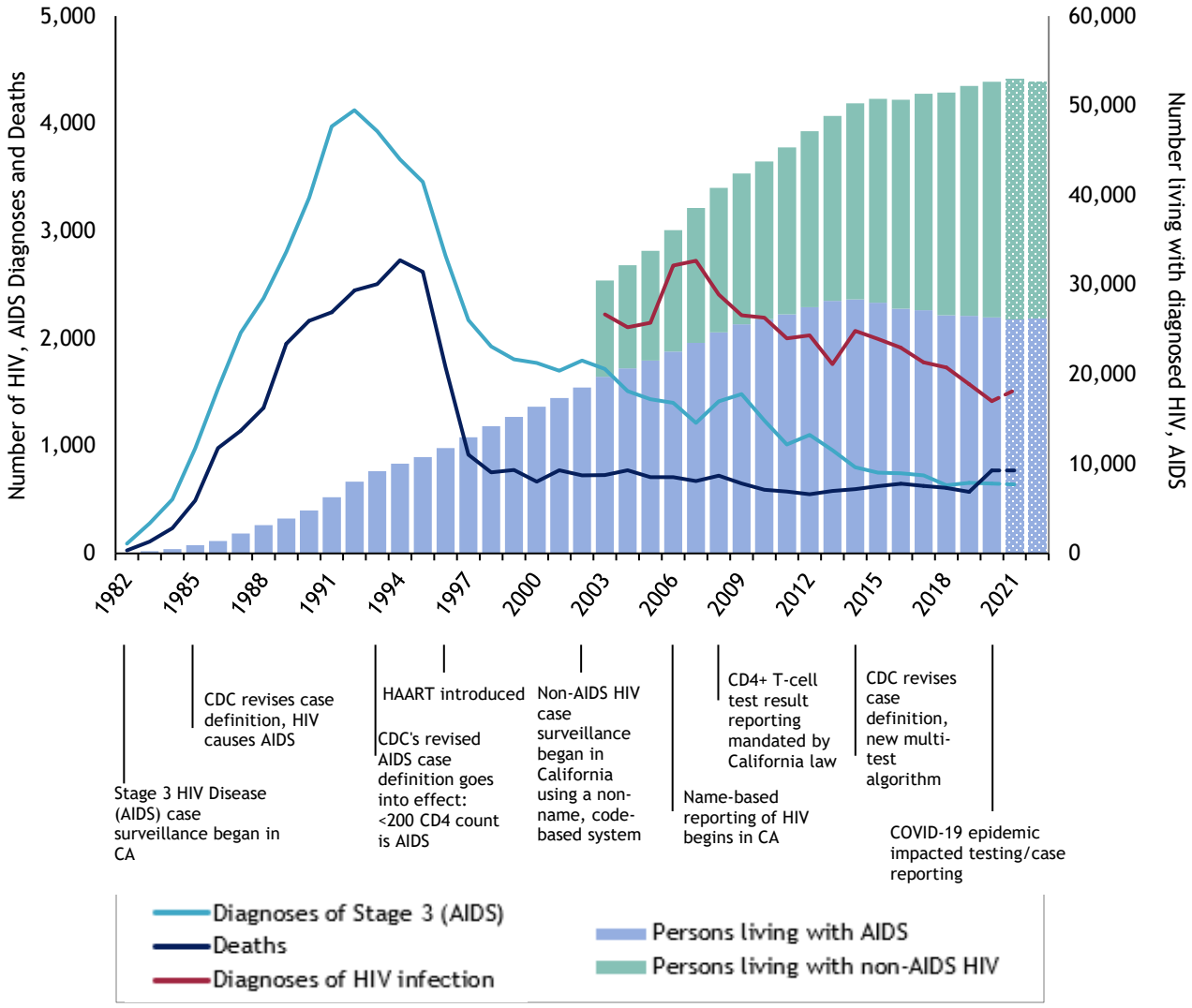
Figure 2: Distribution of sex[4] and race/ethnicity among persons living with diagnosed HIV at year-end 2022, LAC (N=53,599)



In contrast, the populations most impacted by the HIV epidemic were Latinx males who represented 41% of all PLWDH followed by White males (23%) and Black males (17%). Combined, these groups of men represent over 80% of PLWDH in LAC. Altogether, AIAN, NHPI, and multi-racial men and women represented less than 5% of PLWDH in LAC. PLWDH with unknown race/ethnicity were not presented in the graph (n=115).

[4] Population estimates are not currently available for transgender persons, therefore male and female categories are based on sex at birth.
[5] See technical notes for adjusted racial/ethnic categories in these figures.

Figure 3: History of the HIV epidemic: HIV diagnoses, AIDS diagnoses, persons living with AIDS and non-AIDS HIV, and deaths among persons living with diagnosed HIV, LAC 1982-2022[6,7,8,9]

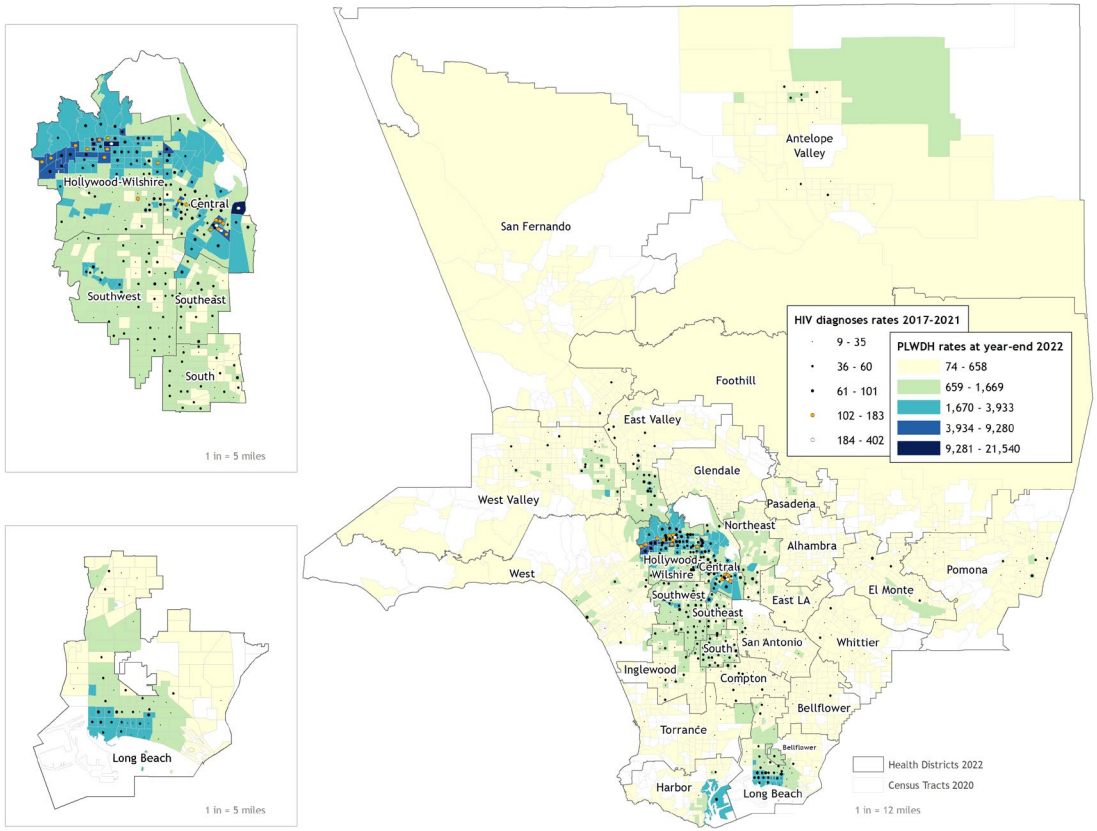


In LAC, AIDS reporting began in 1982 and the annual number of cases peaked in 1992 with more than 4,000 cases reported that year. In 1994, deaths reached an all-time high followed by a significant decline that coincided with the introduction of highly active antiretroviral treatment (HAART) for HIV in 1996. In 2006, names-based HIV reporting began in California, allowing for better tracking of trends in diagnosed HIV irrespective of disease stage. HIV epidemic trends thereafter have declined for diagnosed HIV and deaths. Note the number of deaths among PLWDH increased slightly between 2019 and 2020.

[6] Includes new diagnoses of HIV infection regardless of the disease stage at time of diagnosis.
[7] Persons living with non-AIDS HIV and AIDS in Los Angeles County (LAC) are based on last reported address at the end of each calendar year.
[8] Includes persons whose residence at death was in LAC or whose most recent known address before death was in LAC, when residence at death is missing.
[9] 2021 data for diagnoses of HIV/AIDS and deaths and 2021/2022 data for persons living with non-AIDS HIV and AIDS are provisional as indicated by the dashed line and patterned bar. 2022 diagnoses of HIV/AIDS and deaths are underreported/unreliable due to significant reporting delay, and therefore are not shown.

Geographic distribution of HIV

Figure 4: Geographic distribution[10] of rates per 100,000 population for PLWDH aged ≥13 years at year-end 2022 and persons newly diagnosed with HIV in 2017-2021, LAC



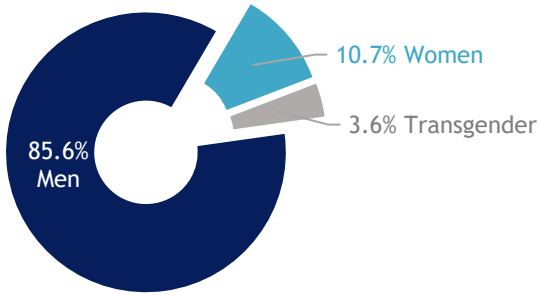
Within LAC, the highest density of new HIV diagnoses occurred in the central and southern regions. Among all 26 Health Districts, the Hollywood-Wilshire, Central, and Long Beach Health Districts were identified as the three epicenters for HIV, reporting the highest rates of new HIV diagnoses in 2017-2021 and persons living with diagnosed HIV at year-end 2022. We have zoomed in on the three epicenters with the highest concentrations of new HIV diagnoses and PLWDH.

[10] Census tract information for new diagnoses is based on projected coordinates of residential addresses at diagnosis, the census tract information for PLWDH is assigned based on projected coordinates of the most recently reported residential addresses. Persons missing valid street address information were aggregated to the census tract level based on corresponding ZIP Codes using the HUD ZIP-TRACT file. PLWDH and diagnoses rates are based on provisional population estimates 2021 and are per 100,000 population, whereby rates for census tracts with < 5 numerator or < 500 population are suppressed. Source: HIV Surveillance data as of December 31, 2022; U.S. Department of Housing and Urban Development (HUD), Office of Policy Development and Research (PD&R). HUD United States Postal Service ZIP Code Crosswalk Files. https://www.huduser.gov/portal/datasets/usps_crosswalk.html; U.S. Census Bureau, Geography Division. 2021. 2021 TIGER/Line Shapefiles: Census Tracts. 2021 TIGER/Line Shapefiles (machine-readable data files). Accessed 12/28/2021. https://www.census.gov/cgi-bin/geo/shapefiles/index.php?year=2021&layergroup=Census+Tracts . County of Los Angeles, Department of Public Health. 2022. Health Districts 2022 (view). County of Los Angeles, California, Enterprise GIS Repository. Accessed 03/21/2023. https://egis-lacounty.hub.arcgis.com/datasets/health-districts-2022-view/; July 1, 2021 Population Estimates (Provisional), prepared by Hedderson Demographic Services for Los Angeles County Internal Services Department, released October 2022. SPA, HD, and SD geographies integrated in by Population Health Assessment Team, Office of Health Assessment and Epidemiology.

Trends in HIV diagnosis

This section presents information among persons newly diagnosed with HIV in LAC. Trends are presented from 2006 when name-based HIV reporting began in California through year-end 2021. Due to reporting delays, the 2021 HIV diagnosis data are provisional as indicated by dashed lines or patterned bars. Further, all 2020-2021 data should be interpreted with caution due to the effects of the COVID-19 pandemic on HIV testing in 2020-2021. For additional data on HIV diagnosis trends by health district, refer to Table 4A.

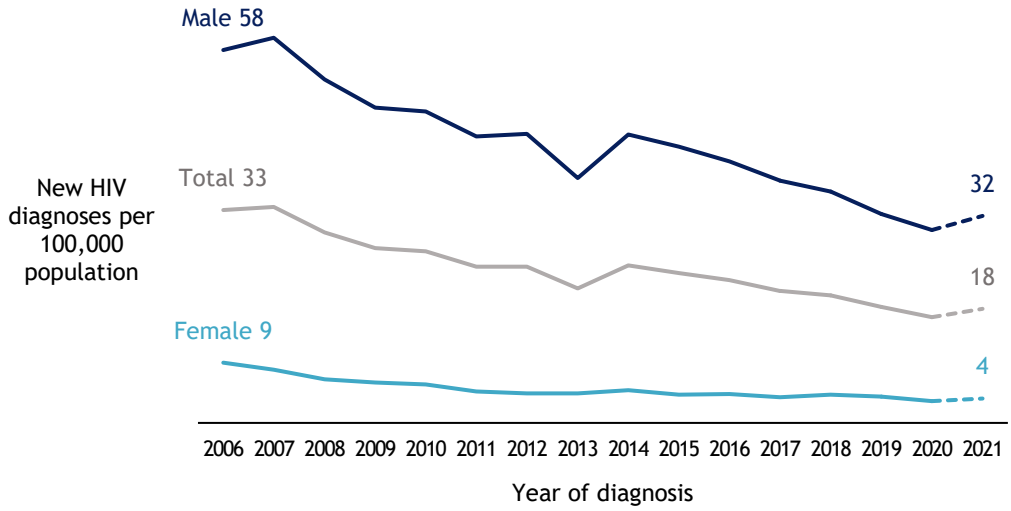
Figure 5: New HIV diagnoses by gender among persons aged ≥ 13 years, LAC 2021



Note: Among the 56 transgender persons newly diagnosed with HIV in 2021, most identified as transgender women. Since transgender reporting relies on accurate gender classification from laboratories and health care providers it is likely to be underreported.

Men made up most of the new HIV diagnoses in 2021 (N=1,300, 85.6%). Women (N=162, 10.7%) and transgender persons (N=56, 3.6%) represented a much lower number and percentage of new HIV diagnoses in 2021.

Figure 6: HIV diagnoses rates by sex[11] among persons aged ≥ 13 years, LAC 2006-2021[12]

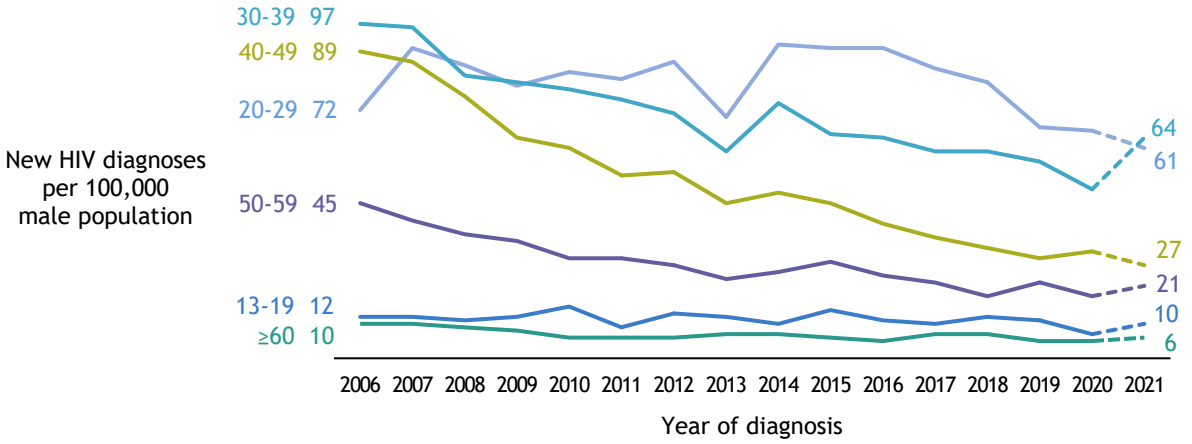


HIV diagnosis rates remain substantially higher among males compared with females but are on the decline for both groups. Compared with 2020, a year in which the COVID-19 pandemic may have depressed HIV testing, rates among both groups increased in 2021, returning to 2019 levels.

[11] Rates are presented by sex at birth due to the unavailability of population size estimates in LAC by gender categories.
[12] Due to reporting delay, 2021 HIV diagnosis data are provisional as indicated by the dashed line.

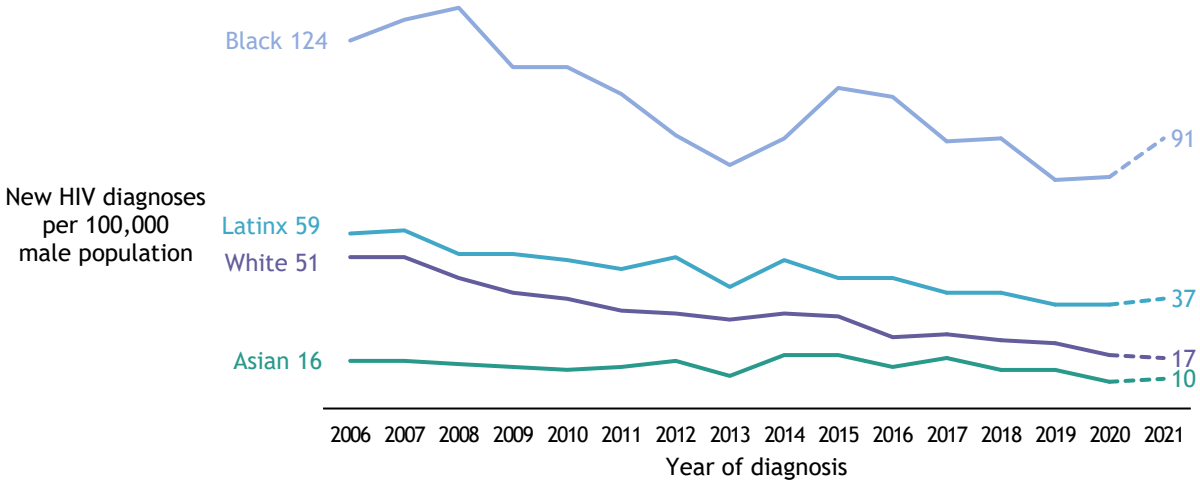
Trends in HIV diagnoses among males[13]

Figure 7: HIV diagnoses rates among males aged ≥ 13 years by age group, LAC 2006-2021[14]



Since 2006, HIV diagnoses rates have declined among males across all age groups. Compared with 2020, a year in which the COVID-19 pandemic may have depressed HIV testing, rates among males aged 30-39 years increased sharply in 2021.

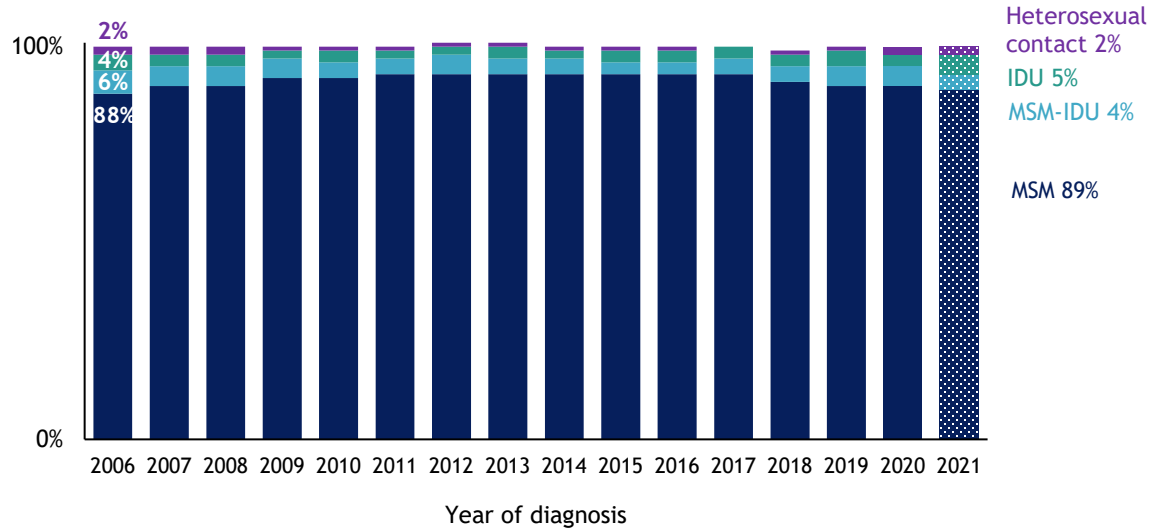
Figure 8: HIV diagnoses rates among males aged ≥ 13 years by race/ethnicity,[15] LAC 2006-2021[14]



Between 2006 to 2013, HIV diagnoses rates declined for males across all race/ethnicity groups. After 2013, HIV diagnoses rates increased among Black, Latinx, and Asian males, and after 2015, rates declined in these groups. Black persons have higher HIV diagnoses rates compared with other race/ethnicity groups, though the difference has been narrowing.

[13] Based on sex at birth.
[14] Due to reporting delay, 2021 HIV diagnosis data are provisional as indicated by the dashed line.
[15] Native Hawaiian and Pacific Islanders (NHPI) and American Indians and Alaska Natives (AIAN) were not included in the analysis due to small numbers, while persons of multiple race/ethnicities were not included due to lack of denominator data to calculate rates. In 2021, NHPI, AIAN and multi-racial persons represented 0.2%, 0.7%, and 1.3% of males newly diagnosed with HIV, respectively.

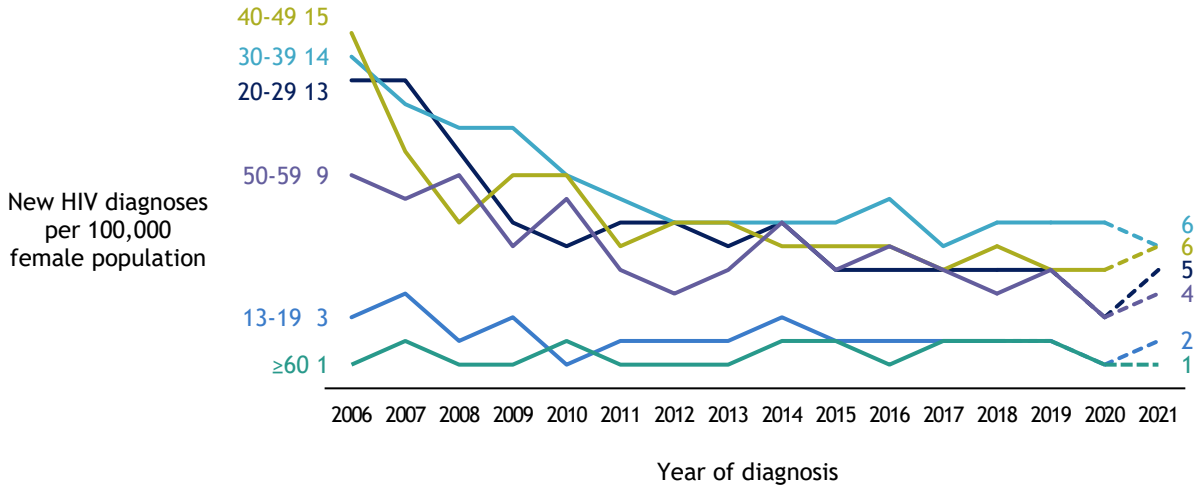
Figure 9: Transmission risk[16] among males newly diagnosed with HIV, LAC 2006-2021[17]



The primary HIV transmission risk for males is having sex with other men.

Trends in HIV diagnoses among females[18]

Figure 10: HIV diagnoses rates among females aged ≥ 13 years by age group, LAC 2006-2021[17]



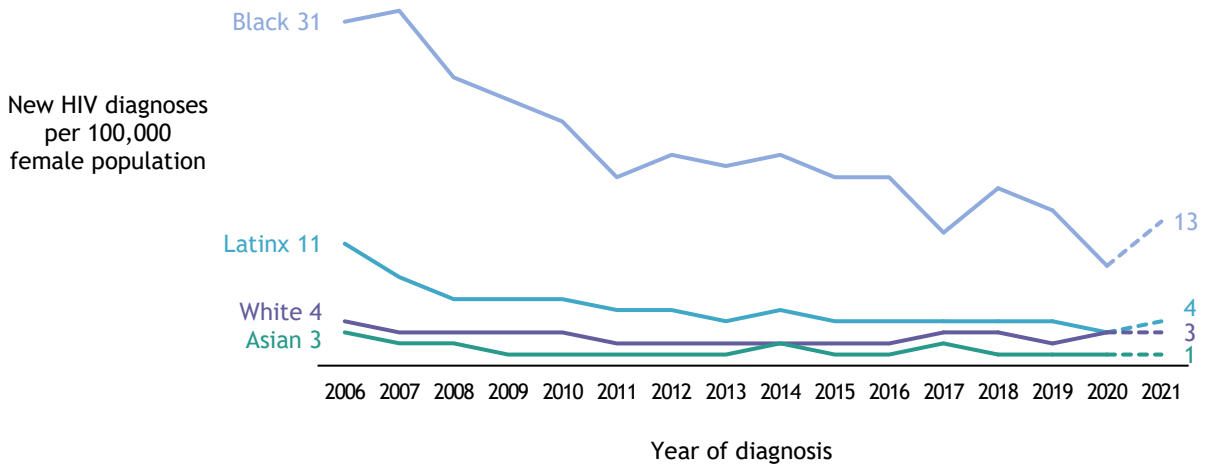
HIV diagnoses rates have declined for females between the ages of 20 and 59 years. Rates have remained low and relatively stable among females aged 13-19 years and 60 years and older.

[16] A diagnosis of HIV is counted only once in the hierarchy of transmission categories. Persons with more than one reported risk factor for HIV are classified in the transmission category listed first in the hierarchy. The exception is men who had sexual contact with other men and injected drugs; this group makes up a separate transmission category. Not presented in the chart are less than 1% other risks, which include perinatal exposure, hemophilia, coagulation disorder, blood transfusion, and risk factor not reported/identified, due to small numbers. Persons without an identified risk factor were assigned a risk factor using CDC-recommended multiple imputation methods.

[17] Due to reporting delay, 2021 HIV diagnosis data are provisional as indicated by the patterned bar and dashed line.

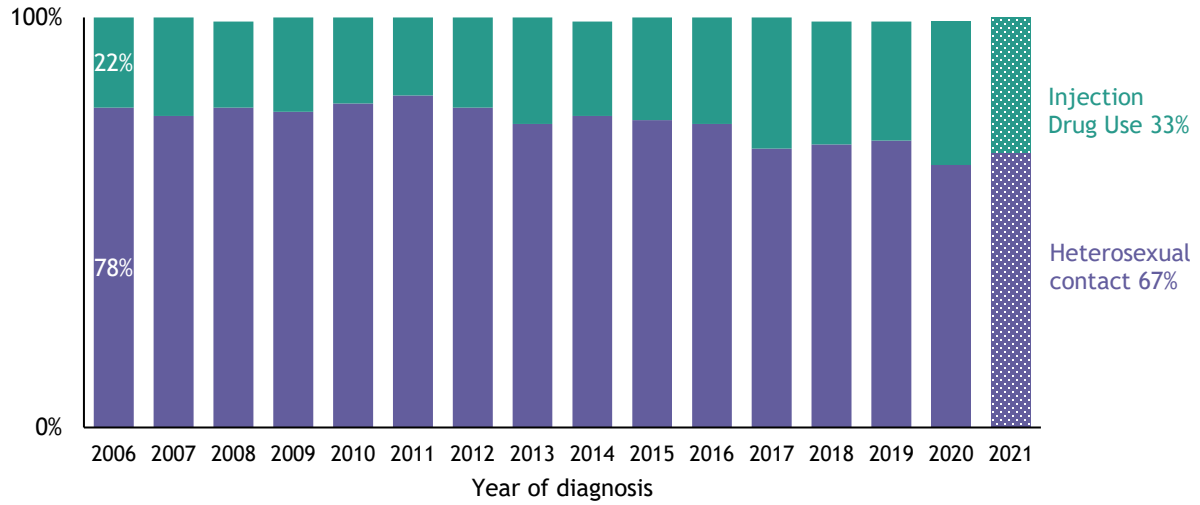
[18] Based on sex at birth.

Figure 11: HIV diagnoses rates among females aged ≥ 13 years by race/ethnicity,[19] LAC 2006-2021[20]



Between 2006 to 2021, HIV diagnoses rates declined in all racial/ethnic groups. Although rates have declined by 58% among Black females their rates remain the highest compared with other racial/ethnic groups.

Figure 12: Transmission risk among females newly diagnosed with HIV, LAC 2006-2021[20,21]



The primary HIV transmission route among females newly diagnosed with HIV was heterosexual contact (67%), followed by injection drug use (33%). The percentage of cases with IDU as the primary transmission route has been on an increasing trend.

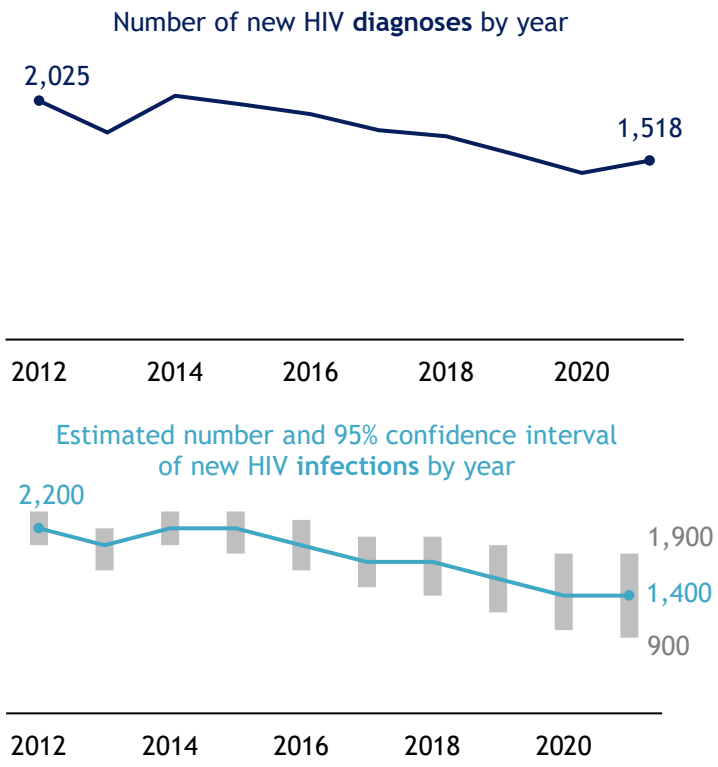
[19] Native Hawaiian and Pacific Islanders (NHPI) and American Indians and Alaska Natives (AIAN) were not included in the analysis due to small numbers, while persons of multiple race/ethnicities were not included due to lack of denominator data to calculate rates. In 2021, NHPI and AIAN represented 0% of females newly diagnosed with HIV, while multi-racial persons represented 1.2% of females newly diagnosed with HIV.
[20] Due to reporting delay, 2021 HIV diagnosis data are provisional as indicated by the dashed line and patterned bar.
[21] Not presented in the chart are 0% other risks, which include perinatal, hemophilia, coagulation disorder, blood transfusion, and risk factor not reported/identified, due to small numbers. Persons without an identified risk factor were assigned a risk factor using CDC-recommended multiple imputation methods.

HIV incidence and undiagnosed HIV

Several indicators important for planning, monitoring, and evaluating the local HIV response are not directly measured through HIV surveillance, including: (1) the number of persons who acquired HIV each year (i.e., new HIV infections), regardless of whether they received an HIV diagnosis and (2) the number of people living with HIV (PLWH) who do not yet know they have HIV (i.e., undiagnosed HIV). An estimate of these indicators can be computed using a mathematical model developed by the US Centers for Disease Control and Prevention.

Importantly, the model produces estimates (not true values) of these indicators, given that the exact numbers of PLWH and persons newly infected with HIV cannot be directly measured each year. The estimates are presented with their 95% confidence intervals to show the range of values likely to contain the true value. Of note, estimates are also subject to change over time due to updates in surveillance data as well as methodological changes in CDC's model. Estimates in 2020-2021 may be particularly unreliable due to disruptions in HIV testing and reporting during the COVID-19 pandemic. Below, we present estimates of newly acquired HIV (new HIV infection) and undiagnosed HIV among PLWH in LAC based on CDC's model.

Figure 13: Number of persons newly diagnosed with HIV compared with the estimated number of persons with new HIV infection among PLWH aged ≥ 13 years, LAC 2012-2021[22]



Note: The annual number of **new HIV diagnoses** is the number of PLWH who received an HIV diagnosis in a calendar year. This information is used to monitor trends in new HIV diagnosis and quantify the need for HIV care. A new HIV diagnosis is *not* equivalent to a new infection that was acquired in a calendar year. Many people live with HIV for years before they are diagnosed while some are diagnosed soon after acquiring HIV. Based on local data, the majority of new HIV diagnoses each year were infections acquired over a year ago.

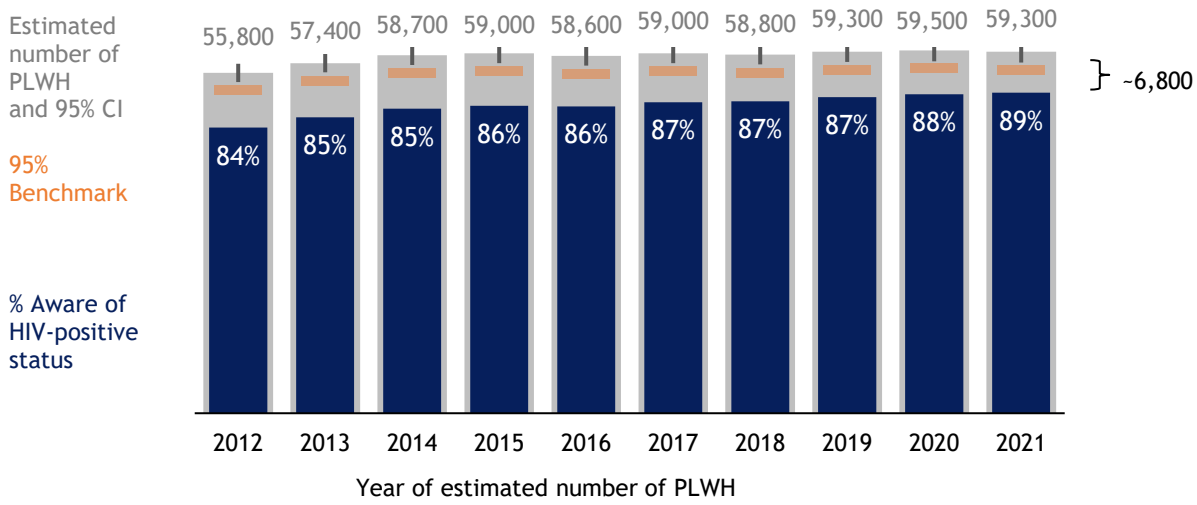
The annual number of **new HIV infections** reflect infections acquired in a calendar year. Some new infections are diagnosed soon after acquiring HIV, but the majority are not. When the number of new HIV infections is high, HIV continues to spread because most people with a new infection are not aware they are living with HIV. New infections provide information on recent transmission and serve as a barometer to assess whether HIV prevention efforts are reducing transmission. Trends in new infections generally track with trends in

The number of persons newly diagnosed with HIV and the estimated number of persons who acquired HIV (new infection) have declined between 2012 and 2021. In 2021, 1,518 persons were newly diagnosed with HIV, reflecting both new and old infections. An estimated 1,400 persons acquired HIV in 2021, reflecting new infections, some of whom were not diagnosed.

[22] Estimates based on the CD4-Based Model v4.1 developed by CDC, which derived by using HIV surveillance and CD4 data for persons aged ≥ 13 years at diagnosis. Estimates rounded to the nearest 100 for estimates of >1,000 and to the nearest 10 for estimates of ≤ 1,000 to reflect model uncertainty.

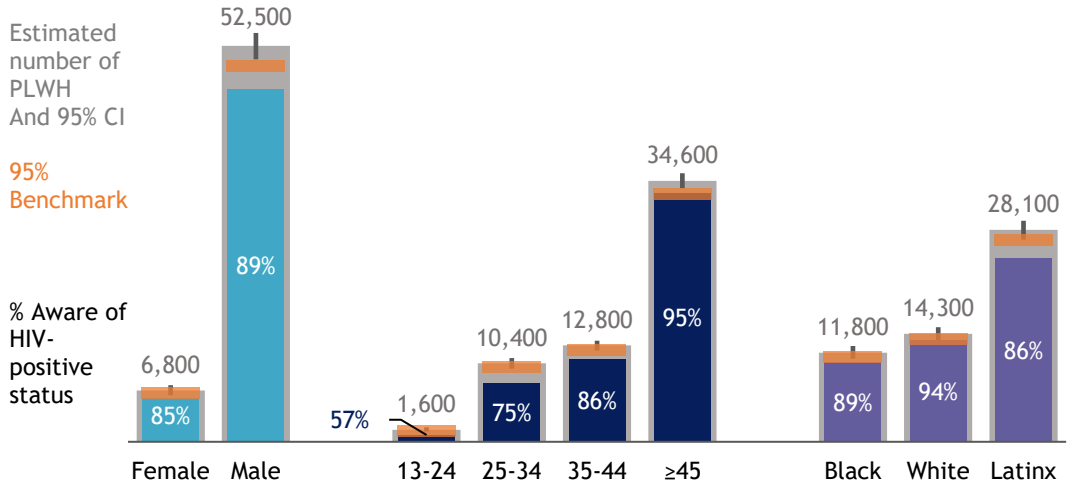
Figure 14: Awareness of HIV-positive status among PLWH aged ≥ 13 years, LAC 2012-2021[23,24,25]

Note: The EHE goal is to increase the percentage of PLWH who know their HIV status to at least **95%** by 2025.



In 2021, an estimated 89% of PLWH were **aware** of their HIV serostatus. Approximately 6,800 PLWH remained unaware of their HIV-positive status.

Figure 15: Awareness of HIV-positive status among PLWH aged ≥ 13 years by sex at birth, age group, and race/ethnicity, LAC 2021[23,24,25]

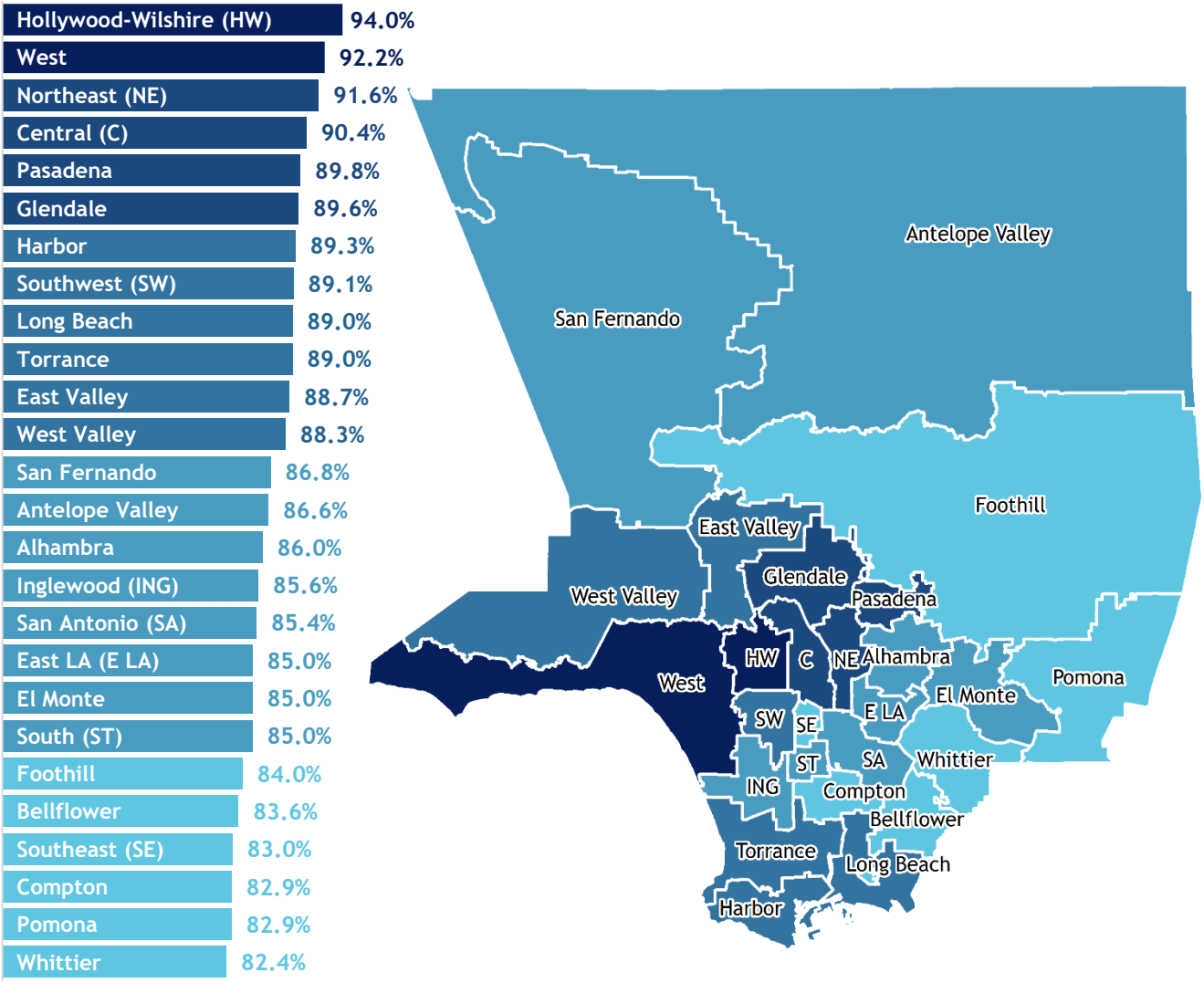


Changes since last surveillance report: Awareness of HIV-positive status remained stable. However, women and young adults (14-24 years) saw a one percent decrease in their HIV-positive awareness.

Across race/ethnicity groups, Latinx PLWH are disproportionately unaware of their HIV-positive status. Young PLWH are disproportionately **unaware** of their HIV-positive status.

[23] Estimates based on the CD4-Based Model v4.1 developed by CDC, which derived by using HIV surveillance and CD4 data for persons aged ≥ 13 years at diagnosis. Estimates rounded to the nearest 100 for estimates of >1,000 and to the nearest 10 for estimates of ≤ 1,000 to reflect model uncertainty.
[24] The numbers above the bars indicate the total estimated number of PLWH. The colored inner bars indicate the percentage of PLWH aware of HIV serostatus.
[25] Asians, Native Hawaiian and Pacific Islanders, American Indians and Alaska Natives, and persons of multiple races/ethnicities were not included in the analysis due to small numbers.

Figure 16: Percentage of PLWH aged ≥ 13 years who were aware of their HIV-positive status by Health District, LAC 2021[26,27]



The percentage of persons living with HIV who are aware of their HIV-positive status varies by location. None of the 26 Health Districts have met the EHE target for 95% of PLWH who know their HIV-positive status. There are four Health Districts nearing this target with at least 90% of PLWH aware of their HIV status. These Health Districts are (1) Hollywood-Wilshire, (2) West, (3) Northeast, and (4) Central.

[26] Based on HIV surveillance data as of December 31, 2022, for persons aged ≥ 13 years at year-end 2021.
[27] Estimates based on the CD4-Based Model v4.1 developed by CDC, which derived by using HIV surveillance and CD4 data for persons aged ≥ 13 years at diagnosis. Estimates rounded to the nearest 100 for estimates of >1,000 and to the nearest 10 for estimates of ≤ 1,000 to reflect model uncertainty.

Stage of HIV disease at diagnosis

Information on stage of HIV disease at the time of diagnosis provides direct insight into the timeliness of a HIV diagnosis. The HIV surveillance case definition of HIV has four stages: Stage 0, 1, 2, and 3. Stage 0 HIV disease indicates early infection which includes acute HIV (infection occurred within 60 days of HIV diagnosis) and early but not acute HIV (infection occurred within 61-180 days of HIV diagnosis).

Table 2: HIV disease staging for surveillance purposes

HIV disease stage	Acute HIV Status	Staging criteria
Stage 0	Acute HIV	Based on the difference in days between the first HIV-positive test result and last documented HIV-negative test result.[28] If the difference falls within 60 days, HIV is classified as stage 0 disease with acute HIV.
	Not Acute HIV or Unknown	Based on the difference in days between the first HIV-positive test result and last documented HIV-negative test result.[28] If the difference falls between 61 and 180 days, HIV is classified stage 0 disease with "not acute HIV" or "unknown if acute HIV".
Stage 1	N/A	Based on first CD4 test result within 90 days of HIV diagnosis. If CD4 ≥ 500 cells/µL, HIV is classified as Stage 1 disease.
Stage 2	N/A	Based on first CD4 test result within 90 days of HIV diagnosis. If CD4 is between 200-499 cells/µL, HIV is classified as Stage 2 disease.
Stage 3	N/A	Based on either first CD4 test result or a diagnosis of an opportunistic illness within 90 days of HIV diagnosis. If CD4<200 cells/µL, HIV is classified as Stage 3 disease.
Unknown	N/A	Based on first CD4 test result within 90 days of HIV diagnosis. If there is no CD4 test result within this timeframe, HIV is classified as unknown stage.

[28] The date of the last HIV-negative test is based on a laboratory result, or client's self-report of last HIV-negative test date when laboratory information is not available.

Table 3: HIV disease stage among persons ≥13 years newly diagnosed with HIV, LAC 2021

	New HIV Diagnoses	Stage 0[29]				Stage 1[30]		Stage 2[31]		Stage 3[32]		Unknown[33]	
		Acute HIV		Not Acute HIV									
	N	N	%	N	%	N	%	N	%	N	%	N	%
Total	**1,518**	**128**	**8%**	**85**	**6%**	**309**	**20%**	**454**	**30%**	**293**	**19%**	**249**	**16%**
Gender													
Man	1,300	115	9%	70	5%	258	20%	393	30%	262	20%	202	16%
Woman	162	10	6%	10	6%	38	23%	44	27%	26	16%	34	21%
Transgender	56	<5		5		13	23%	17	30%	5	9%	13	23%
Race/Ethnicity[34]													
White	242	24	10%	7	3%	74	31%	64	26%	36	15%	37	15%
Black	350	28	8%	21	6%	60	17%	104	30%	61	17%	76	22%
Latinx	803	76	9%	42	5%	152	19%	250	31%	164	20%	119	15%
Asian	71	<5		<5		13	18%	20	28%	24	34%	7	10%
Multi-racial[35]	20	<5		<5		<5		<5		<5		<5	
Age at Diagnosis													
13-19	55	12	22%	<5		10	18%	14	25%	6	11%	11	20%
20-29	472	45	10%	42	9%	95	20%	152	32%	55	12%	83	18%
30-39	525	39	7%	27	5%	118	22%	168	32%	97	18%	76	14%
40-49	222	16	7%	8	4%	44	20%	60	27%	58	26%	36	16%
50-59	170	11	6%	6	4%	33	19%	43	25%	46	27%	31	18%
60+	74	5	7%	<5		9	12%	17	23%	31	42%	12	16%
Transmission Category[36]													
MSM	1,206	106	9%	73	6%	239	20%	372	31%	226	19%	191	16%
IDU	119	8	7%	<5		24	20%	29	24%	28	24%	28	24%
MSM/IDU	52	5	10%	<5		16	31%	15	29%	8	15%	6	12%
Heterosexual	133	9	7%	7	5%	30	23%	36	27%	32	24%	19	14%

In 2021, 14% of new HIV diagnoses were diagnosed at Stage 0 (an indicator of recent infection). Over half of those diagnosed at Stage 0 had acute HIV at diagnosis. The percent of new HIV diagnoses with acute HIV, shown in red font in Table 3, was highest among men, White persons, persons aged <30 years, MSM and MSM/IDU.

[29] Stage 0 includes those with acute infection at diagnoses (Acute HIV) and those with no evidence of acute infection at diagnosis (Not Acute HIV). If the difference between first HIV-positive test result and last HIV-negative test result falls within 60 days, HIV is classified as acute HIV. If it falls between 61 and 180 days, HIV is classified as stage 0 disease, not acute. The number of newly diagnosed persons during stage 0 are likely underestimated due to under-reporting of HIV-negative test results.

[30] The criterion for Stage 1 disease is CD4 ≥ 500 cells/µL within 90 days of diagnosis.

[31] The criterion for Stage 2 is CD4 between 200-499 cells/µL within 90 days of diagnosis.

[32] Stage 3 criteria include either CD4 < 200 cells/µL within 90 days of HIV diagnosis or a diagnosis of an opportunistic illness within 90 days of HIV diagnosis.

[33] Unknown stage includes persons without a CD4 test within 90 days of HIV diagnosis.

[34] American Indians and Alaska Natives and Native Hawaiian and Pacific Islanders were not included in the analysis because of small numbers.

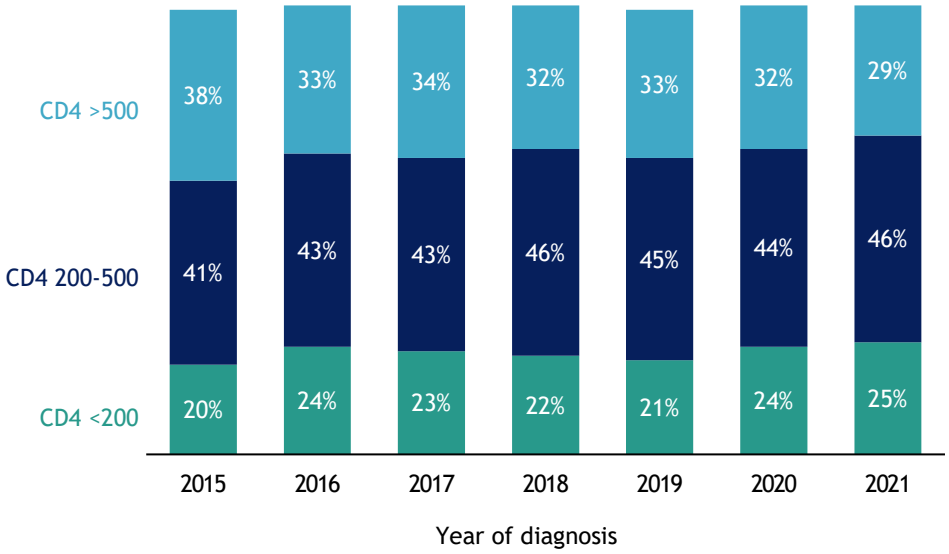
[35] Multi-racial includes persons who reported two or more race/ethnicities.

[36] Eight individuals with unknown/other transmission category were not included.

Monitoring trends in CD4 counts at diagnosis

One approach for evaluating the timeliness of HIV diagnosis is based on baseline CD4+ T-cell counts within 1 month of HIV diagnosis. Early disease is defined as CD4 > 500 cells/μL within 1 month of HIV diagnosis, and late-stage disease is defined as CD4 < 200 cells/μL within 1 month of diagnosis.

Figure 17: CD4+ T-cell count within 1 month of HIV diagnosis, LAC 2015-2021[37]



One in four new HIV diagnoses presented with CD4+ T-cells < 200 cells/μL at the time of diagnosis in 2021, indicative of late HIV disease. The percentage of persons presenting with late HIV disease remained at the same level between 2020 and 2021.

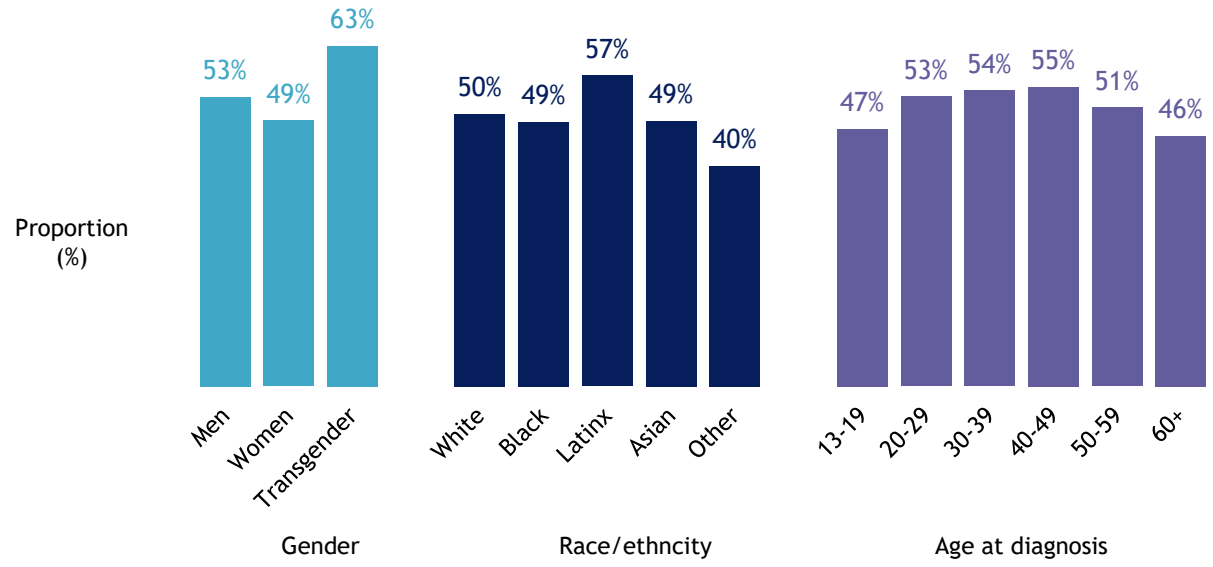
[37] Based on first CD4 test within 1 month of HIV diagnosis. Among persons who were 13 years of age or older and were newly diagnosed with HIV between 2015-2021, 50% had a CD4 test within this period. Sum of percentages in 2015 and 2019 do not add to 100% due to rounding.

Molecular HIV surveillance, transmitted drug resistance, and cluster detection

Federal guidelines for the care and treatment of PLWDH recommend HIV viral genotype testing at initiation of HIV care to determine whether an individual's HIV strain is resistant to certain anti-retroviral drugs. The genotype testing, which results in a genetic sequence report reflecting an individual's HIV strain, is reported to Public Health along with other HIV laboratory and clinical test results.

Through a comparison of the viral genotype reports of PLWDH in the local area, it can be determined if there are multiple people with a highly similar HIV strain. Because HIV's genetic sequence constantly evolves, people whose viral strains are highly similar are likely to be in the same social HIV transmission network (i.e., transmission cluster); it is important to note that this information cannot be used to determine either direct transmission or the direction of transmission between any two individuals. Transmission clusters with numerous individuals newly diagnosed with HIV may indicate that recent and rapid HIV transmission is occurring among a group of individuals. When a cluster is identified, it can inform the delivery of services and interventions to minimize transmission in a geographic area and prioritize efforts to those who need them the most.

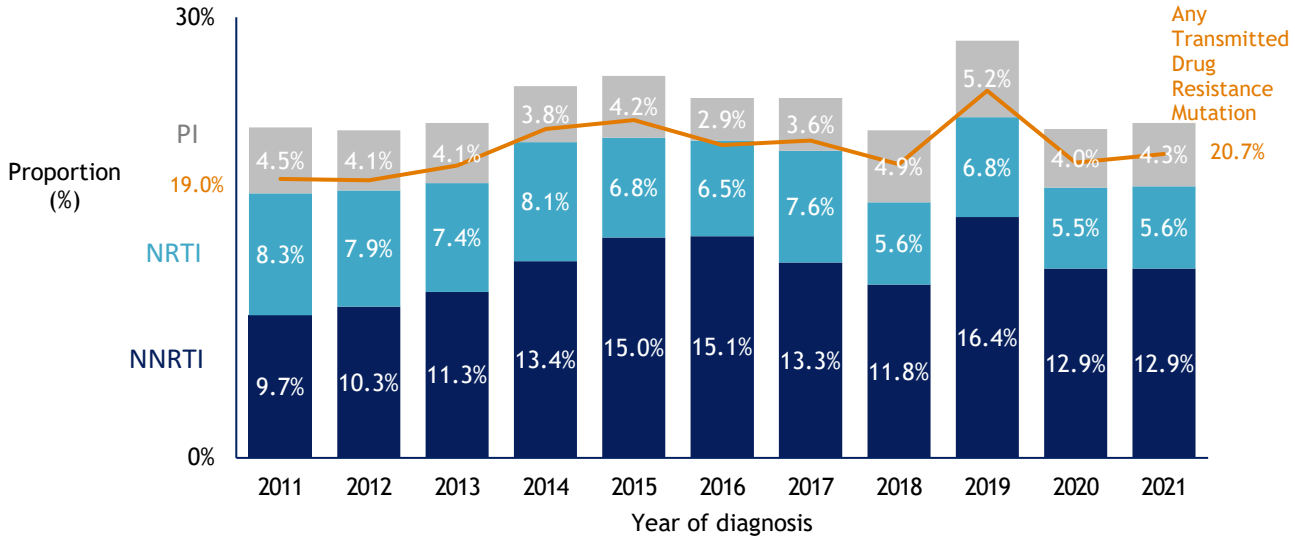
Figure 18: Proportion of new HIV diagnoses[38] with a genotype resistance test within 90 days of HIV diagnosis,[39] LAC 2021



Genotypic resistance testing is recommended at entry into HIV care to guide treatment. In 2021, 53% of newly diagnosed cases received a genotype test within 90 days of diagnosis. The proportion of new diagnoses with a genotype within 90 days was highest among transgender and Latinx persons.

[38] Persons aged ≥ 13 years newly diagnosed with HIV in 2021. Data are provisional due to reporting delay.
[39] Race/ethnicity categories with fewer than 10 diagnoses (Native Hawaiian and Other Pacific Islander and American Indian/Alaska Native) and Multi-race persons were included in Other.

Figure 19: Proportion of transmitted drug resistance (TDR) by drug class[40] among persons aged ≥13 years newly diagnosed with HIV with an eligible sequence,[41] LAC 2011-2021



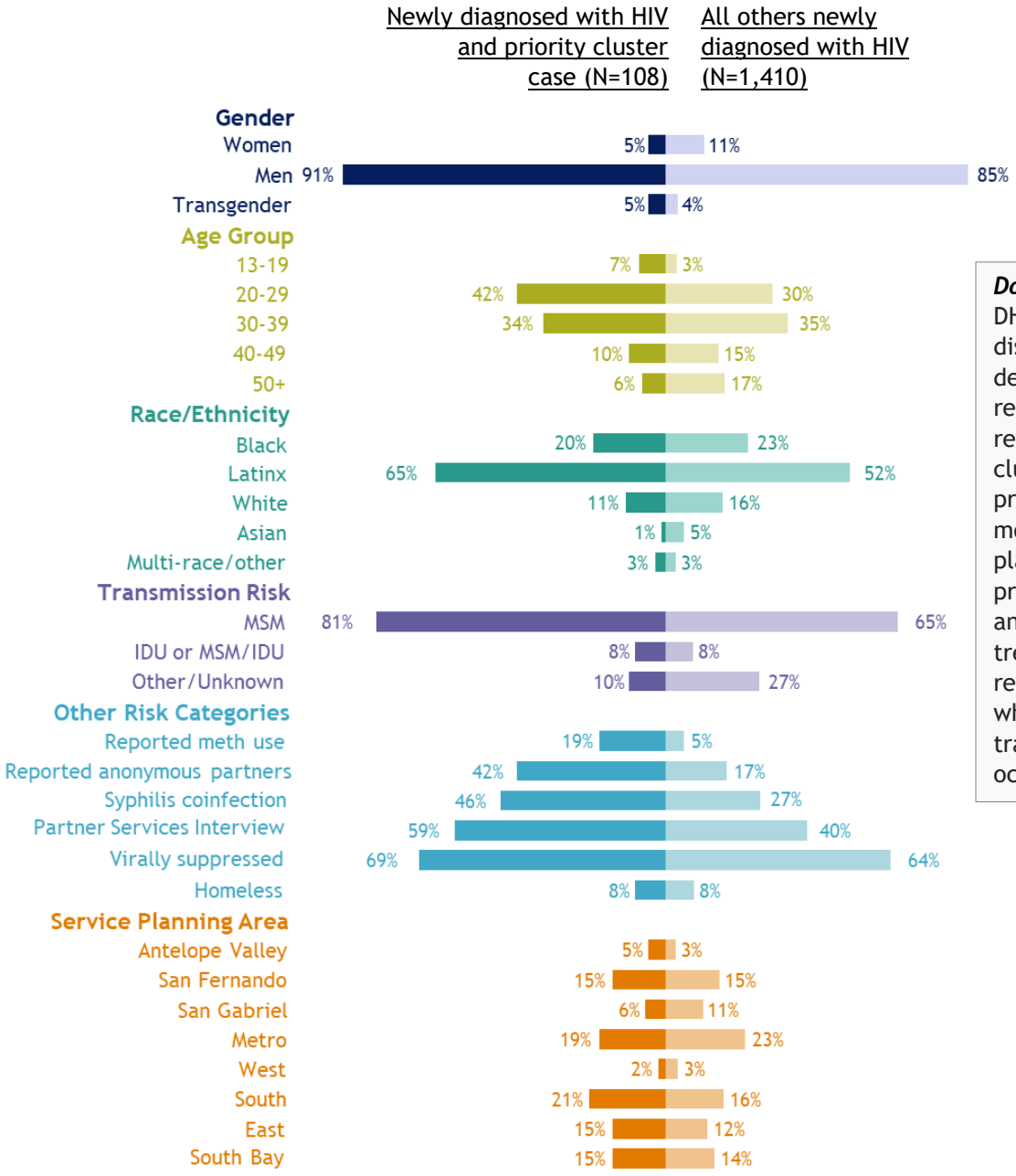
PI = Protease Inhibitors NRTI = Nucleoside Reverse Transcriptase Inhibitors NNRTI = Non-Nucleoside Reverse Transcriptase

In 2021, 46% of persons newly diagnosed with HIV (691 of 1,518) had a sequence eligible for drug resistance analysis. Of those with an eligible sequence, 21% exhibited resistance to one or more antiretroviral drugs and are considered to have a transmitted drug resistance mutation (TDRM). From 2011 to 2021, the proportion of TDRM has increased slightly from 19% to 21%. Of the three major drug classes, transmitted drug resistance to non-nucleoside reverse transcriptase inhibitors (NNRTI) remains the highest each year, compared to nucleoside reverse transcriptase inhibitors (NRTI) and protease inhibitors (PI). The proportion of specimens with resistance to integrase inhibitors did not exceed more than 0.1% (data not shown).

[40] NNRTI= Non-nucleoside reverse transcriptase inhibitors; NRTI= Nucleoside reverse transcriptase inhibitor; PI= Protease inhibitor; TDRM= Transmitted drug resistance mutation; Resistance can include multi-drug classes and individuals may have been represented in more than one category.

[41] An eligible sequence is a genotypic resistance test which has met the following criteria: obtained within 3 months of HIV diagnosis and has a sequence length that is ≥ 100 bases. Cases who have a prior history of anti-retroviral use are excluded as eligible.

Figure 20: Priority[42] cluster diagnoses compared to non-cluster diagnoses among those newly diagnosed with HIV by selected characteristics,[43] LAC 2021



Data in context: DHSP's multi-disciplinary cluster detection and response workgroup reviews high priority clusters and cases in priority clusters on a monthly basis and plans tailored HIV prevention, testing, and care and treatment services to respond to networks where rapid HIV transmission is occurring.

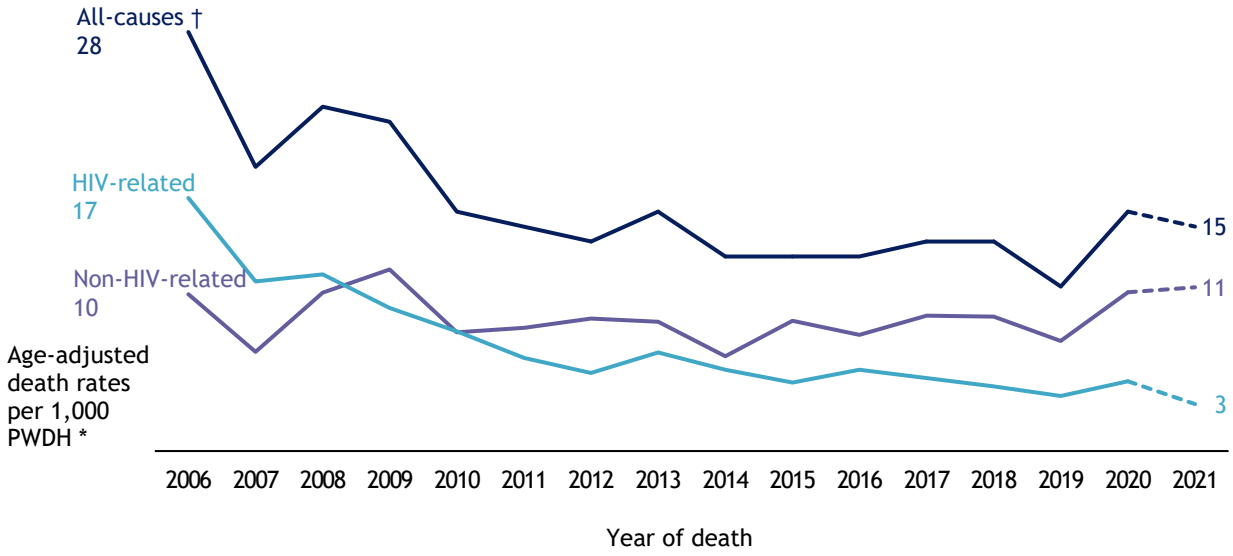
In 2021, 8% of persons newly diagnosed with HIV were associated with a priority transmission cluster. These persons were more likely to be men, aged 20-29 years, Latinx, and have MSM transmission risk compared with persons newly diagnosed with HIV who were not associated with a priority cluster. Persons associated with a priority transmission cluster were also more likely to report methamphetamine use and anonymous partners; have syphilis co-infection; receive a partner services interview; and be virally suppressed; and to reside in the Antelope Valley, South, or East SPAs.

[42] Priority transmission clusters are identified by HIV-TRACE and have at least 5 people diagnosed within the prior 12 months at a 0.5% genetic distance threshold.
[43] Age groups, race/ethnicity groups, and transmission risk categories with fewer than 5 persons are suppressed.

HIV mortality

Ultimately the most important goal in the public health response to HIV is for persons living with HIV to live long and healthy lives. Rapid access to and consistent use of high-quality services across the HIV care continuum is fundamental to achieving this goal. This section presents trends in cause of death and death rates among PWDH.

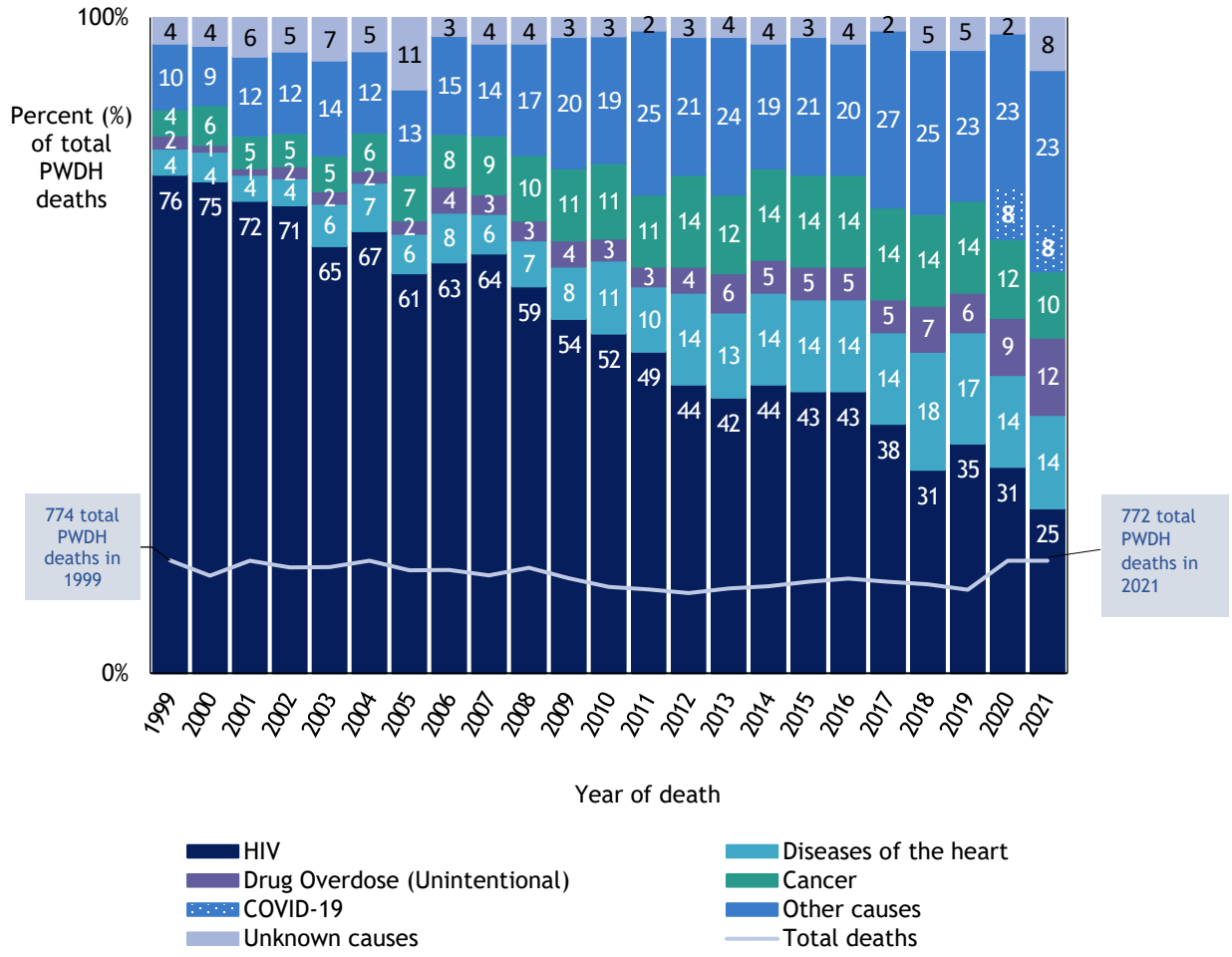
Figure 21: Age-adjusted death rates among persons aged ≥ 13 years with diagnosed HIV, by HIV-related and non-HIV related cause of death, LAC 2006-2021[44,45]



From 2006-2021 the age-standardized death rates among persons with diagnosed HIV per 1,000 due to all causes decreased by 44%. While non-HIV-related causes fluctuated but remained relatively stable, HIV-related causes declined by 81%.

[44] Age-adjusted to the U.S. 2000 standard population.
[45] 2021 death rate data among PWDH are provisional due to reporting delay as indicated by the dashed line.
* For each calendar year in which the deaths occurred, PWDH includes persons living with HIV infection at the beginning of the calendar year plus persons newly diagnosed in the calendar year (see Technical Notes).
† All-causes death rates include persons with unknown causes of death (2.5 % of all deaths during this period (2006-2021)).

Figure 22: Trends in underlying causes of death among persons aged ≥ 13 years with diagnosed HIV, LAC 1999-2021[46]



Over the past decade, the number of deaths among PWDH has remained stable at approximately 600 deaths per year but it increased sharply in 2020, returning to numbers last seen in 1999. HIV as the main cause of death among PWDH declined from 76% in 1999 to 25% in 2021. By contrast, diseases of the heart as the underlying (main) cause of death among PWDH increased from 4% in 1999 to 14% in 2021, followed by drug overdoses (unintentional) from 2% to 12%, and cancer from 4% to 10%. Compared with prior years, 2021 represents a spike in "unknown causes" listed as the main cause of death among PWDH. This may be the result of prolonged reporting delay during the COVID-19 pandemic. In 2021, 179 (23%) PWDH deaths had 'Other causes' and 62 (8%) 'Unknown causes' listed as the main cause of death.

[46] Annual percentages may not add to 100% due to rounding error.

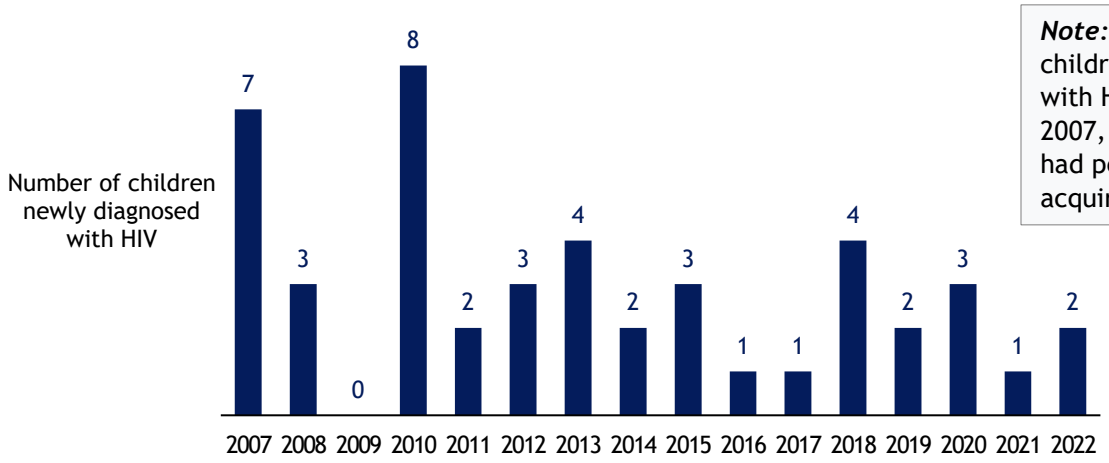
Data to Action: Progress and Opportunities in HIV Epidemic Monitoring

- In LAC, as of year-end 2021, approximately 59,300 persons aged ≥ 13 years are living with HIV, and an estimated 6,800 of these persons have not yet been diagnosed. With improved HIV survival and accelerated HIV case finding efforts to identify all undiagnosed PLWH, the number of diagnosed PLWH who require high quality HIV care will continue to grow.
- HIV epidemic control occurs when the number of new HIV infections falls below the number of deaths among PLWH. Approximately 1,400 new infections and 600 HIV deaths occur each year, signaling that LAC is far from reaching "HIV epidemic control." To turn the tide, high impact evidence-based prevention interventions, such as PrEP and partner services, will need to be more focused, accessible, and tailored to the specific needs of the populations and locations that need them most.
- Among PLWH, persons younger than 35 years of age, Latinx persons, and females had lower awareness of their HIV-positive status compared with their counterparts (Figure 15). These are the groups where capacity for HIV testing programs should expand to improve testing access and early HIV diagnosis.
- At least one in five persons with a new HIV diagnosis were diagnosed late in their disease stage. Women, Latinx persons, persons aged 40 years and older, and persons reporting injection drug use risk were more likely to have delayed diagnoses than other groups (Table 3). HIV screening programs should be tailored to the needs of these populations to ensure that HIV care and treatment interventions are not delayed.
- HIV drug resistance testing is important to ensure that ART is effective among PLWDH initiating treatment. Efforts to improve rapid linkage to care may improve the timeliness of genotype testing.
- Cluster response continues to serve as an important tool to laser focus the public health response in locations and among network contacts where recent and rapid transmission may be occurring.
- As increasingly more people with HIV live long lives and ultimately succumb to non-HIV-related causes, there is a need to evolve HIV services into an integrated disease management model that provides comprehensive health services for persons living with HIV throughout their life course.

Vulnerable Populations

HIV among children

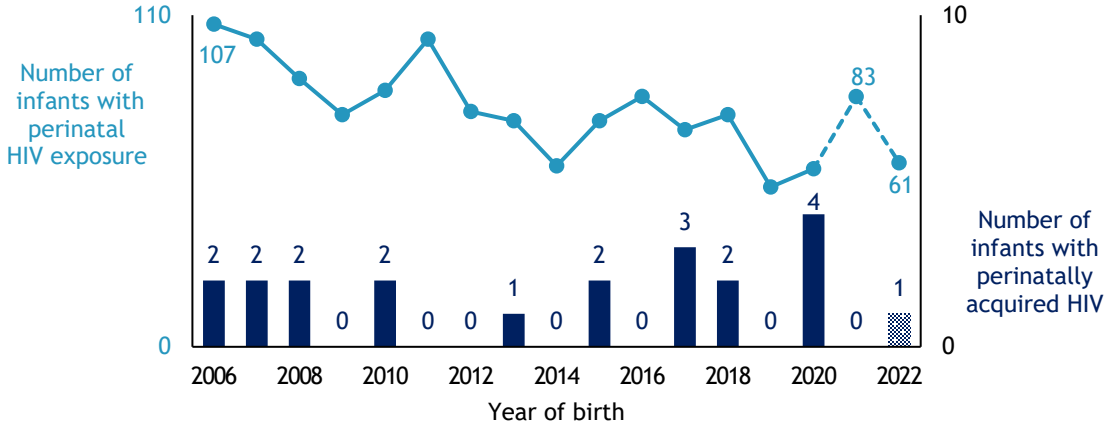
Figure 23: Number of children aged <13 years newly diagnosed with HIV, LAC 2007-2022[47]



Note: Of the 46 children diagnosed with HIV since 2007, the majority had perinatally acquired HIV.

New HIV diagnoses in children peaked in 2010 at 8 cases. In 2022, there were 2 newly identified cases of HIV in children aged <13 years.

Figure 24: Number of infants with perinatal HIV exposure and perinatally acquired HIV, LAC 2006-2022[48,49]



The number of infants with perinatal HIV exposure declined from 2006 to 2022. From 2020 to 2022, the number of perinatal exposures slightly increased from 59 exposures to 61 exposures. At the time of writing, there was one reported transmission of HIV from an infected mother to their baby in 2022.

[47] Year of diagnosis may not indicate year of birth, nor indicate infants newly diagnosed with HIV at birth. Data include children who were born in a foreign country and/or who may have first been diagnosed in a foreign country before moving to Los Angeles County.
[48] Due to reporting delay, 2021 and 2022 HIV data are provisional as indicated by the patterned bar and dashed line.
[49] The number of infants with perinatally acquired HIV includes perinatal transmissions among babies born and/or diagnosed in LAC for a given birth year. The number of infants with perinatal HIV exposure was derived from 7 pediatric HIV-specialty sites which serve over 90% of the HIV-exposed children and infected children seeking HIV evaluation and care in Los Angeles County as well as an annual birth registry match. This is an underestimate of the total number of infants with perinatal HIV exposure in the County since HIV exposure reporting is not mandated.

Table 4: HIV incidence and perinatal transmission among infants aged <18 months, LAC 2006-2022[50]

Birth Year	Number of infants newly diagnosed with HIV	Live births	Number of HIV-exposed infants	Perinatal HIV incidence rate per 100,000 live births	Perinatal HIV transmission rate per 100 HIV-exposed infants
2006	2	151,837	107	1.3	1.9
2007	2	151,813	102	1.3	2.0
2008	2	147,684	89	1.4	2.2
2009	0	139,679	77	0	0
2010	2	133,160	85	1.5	2.4
2011	0	130,313	102	0	0
2012	0	131,697	78	0	0
2013	1	128,526	75	0.8	1.3
2014	0	130,150	60	0	0
2015	2	124,438	75	1.6	2.7
2016	0	123,092	83	0	0
2017	3	116,850	72	2.6	4.2
2018	2	116,063	77	1.7	2.6
2019	0	113,027	53	0	0
2020	4	102,610	57	3.9	7.0
2021	0	100,641	83	0	0
2022	1	99,921	61	1.0	1.6

National targets for elimination of mother-to-child transmission of HIV

1. Perinatal HIV incidence <1 per 100,000 live births

2. Perinatal transmission rate <1 per 100 HIV-exposed infants

In 2022, LAC fell short of the perinatal incidence and perinatal HIV transmission national targets for elimination of mother-to-child transmission.

[50] Over 90% of the HIV exposed and infected infants identified in birth years 2021 and 2022 were born at and/or received care at one of the 7 pediatric HIV-specialty sites. Additionally, since 2018 the CA SOA has conducted a birth registry match with HIV+ women in IHARS and LAC birth certificates. This is an underestimate of the total number of infants with a perinatal HIV exposure in Los Angeles County since perinatal HIV exposure reporting is not mandated in California. For this reason, perinatal HIV transmission rates are not generalizable to Los Angeles County. Data for 2021 and 2022 are provisional due to reporting delay. Live birth data for 2006-2017 were derived from the Los Angeles Almanac and live birth data after 2017 were derived from the California Department of Public Health-California Vital Data (Cal-ViDa) Query Tool since this tool was not available for birth years prior to 2018.

Table 5: Demographic and clinical characteristics of pregnant persons with diagnosed HIV and exposed infants, LAC 2021-2022[51]

Characteristics	N=144[52]	(%)
Maternal age at delivery		
13-19	4	(2.8)
20-29	49	(34.0)
30-39	71	(49.3)
≥40	20	(13.9)
Maternal race/ethnicity		
Latinx	64	(44.4)
Black	47	(32.6)
Multi-race	13	(9.0)
White	10	(6.9)
Asian/PI	6	(4.2)
Other[53]	4	(2.8)
Maternal transmission risk		
Heterosexual contact	121	(84.0)
IDU	11	(7.6)
Perinatal exposure	10	(6.9)
Transfusion	1	(0.7)
Other confirmed risk	1	(0.7)
Maternal timing of HIV test		
Known HIV+ before pregnancy	120	(83.3)
Known HIV+ during pregnancy	23[54]	(16.0)
Known HIV+ at time of delivery	1	(0.7)
Known HIV+ sometime after birth	0	(-)
Receipt of any prenatal care		
Yes	138	(95.8)
No	6	(4.2)

[51] Data are provisional due to reporting delay.
[52] Data include one set of twins born in 2021.
[53] Other race category includes American Indian/Alaska Native and Unknown race.
[54] Of the 23 women diagnosed with HIV during pregnancy, 11 were diagnosed during the first trimester, 7 during the second trimester, and 5 during the third trimester.

Table 5 (continued):

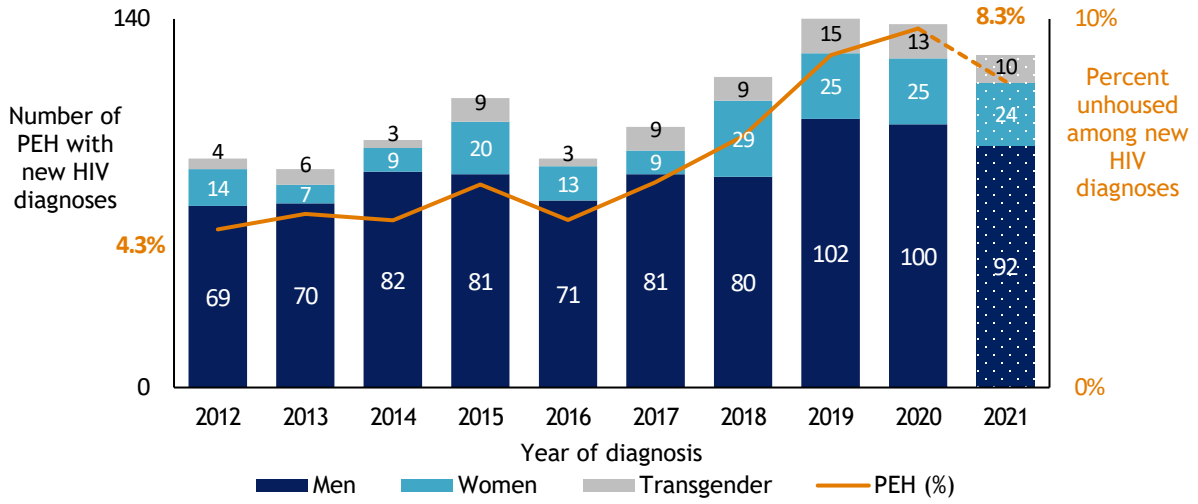
Characteristics	N=144[55,56]	(%)
Maternal ART use during pregnancy and delivery		
Yes	137	(95.1)
No	5	(3.5)
Unknown	2	(1.4)
Timing of maternal ART use during pregnancy and delivery		
Prenatal and intrapartum ART	100	(69.4)
Prenatal ART only	34	(23.6)
Intrapartum ART only	3	(2.1)
Did not receive ART	5	(3.5)
ART use unknown	2	(1.4)
Type of delivery		
Vaginal	79	(54.9)
Cesarean	65	(45.1)
Was infant breastfed?		
Yes	2	(1.4)
No	134	(93.1)
Unknown	8	(5.6)
Infant ART use		
Yes	140	(97.2)
Unknown	4	(2.8)
Infant's HIV status		
HIV negative	89	(61.8)
Confirmed HIV[55]	1	(0.7)
HIV indeterminate[56]	54	(37.5)

Since 2020, there have been **5** confirmed HIV infections among perinatally exposed infants born in Los Angeles County. The majority of exposed infants were born to Latinx mothers. Black mothers were disproportionately represented among LAC pregnant persons who delivered HIV-exposed infants. Prenatal care and ART use during pregnancy and labor and delivery are an essential component of prevention of perinatal HIV transmission.

[55] The infant perinatally infected with HIV received ART shortly after birth for the prevention of mother to child transmission.
[56] Indeterminate status includes infants who have not had definitive testing to rule out HIV and/or those infants lost to follow-up.

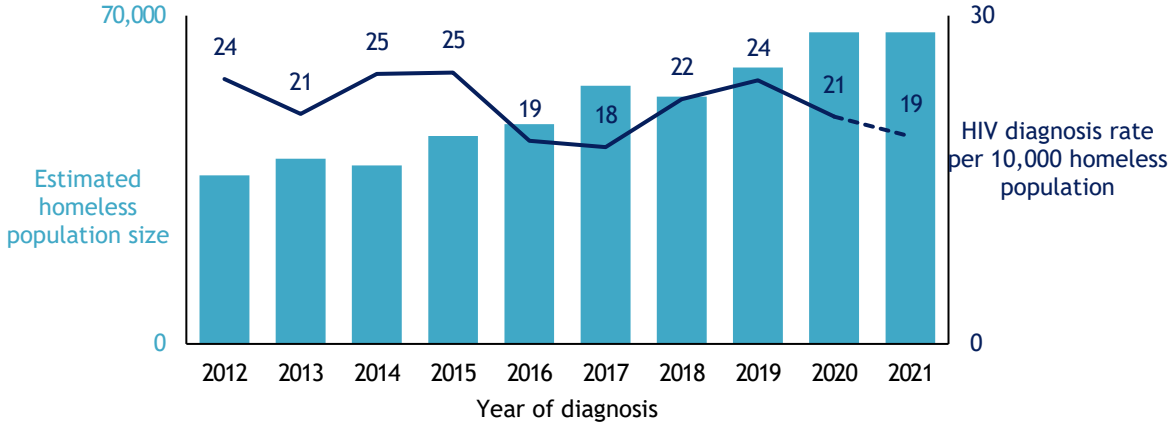
HIV among persons experiencing homelessness (PEH)

Figure 25: Number of persons experiencing homelessness and newly diagnosed with HIV,[57] by gender and percentage of persons aged ≥ 13 years newly diagnosed with HIV, LAC 2012-2021[58]



Since 2012, the percentage of persons newly diagnosed with HIV who were experiencing homelessness at the time of diagnosis, increased from 4.3% to 8.3%. In 2021, among 126 PEH with a new HIV diagnosis, 92 (73%) were men, 24 (19%) were women, and 10 (8%) were transgender.

Figure 26: HIV diagnoses rates among persons aged ≥ 13 years experiencing homelessness, LAC 2012-2021[58,59]



Relatively stable HIV diagnoses rates among unhoused persons indicates that the increase in the unhoused population in Los Angeles County likely explains the increasing trend in HIV diagnoses among unhoused PLWDH over the past decade.

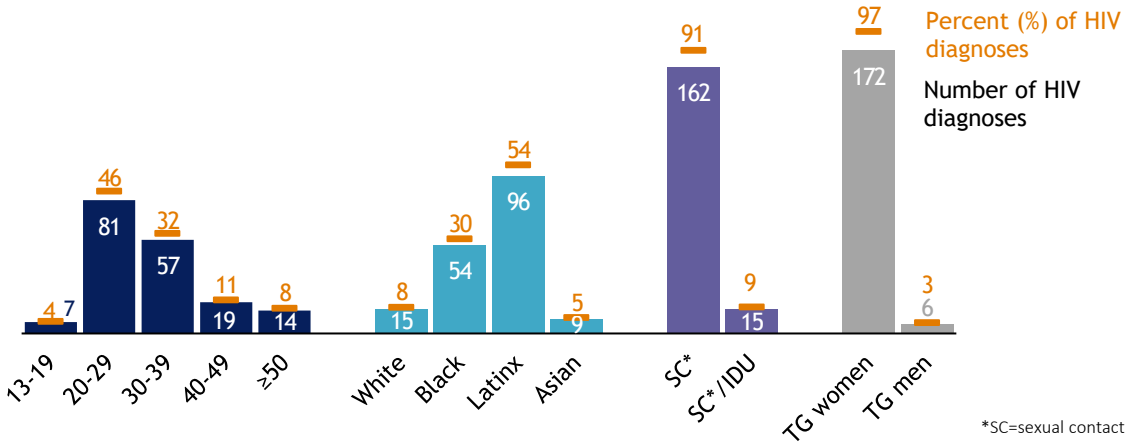
[57] Persons newly diagnosed with HIV were classified as PEH if they were experiencing homelessness within 6 months of their HIV diagnosis date. For the PEH definition used, please refer to the Los Angeles Housing Services Authority (LAHSA) definition under "Category 1" at https://www.lahsa.org/documents?id=1349-homeless-definition-part-1-.pdf

[58] Due to reporting delay, 2021 HIV diagnosis data are provisional as indicated by the patterned bar and dashed line.

[59] Data from the Greater Los Angeles County Homeless Count, 2020 Results. Note that the count was not performed in 2021, so the 2020 count results were applied to 2021.

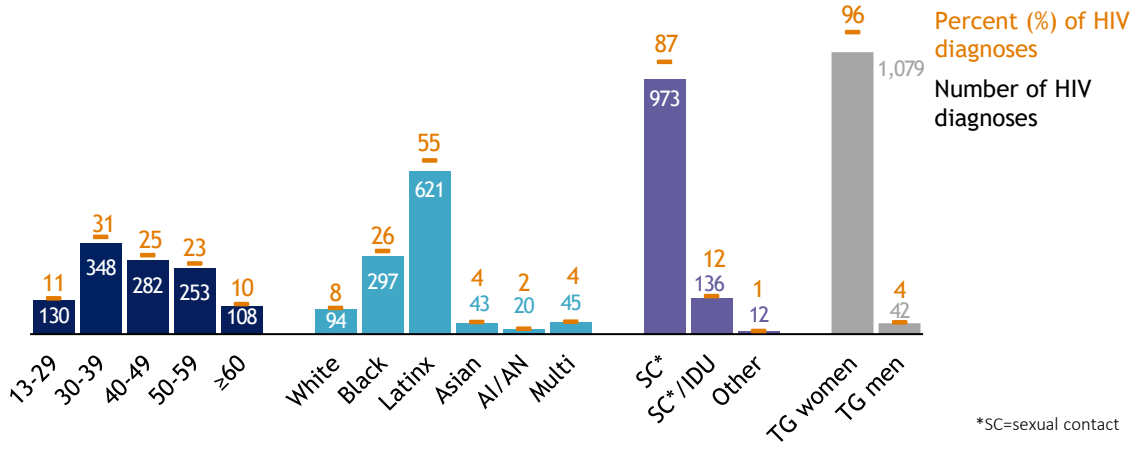
HIV among transgender people

Figure 27: HIV diagnoses among transgender people aged ≥ 13 years by age, race/ethnicity,[60,61] and transmission category[62] (n=178), LAC 2019-2021



Among persons newly diagnosed in 2019-2021 who identified as transgender at the time of diagnosis, 97% identified as transgender women and 54% as Latinx. Seventy-eight percent (78%) were aged 20-39 years old and sexual contact was the likely transmission route for 91%.

Figure 28: Transgender people living with diagnosed HIV infection aged ≥ 13 years by age group, race/ethnicity,[Error! Bookmark not defined.,63] and transmission category[64] (n=1,121), LAC 2022



Among PLWDH in LAC at year-end 2022 who identified as transgender at the time of diagnosis, most identify as trans women (96%, n=1,079), Latinx (55%, n=621), were aged 30-49 years (56%, n=630), and had a likely transmission of sexual contact (87%, n=973).

[60] American Indian and Alaska Native (AIAN) and persons of multiple races are not included due to small numbers.
[61] Although some race/ethnicity categories are suppressed due to small numbers, they are included in the denominator for the percent calculation.
[62] SC = Sexual contact; SC/IDU = Sexual contact and injection drug use. Sexual contact is based on biological sex at birth: MSM or heterosexual contact with a person known to have, or with a risk factor for, HIV. Persons whose transmission category is injection drug use alone are not shown due to small numbers. Persons without an identified transmission category were assigned a transmission category using CDC-recommended multiple imputation methods.
[63] Native Hawaiian and Pacific Islanders (NHPI) are not shown due to small numbers.
[64] Other transmission categories include injection drug use (IDU) and perinatal exposure.

HIV biobehavioral surveillance

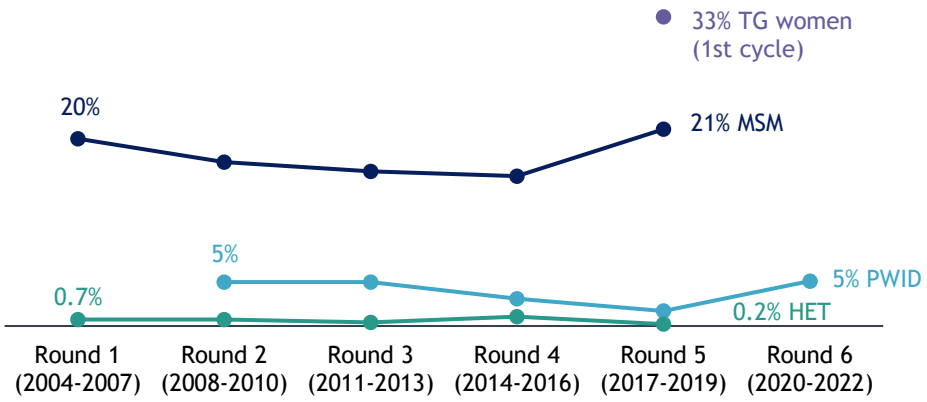
HIV biobehavioral surveys are surveillance tools that use probability-based sampling methods for estimating HIV prevalence and relevant behavioral and clinical indicators in a given population. Information from biobehavioral surveys helps us understand factors that may be associated with behavioral and clinical outcomes in vulnerable populations at increased risk for HIV or living with HIV.

National HIV Behavioral Surveillance (NHBS) is a CDC-funded HIV surveillance activity that allows state and local health departments to monitor HIV prevalence and risk behaviors among select populations at elevated risk for HIV. These populations include men who have sex with men (MSM), persons who inject drugs (PWID), heterosexual persons at increased risk for HIV (HET), and transgender (TG) women. Probability-based sampling methods are used to recruit survey participants, including venue-based, time space sampling for the MSM survey and respondent driven sampling for PWID, HET, and TG surveys.

The Medical Monitoring Project (MMP) is a CDC-funded HIV surveillance activity that provides national and local data on behavioral and clinical outcomes in a representative sample of PLWH. MMP uses a 2-stage sampling strategy to select a sample of persons from which nationally and locally representative data are derived.

In this section, we highlight key findings from NHBS (Figures 29-38) and MMP (Tables 6 & 7) efforts in LAC. While the data in this section provide the best estimates available for the populations presented, they are estimates (not true values) and thus any generalizations to broader population groups represented should be made with caution.

Figure 29: Trends in HIV prevalence[65] by NHBS population, LAC 2004-2022[66,67]

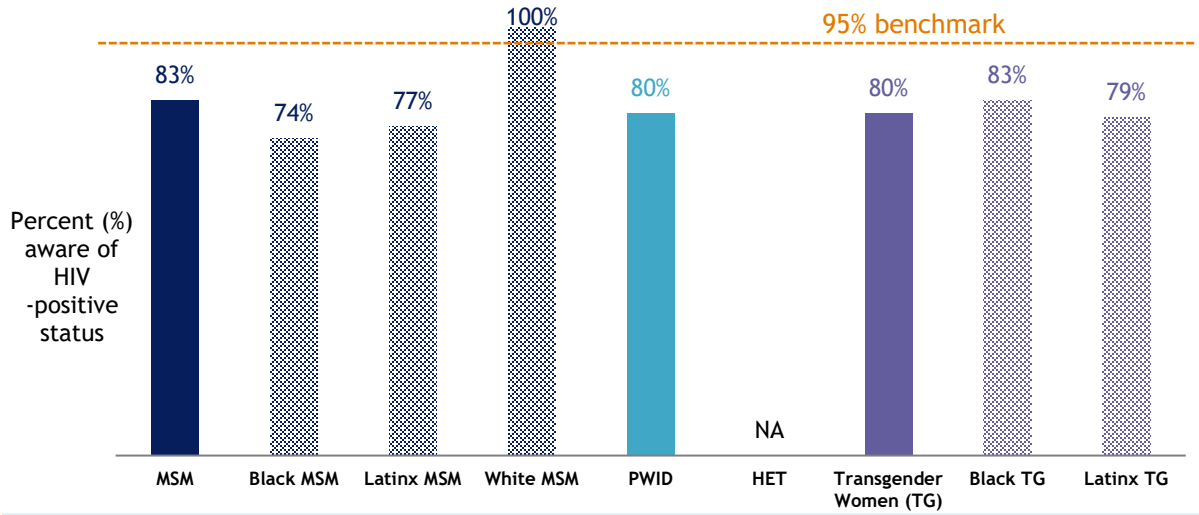


Note: Testing frequency among MSM and transgender women was high compared with PWID and HET. MSM (84%) and Transgender women (85%) reported high levels of HIV testing in the past year. By contrast, only 42% of PWID reported testing for HIV in the past year.

In the most recent NHBS surveillance period, transgender women had the highest HIV prevalence across the 4 surveyed populations. HIV prevalence was also high among MSM. By contrast, HIV prevalence among PWID and HET was low.

[65] "HIV Prevalence" refers to the percentage of participants with a confirmed positive HIV test result among the total number of participants tested in NHBS.
[66] Participants were recruited into NHBS using a probability-based sampling method. MSM were recruited using time location sampling; PWID, HET, and Transgender Women were recruited using respondent driven sampling. MSM and HET were surveyed in all 5 NHBS rounds; PWID were surveyed starting in NHBS Round 2; Transgender women were surveyed starting in NHBS Round 5; Data are not weighted. The purpose of this figure is to provide a detailed summary of surveillance data collected as part of NHBS. Unweighted data provide an efficient and transparent way to do so.
[67] In the most recent PWID cycle in 2022, we observed a slightly higher HIV prevalence than the last PWID cycle in 2018. One factor that likely contributed to the higher HIV prevalence rate is the identification of MSM-PWID participants. Among PWID in 2022, it was found that 6% of PWID were sexually active MSM, and the HIV prevalence rate among this group was 39%, which is notably higher than the prevalence among non-MSM PWID (approximately 2.5%).

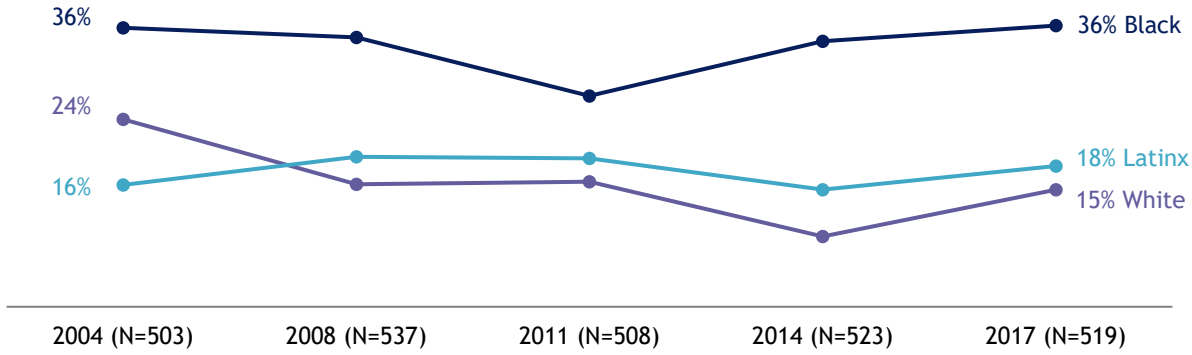
Figure 30: Awareness of HIV-positive status among participants aged ≥ 18 years living with HIV by NHBS population and race/ethnicity, LAC 2017-2022[68,69,70,71]



Among survey participants living with HIV, 83% of MSM, 80% of PWID, and 80% of transgender women were aware of their HIV-positive status. It is noteworthy that among survey participants living with HIV, 100% of white MSM were aware of their HIV

Men who have sex with men

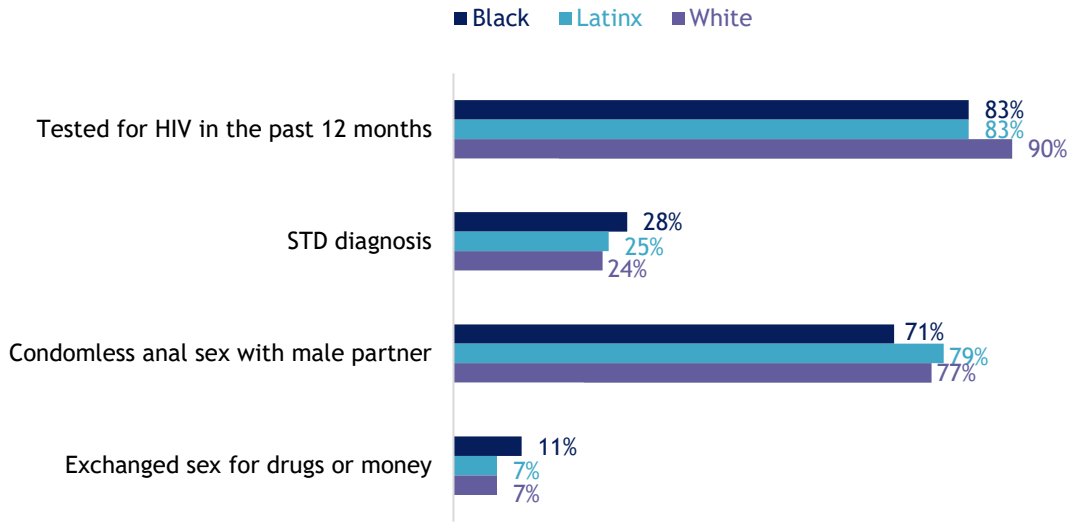
Figure 31: Trends in HIV prevalence among NHBS-MSM participants by race/ethnicity, LAC 2004-2017



Over the course of 5 rounds of NHBS, spanning more than a decade, HIV prevalence has consistently been highest among Black MSM. In the most recent surveillance round, 36% of Black MSM were living with HIV compared with 18% of Latinx MSM and 15% of White MSM.

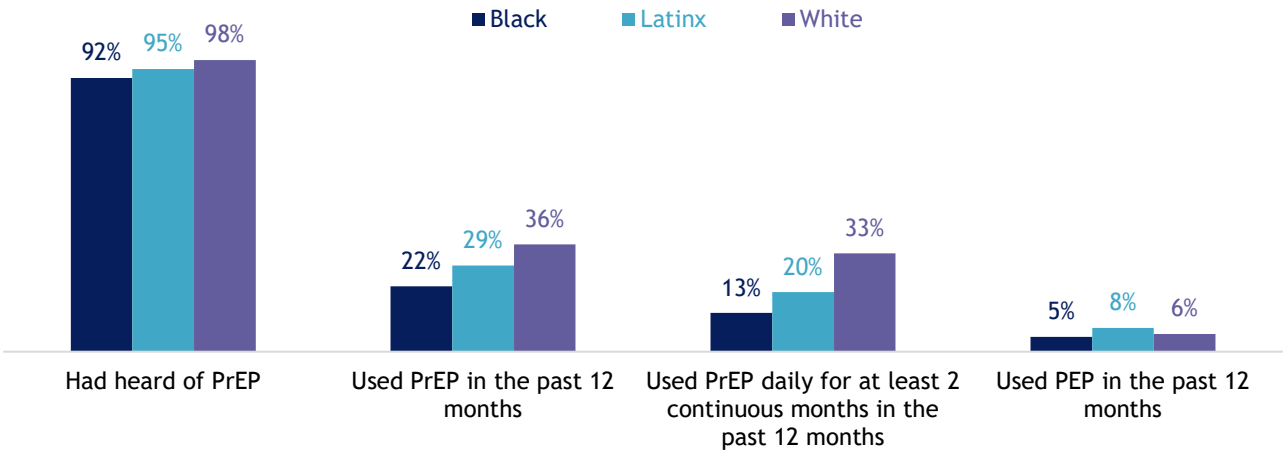
[68] National HIV Behavioral Surveillance (NHBS) is a national behavioral surveillance system designed to generate nationally representative estimates of HIV prevalence and behaviors among groups at highest risk for HIV infection. Data presented in this figure are not weighted. The purpose of this figure is to provide a detailed summary of surveillance data collected as part of NHBS. Unweighted data provide an efficient and transparent way to do so.
[69] **MSM**: Gay, bisexual, and other men who have sex with men; A total of 519 MSM participated in NHBS-MSM in 2017;
PWID: Persons who inject drugs; A total of 518 PWID participated in NHBS-PWID in 2022;
HET: Heterosexually active persons at increased risk for HIV infection; A total of 509 HET participated in NHBS-HET in 2019;
Transgender women (TG): Persons who (1) reported a gender identity of woman or transgender woman, and (2) were assigned male or intersex at birth. A total of 501 transgender women enrolled in NHBS-Trans in 2019.
[70] Awareness of HIV infection among PWID and HET is unstable due to small numbers.
[71] Data on HIV testing in the past 12 months excludes participants diagnosed with HIV >12 months prior to the survey interview.

Figure 32: HIV testing behavior, STD diagnosis, and sexual behavior among NHBS-MSM participants by race/ethnicity, LAC 2017[72]



In 2017, HIV testing within the previous 12 months was high among MSM of all race/ethnicity groups. Reports of condomless anal sex ranged from 71% among Black MSM to 79% among Latinx MSM.

Figure 33: PrEP and PEP among NHBS-MSM participants by race/ethnicity, LAC 2017[73]



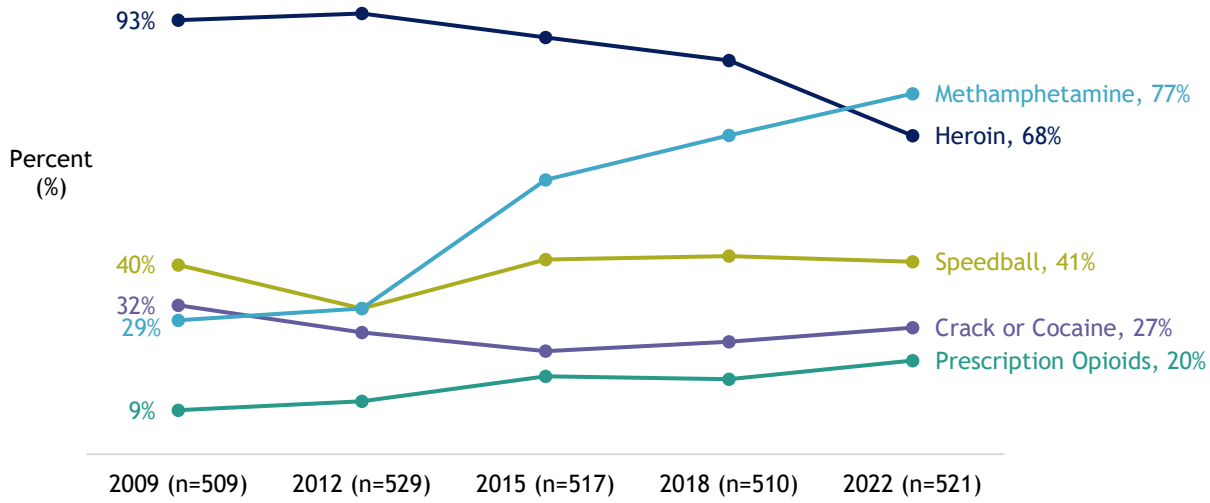
In 2017, knowledge of PrEP was high (≥92%) among MSM irrespective of race/ethnicity. Among participants who reported HIV-negative or unknown HIV status, 36% of White MSM had used PrEP within the past 12 months compared with 22% of Black MSM and 29% of Latinx MSM. Within the past 12 months, compared with Black and Latinx MSM, White MSM were more likely to have used PrEP consistently for 2 or more continuous months. More recent LAC data suggests appreciable increases in PrEP use since this 2017 survey was conducted.

[72] There were 111 Black MSM, 148 White MSM, and 214 Latinx MSM NHBS participants in the 2017 surveillance round. All sexual behavior indicators reflect behavior in the 12 months prior to the interview. HIV testing in the past 12 months excluded participants who were diagnosed with HIV more than 12 months prior to the interview. STD diagnosis was based on respondent's self-report of at least 1 STD diagnosis by a health care provider's diagnosis in the 12 months prior to the interview. Condomless anal sex refers to either or both condomless receptive and/or condomless insertive anal sex.

[73] One local analysis conducted within DHSP estimated 66% of MSM with PrEP indications had been prescribed PrEP between 2018 and 2020(internal communication).

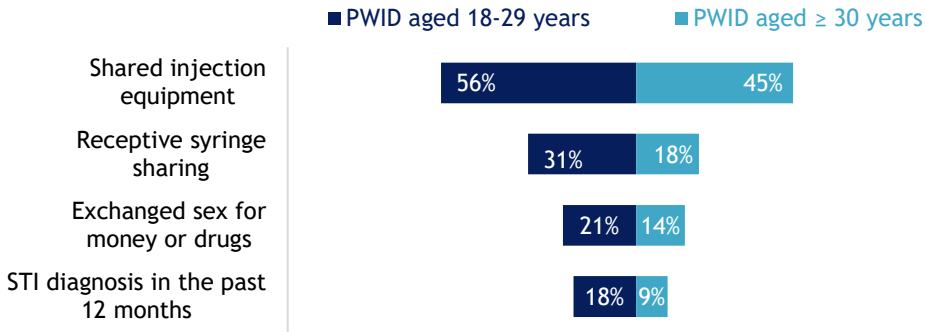
People who inject drugs (PWID)

Figure 34: Drugs injected in the past 12 months among NHBS-PWID participants, LAC 2009-2022[74]



The prevalence of past-year methamphetamine injection increased significantly from 29% in 2009 to 77% in 2022. Among those reporting past-year methamphetamine injection, 56% reported injecting methamphetamine at least once a day in 2022 (data not shown). Reports of heroin injection are on a decreasing trend, from 93% in 2009 to 68% in 2022. Nonetheless, there was a modest increase in prescription opioid injection use.

Figure 35: Injection drug use behavior and recent sexual behavior among NHBS-PWID participants by age group, LAC 2022[75]



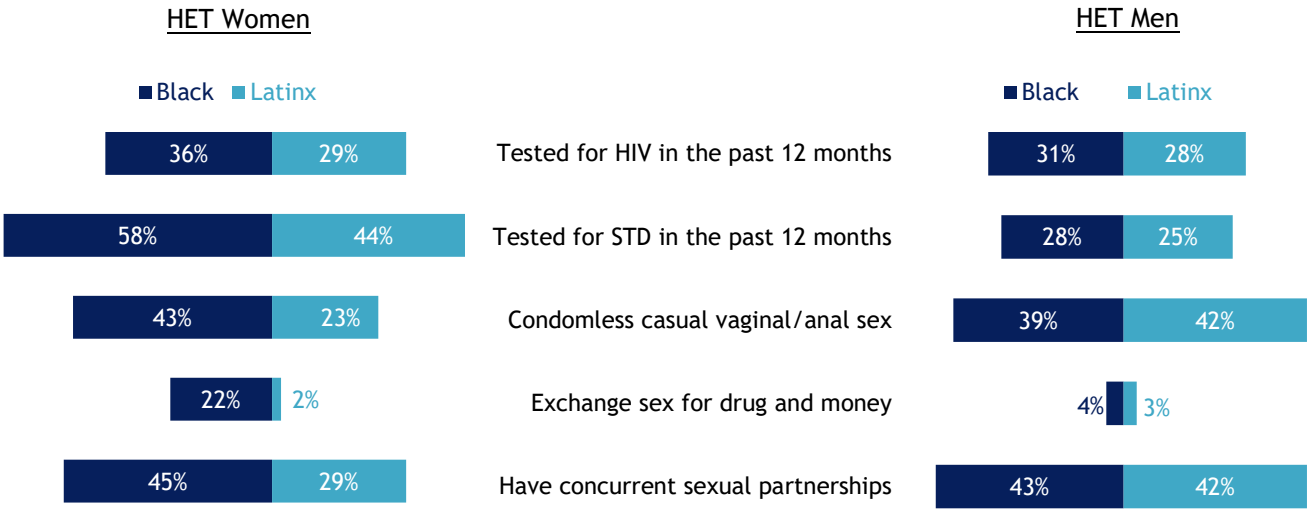
Note: In total, 19% of participants reported using a syringe that had been previously used by someone else. Syringe sharing was more common among Young PWID. Sharing syringes puts PWID at high risk for HIV and other infections.

A higher percentage of PWID aged 18-29 years reported sharing injection equipment, sharing syringes receptively, exchanging sex for money or drugs, and receiving a bacterial STI diagnosis (e.g., chlamydia, gonorrhea, or syphilis) within the past 12 months compared with PWID aged ≥30 years.

[74] Speedball is a polydrug mixture of heroin and Cocaine.
[75] Receptive sharing of syringes or injection equipment refers to using a syringe or injective equipment that has already been used by someone else. All injection and sexual behavior indicators reflect behavior in the 12 months prior to the survey interview.

Heterosexuals at increased risk of HIV

Figure 36: Testing and sexual behavior among NHBS heterosexuals at increased risk of HIV (HET) by sex and race/ethnicity, LAC 2019[76]

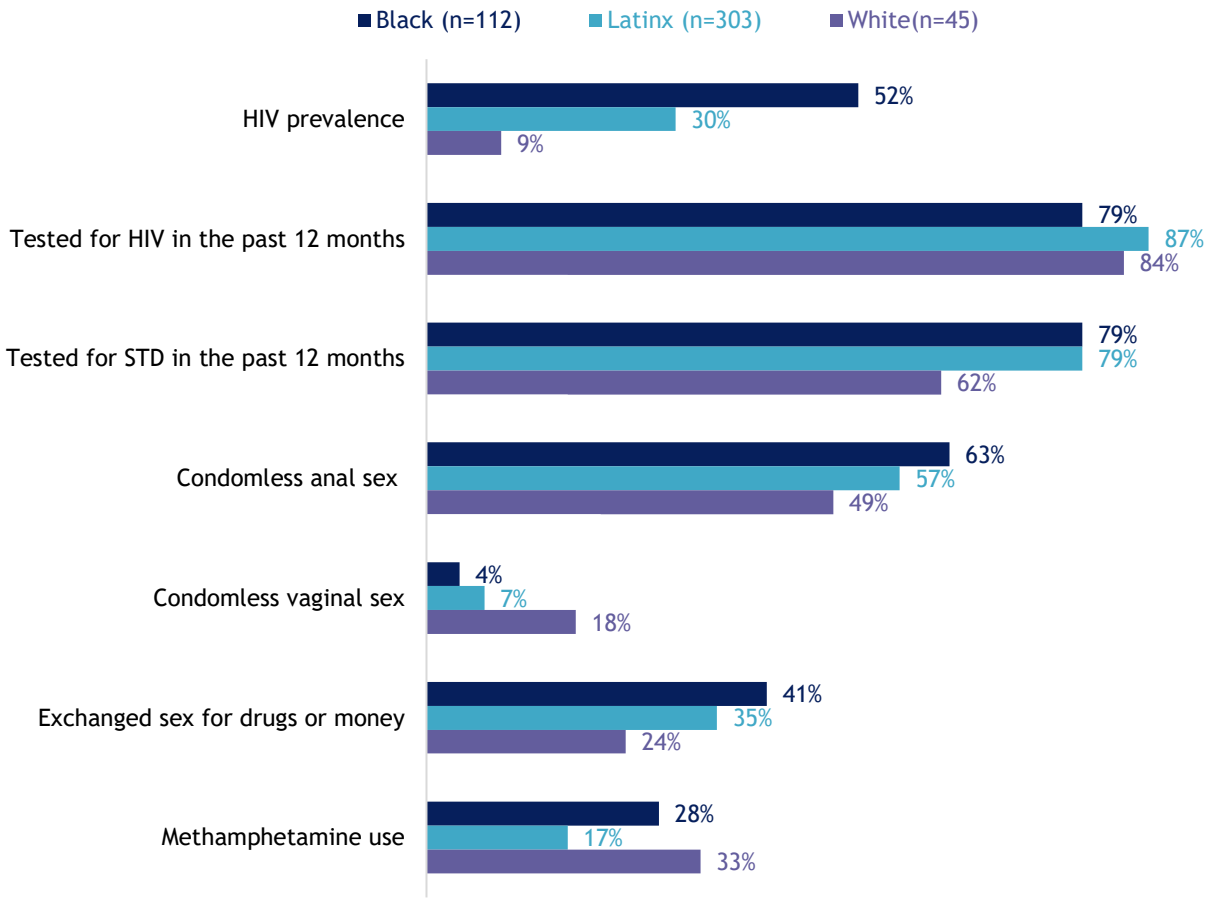


HET women were more likely to have tested for HIV and STDs than HET men. Among HET women, more Black HET reported condomless sex with a casual partner, receiving money or drugs in exchange for sex, and having concurrent sexual partnerships than Latinx HET.

[76] 136 Black males, 118 Latinx males, 142 Black females, and 98 Latinx females participated in the 2019 NHBS-HET cycle. All sexual behavior indicators reflect sexual behavior with the opposite sex in the 12 months prior to the survey interview. Tested for HIV in the past 12 months excludes participants who reported being diagnosed with HIV more than 12 months prior to the interview. Tested for STDs in the past 12 months included respondent's self-report of being tested for any STD other than HIV and hepatitis by a health care provider within 12 months prior to the interview. A casual partner is a sex partner that the respondent does not feel committed to or does not know very well. Having concurrent partners with last partner is measured by asking participants "when you were having a sexual relationship with last partner, did you have sex with other people?"

Transgender women

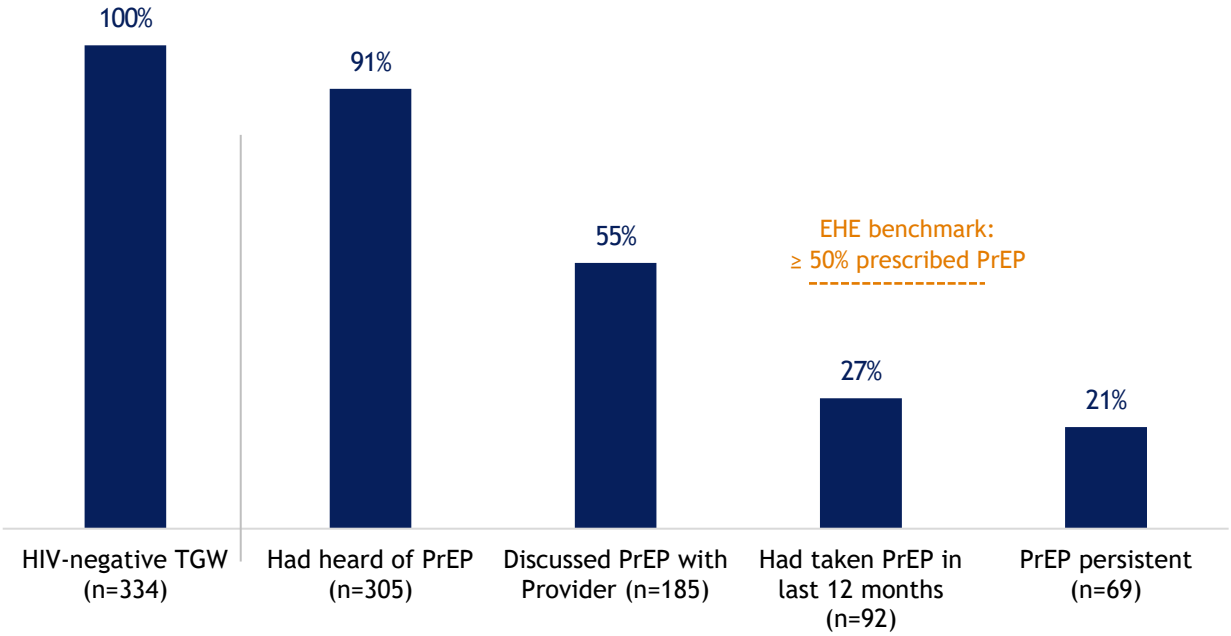
Figure 37: HIV prevalence, HIV/STD testing behavior, sexual behavior, and drug use among NHBS-Transgender Women (TGW) by race/ethnicity, LAC 2019[77,78]



Among TG women, HIV prevalence was highest among Black persons (52%), followed by Latinx (30%), and White persons (9%). Black TG women were more likely to practice condomless anal sex and exchange sex for drugs or money but less likely to test recently for HIV than their Latinx and White counterparts.

[77] HIV prevalence refers to the percentage of participants with a confirmed positive NHBS HIV test result among the total number of participants tested in NHBS. Tested for HIV in the past 12 months excluded participants who reported being diagnosed with HIV more than 12 months prior to the interview. Tested for STDs in the past 12 months included respondent's self-report of being tested for any STD other than HIV and hepatitis by a health care provider within 12 months prior to the interview. All sexual behavior indicators reflect behavior in the 12 months prior to the interview. Condomless anal sex refers to self-reports of either or both receptive and/or insertive anal sex without a condom. Condomless vaginal sex refers to self-reports of either or both receptive and/or insertive vaginal sex without a condom (vaginal sex refers to penis in the vagina or neovagina). Methamphetamine use includes self-reports of meth, crystal, speed, or crank use in the 12 months prior to the interview.
[78] Estimates for white transgender women may be unstable and must be interpreted with cation due to small numbers.

Figure 38: PrEP cascade among NHBS-Transgender Women (TGW), LAC 2019[79]



The majority (91%) of HIV-negative transgender women had heard of PrEP and a little over half (55%) had discussed PrEP with a healthcare provider. Twenty-seven percent had taken PrEP in the last 12 months and 21% were PrEP persistent.

[79] PrEP persistent is defined as having taken PrEP every day or almost every day for at least 2 months in a row in the past 12 months.

Sexual behavior among men and women living with diagnosed HIV

Table 6: Sexual behavior during the 12 months prior to the MMP interview among men and women living with diagnosed HIV—Medical Monitoring Project, LAC 2015-2020[80]

	Men who had sex with men (MSM) (N=627)		Men who had sex only with women (MSW) (N=149)		Women who had sex with men (WSM) (N=123)	
Behavior	**%**	**95% CI**	**%**	**95% CI**	**%**	**95% CI**
Engaged in any sex without using an HIV prevention strategy, among all persons[81]						
Yes	7.9	5.2 – 10.6	6.4	0.9 – 11.8	6.8	1.6 – 11.9
No	92.1	89.4 – 94.8	93.6	88.2 – 99.1	93.2	88.1 – 98.4
Engaged in any sex without using an HIV prevention strategy, among sexually active persons						
Yes	12.5	8.3 – 16.7	10.9	1.9 – 19.8	14.6	4.0 – 25.2
No	87.5	83.3 – 91.7	89.1	80.2 – 98.1	85.4	74.8 – 96.0
Percentages of sexually active persons who used an HIV prevention strategy with at least 1 partner						
Sex while having sustained viral suppression[82]						
Yes	65.1	59.4 – 70.9	70.4	58.7 – 82.1	58.7	43.7 – 73.6
No	34.9	29.1 – 40.6	29.6	17.9 – 41.3	41.3	26.4 – 56.3
Condom-protected sex[83]						
Yes	53.3	47.6 – 59.0	74.0	63.6 – 84.5	63.2	49.6 – 76.9
No	46.7	41.0 – 52.4	26.0	15.5 – 36.4	36.8	23.1 – 50.4
Condomless sex with a partner on PrEP[84]						
Yes	14.4	10.3 – 18.5	3.4	0.0 – 7.3	0*	
No	85.6	81.5 – 89.7	96.6	92.7–100.0	100*	
Sex with a partner with HIV						
Yes	60.8	55.3 – 66.4	14.5	7.1 – 21.8	22.0	10.2 – 33.8
No	39.2	33.6 – 44.7	85.5	78.2 – 92.9	78.0	66.2 – 89.8
Total	**100.0**		**100.0**		**100.0**	

Most sexually active PLWDH were not engaging in high-risk sex and were using prevention strategies with their partners, including having sex when virally suppressed, using condoms during sex, and having sex with partners who were also HIV-positive.

[80] MMP is a national HIV surveillance system funded by the US Centers for Disease Control and Prevention to provide locally and nationally representative data on behavioral and clinical outcomes in a sample of persons living with HIV. Data about sexual practices were collected using in-person or telephone interviews. Persons who reported no anal, vaginal, or oral sex in the 12 months before interview were categorized according to self-reported sexual orientation. Due to the small numbers of men and women who had sex with transgender/non-binary persons and women who had sex with women they were not included in the analysis. Percentages and confidence intervals (CI) incorporate weighted percentages. Percentages might not sum to 100 because of rounding. Estimates with an absolute CI width ≥30, estimates with an absolute CI width between 5 and 30 and a relative CI width >130%, and estimates of 0% or 100% are marked with an asterisk (*) and should be interpreted with caution.
[81] Vaginal or anal sex with at least 1 partner with an HIV-negative or unknown status while not having sustained viral suppression (defined as having all HIV viral loads being undetectable or <200 copies/mL, as documented in the medical record in the past 12 months before interview), a condom was not used, and the partner was not on PrEP. PrEP use was only measured among the 5 most recent sex partners.
[82] HIV viral load <200 copies/mL documented in the medical record at every measure in the 12 months before interview.
[83] Condoms were consistently used with at least 1 vaginal or anal sex partner.
[84] At least 1 condomless-sex partner without HIV was on PrEP. PrEP use was only measured among the 5 most recent partners and was reported by the partner with HIV.

Needs for shelter or housing assistance among persons living with diagnosed HIV

Table 7: Needs assessment for housing assistance among PLWDH, Medical Monitoring Project (MMP), LAC 2015-2019[85]

	%	95% CI
Needed shelter/housing assistance	27.2	23.6–30.9
Unmet need for shelter/housing assistance (among PLWDH who needed services)	37.6	29.8–45.5
Among persons with unmet needs for shelter or housing assistance, reasons for unmet needs:		
Could not find information needed to get service	45.2	31.8–58.7
Service did not meet needs or were not eligible for service	41.3	26.3–56.2
Personal reasons, such as fear or embarrassment, or had other things going on in life that made it difficult to receive service	19.8	10.0–29.5
>1 reason reported	15.3	7.2–23.4

Ensuring that PLWDH have stable housing is key to meeting HIV care and treatment goals. One in four (27.2%) PLWDH in LAC reported having shelter or housing service needs. Among those who needed housing services, 2 in 5 (37.6%) did not receive them.

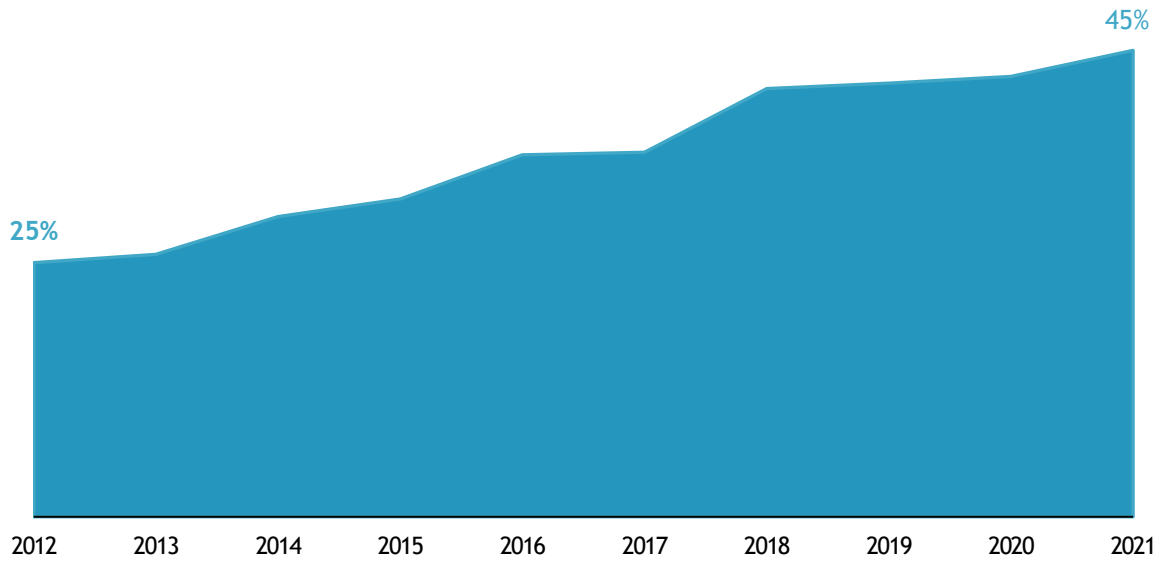
[85] The housing needs assessment analyzed data from MMP 2015–2019. Weighted percentages and 95% confidence intervals (CIs) were reported. The needs were assessed by asking participants questions: 1) During the past 12 months, have you needed shelter or housing services? 2) During the past 12 months, did you get shelter or housing services where you got help with temporary or long-term housing including section 8 vouchers?

HIV co-infected populations

STD and HIV co-infection

HIV and other STDs are syndemic in LAC. Persons with syphilis, gonorrhea, and/or chlamydia are at an increased risk of acquiring HIV due to biological and behavioral factors. STDs among PLWH can also increase HIV viral load and the risk of forward HIV transmission. We examined the co-occurrence of HIV and STD diagnoses in the same year among persons with newly diagnosed HIV. This method estimates the percentage of HIV-STD co-infections around the time of HIV diagnosis. Note that a person may be living with HIV for months or years before they are diagnosed, and other STDs may remain untreated. The cities of Long Beach and Pasadena are not included in this analysis due to reporting delays (these cities have their own health departments and report STD cases directly to the State of California, who then shares the data with LAC).

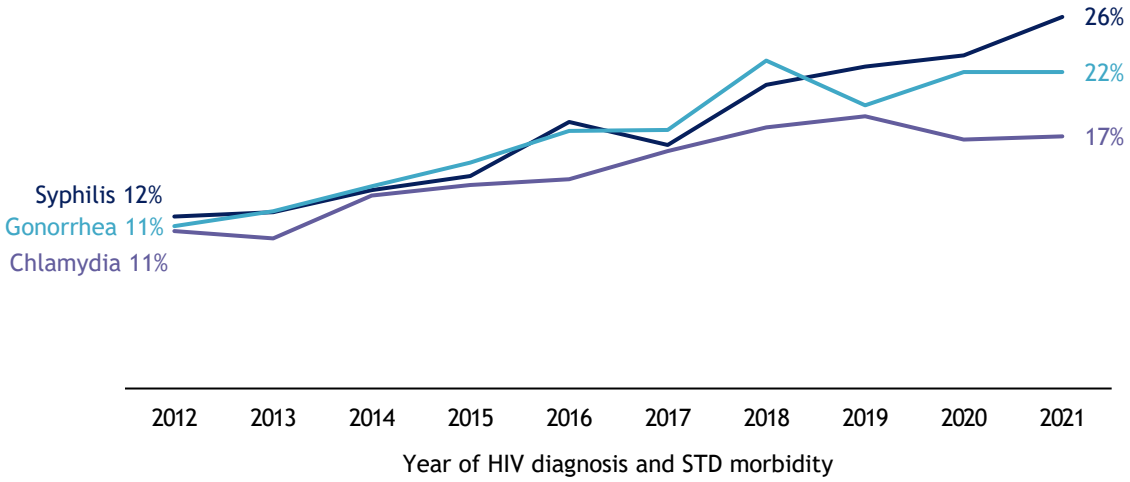
Figure 39: Percentage of persons newly diagnosed with HIV aged ≥ 13 years who had syphilis, gonorrhea, and/or chlamydia in the same calendar year as HIV diagnosis, LAC (excluding Long Beach and Pasadena), 2012-2021[86,87,88,89]



The percentage of persons newly diagnosed with HIV who were diagnosed with one or more STDs in the same calendar year almost doubled from 25% in 2011 to 45% in 2021. This increasing trend reflects the rise in total STD cases over the same period.

[86] PLWDH with more than one STD case per year are counted only once.
[87] DHSP prioritizes HIV, syphilis, and congenital syphilis cases for investigation.
[88] STD cases in the cities of Long Beach and Pasadena are reported to their respective health departments.
[89] Due to reporting delay and time needed for case investigations, data are shown through 2021 instead of 2022.

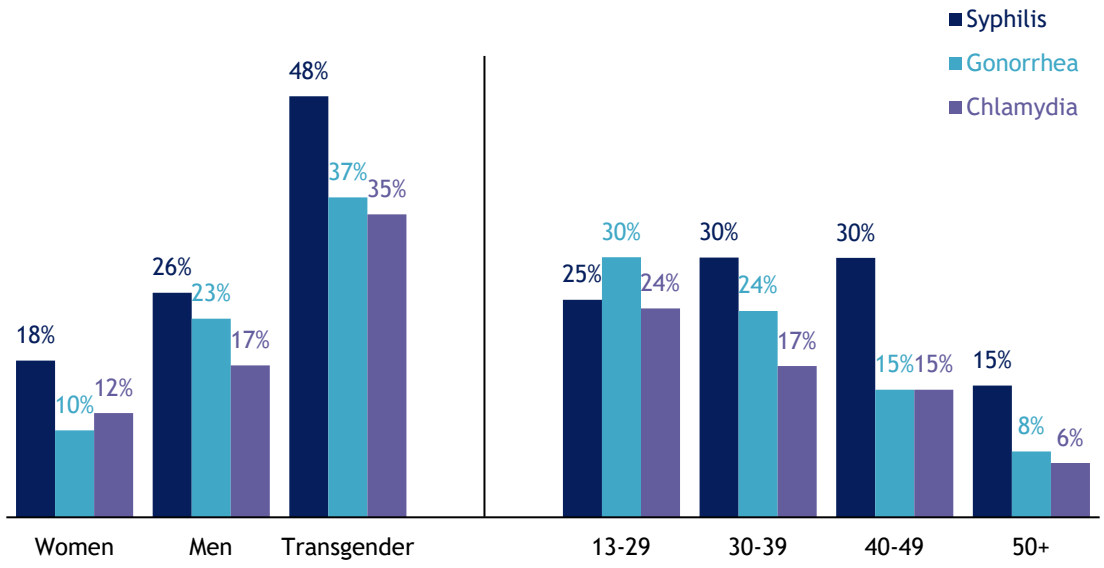
Figure 40: Percentage of persons newly diagnosed with HIV aged ≥ 13 years who had syphilis, gonorrhea, or chlamydia in the same calendar year as HIV diagnosis by STD, LAC (excluding Long Beach and Pasadena), 2012-2021[90,91,92]



Co-infections for all three STDs showed similar increasing trends from 2012 to 2021. In 2021, syphilis among newly diagnosed HIV cases was the highest at 26%, followed closely by gonorrhea at 22%. This reflects a rapid rise in the total number of syphilis cases in LAC over the same period.

[90] DHSP prioritizes HIV, syphilis, and congenital syphilis cases for investigation.
[91] STD cases in the cities of Long Beach and Pasadena are reported to their respective health departments.
[92] Due to reporting delay and time needed for case investigations, data are shown through 2021 instead of 2022.

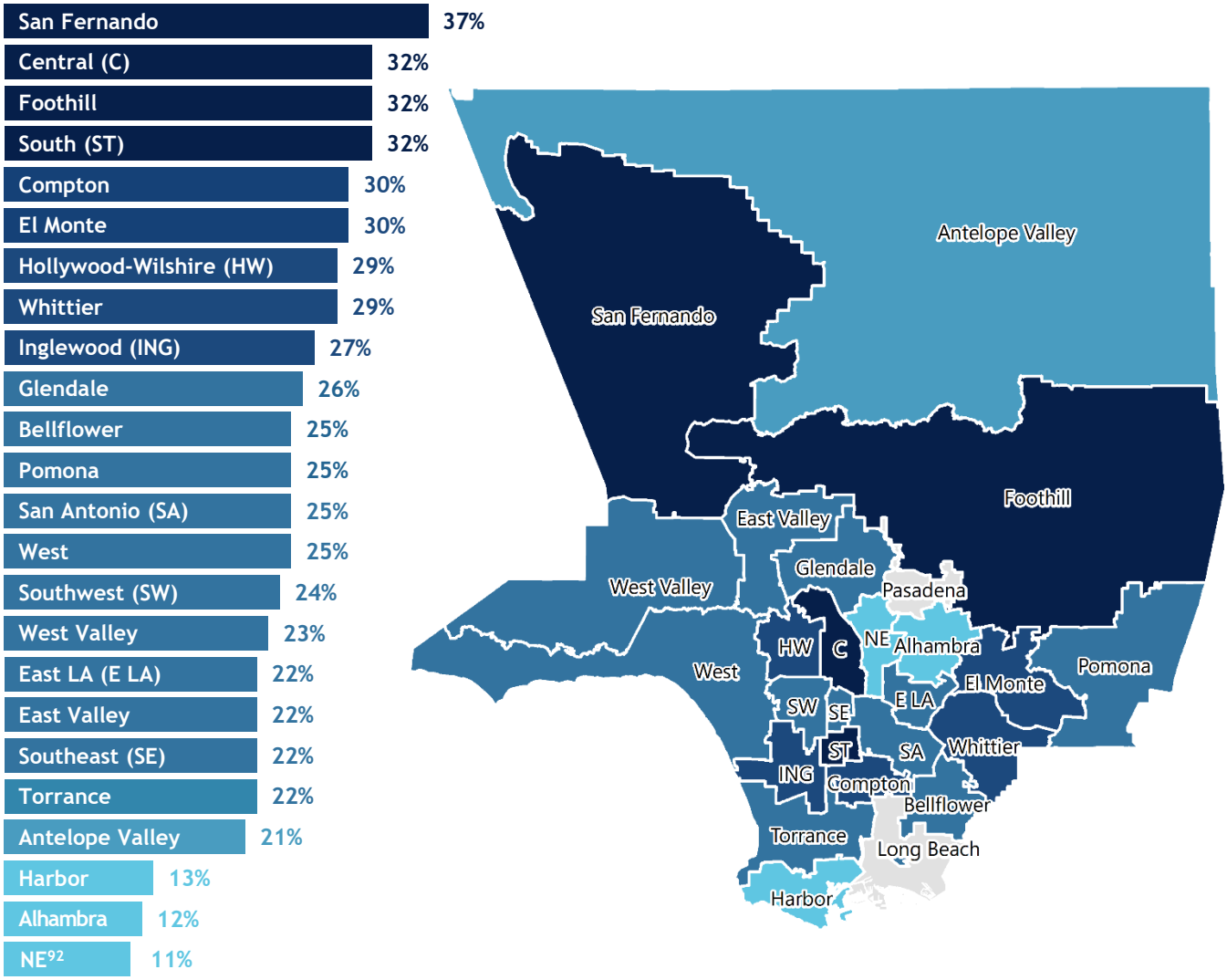
Figure 41: Percentage of persons newly diagnosed with HIV aged ≥ 13 years who had syphilis, gonorrhea, or chlamydia in the same calendar year as HIV diagnosis by STD, gender, and age group, LAC (excluding Long Beach and Pasadena), 2021[93,94,95]



In 2021, percentages of syphilis, gonorrhea, and/or chlamydia co-infections among persons newly diagnosed with HIV were highest in the transgender population. Among women, men, and transgender persons newly diagnosed with HIV, syphilis co-infection was higher than co-infection with other STDs. By age group, syphilis co-infection was highest among persons newly diagnosed with HIV aged 30 years or older, while co-infection with gonorrhea was highest among persons aged 13-29 years.

[93] DHSP prioritizes HIV, syphilis, and congenital syphilis cases for investigation.
[94] STD cases in the cities of Long Beach and Pasadena are reported to their respective health departments.
[95] Due to reporting delay and time needed for case investigations, 2021 is shown as the latest year.

Figure 42: Percentage of persons newly diagnosed with HIV aged ≥ 13 years who had syphilis in the same calendar year as HIV diagnosis by Health District, LAC (excluding Long Beach and Pasadena) 2021[96,97,98]



In 2021, the percentage of syphilis co-infections among persons newly diagnosed with HIV was highest in the San Fernando Health District followed by Central, Foothill, and South.

[96] DHSP prioritizes HIV, syphilis, and congenital syphilis cases for investigation.
[97] STD cases in the cities of Long Beach and Pasadena are reported to their respective health departments.
[98] Due to reporting delay and time needed for case investigations, 2021 is shown as the latest year.
[92] NE = Northeast

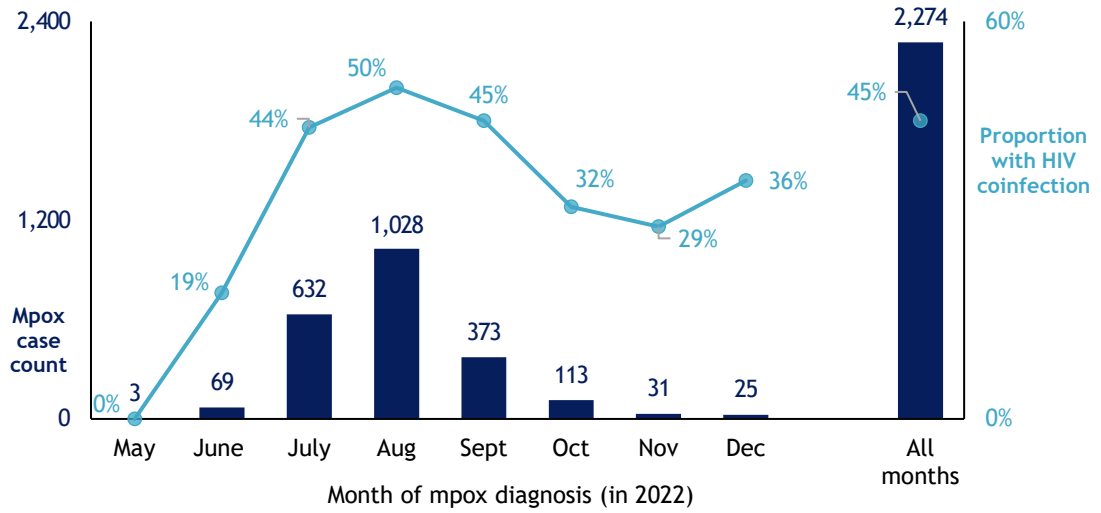
Mpox and HIV co-infection

In 2022, there was a widespread outbreak of mpox disease in the United States which primarily affected gay, bisexual, and other men who have sex with men. CDC reported high prevalence of concurrent HIV infection (38%) among persons with mpox across eight U.S. jurisdictions. Concurrent HIV infection was associated with poorer mpox clinical outcomes compared with persons with mpox who did not have HIV infection.[99]

Using surveillance data on persons living with diagnosed HIV through December 2022 and newly diagnosed cases of mpox infection from the onset of the outbreak (May 2022) through end of year 2022, we calculated the HIV co-infection rate among mpox cases and compared mpox HIV co-infection among PLWDH by selected characteristics. All data presented in this section are unadjusted and should be interpreted cautiously.

Note that mpox and HIV co-infection data are for Los Angeles County and do not include Long Beach or Pasadena, as each of these cities have their own health departments and do not directly report mpox data to LAC.

Figure 43: Total mpox cases and proportion of mpox cases with HIV coinfection by month, LAC (excluding Long Beach and Pasadena) 2022



Among persons diagnosed with mpox in 2022 (N=2,274), 45% were coinfected with HIV. The proportion of mpox cases with diagnosed HIV infection was highest in August 2022 (50%) during the height of the mpox outbreak in Los Angeles County.

[99] https://www.cdc.gov/mmwr/volumes/71/wr/mm7136a1.htm

Table 8: Mpox among PLWDH aged ≥ 13 years, LAC (excluding Long Beach and Pasadena), May 2022 to December 2022

	Mpox and HIV Co-infected Cases	PLWDH Population[100]	Mpox rate per 10,000 PLWDH
Total	**976**	**48,795**	**200**
Gender			
Women	<5	5,425	-
Men	952	42,334	**225**
Transgender	20	1,036	193
Age Group			
13 to 19	<5	90	-
20 to 29	134	3,245	**413**
30 to 39	408	9,860	**414**
40 to 49	254	10,144	250
50 to 59	144	13,454	107
≥60	34	12,002	28
Race/Ethnicity			
Black	200	9,778	205
Latinx	506	23,204	**218**
White	196	11,740	167
Asian	22	1,743	126
American Indian/Alaska Native	8	292	**274**
Multi-race	40	1,773	**226**
Transmission Risk			
MSM	881	34,207	**258**
IDU	<5	1,616	-
MSM/IDU	60	2,355	**255**
Heterosexual	<5	2,584	-
Other/Unknown	31	8,033	39
SPA			
Antelope Valley [1]	15	1,239	121
San Fernando [2]	115	8,007	144
San Gabriel [3]	50	3,618	138
Metro [4]	392	18,203	**215**
West [5]	27	2,548	106
South [6]	138	6,913	**200**
East [7]	63	4,010	157
South Bay [8]	75	3,708	**202**
Viral Suppression[101]			
Suppressed[102]	683	28,965	**236**
Not Suppressed	236	18,677	126

[100] Includes PLWDH at year-end 2022, excluding Long Beach and Pasadena

[101] Viral suppression data include persons diagnosed through 2021 and living in LAC at year-end 2022 (i.e., excludes persons newly diagnosed in 2022 because they have not yet had time to achieve viral suppression).

[102] HIV RNA <200 copies/mL within the prior year.

	Mpox and HIV Co-infected Cases	PLWDH Population[100]	Mpox rate per 10,000 PLWDH
Experienced homelessness			
Yes	122	4,627	**264**
No	854	44,168	193

Rates of Mpox and HIV co-infection among PLWDH were highest among men, persons aged 20 to 39 years, Latinx, American Indian/Alaska Native, and Multi-race persons, persons with a transmission risk of MSM or MSM/IDU, residents of SPA 4 (Metro), SPA 6 (South), SPA 8 (South Bay) persons with suppressed HIV viral load (i.e., proxy for persons on HIV treatment), and unhoused persons.

Data to Action: Progress and Opportunities for Vulnerable Populations

- HIV prevalence and high-risk sexual behavior are high among MSM and transgender women, especially Black/African-American persons. Persons who identify as MSM or TG women should be tested annually as part of routine health checks and, if tested HIV-positive, immediately linked to HIV care and educated on strategies to prevent transmission of HIV to their partners.
- Though the prevalence of HIV is relatively low among persons who inject drugs (PWID), high risk injection behavior in this population is concerning, particularly among younger PWID. As shown in the next section, PWID also have the poorest outcomes across the HIV continuum of care. Current HIV prevention, testing, and care services for PWID should be evaluated to assess whether the needs of PWID are incorporated to successfully prevent and manage disease.
- PrEP use is a biomedical intervention that can minimize the risk of acquiring HIV among HIV-negative persons. Yet PrEP use in populations at highest risk for HIV, including MSM and TG women, remains low. We must continue to strengthen partnerships with heath care providers and programs that serve vulnerable populations to ensure that PrEP is discussed and offered to all persons at high risk of acquiring HIV.

Data to Action: Progress and Opportunities for Vulnerable Populations (continued)

- Prevention strategies among PLWDH are working. The vast majority of sexually active PLWDH are not engaging in high-risk sex but practicing safe sexual behavior with their partners. These best practices should be shared with the broader community through sex positive education programs and communication messages.
- An integrated disease surveillance system that concurrently reports and investigates multiple diseases, including HIV, will advance disease co-infection surveillance and facilitate a comprehensive response for coinfected individuals.
- The public health response to HIV should include STD prevention and care. All persons with a new diagnosis of HIV should be screened for syphilis, and all persons with a new diagnosis for syphilis should be screened for HIV. Syphilis infection should be considered an indication for starting PrEP among HIV-negative persons.
- Persons with HIV infection were disproportionately affected by the mpox outbreak in 2022. While mpox cases declined dramatically at the end of 2022, the data illustrates the importance of continuing to increase access to mpox vaccination, diagnosis, and treatment among persons with HIV.
- HIV surveillance data among populations at high risk for HIV highlight disparities in HIV outcomes and access to prevention services among the Black population and young PWID. Further investigation is needed to identify underlying socio-economic, social determinants of health, and structural factors, including racism and other forms of stigma and discrimination, that may be driving these health inequities. Addressing these root causes will help to establish stronger systems of care to better support these populations.

HIV Surveillance to Partner Services Continuum

EHE Partner Services Target

- 85% of persons with a new diagnosis of HIV interviewed by Partner Services staff within 7 days of HIV diagnosis by 2025

Partner Services (PS) are a broad array of public health field services offered to persons with HIV or other sexually transmitted diseases (STDs) and their sexual or substance-using partners (e.g., needles and syringe sharing partners) to improve the health outcomes of infected persons, offer strategies and resources to protect partners, which will reduce HIV and STD transmission. An important component of Partner Services is partner notification, a process through which persons newly diagnosed with STDs and/or HIV are interviewed to elicit information about their partners, who can then be confidentially notified of their possible exposure and referred to testing and other interventions to help reduce their risk of acquiring HIV.

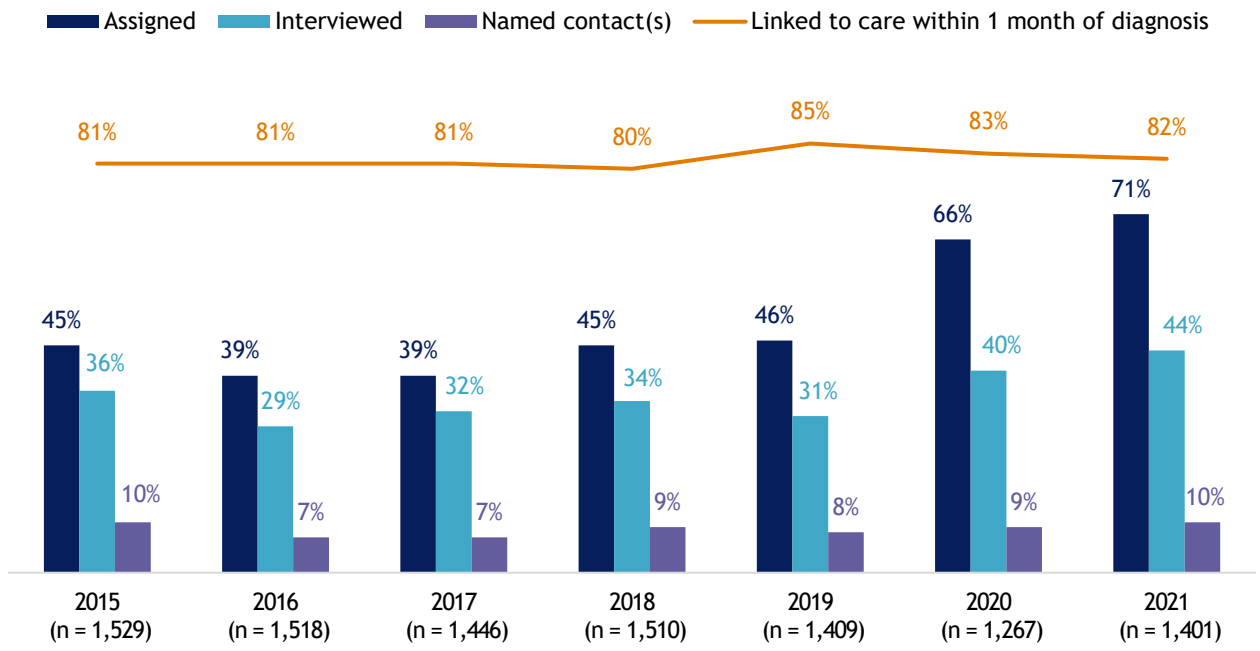
All people newly diagnosed with HIV should receive Partner Services. The EHE target for Partner Services is "85% of persons with a new diagnosis of HIV are interviewed by Partner Services staff within 7 days of HIV diagnosis" and is intended to accelerate receipt of health services, both for PLWDH and their partners. Historically, not all newly reported HIV cases were prioritized for Partner Services, creating missed opportunities for linking persons to HIV care and, for partners of PLWDH, to receive status neutral services. Through close coordination between the HIV Surveillance and Partner Services Programs, routine program analysis and dashboards have been implemented to track achievements and gaps along the HIV Surveillance to Partner Services continuum.

The steps in the continuum start from a new diagnosis of HIV and are tracked through the following evaluation metrics: referral to HIV Partner Services, PS interview, linkage to care, contact tracing, locating contacts, determining the HIV status of contacts, and administering interventions to contacts. Achievements in each of the steps in the continuum increases the likelihood of infected persons and their partners to be linked to effective interventions for prevention, care, and treatment of HIV disease, and ultimately, reductions in community transmission of HIV.

Trends in the HIV Partner Services continuum

Figure 44: HIV Partner Services continuum among new HIV diagnoses by year, LAC (excluding Long Beach and Pasadena) 2015 –2021[103,104,105,106]

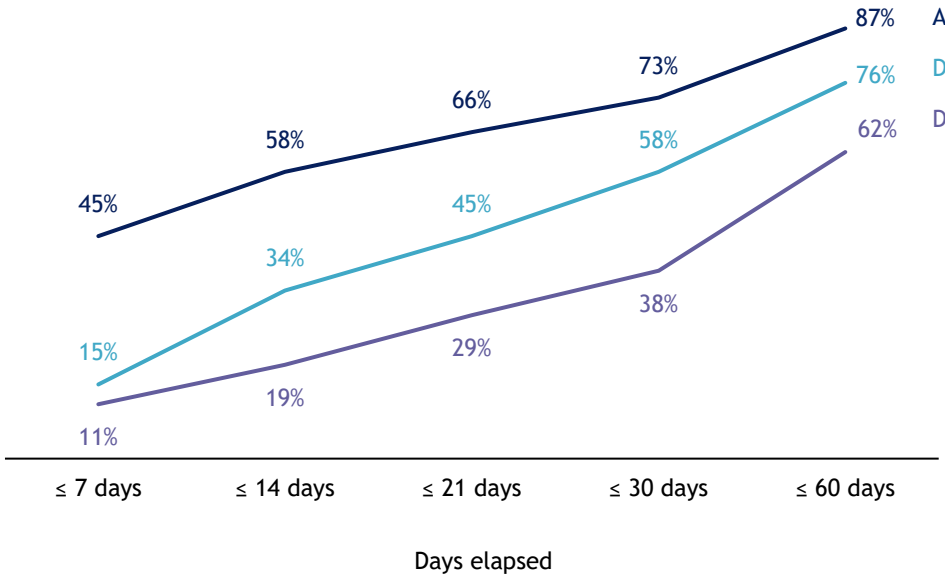
Data in context:
In 2020, the HIV surveillance unit began close coordination and data sharing with the Partner Services unit. This encouraged increases in case assignment and interviews in 2020 and 2021 compared with years prior.



In 2021, 71% of newly diagnosed HIV-positive persons in LAC were assigned for a Partner Services interview and 62% of those persons assigned for Partner Services were interviewed (data not shown). Of all new HIV diagnoses, 44% were interviewed and 10% provided contact information of sexual and/or needle sharing partners. Refusal by the client or inability to locate the client were the primary reasons why assigned cases were not interviewed.

[103] New HIV diagnoses assigned for partner services within 12 months of report among LAC HIV diagnoses (excluding Long Beach and Pasadena).
[104] New HIV diagnoses interviewed by public health investigators among new LAC HIV diagnoses (excluding Long Beach and Pasadena).
[105] New HIV diagnoses who identified ≥1 sexual and/or cluster contact during interview among new LAC HIV diagnoses (excluding Long Beach and Pasadena).
[106] Linked to care within 1 month of diagnosis among cases interviewed by public health investigators.

Figure 45: Time from HIV diagnosis to HIV Partner Services assignment[107] and interview,[108] LAC (excluding Long Beach and Pasadena) 2021



Data in context:

New HIV case reports are routed from surveillance to the Partner Services unit where they are assigned to public health investigators (PHI). PHIs make multiple attempts to contact the patient for interview/linkage-to-care and partner elicitation.

In 2021, 11% of HIV PS interviews were completed within 7 days of HIV diagnosis, 38% within 30 days, and 62% within 60 days. The time lag between diagnosis and PS interviews is caused primarily by delays in the assignment of HIV cases to Partner Services and delays in the reporting of HIV cases to surveillance.

[107] New HIV diagnoses assigned for partner services within 12 months of report among LAC HIV diagnoses (excluding Long Beach and Pasadena).
[108] New HIV diagnoses interviewed by public health investigators among new LAC HIV diagnoses (excluding Long Beach and Pasadena).

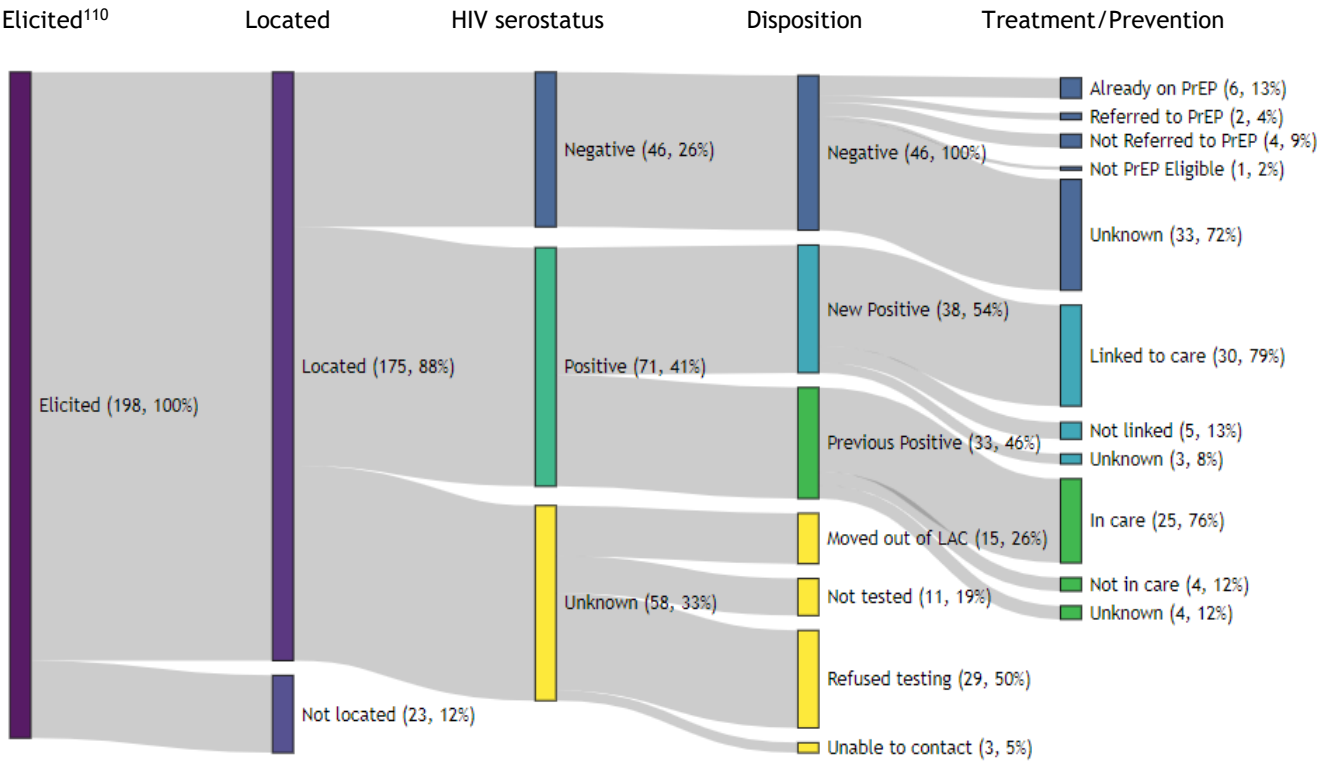
Elicited contacts

An important component of Partner Services is partner notification, a process through which persons diagnosed with HIV are interviewed to elicit information about their partners, who can then be confidentially notified of their possible exposure or potential risk.

Notifying contacts of their risk of HIV is a cornerstone public health intervention designed to reduce the forward transmission of HIV. As part of an HIV partner notification model, every named contact is investigated by a Partner Services staff and once located, contacts are assessed and provided with opportunities for follow-up services according to their HIV status. Newly identified HIV in a contact will trigger a response to immediately link the contact to care. If the contact had a prior HIV positive diagnosis, their HIV care status should be assessed, and, if out of care, the contact should be linked or re-linked back to care. Contacts that test negative should be provided with high quality services to reduce their risk of acquiring HIV, including referral to pre-exposure prophylaxis (PrEP).

Figure 46: HIV Partner Services continuum[109] among named contacts, LAC (excluding Long Beach and Pasadena) 2021[110,111,112]

Data in context:
This Sankey diagram depicts the flow of clients in each step of the HIV PS cascade. Each column represents a step in the cascade. Within each step, clients are grouped into categories represented by the colored rectangles (nodes). The gray lines show the proportion of clients moving from one node to the next.



In 2021, 198 named contacts of persons newly diagnosed with HIV were elicited. Most contacts were located (88%). Of those located, many tested HIV positive (41%), followed by unknown status (33%) and HIV negative (26%). The majority of contacts who tested positive received HIV care; 79% of newly diagnosed contacts were linked to care and 76% of previously diagnosed contacts were engaged in HIV care.

[109] The HIV partner services continuum includes the following steps: 1) identifying people who were named as sexual or social contacts by index cases, 2) locating elicited contacts, 3) confirming contacts' HIV serostatus, and 4) connecting contacts who tested positive to HIV treatment and contacts who tested negative to preventative HIV treatment.
[110] 198 contacts named by 114 index cases newly diagnosed with HIV in 2021.
[111] PLWDH diagnosed through 2020 who have at least one care visit within year 2021 are considered engaged in care. Care status is available for contacts regardless of HIV testing disposition.
[112] PrEP information is unknown for clients without comorbid STD.

Data to Action: Progress and Opportunities in the HIV Partner Services Continuum

- Partner Services is key to the delivery of life-saving HIV interventions and prevention strategies for PLWDH and their partners. The program's role in ending the HIV epidemic in Los Angeles County is critical; however, the current program infrastructure is not sufficient to meet the high demands of both the HIV and STD program priorities for preventing and controlling disease. Significant resources, policy change and greater acceptance and compliance are urgently needed for Partner Services to have its intended impact. Human resources to implement expanded PS activities are needed. The realignment of PS training, use of communication and information technology tools, and modernization of data systems are also needed to successfully implement, monitor, and evaluate PS program goals.
- Important strides have been made to strengthen coordination between HIV Surveillance and Partner Services teams to ensure that Partner Services personnel have the information they need to respond to new HIV diagnoses and persons who are not virally suppressed. Nonetheless at 11%, LAC remains far below the EHE target of 85% of PLWDH having been interviewed by a Partner Services staff within 7 days of diagnosis. HIV Surveillance staff must work closely with diagnosing laboratories and providers to ensure that case reports are received within 24 hours of HIV diagnosis. Secondly, once case reports are received, we must accelerate referral of newly diagnosed HIV cases and persons with unsuppressed viral load to Partner Services within 24 hours of receiving the case report.
- Many sexual and drug using partners are refusing HIV testing offered by the Partner Services program. Partner testing strategies must include approaches for addressing testing hesitancy, addressing stigma and fear with accessing HIV testing among vulnerable populations, and incentives to improve testing uptake for those that do not have a prior diagnosis of HIV.
- Surveillance and Partner Services data systems must include outcomes measures At minimum, outcomes for index patients should include rates tied to linkage to care, re-engagement to care, treatment status, viral suppression, STI testing, and partner notification. Outcomes for partners should include rates tied to HIV and STD testing. Outcomes for HIV-positive partners should include rates tied to linkage to care, care and treatment status, relinkage to care, and viral suppression. Finally, outcomes for HIV-negative partners should be tied to rates of PrEP referral and PrEP use.

HIV Care Continuum

EHE HIV Care Continuum Targets

- Increase the percentage of newly diagnosed persons linked to care within 1 month to at least 95% by 2025
- Increase the percentage of persons living with diagnosed HIV who are virally suppressed to at least 95% by 2025

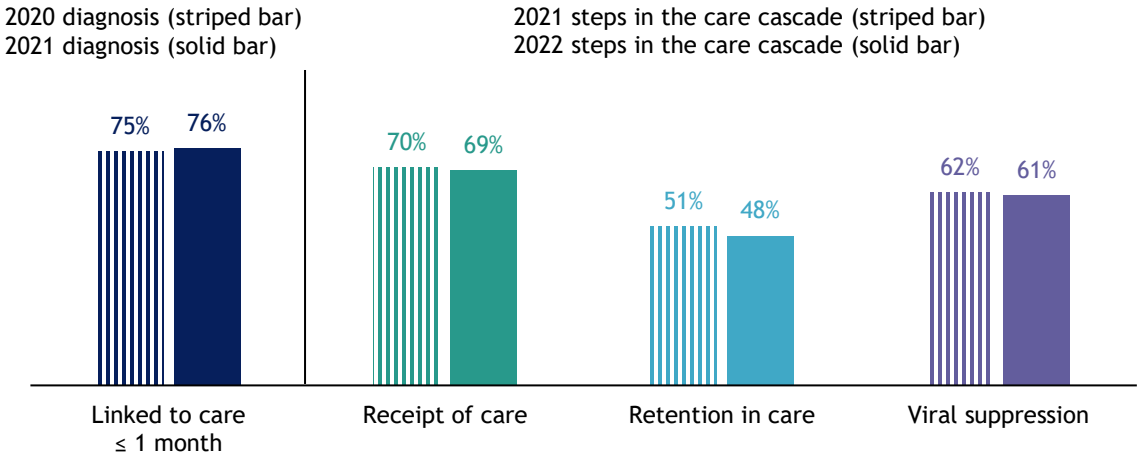
HIV Care Cascade

The HIV care continuum is a series of steps starting from when a person living with HIV receives a HIV-positive diagnosis through the achievement of viral suppression. By monitoring these steps at a population level, we can help quantify progress at the local and national level. A deeper analysis of the steps along the HIV continuum of care can identify gaps in HIV care delivery. Knowing where and among whom the shortfalls persist along the HIV care cascade can inform where improvements are needed to support individuals in achieving and maintaining viral suppression, improving their health, and effectively eliminating further transmission to others.

The HIV care continuum includes the following: (1) among persons receiving a diagnosis of HIV in a given calendar year, the percentage of persons who were linked to HIV care within 1 month of diagnosis (defined as ≥ 1 CD4/VL/Genotype test reported within 1 month of HIV diagnosis); and (2) among all persons living with diagnosed HIV, the percentage of persons who (a) received HIV care (defined as ≥ 1 CD4/VL/Genotype test per year), (b) were retained in HIV care (defined as ≥ 2 CD4/VL/Genotype tests at least three months apart per year), and (c) were virally suppressed (defined using most recent viral load per year).

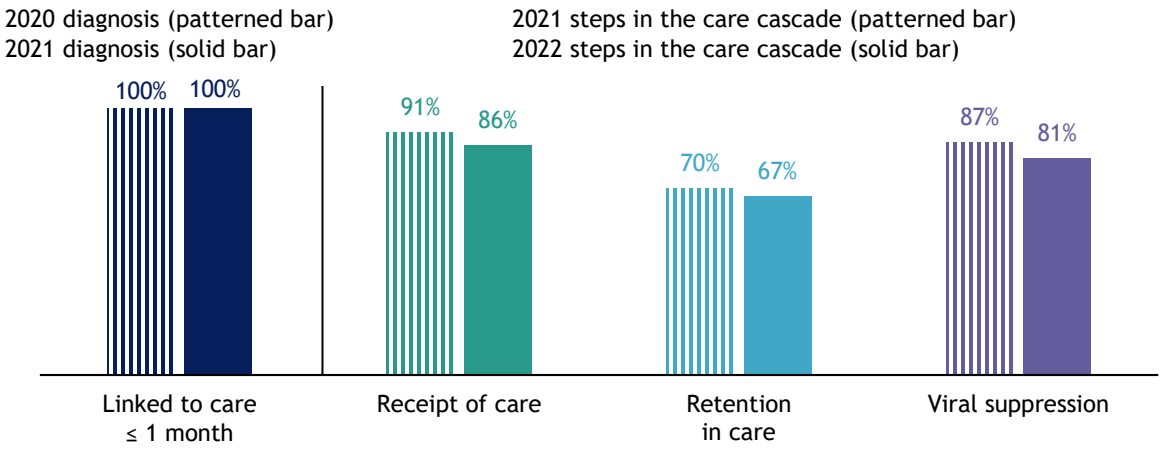
The base population for measuring linkage to HIV care is persons who received an HIV-positive diagnosis in a given calendar year, whereas the base population for the downstream steps in the continuum of care is all persons who were diagnosed with HIV through the prior calendar year and living in LAC with diagnosed HIV at the close of the current year. The latter ensures that there is at least one year of follow-up to measure receipt of care, retention in care, and viral suppression. For additional data on the HIV care continuum by demographic variables, transmission risk, and health district, refer to Tables 5A and 6A.

Figure 47: HIV care continuum[113] among persons aged ≥ 13 years, LAC 2020-2021[114] and 2021-2022[115]



Linkage to care within 1 month of diagnosis increased modestly from 75% to 76% for persons aged 13 years or older diagnosed with HIV in 2021 compared to persons diagnosed in 2020, but slightly declined along subsequent steps in the care cascade in 2022 compared to 2021.

Figure 48: HIV care continuum[113113] among children aged <13 years, LAC 2020-2021[114] and 2021-2022[115]



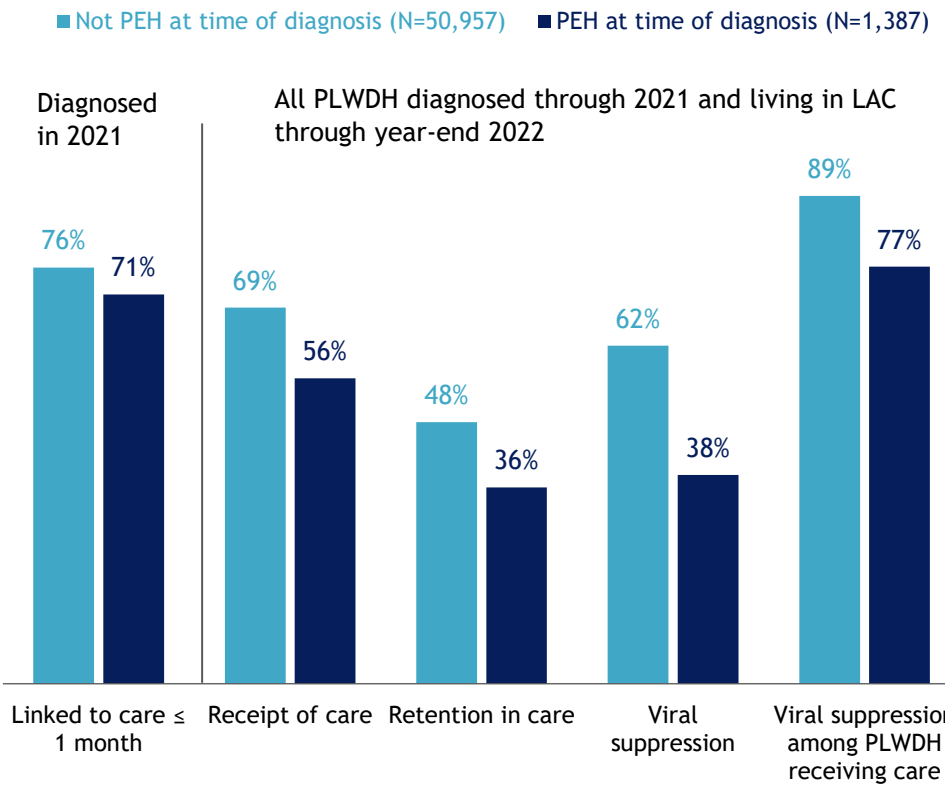
Children aged < 13 years fared better than adolescents and adults at key steps along the continuum of HIV care: 100% of children diagnosed with HIV in 2020 and 2021 were linked to HIV care within 1 month. Receipt of care, retention in care, and viral suppression declined in 2022 compared to 2021.

[113] The HIV care continuum includes the following steps in the care cascade: 1) the percentage of persons receiving a diagnosis of HIV in a given calendar year who were linked to HIV care within 1 month of diagnosis (defined as ≥ 1 CD4/VL/Genotype test reported within 1 month of HIV diagnosis) ; and 2) the percentage of all persons living with diagnosed HIV who (1) received HIV care (defined as ≥ 1 CD4/VL/Genotype test per year), (2) were retained in HIV care (defined as ≥ 2 CD4/VL/Genotype tests at least three months apart, per year), and (3) were virally suppressed (defined using most recent viral load, per year). PLWDH without a VL test in the measurement year were categorized as having unsuppressed viral load.

[114] The 2020-2021 HIV care continuum denominator includes persons diagnosed in 2020 to calculate linkage to care ≤ 1 month of diagnosis, and all PLWDH diagnosed through 2020 and living in LAC at year-end 2021 to calculate receipt of care, retention in care, and viral suppression.

[115] The 2021-2022 HIV care continuum denominator includes persons diagnosed in 2021 to calculate linkage to care ≤ 1 month of diagnosis, and all PLWDH diagnosed through 2021 and living in LAC at year-end 2022 to calculate receipt of care, retention in care, and viral suppression.

Figure 49: HIV care continuum among persons aged ≥ 13 years who were experiencing homelessness at the time of HIV diagnosis, LAC 2021-2022[116]



Note: Linkage to care levels were similar by housing status. This may be due to robust support services that are in place to facilitate linkage to care after diagnosis. In LAC this is facilitated by HIV testing providers, Partner Services, linkage and retention programs, and community embedded Disease Intervention Specialists. However, the complexities of a person's life circumstances determine the ability to succeed in subsequent steps in the care cascade.

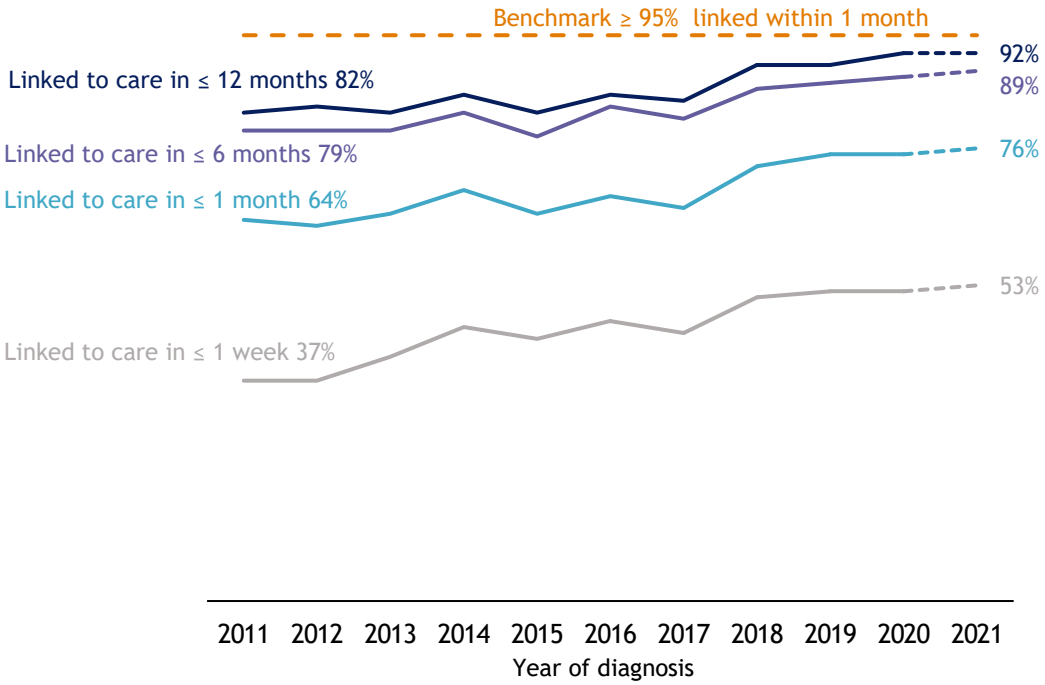
PEH had much poorer outcomes in the HIV care continuum compared with housed persons, with the greatest disparity observed in viral suppression.

[116] Linkage to care: numerator includes persons newly diagnosed with HIV in 2021 with ≥1 CD4/VL/Genotype test reported within 1 month of HIV diagnosis; denominator includes persons who were diagnosed with HIV in 2021.
Receipt of care: numerator includes PLWDH with ≥1 CD4/VL/Genotype test in 2022; denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence.
Retention in care: numerator includes PLWDH with ≥2 CD4/VL/Genotype tests at least 3 months apart in 2022; denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence.
Viral suppression: numerator includes PLWDH whose last VL test in 2022 was suppressed (HIV-1 RNA < 200 copies/mL); denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence. PLWDH without a VL test in 2022 were categorized as having unsuppressed viral load.

Linkage to HIV care

Linkage to HIV care is the first step in the HIV care continuum. It is the necessary precursor for receiving antiretroviral therapy to treat HIV. Linkage to HIV care is typically tracked as being linked to HIV care within 1 month of HIV diagnosis. However, initiating HIV care services should occur faster, ideally within days, to ensure that treatment of HIV can be started immediately.

Figure 50: Time from HIV diagnosis to linkage to care among persons aged ≥ 13 years newly diagnosed with HIV by year of HIV diagnosis, LAC 2011-2021[117,118]



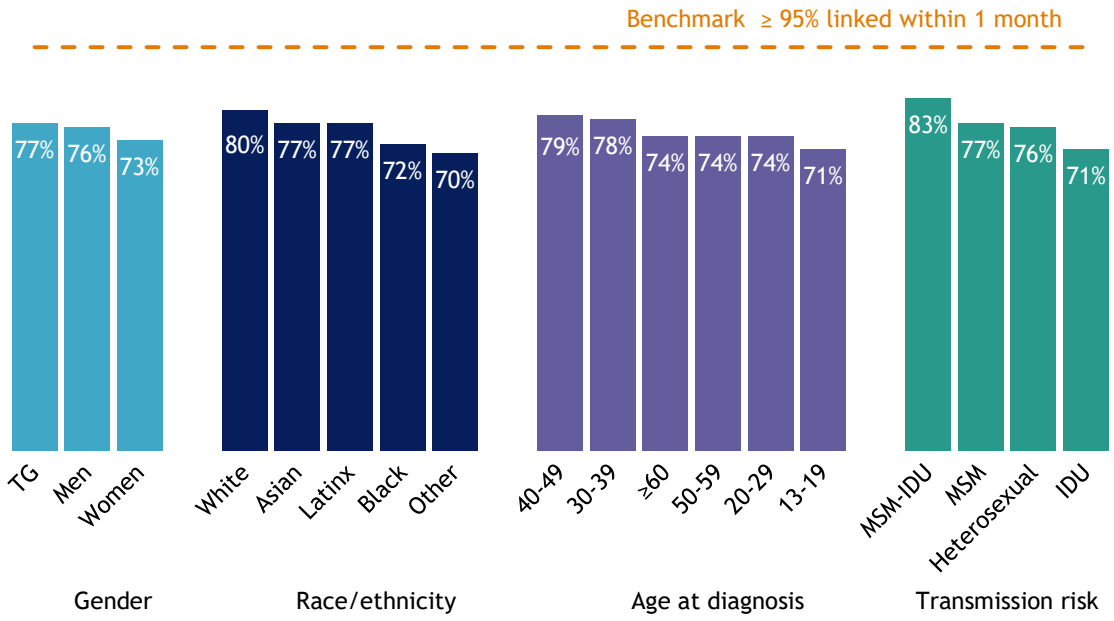
Data in context: Though not shown, populations and locations with the lowest rates of linkage to care within 1 week were females; adolescents; Black persons; persons with MSM transmission, heterosexual transmission, or IDU transmission risk; and persons residing in the East Los Angeles, Pomona, or San Antonio Health Districts.

Though timeliness of linkage to care has improved over the past decade, only 76% of persons newly diagnosed with HIV in 2021 were linked to HIV care within 1 month of their diagnosis and only 53% were linked to HIV care within 1 week of their diagnosis.

[117] Includes persons diagnosed with HIV in each calendar year with ≥1 CD4/VL/Genotype test reported within 1 week, as well as 1, 6, and 12 months of diagnosis.
[118] Due to reporting delay, 2021 HIV linkage to care data are provisional as indicated by the dashed line.

The next two figures describe specific populations of PLWDH who were linked to HIV care within 1 month of diagnosis and we gauge where strategies for linkage to HIV care may require re-direction.

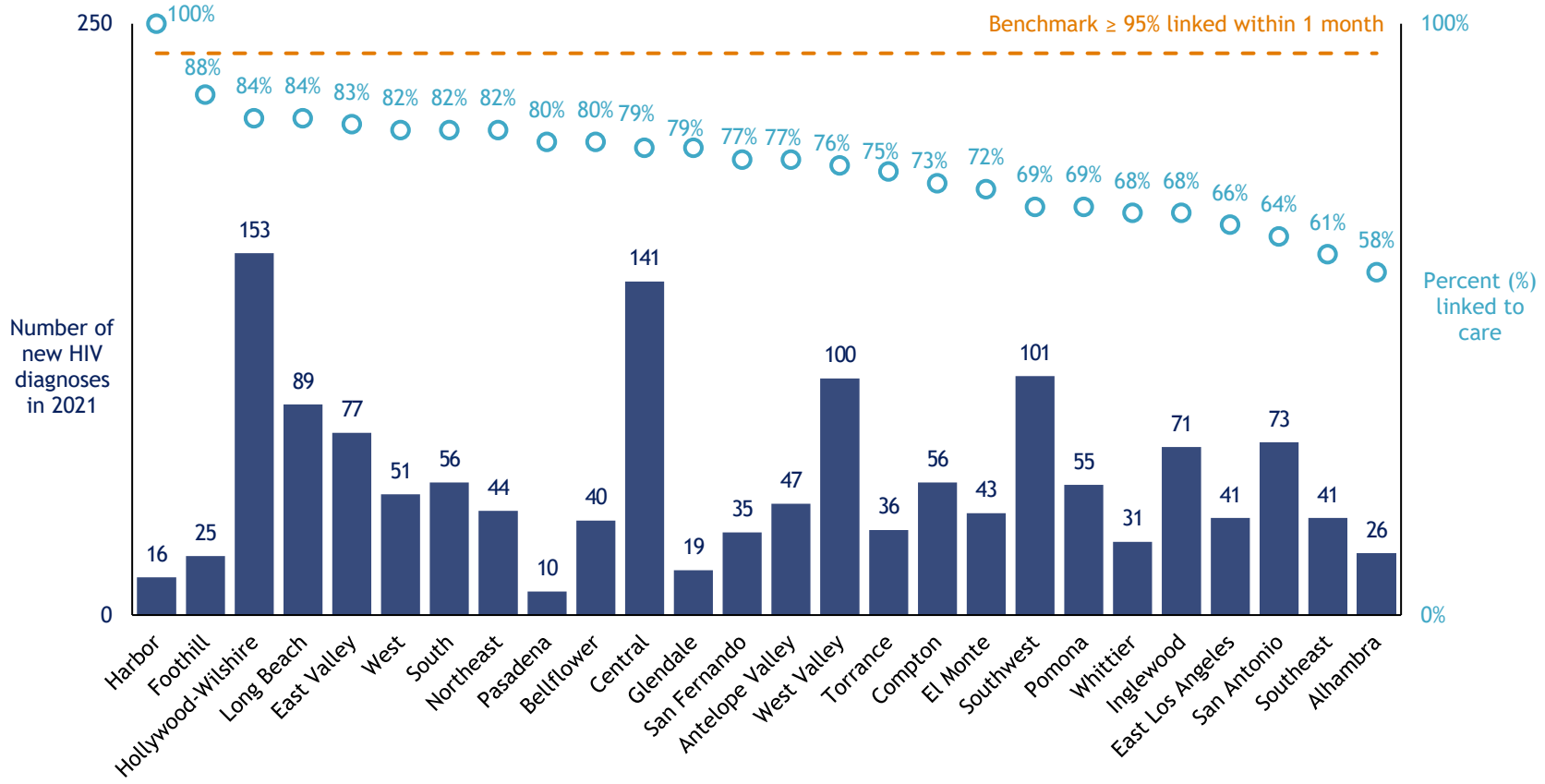
Figure 51: Persons aged ≥ 13 years newly diagnosed with HIV and linked to care within 1 month of diagnosis[119] by select demographic[120] and risk[121] characteristics, LAC 2021



Among persons newly diagnosed with HIV in 2021, groups that were least likely to be linked to HIV care within 1 month of diagnosis were women (73%), Black persons (72%) and those whose race/ethnicity was classified as 'Other' (70%), persons aged 13-19 years (71%), and persons with IDU (71%) transmission risk.

[119] Linked to care: numerator includes persons newly diagnosed with HIV in 2021 with ≥1 CD4/VL/Genotype test reported within 1 month of HIV diagnosis; denominator includes persons who were diagnosed with HIV in 2021.
[120] Other race/ethnicity includes American Indian and Alaska Natives, Native Hawaiian and Pacific Islanders, persons of multiple race/ethnicities, and persons with unknown race/ethnicity.
[121] Other risk includes risk factor not reported/identified and is not shown due to small numbers.

Figure 52: Persons aged ≥ 13 years newly diagnosed with HIV and linked to care within 1 month of diagnosis by Health District, LAC 2021[122,123]



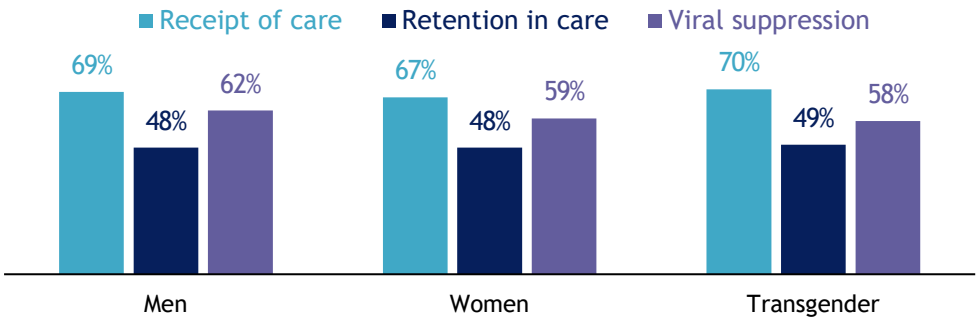
In 2021, only Harbor Health District met the EHE target for timely linkage to HIV care (at least 95% linked to care within 1 month), highlighting the need to identify solutions for improving linkage to care across LAC. Lowest achievement in linkages was observed in the Alhambra Health District where only 58% of cases were linked within 1 month of HIV diagnosis.

[122] Linked to care: numerator includes persons newly diagnosed with HIV in 2021 with ≥1 CD4/VL/Genotype test reported within 1 month of HIV diagnosis; denominator includes persons who were diagnosed with HIV in 2021.
[123] Health Districts are based on 2022 boundaries. Persons are assigned a Health District using their geocoded residence at diagnosis joined to census tract 2020, followed by their ZIP Code if no valid residence at diagnosis was available. The correspondence tables were provided by LAC DPH Information Management and Analytics Office, Office of Health Assessment and Epidemiology, GIS Unit team.

Receipt of care, retention in care, and viral suppression

Entering and staying in HIV care is necessary to ensure that adherence to HIV treatment occurs and viral suppression is achieved. The figures in this section track how LAC performed with respect to receipt of care, retention in care, and viral suppression in 2022 across different populations of PLWDH. Identifying disparities allows us to determine whether interventions are needed to help people stay in care, get back in care, and ensure they are taking their medication as prescribed.

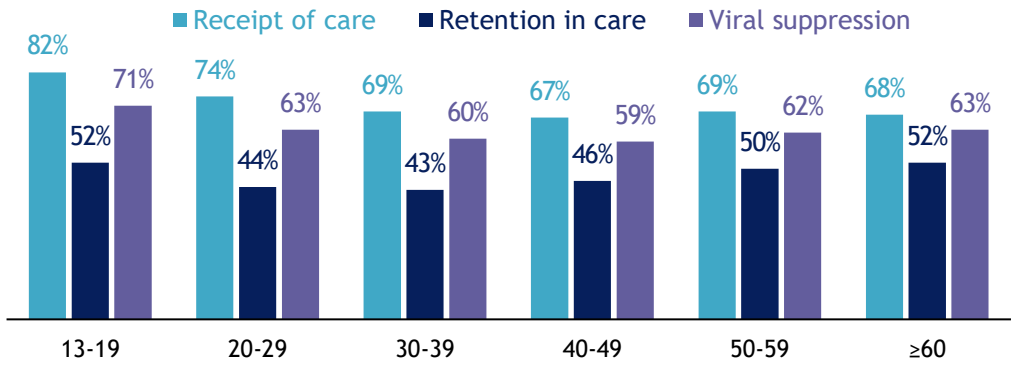
Figure 53: Receipt of care, retention in care, and viral suppression by gender among PLWDH aged ≥ 13 years diagnosed through 2021 and living in LAC at year-end 2022,[124] LAC 2022



Change since last surveillance report: Receipt of care and viral suppression increased among men and transgender persons, while retention in care declined among women.

In 2022, the percentage of PLWDH who were receiving HIV care was 67% in women compared with 69% in men. The percentage retained in care was similar across gender groups, while the percentage attaining viral suppression was lower among women and trans people.

Figure 54: Receipt of care, retention in care, and viral suppression by age group among PLWDH aged ≥ 13 years diagnosed through 2021 and living in LAC at year-end 2022,[124] LAC 2022

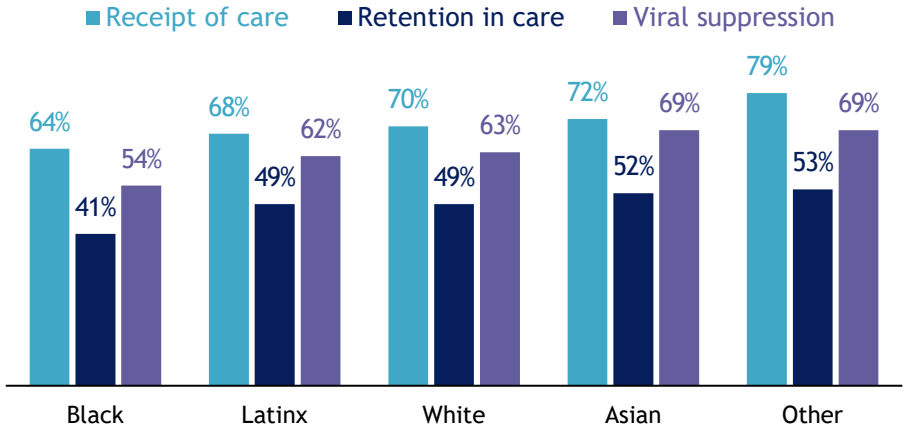


Change since last surveillance report: Receipt of care, retention in care, and viral suppression decreased among adolescents, increased among seniors, and remained relatively stable for the rest.

In 2022, persons aged 30-49 years had the poorest outcomes across the care cascade.

[124] Receipt of care: numerator includes PLWDH with ≥1 CD4/VL/Genotype test in 2022; denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence.
Retention in care: numerator includes PLWDH with ≥2 CD4/VL/Genotype tests at least 3 months apart in 2022; denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence.
Viral suppression: numerator includes PLWDH whose last VL test in 2022 was suppressed (HIV-1 RNA < 200 copies/mL); denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence. PLWDH without a VL test in 2022 were categorized as having unsuppressed viral load.

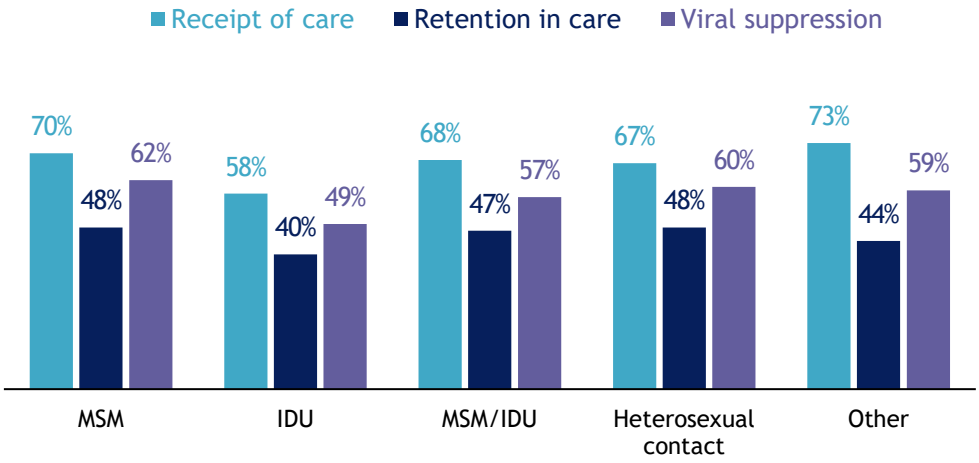
Figure 55: Receipt of HIV care, retention in HIV care, and viral suppression by race/ethnicity among PLWDH aged ≥ 13 years diagnosed through 2021 and living in LAC at year-end 2022,[125,126] LAC 2022



Changes since last surveillance report: Receipt of care, retention in care, and viral suppression remained stable or increased slightly across race/ethnicity groups.

Across the continuum, Black persons had the worst HIV care outcomes compared with other groups.

Figure 56: Receipt of HIV care, retention in HIV care, and viral suppression by transmission risk category among PLWDH aged ≥ 13 years diagnosed through 2021 and living in LAC at year-end 2022,[126,127] LAC 2022



Changes since last surveillance report: Receipt of care increased for all risk groups, while retention increased only for "Other" risk groups. Viral suppression increased only for IDU and MSM/IDU risk groups.

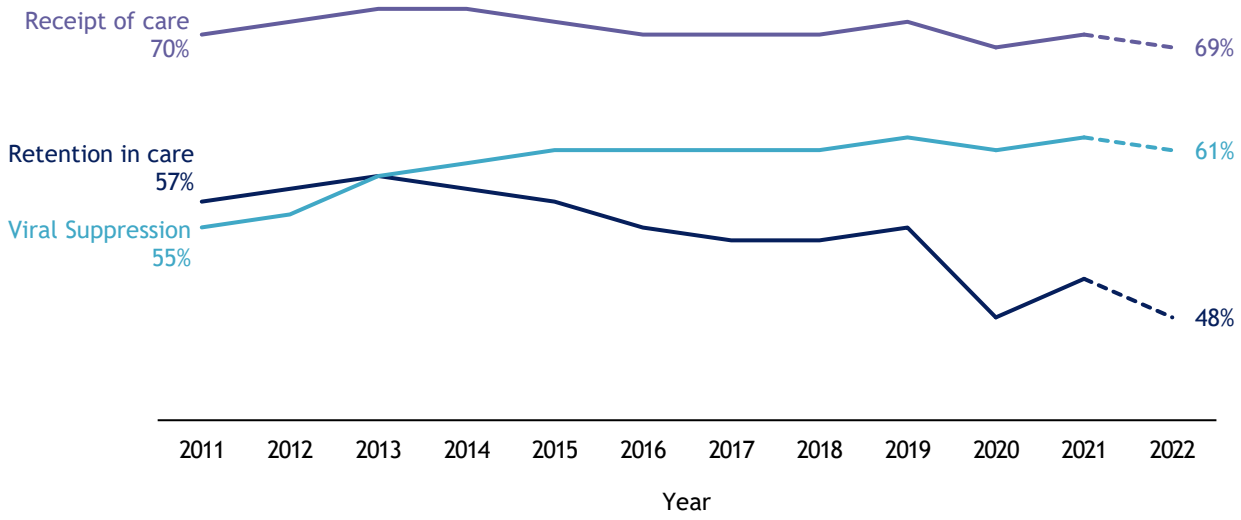
Persons whose HIV transmission risk is IDU had the lowest levels of receipt of care, retention in care, and viral suppression.

[125] Other race/ethnicity includes American Indian, Alaska Native, Native Hawaiian and Pacific Islander, persons of multiple race/ethnicities, and persons with unknown race/ethnicity.

[126] Receipt of care: numerator includes PLWDH with ≥1 CD4/VL/Genotype test in 2022; denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence. Retention in care: numerator includes PLWDH with ≥2 CD4/VL/Genotype tests at least 3 months apart in 2022; denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence.
Viral suppression: numerator includes PLWDH whose last VL test in 2022 was suppressed (HIV-1 RNA < 200 copies/mL); denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence. PLWDH without a VL test in 2022 were categorized as having unsuppressed viral load.

[127] Other transmission risk includes perinatal, hemophilia, coagulation disorder, blood transfusion, and risk factor not reported/identified. Persons without an identified risk factor were assigned a risk factor using CDC-recommended multiple imputation methods.

Figure 57: Trends in receipt of HIV care, retention in care, and viral suppression for PLWDH aged ≥ 13 years living in LAC at calendar year-end and diagnosed with HIV through the previous calendar year, LAC 2011-2022[128,129]



There has been minimal progress in the HIV continuum of care since 2011, with improvements only seen in the percentage of PLWDH with viral suppression (+6 percentage points). There were declines in percentage of PLWDH receiving care and retained in care after 2019, likely due to the impact of COVID-19 on health care service delivery, which may have delayed further improvements in viral suppression.

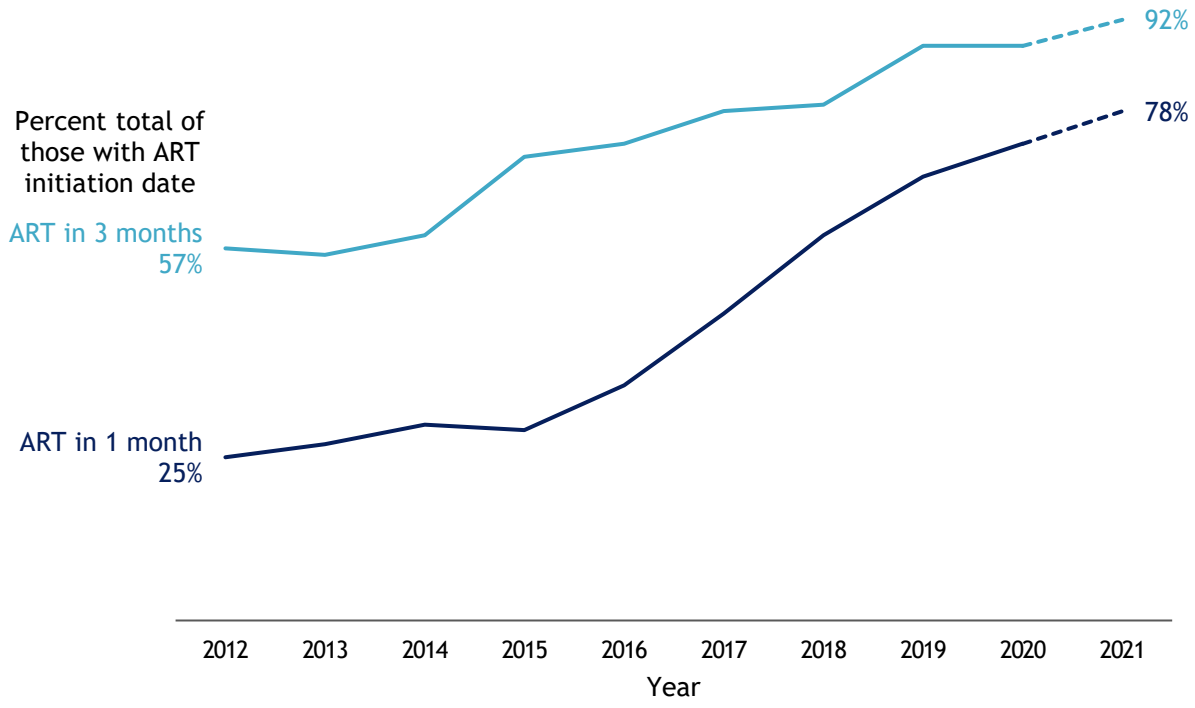
[128] Receipt of care: numerator includes PLWDH with ≥1 CD4/VL/Genotype test in the calendar year; denominator includes PLWDH diagnosed through the previous calendar year and living in LAC at calendar year-end based on most recent residence. Retention in care: numerator includes PLWDH with ≥2 CD4/VL/Genotype tests at least 3 months apart in the calendar year; denominator includes PLWDH diagnosed through the previous calendar year and living in LAC at calendar year-end based on most recent residence. Viral suppression: numerator includes PLWDH whose last VL test in the calendar year was suppressed (HIV-1 RNA<200 copies/mL); denominator includes PLWDH diagnosed through the previous calendar year and living in LAC at calendar year-end based on most recent residence. PLWDH without a VL test in the calendar year were categorized as having unsuppressed viral load.
[129] Due to reporting delay, 2022 HIV data are provisional as indicated by the dashed line.

HIV treatment

Antiretroviral therapy (ART) coverage is not routinely monitored as a step in the HIV care continuum as treatment is presumed to occur once a patient is linked to care.

HIV case reporting includes information on ART for PLWDH but relies on HIV providers to complete this information on HIV case reports, which is not commonly done. To fill this information gap, Public Health collects supplemental information on a subset of persons newly diagnosed with HIV through the National Medical Monitoring Project (MMP) to understand progress and gaps in HIV treatment and other HIV care services for PLWDH. Below we provide information from HIV case reporting and MMP on the status of treatment among PLWDH in Los Angeles County.

Figure 58: Time from HIV diagnosis to treatment initiation among persons aged ≥ 13 years newly diagnosed with HIV by year of diagnosis,[130] LAC 2012-2021



The time from diagnosis to starting HIV treatment is improving. The percent who started ART within 1 month of diagnosis increased from 25% in 2012 to 78% in 2021. The probability of initiating ART within 3 months of diagnosis increased from 57% in 2012 to 92% in 2021.

[130] Data represent a subset of persons newly diagnosed with HIV and reported in LAC. It includes 5,560 persons newly diagnosed with HIV between 2011 and 2020 for whom ART initiation date is complete and excludes 12,670 persons newly diagnosed with HIV between 2011 and 2020 for whom ART initiation date is incomplete.

Table 9: Antiretroviral therapy (ART) prescription, ART dose adherence, and sustained viral suppression among adults living with diagnosed HIV by selected characteristics—Medical Monitoring Project (MMP), LAC 2015-2020

	Prescription of ART[131]		100% ART dose adherence[132]		Sustained viral suppression[133]	
	%[134]	95% CI	%	95% CI	%	95% CI
Total	80.5	77.0-83.9	50.4	46.7-54.0	64.4	60.7-68.2
Gender						
Cisgender male	79.8	75.9-83.6	50.9	46.9-54.9	64.9	60.7-69.0
Cisgender female	86.7	79.3-94.1	47.0	37.5-56.5	64.0	54.5-73.6
Transgender[135]	76.7*	60.0-93.4	47.8*	27.1-68.5	52.8*	31.4-74.1
Age at time of interview (years)						
18-29	72.2	59.5-84.9	29.1	18.1-40.0	47.9	35.2-60.5
30-39	75.7	66.7-84.7	41.8	33.3-50.4	56.8	47.8-65.9
40-49	80.8	74.2-87.4	45.0	38.0-52.1	59.0	51.6-66.5
≥50	83.5	78.7-88.3	60.0	54.8-65.3	73.0	67.8-78.3
Sexual orientation						
Gay or lesbian	79.0	74.1-83.8	51.1	46.3-55.9	65.1	60.1-70.1
Heterosexual	87.4	82.5-92.3	50.9	44.4-57.5	65.6	58.9-72.3
Bisexual	75.7	64.9-86.5	44.6	32.7-56.5	60.1	47.4-72.8
Race/ethnicity						
Black	77.2	69.8-84.6	46.4	38.6-54.3	56.5	48.6-64.5
Latinx[136]	81.9	76.6-87.2	47.7	42.3-53.0	64.9	59.1-70.7
White	81.8	75.6-88.1	58.1	51.3-65.0	71.0	64.4-77.6

In a representative sample of PLWDH, 81% were prescribed ART, 50% took all of their ART doses in the past 30 days and 64% had sustained viral suppression. Among those who said they had been prescribed ART, 100% ART dose adherence in the past 30 days was 55% (in table 11). ART adherence and viral suppression was lower among Black and Latinx PLWDH than White PLWDH. *In this table we define sustained viral load based on a person's viral load results over a 12-month period.*

[131] Prescription of ART was based on documentation in the medical record in the 12 months before interview.
[132] In past 30 days, 100% adherence to ART doses.
[133] All documented viral load measurements in the 12 months before interview are undetectable or <200 copies/mL. The median of documented viral load tests during the past 12 months per participants was 3.
[134] Percentages are weighted percentages. Confidence intervals (CI) incorporate weighted percentages.
[135] Persons were classified as transgender if sex at birth and gender reported by the person were different, or if the person chose "transgender" in response to the question about self-identified gender.
[136] Latinx might be of any race. Persons are classified in only 1 race/ethnicity category.

Table 10: Antiretroviral therapy (ART) adherence and reasons for missing ART doses among persons with diagnosed HIV taking ART—Medical Monitoring Project, LAC 2015-2020[137]

ART adherence in the past 30 days	%	95% CI
How many days did you miss at least 1 dose of any of your HIV medicines?		
0	55.2	51.6–58.9
1–2	31.5	28.0–34.9
3–5	8.4	6.3–10.4
6–10	3.7	2.2– 5.3
≥11	1.2	0.5– 1.9
How often did you take your HIV medicines in the way you were supposed to?		
Always	64.8	61.2–68.3
Almost always	24.3	21.2–27.5
Usually	6.6	4.7– 8.5
Sometimes	2.6	1.2– 4.0
Rarely	1.2	0.4– 2.0
Never	0.4	0.1– 0.8
How often were you troubled by ART side effects?		
Never	72.0	68.7–75.4
Rarely	14.0	11.5–16.5
About half of the time	6.7	4.7– 8.8
Most of the time	3.1	1.9– 4.2
Always	4.2	2.5– 5.8
Top reasons for last missed ART dose among persons who ever missed a dose[138]		
Forgot to take HIV medicines		
Yes	53.9	50.2–57.6
No	46.1	42.4–49.8
Change in your daily routine or were out of town		
Yes	33.3	29.6–36.9
No	66.7	63.1–70.4
Fell asleep early or overslept		
Yes	24.6	21.2–28.0
No	75.4	72.0–78.8

Among persons who missed ART doses in the past 30 days, the majority missed 1-2 days of doses. The top reason cited for missing doses was forgetting to take their medicine.

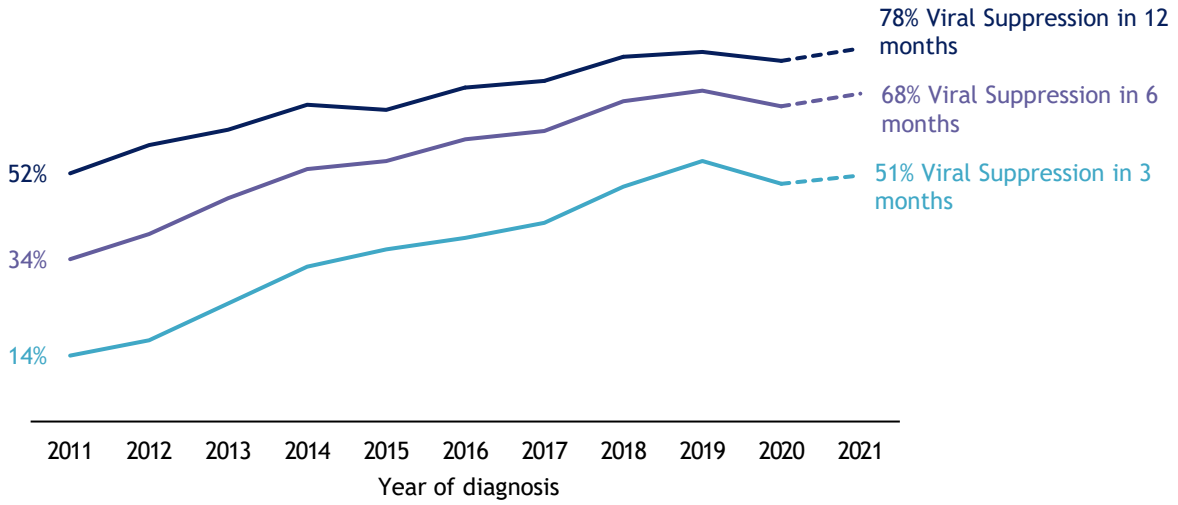
[137] Percentages are weighted percentages and CIs incorporate weighted percentages.
[138] Persons could report more than 1 reason for missed last dose.

Viral load monitoring

To end the HIV epidemic, viral suppression should be reached soon after HIV diagnosis for all PLWDH but as described earlier, this is dependent on how rapidly HIV-positive persons are linked into HIV care and receive HIV treatment.

This section highlights where we are locally in our viral suppression achievements and highlights opportunities for where to target interventions to improve viral suppression in the population.

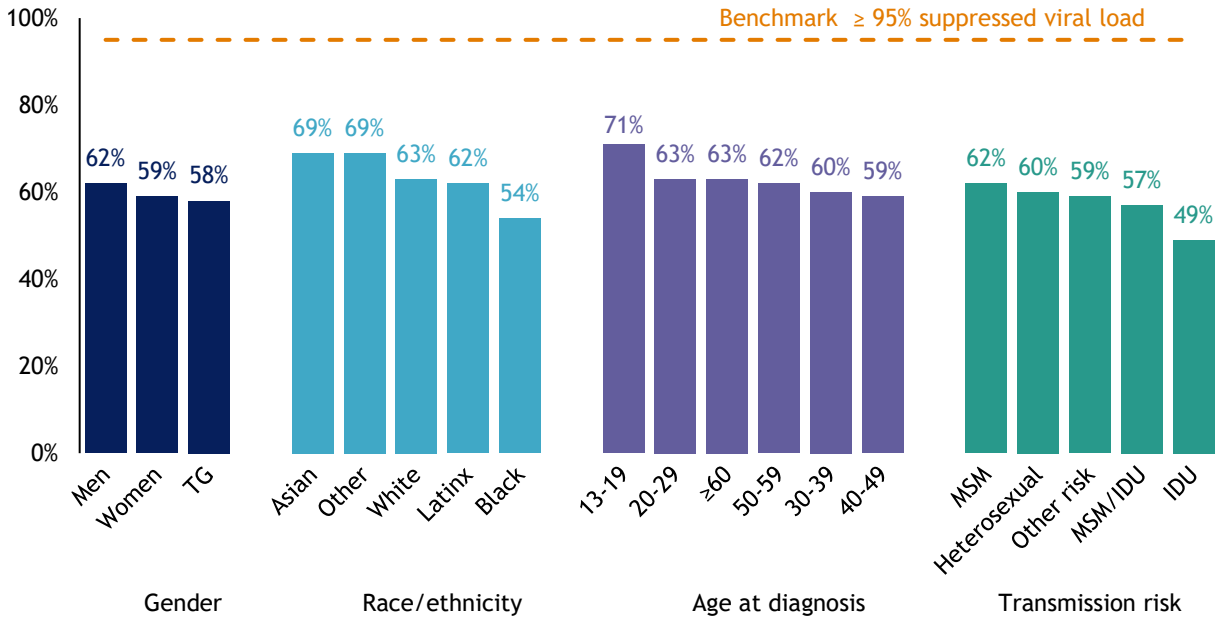
Figure 59: Time from diagnosis to viral suppression among persons diagnosed with HIV by year of HIV diagnosis, LAC 2011-2021[139,140]



Though time from HIV diagnosis to viral suppression has improved over time, LAC is still underperforming in this area, with only 51% of persons newly diagnosed with HIV in 2021 achieving viral suppression within 3 months.

[139] Analysis includes persons newly diagnosed with HIV in each calendar year. Numerator includes persons achieved viral suppression within 3, 6, or 12 months of diagnosis. Denominator includes persons newly diagnosed with HIV in select calendar year, with or without a viral load test result in the observed months.
[140] Due to reporting delay, 2021 HIV data are provisional as indicated by the dashed line.

Figure 60: Suppressed viral load by selected demographic and risk characteristics among persons aged ≥ 13 years diagnosed through 2021 and living in LAC at year-end 2022,[141,142] LAC 2022

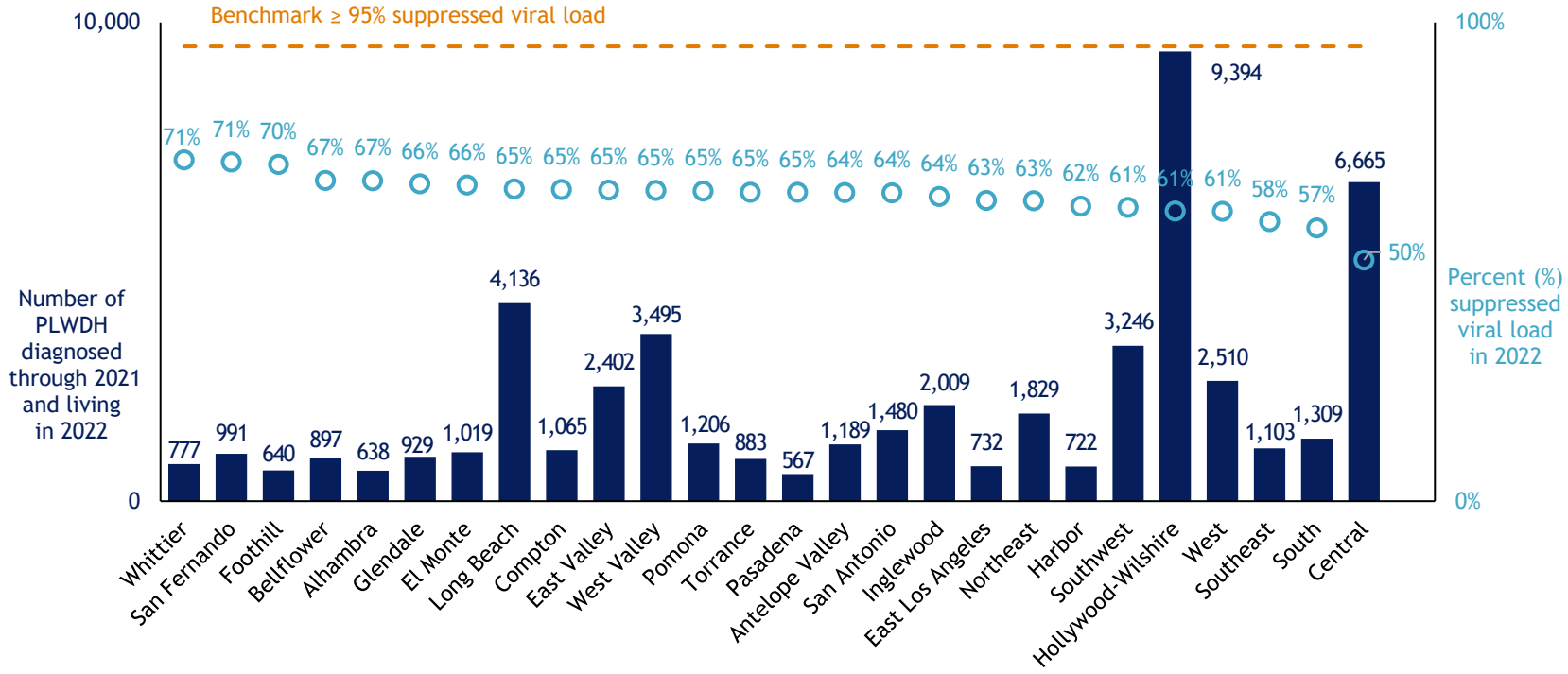


LAC is not within the target for viral suppression for PLWDH. In 2022, the largest disparities were observed among transgender persons, Black persons, persons aged 40-49 years, and persons with IDU transmission risk.

[141] Suppressed viral load: numerator includes PLWDH whose last VL test in 2022 was suppressed (HIV-1 RNA < 200 copies/mL); denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence. PLWDH without a VL test in 2022 were categorized as having unsuppressed viral load.

[142] Other race/ethnicity includes American Indians and Alaska Natives, Native Hawaiian and Pacific Islander, persons of multiple race/ethnicities, and persons with unknown race/ethnicity. Other risk includes perinatal exposure, hemophilia, coagulation disorder, blood transfusion, and risk factor not reported/identified.

Figure 61: Suppressed viral load by Health District among persons aged ≥ 13 years diagnosed through 2021 and living in LAC at year-end 2022,[143,144] LAC 2022

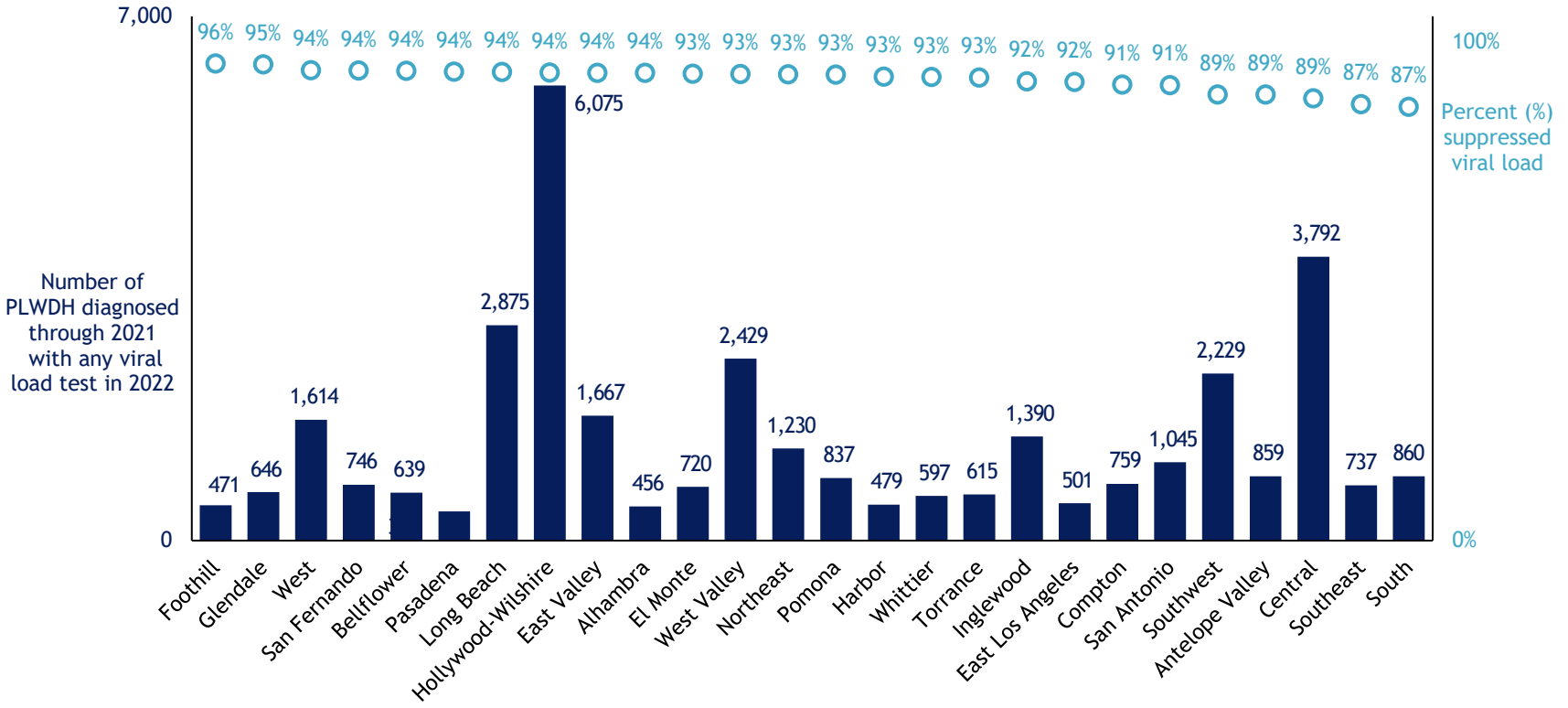


In 2022, no Health District achieved the EHE target for viral suppression (95% or higher with suppressed viral load). In the Central Health District half (50%) of PLWDH were virally suppressed and in the South and Southeast Health Districts, less than 60% of PLWDH were virally suppressed. In Hollywood-Wilshire, the health district with the largest number of PLWDH, only 61% were virally suppressed. Health Districts where viral suppression is lower are noted as high risk locations where higher levels of transmission may be occurring.

[143] Suppressed viral load: numerator includes PLWDH whose last VL test in 2022 was suppressed (HIV-1 RNA < 200 copies/mL); denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence. PLWDH without a VL test in 2022 were categorized as having unsuppressed viral load.

[144] Health Districts are based on 2022 boundaries. Persons are assigned a Health District using their geocoded residence at diagnosis joined to census tract 2020, followed by their ZIP Code if no valid residence at diagnosis was available. The correspondence tables were provided by LAC DPH Information Management and Analytics Office, Office of Health Assessment and Epidemiology, GIS Unit team.

Figure 62: Suppressed viral load among persons aged ≥ 13 years receiving HIV care and who had any viral load test in 2022 by Health District, LAC 2022[145,146]

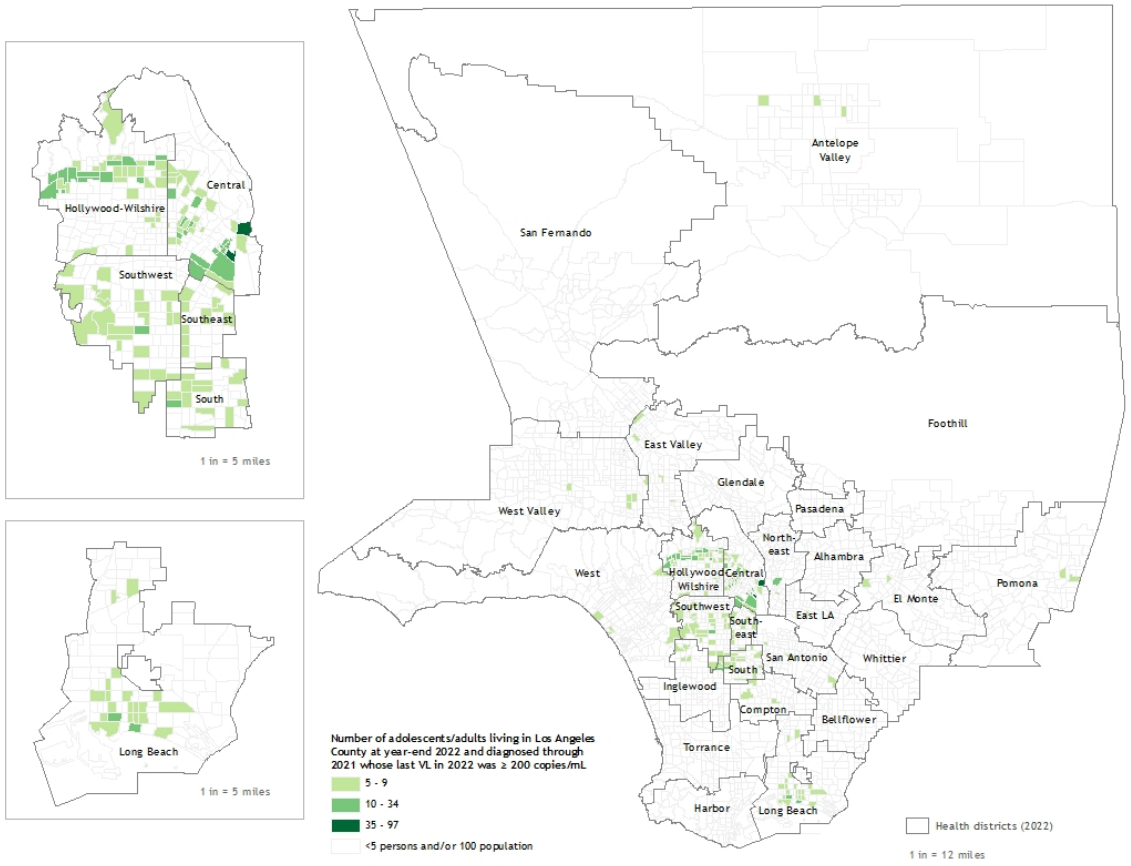


Once in care, the goal is for all PLWDH to achieve viral suppression as soon as possible. In the majority of Health Districts at least 90% of PLWDH in care, with at least one viral load test in 2021, were suppressed. However, in the South, Southeast, Central, Antelope Valley, and Southwest Health Districts, less than 90% of PLWDH in care were virally suppressed.

[145] Suppressed viral load: numerator includes PLWDH whose last VL test in 2022 was suppressed (HIV-1 RNA < 200 copies/mL); denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence who had any viral load test in 2022. PLWDH without a VL test in 2022 were categorized as having unsuppressed viral load.

[146] Health Districts are based on 2022 boundaries. Persons are assigned a Health District using their geocoded residence at diagnosis joined to census tract 2020, followed by their ZIP Code if no valid residence at diagnosis was available. The correspondence tables were provided by LAC DPH Information Management and Analytics Office, Office of Health Assessment and Epidemiology, GIS Unit team.

Figure 63: Unsuppressed viral load by census tract among persons aged ≥ 13 years diagnosed through 2021 and living in LAC at year-end 2022 (N=1,524),[147] LAC 2022



Census tracts located in the Central and Hollywood-Wilshire Health Districts had the highest levels of unsuppressed viral load. These are locations where a robust public health response is needed to identify networks of ongoing transmission and deploy rapid interventions to minimize transmission. Other emerging hotspots of transmission that require close monitoring are in the Southwest, Southeast, and Long Beach Health Districts. We have zoomed in on the six HDs with the highest levels of unsuppressed VL in the maps to the left.

[147] Unsuppressed viral load: numerator includes PLWDH whose last VL test in 2022 was unsuppressed (HIV-1 RNA ≥ 200 copies/mL); denominator includes PLWDH diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence. PLWDH without a VL test in 2022 were considered virally unsuppressed. Analysis excludes PLWDH diagnosed through 2021 and living at year-end 2022 who (1) had missing census tract information, (2) were receiving care but never had a viral load test, (3) were not receiving care for >12 months at year-end 2022, or (4) were in census tracts with small sample sizes (<5 persons with unsuppressed viral load or population size <100 persons). Exclusions represented 71% of PLWDH diagnosed through 2021 and living in 2022 whose last viral load was unsuppressed. Source: U.S. Census Bureau, Geography Division. 2021. 2021 TIGER/Line Shapefiles: Census Tracts. 2021 TIGER/Line Shapefiles (machine-readable data files). Accessed 12/28/21. https://www.census.gov/cgi-bin/geo/shapefiles/index.php?year=2021&layergroup=Census+Tracts; County of Los Angeles, Department of Public Health. 2022. Health Districts 2022 (view). County of Los Angeles, California, Enterprise GIS Repository. Accessed 03/21/2023. https://egis-lacounty.hub.arcgis.com/datasets/health-districts-2022-view/.

Table 11: Viral load dynamics among persons living with diagnosed HIV and receiving HIV care, LAC 2020-2022[148]

	Number of PLWDH with ≥1 viral load test 2020-2022	Viral suppression based on last viral load test	Sustained Viral suppression[149]
	N	%	%
Total	34,773	87%	76%
Gender			
Men	30,253	87%	77%
Women	3,840	85%	73%
Transgender	660	80%	61%
Race/ethnicity[150]			
White	8,949	92%	84%
Black	6,582	81%	66%
Latinx	16,009	87%	75%
Asian	1,348	93%	87%
NHPI	55	80%	78%
AIAN	212	81%	68%
Multi-racial	1,597	85%	74%
Age group			
<13	13	100%	100%
13-19	34	91%	62%
20-29	1,681	76%	64%
30-39	6,469	80%	69%
40-49	7,131	85%	73%
50-59	10,188	89%	78%
≥60	9,257	93%	84%

Data in context: Sustained viral suppression offers a more robust and realistic assessment of treatment success. In this table, we define sustained viral suppression based on a person's viral load results over a 3-year period while viral suppression is based merely on a person's most recent viral load results in the relevant calendar year.

Using the last viral load test, 87% of PLWDH in HIV care were virally suppressed. However, using the results of all viral load tests in a 3-year period, only 76% had sustained viral suppression (i.e., all viral loads suppressed). Populations with lowest levels of sustained viral suppression were transgender persons, persons aged 13-29 years, Black persons, and American Indians and Alaska Natives (AIAN).

[148] Analysis includes persons diagnosed with HIV through 2019, had ≥ 1 viral load test in 2020-2022 and living in LAC during 2020-2022.
[149] "Sustained viral suppression" is defined for any PLWDH included this analysis with all reported viral load test results as undetectable or <200 copies/mL during the 3-year period.
[150] Does not include 21 persons whose racial/ethnic information is unknown.

Data to Action: Gaps and opportunities in the HIV care continuum

- The COVID-19 pandemic continued to impact health service delivery in 2022, resulting in reduced provision of and access to HIV care services.
- Only 76% of PLWDH were linked to HIV care within 1 month of diagnosis, falling below the EHE target of 95% linked to care within 1 month. More work is needed to improve mechanisms to ensure that newly diagnosed persons are promptly linked to HIV care at the time of diagnosis.
- Gaps in linkage to care within 1 month of diagnosis are particularly high among Black persons and those whose race/ethnicity was classified as 'Other', young persons aged 13-19 years, females, and persons with IDU risk. Targeted interventions are needed to link these populations immediately to care after HIV diagnosis. Special attention is needed in the Alhambra Health District where linkage rates are very low despite low burden of HIV disease.
- Across the care cascade, the levels of receipt of care, retention in care, and viral suppression was low in 2022. Groups with greatest disparities in the HIV care continuum are unhoused persons, those with injection drug use risk, and Black persons. Person-centered interventions that respond directly to the challenges and needs of these populations continue to be necessary.
- Of concern is that only 8 in 10 PLWDH were estimated to be on treatment and 5 in 10 had 100% adherence to their ART doses in the past 30 days, based on a representative survey of PLWDH. Delayed treatment and suboptimal adherence have hindered progress towards achieving viral suppression among PLWDH. More work is needed to ensure that treatment is started immediately after HIV diagnosis. Rapid ART programs should be scaled across the County and prioritized for subgroups of PLWDH with the lowest treatment coverage rates (e.g., Black and young PLWDH).
- Viral suppression is measured using the last viral load test for PLWDH in HIV care but this does not consider how soon after an HIV diagnosis PLWDH are reaching viral suppression nor whether suppression is maintained over time. Sustained viral suppression (76%) is 12 percentage points lower than viral suppression (87%) based on the last viral load. Interventions to improve sustained viral suppression will be critical to ending the HIV epidemic.
- Hollywood-Wilshire Health District had the highest counts of unsuppressed viral load, followed by Central, Long Beach, and West Valley Health Districts. The response must be more intensive in these areas to ensure that all PLWDH are linked and all out-of-care PLWDH are re-linked, so that viral suppression can be achieved.

Data to Action: Gaps and opportunities in the HIV care continuum (continued)

- Among PLWDH in care, lower levels of viral suppression are disproportionately occurring in low-income areas, with the lowest levels of viral suppression in the South, Southeast, Central, Antelope Valley, and Southwest Health Districts. In-depth assessments at the Heath District level are needed to understand the social and structural barriers that may be impacting access to and use of health services so that stronger systems of HIV care can be established for PLWDH, particularly for those residing in low-income areas.
- The data reported by HIV providers for HIV surveillance provides direct information on care services for HIV patients. More attention is requested from providers to document complete information on patient visits, including treatment information, when reporting to Public Health. This will improve our understanding and response to the HIV care continuum among persons living with HIV.
- Outcomes in the HIV care continuum rely on availability and access to laboratory testing to measure linkage to HIV care, receipt of care, retention in care, and viral suppression among PLWDH. The availability of laboratory testing for PLWDH may have been reduced because of the COVID-19 pandemic on health services delivery, although the impact of this bias is not yet known. Nonetheless coordination should be strengthened with laboratory partners to ensure that reported laboratory data are timely, complete, and of high quality.
- Health information systems should be leveraged to routinely monitor and evaluate the quality of HIV services provided to PLWDH receiving care, inform quality management of services, and evaluate the impact of quality services on HIV survival.

Technical Notes

Surveillance of HIV in Los Angeles County

Surveillance of HIV, including AIDS in Los Angeles County (LAC), is conducted through active and passive surveillance and electronic case reporting to identify and collect information on persons with newly diagnosed HIV identified at hospitals, clinics, private physician offices, laboratories, community-based organizations, and hospices. Active HIV surveillance requires staff to routinely contact and visit sites to facilitate the completion of HIV case reports. Providers participating in passive HIV surveillance submit case reports to the LAC Department of Public Health (Public Health) Division of HIV and STD Programs (DHSP). In the past two years, 43% of LAC's case reports for newly diagnosed HIV were collected through active surveillance activities. Forty-five percent were collected through electronic case reporting process involving major healthcare providers. Twelve percent were passive case reports by other providers, either by mail or through the LAC designated HIV case reporting phone line.

HIV surveillance database

The Enhanced HIV/AIDS Reporting System (eHARS) is a CDC-developed information system for collecting, storing, and retrieving HIV surveillance data. Case definitions are based on CDC documents "Stage-3-Defining Opportunistic Illnesses in HIV Infection" and "Revised Surveillance Case Definition for HIV Infection — United States, 2014".[151]

Reporting delay

HIV reporting delay is defined as the time interval between HIV diagnosis or death and the reporting of HIV diagnosis or death to the Public Health department. Completeness of reporting among persons with newly diagnosed HIV in 2022 is estimated to be <80%. Therefore, HIV diagnosis data presented in this report are for HIV diagnosis through 2021. Data completeness for 2021 HIV diagnosis data is 93% based on CDC's Standard Evaluation Report (SER). All data presented in this report are considered provisional and subject to change as additional reports are submitted for HIV cases and as HIV surveillance data quality improves with further evaluation of the surveillance system and data repository. Because reporting delays can impact the reliability of data presented in this report, caution should be applied when interpreting the results.

Underreporting

HIV surveillance data may not be representative of all persons living with HIV (PLWH) because not all persons are aware of their infection or not all persons have been reported to the Public Health department. Many factors, including the extent to which testing is routinely offered to specific groups and the availability of, and access to, medical care and testing services, may influence HIV testing patterns. Additionally, the results of anonymous tests are not required to be reported in

[151] CDC. Revised Surveillance Case Definition for HIV Infection – United States, 2014. *MMWR* 2014; 63(No. RR03):1-10.

California. As such, LAC HIV surveillance data are likely an underestimate of the true numbers of all PLWH in LAC.

Population rates

Population rates presented in this report are per 100,000 population, except for rates presented for persons experiencing homelessness (PEH) which are presented per 10,000 homeless population. The population denominators used to compute the rates in the general population were based on 2006-2021 estimates provided by LAC Internal Services Department and contracted through Hedderson Demographic Services, with SPA and HD geographies integrated in by Population Health Assessment Team, Office of Health Assessment and Epidemiology (OHAE). Rates for 2020 are based on the second provisional population estimates for 2020, and rates for 2021 and 2022 are based on the 2021 provisional population estimates. In Figure 1, Appendix Tables 1A, and 3A, the data are adjusted to account for non-Latinx persons with any mention of AI/NA race.[152] Population denominators for persons experiencing homelessness were derived from the Greater Los Angeles County Homeless Count, 2020 Results (https://www.lahsa.org/documents?id=4558-2020-greater-los-angeles-homeless-count-presentation).

All rates are subject to random variation. This variation is inversely related to the number of cases and a small number of cases can result in unstable rates. Conforming to standard criterion used by the National Center for Health Statistics, rates presented in this report were considered unreliable when the relative standard error of the rate was greater than or equal to 30%, which corresponds to rates based on less than or equal to 12 observations.

Geographic information

Residence at HIV diagnosis was used to determine the geographic location of persons newly diagnosed with HIV. For AIDS diagnoses, the residential information at time of AIDS diagnosis was used to determine the geographic location. For AIDS cases for whom the specific residential information at time of diagnosis was not available, the residence at time of HIV diagnosis information was used, provided that the address was within the LAC jurisdiction.

For prevalence data, the area of residence is based on a person's most recent known address at the end of each calendar year. A CDC SAS program was used to calculate last known residence at each specified year-end.

For death data, a person's geographic location is based on their residence at death, and when missing, on their most recently known address.

When street address is missing, ZIP Code, city, and/or county fields are used. Geographic breakdowns by SPA, HD, and census tract are limited to persons with at

[152] Adjusted Population Estimates for 2013-2021 prepared by County of Los Angeles, Internal Services Department, Information Technology Service, Urban Research-GIS Section. Original estimates were adjusted to reflect AIAN alone and in combination with other race using U.S. Census Bureau American Community Survey PUMS 1-year estimates for 2013-2021. Adjusted estimates were produced by LAC DPH OHAE, Vital Records and Demography Unit.

least ZIP Code level information. Census tract and ZIP Code to SPA and HD correspondence tables were provided by LAC DPH Information Management and Analytics Office, Office of Health Assessment and Epidemiology, GIS Unit team. Caution should be used when interpreting geographic level case counts and rates because these values are inclusive of correctional populations and may be artificially inflated.

Maps

Los Angeles County is divided into 8 Service Planning Areas (SPA),[153] 26 Health Districts (HD), [154] and 2,344 census tracts.[155] All SPA and HD related maps are based on the 2022 boundary definitions and census tract maps are based on the Census 2020 census tract definition.

For 5-year HIV diagnoses (2017-2021), the census tract was assigned based on projected geo-coordinates (X, Y) of the person's address at diagnosis. When a detailed street address was not available, the ZIP Code was used to assign a census tract using the U.S. Department of Housing and Urban Development (HUD) United States Postal Service ZIP Code Crosswalk Files, 1st quarter 2023.[156]

For PLWDH at year-end 2022, the census tract was assigned based on projected geo-coordinates (X, Y) of the most current residential information. When a detailed street address was not available, the ZIP Code of the most current residence was used to assign a census tract using the U.S. Department of Housing and Urban Development (HUD) United States Postal Service ZIP Code Crosswalk Files, 1st quarter 2023.

For persons whose last viral load in 2022 was ≥ 200 copies/mL, the census tract was assigned based on projected geo-coordinates (X, Y) of the most current residential information.

The following criteria were applied to the data presented in maps to protect the confidentiality, privacy, and security of PLWDH in LAC. If the estimated population[157] within a census tract was less than 500 persons or the counts of the outcome of interest was less than 5 observations in a census tract, the count was set to missing.

Gender and sex at birth

Surveillance collects information about both sex assigned at birth ("sex at birth") and individuals' current gender identity ("gender"). This report displays data by gender when counts are presented. This report displays data by sex at birth when rates are presented due to the unavailability of population size estimates in LAC by gender

[153] County of Los Angeles, Department of Public Health. 2022. Service Planning Area 2022 (view). County of Los Angeles, California, Enterprise GIS Repository. Accessed 07/25/2022. https://egis-lacounty.hub.arcgis.com/datasets/service-planning-areas-2022-view/.

[154] County of Los Angeles, Department of Public Health. 2022. Health Districts 2022 (view). County of Los Angeles, California, Enterprise GIS Repository. Accessed 03/21/2023. https://egis-lacounty.hub.arcgis.com/datasets/health-districts-2022-view/.

[155] U.S. Census Bureau, Geography Division. 2021. 2021 TIGER/Line Shapefiles: Census Tracts. 2021 TIGER/Line Shapefiles (machine-readable data files). Accessed 12/28/21. https://www.census.gov/cgi-bin/geo/shapefiles/index.php?year=2021&layergroup=Census+Tracts.

[156] U.S. Department of Housing and Urban Development (HUD), Office of Policy Development and Research (PD&R). 2023. HUD United States Postal Service ZIP Code Crosswalk Files, ZIP-TRACT 1st Quarter 2023. Accessed 05/25/2022. https://www.huduser.gov/portal/datasets/usps_crosswalk.html.

[157] July 1, 2021 Population Estimates (Provisional), prepared by Hedderson Demographic Services for Los Angeles County Internal Services Department, released October 2022. SPA, HD, and SD geographies integrated in by Population Health Assessment Team, Office of Health Assessment and Epidemiology.

categories. For gender, this report displays the following gender categories: men, women, and transgender. Transgender individuals are people who have ever identified as trans women or trans men or whose reported gender identity differs from their sex assigned at birth. Persons who are reported as female at birth and have no other gender identity noted are classified as women. Persons who are reported as male at birth and have no other gender identity noted are classified as men. This report likely underestimates the number of transgender people affected by HIV because gender status information is often incomplete in HIV case reports.

Race and ethnicity
Mandated collection of race and ethnicity information for persons newly diagnosed with HIV was implemented on January 1, 2003, as per OMB Statistical Policy Directive 15. A minimum of 5 race categories are collected for HIV surveillance including: American Indian and Alaska Native, Asian, Black, Native Hawaiian and Pacific Islander, and White. Additionally, systems must be able to retain information when multiple racial categories are reported.

Race and ethnicity in this report were grouped using the following criteria exclusively: A person was considered 'Latinx' if indicated 'Latino' or 'Latina' in the race or ethnicity field, regardless of any other race information found for the person. When not indicated as 'Latino' or 'Latina', a person was considered 'American Indian and Alaska Native (AIAN)' if the race field contained AIAN information, regardless of any other race information found for this person. Asians and Pacific Islanders were categorized into two separate groups: Asian or Native Hawaiian and Pacific Islander (NHPI). This categorization was based on an extensive review among available reporting sources, including electronic medical records, original case report forms, Ryan White client registry, and STD Case Watch. In addition, information on extended race, country of birth, and full name were also considered in the review. Persons identified with presumed NHPI race were included in the NHPI group regardless of their identification of Asian race in the records. Except for AIAN and NHPI groups, a person was categorized as 'Multi-racial' when two or more races were reported in the above race fields. All other persons reported with only one single race were placed in the corresponding race/ethnicity category.

HIV transmission risk categories
For surveillance purposes, a diagnosis of HIV is counted only once in the hierarchy of transmission categories. Persons with more than one reported risk factor for HIV are classified in the transmission category listed first in the hierarchy. The exception is men who had sexual contact with other men and injected drugs; this group makes up a separate transmission category.

Persons whose transmission category is classified as male-to-male sexual contact include men who have ever had sexual contact with other men and men who have ever had sexual contact with both men and women. Persons whose transmission category is classified as heterosexual contact are persons who have ever had heterosexual contact with a person known to have, or to be at high risk for HIV (e.g.,

a person who injects drugs). The heterosexual contact category excludes men who have ever had sexual contact with both men and women.

Transfusion or hemophilia transmission category is limited to persons who received blood transfusion no later than 1985 or persons who had been investigated and confirmed as having received transfusion of contaminated blood after 1985.

Newly diagnosed HIV cases reported without a transmission category were classified as "undetermined" transmission category. These included cases that were being followed up by LAC staff; cases whose risk factor information was missing because they died, declined to be interviewed, or were lost to follow-up; and cases who were interviewed or for whom other follow-up information was available, but no risk factor was identified.

Because a substantial proportion of persons newly diagnosed with HIV are reported without an identified risk factor, multiple imputation was used to assign a transmission risk category. Multiple imputation is a statistical approach in which each missing transmission category is replaced with a set of plausible values that represent the uncertainty about the true, but missing value. The plausible values were analyzed by using standard procedures, and the results from these analyses were combined to produce the final results.

Estimates HIV incidence and undiagnosed HIV

HIV incidence and undiagnosed HIV are approximated using CDC's CD4 depletion model.[158] The CD4-based model uses HIV surveillance data and the first CD4 value after HIV diagnosis to estimate HIV incidence (diagnosed and undiagnosed persons infected with HIV), HIV prevalence (diagnosed and undiagnosed persons living with HIV), and percentage of undiagnosed HIV. The date of HIV acquisition is estimated for each person with a CD4 test using the model. To account for persons without a CD4 test result, persons with CD4 test results are assigned a weight based on the year of HIV diagnosis, sex, race/ethnicity, transmission category, age at diagnosis, disease classification, and vital status at the end of the specified year.

Based on the estimated time from HIV infection to diagnosis, the diagnosis delay distribution can be estimated by using standard survival analysis for right truncated data and used to estimate annual HIV incidence. HIV prevalence, which represents counts of persons with diagnosed or undiagnosed HIV at year-end each year, is estimated by subtracting reported cumulative deaths from cumulative infections. The number of persons with undiagnosed HIV is estimated by subtracting the number of persons living with diagnosed HIV from total prevalence. The percentage of diagnosed (or undiagnosed) HIV is determined by dividing the number of persons living with diagnosed (or undiagnosed) HIV by the total prevalence for each year.

[158] Song R, Hall HI, Green TA, Szwarcwald CL, Pantazis N. Using CD4 Data to Estimate HIV Incidence, Prevalence, and Percent of Undiagnosed Infections in the United States. J Acquir Immune DeficSyndr. 2017; 74(1):3-9.

The CD4 model relies on a series of assumptions: (1) the CD4 depletion model is accurate; (2) persons received no treatment before the first CD4 test; (3) all data adjustments (e.g., multiple imputation for missing values of transmission category, weighting to account for cases without a CD4 test) are unbiased; and (4) a person's infection, diagnosis, and death occur in a "closed" population (no migration) or balanced population (approximately the same number of infected people moved into or out of the area under consideration). Of note, the model estimates are impacted by a 12-month reporting delay. Therefore, in this report, estimates from the CD4 model are presented through 2020.

National HIV Behavioral Surveillance

The National HIV Behavioral Surveillance (NHBS) system was designed to generate estimates of HIV prevalence and behavioral indicators in priority populations through nationally representative surveys in these populations. These surveys are funded by the US Centers for Disease Control and Prevention and implemented by local health departments. Time location sampling, a method of recruiting participants from venues where eligible participants are known to socialize during specific time periods, was used to recruit MSM participants. Respondent driven sampling, a peer-driven chain-referral sampling method, was used to recruit PWID, heterosexual persons at elevated risk for HIV (HET) and Transgender women participants. In addition to population specific eligibility criteria, NHBS participants were residents of LAC and at least 18 years of ag. Participants who provided informed consent completed an interviewer-administered, anonymous standardized questionnaire about HIV-related behaviors and underwent confidential rapid HIV and standard Hepatitis B and C testing. All testers received HIV counseling and referrals for social and medical services as needed.

Medical Monitoring Project

The MMP is a national HIV surveillance system funded by the US Centers for Disease Control and Prevention and implemented by local health departments. The aim of MMP is to provide locally and nationally representative data on behavioral and clinical outcomes in a sample of persons receiving HIV medical care. MMP uses a two-stage probability-based sampling strategy that draws from the National HIV Surveillance System (NHSS) to select survey participants. The first stage is selecting the geographic areas to participate, and the second stage is selecting adults diagnosed with HIV and reported to NHSS within those participating areas.

Sampled persons were recruited to participate in person, by telephone, or by mail. To be eligible for MMP, the person had to be living with diagnosed HIV, aged ≥18 years, and residing in an MMP project area. A trained interviewer conducted either a computer-assisted telephone interview or an in-person interview. Persons who agreed to participate were interviewed over the telephone or in a private location. The interview included questions about demographics, health care use, met and unmet needs for ancillary services, sexual behavior, depression and anxiety, gynecologic and reproductive history (females only), drug and alcohol use, and use of prevention services.

Procedure for obtaining MMP weights: To generate locally and nationally representative data, survey data are weighted using base weights that reflect individuals' probability of selection at the national level and within each project area. Unique national and project area base weights were calculated for all 9,700 sampled cases. For a small group of cases, the base weights were adjusted for multiplicity. The weights were adjusted for nonresponse based on the national, city-state combination, or project area nonresponse analysis. The national nonresponse-adjusted weights were post stratified to national population totals, and each project area and city-state combinations were post stratified to project area and city-state specific population totals. In 2019, no trimming was required for the post stratified weights at the national, city-state combination or project area level. Thus, the post stratified weight was the final MMP weight.

The national and city-state combination design variables were constructed ensuring that each design stratum had at least two clusters to calculate variances. The report also presented weight statistics and variance estimates that reflected the complex sampling design, and these were reviewed as part of the quality assurance process.

HIV Care Continuum

LA County has aligned with the targets set in the Ending the HIV Epidemic (EHE) in the US initiative to track progress along the HIV care continuum, which includes increasing the proportion of newly diagnosed patients linked to clinical care within one month of their diagnosis to 95% by 2025 and increasing the proportion of persons with diagnosed HIV who are virally suppressed to 95% by 2025.

Biomarkers such as HIV viral load (VL), CD4+ T-cell counts, and HIV genotype tests are used as markers to approximate early HIV as well as outcomes along the HIV care continuum. Since the start of mandatory name-based HIV reporting in California in 2006, laboratories have been required to report “all tests that are indicative of HIV, including tests for HIV diagnosis, a component of HIV, or antibodies to or antigen of HIV (Title 17 CCR 2641.30)” to their local health department. In 2008, the reporting of all CD4 tests was mandated in California. These laboratory tests are used to estimate early HIV and initial linkage to care for persons newly diagnosed with HIV and to monitor receipt of care, retention in care, and degree of viral suppression among PLWDH in care. Caution should be exercised when interpreting these results because not all CD4/VL results were reported to the health department. This was especially the case when a PLWDH received care outside the local jurisdiction or moved out of state or to another country. This limitation may have resulted in underestimates of one or more of the outcomes along the HIV care continuum.

Stage 0 HIV disease: Stage 0 is designed to capture early HIV which includes acute HIV and infections within 180 days before HIV diagnosis. Stage 0 infection is based on a sequence of discordant HIV test results in which a negative or indeterminate result was within 180 days of a positive result. The date of negative HIV test is based on laboratory documentation and, for this analysis, patient’s self-report of last negative

test in the absence of laboratory documentation. Stage 0 cases are likely underestimated due to under-reporting of HIV negative test results.

Linkage to care: Linkage to care was defined as having a VL, CD4, or HIV genotype test performed within 1 week, 2 weeks, 1 month, 6 months, or 12 months after a new HIV diagnosis.

Receipt of care: Receipt of care was defined as having at least one VL, CD4, or HIV genotype test reported during a twelve-month period.

Retention in care: Retention in care was defined as two or more VL, CD4, or HIV genotype tests performed at least three months apart during a twelve-month period.

HIV viral suppression: Viral suppression was defined as having a viral load (VL) result of < 200 copies per milliliter (copies/mL). It is based on a person's most recent viral load test result within the specified calendar year. Persons who had no viral load tests reported in the specified calendar year were presumed to be virally unsuppressed.

Sustained viral suppression: Sustained viral suppression was defined as having all viral load (VL) results of < 200 copies per milliliter (copies/mL) over a period of at least 1 year. In this report, sustained viral load is defined using either a one-year or three-year time period.

Persons living with diagnosed HIV: Because of the need for at least 12 months of follow-up to monitor achievements in the HIV care continuum after linkage to care, the denominator used to calculate receipt of care, retention in care, and viral suppression was restricted to persons diagnosed with HIV through 2021 and living in LAC as of December 31, 2022.

Death information ascertainment

Death information among persons living with diagnosed HIV is obtained through medical chart review, provider reports, autopsy reports by the Los Angeles County Department of Medical Examiner, and routine record linkages with Los Angeles County/California Vital Statistics registry, Social Security Death Master File (SSDMF), and National Death Index (NDI). Caution should be applied when interpreting trends based on reported deaths and associated causes. This is particularly relevant for more recent years as death information is provisional due to reporting delay. Moreover, potential misclassification in causes of deaths may have occurred in 2020 during the COVID-19 pandemic. Cause of death information was based on the first-listed underlying cause of death. International Classification of Diseases (ICD)-10 codes B20-B24 were used to denote HIV/AIDS-related deaths that occurred in 1999-2021. The following ICD-10 codes were used to categorize non-HIV related deaths: Diseases of heart (I00-I09, I11, I13, I20-I51); Malignant neoplasms (C00-C97); Drug poisonings (overdose) Unintentional (X40-X44); COVID-19 (U07.1); All other causes (remaining non-missing ICD-10 codes) or Unknown causes (R99 or missing).

Data Tables

Table 1A: Counts, percentages, and rates of HIV and stage 3 (AIDS) diagnoses, and deaths among persons aged ≥ 13 years living with diagnosed HIV by sex, age group, race/ethnicity, and transmission category, LAC 2021-2022[1]

	Male[2]												Female[2]												Total											
	2021 HIV Diagnoses			2021 AIDS Diagnoses			PLWDH as of 2022[3]			2021 Deaths[4]			2021 HIV Diagnoses			2021 AIDS Diagnoses			PLWDH as of 2022[3]			2021 Deaths[4]			2021 HIV Diagnoses			2021 AIDS Diagnoses			PLWDH as of 2022[3]			2021 Deaths[4]		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Age Group (Yr)																																				
13-19	46	(3)	10	<5	(-)	-	59	(<1)	13	<5	(-)	-	9	(5)	2	<5	(-)	-	35	(1)	8	<5	(-)	-	55	(4)	6	7	(1)	1	94	(<1)	11	<5	(-)	-
20-29	440	(32)	61	108	(19)	15	3,153	(7)	436	21	(3)	3	32	(20)	5	13	(15)	2	312	(5)	45	<5	(-)	-	472	(31)	33	121	(19)	9	3,465	(6)	244	25	(3)	2
30-39	483	(36)	64	165	(30)	22	9,763	(21)	1,303	95	(14)	13	42	(26)	6	22	(26)	3	885	(15)	122	10	(12)	1	525	(35)	36	187	(29)	13	10,648	(20)	722	105	(14)	7
40-49	183	(14)	27	112	(20)	16	9,653	(20)	1,414	93	(14)	14	39	(24)	6	25	(29)	4	1,385	(23)	202	14	(16)	2	222	(15)	16	137	(21)	10	11,038	(21)	806	107	(14)	8
50-59	143	(11)	21	101	(18)	15	13,206	(28)	1,979	192	(28)	29	27	(16)	4	10	(12)	1	1,699	(28)	247	24	(28)	3	170	(11)	13	111	(17)	8	14,905	(28)	1,099	216	(28)	16
≥60	59	(4)	6	66	(12)	7	11,754	(25)	1,277	285	(42)	31	15	(9)	1	12	(14)	1	1,673	(28)	148	34	(40)	3	74	(5)	4	78	(12)	4	13,427	(25)	656	319	(41)	16
Race/Ethnicity[5]																																				
White	207	(15)	18	93	(17)	8	12,494	(26)	1,067	203	(30)	17	35	(21)	3	8	(9)	1	826	(14)	72	12	(14)	1	242	(16)	10	101	(16)	4	13,320	(25)	573	215	(28)	9
Black	301	(22)	96	105	(19)	34	8,881	(19)	2,840	146	(21)	47	49	(30)	14	33	(39)	9	1,877	(31)	528	31	(36)	9	350	(23)	52	138	(22)	21	10,758	(20)	1,610	177	(23)	26
Latinx	732	(54)	37	297	(53)	15	22,182	(47)	1,132	265	(39)	14	71	(43)	4	34	(40)	2	2,779	(46)	140	31	(36)	2	803	(53)	20	331	(52)	8	24,961	(47)	632	296	(38)	7
Asian	66	(5)	11	37	(7)	6	1,855	(4)	303	16	(2)	3	7	(4)	1	5	(6)	1	189	(3)	26	<5	(-)	-	73	(5)	6	42	(7)	3	2,044	(4)	154	19	(2)	1
Pacific Islander	<5	(-)	-	<5	(-)	-	76	(<1)	853	<5	(-)	-	<5	(-)	-	<5	(-)	-	7	(<1)	75	<5	(-)	-	<5	(-)	-	<5	(-)	-	83	(<1)	456	<5	(-)	-
American Indian/Alaskan Native[6]	10	(1)	33	<5	(-)	-	274	(1)	903	10	(1)	33	<5	(-)	-	<5	(-)	-	42	(1)	136	<5	(-)	-	10	(1)	16	<5	(-)	-	316	(1)	517	12	(2)	20
Multi-race	18	(1)	18	17	(3)	17	1,724	(4)	1,763	46	(7)	47	<5	(-)	-	<5	(-)	-	256	(4)	247	7	(8)	7	20	(1)	10	20	(3)	10	1,980	(4)	983	53	(7)	26
Transmission Category[7,8]																																				
Male-to-male sexual contact (MSM	1,206	(89)	-	472	(85)	-	42,127	(89)	-	520	(76)	-	-	(-)	-	-	(-)	-	-	(-)	-	-	(-)	-	1,206	(79)	-	472	(74)	-	42,127	(79)	-	520	(67)	-
Injection drug use (IDU)	65	(5)	-	35	(6)	-	1,439	(3)	-	48	(7)	-	54	(33)	-	26	(31)	-	1,331	(22)	-	26	(30)	-	119	(8)	-	60	(9)	-	2,770	(5)	-	74	(10)	-
MSM/IDU	52	(4)	-	34	(6)	-	2,919	(6)	-	90	(13)	-	-	(-)	-	-	(-)	-	-	(-)	-	-	(-)	-	52	(3)	-	34	(5)	-	2,919	(5)	-	90	(12)	-
Hemophilia/transfusion	<5	(-)	-	<5	(-)	-	60	(<1)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	39	(1)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	99	(<1)	-	<5	(-)	-
Heterosexual contact[9]	23	(2)	-	15	(3)	-	861	(2)	-	25	(4)	-	110	(67)	-	59	(69)	-	4,449	(74)	-	57	(66)	-	133	(9)	-	74	(12)	-	5,310	(10)	-	82	(11)	-
Perinatal exposure	<5	(-)	-	<5	(-)	-	109	(<1)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	151	(3)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	260	(<1)	-	<5	(-)	-
Other risk[10]	8	(1)	-	<5	(-)	-	72	(<1)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	19	(<1)	-	<5	(-)	-	8	(1)	-	<5	(-)	-	91	(<1)	-	<5	(-)	-
Total[5,11]	1,354	[89]	32	556	[87]	13	47,588	[89]	1,135	686	[89]	16	164	[11]	4	85	[13]	2	5,989	[11]	137	86	[11]	2	1,518	[100]	18	641	[100]	7	53,577	[100]	627	772	[100]	9

[1] Data are provisional due to reporting delay. Rates per 100,000 based on population estimates (provisional) for 2021 prepared by Hedderson Demographic Services for LAC ISD, released October 2022. Rates based on fewer than 12 observations may not be reliable (see Technical Notes).

[2] Male and female categories are based on biological sex at birth.

[3] Persons living with HIV are based on most recent known address at the end of 2022 in Los Angeles County.

[4] Includes persons whose residence at death was in Los Angeles County (LAC) or whose most recent known address before death was in LAC, when residence at death is missing.

[5] Rates by race/ethnicity are based on adjusted population estimates 2021 produced by LAC DPH OHAE, Vital Records and Demography Unit (see Technical Notes); persons with unknown race/ethnicity are not shown but are included in the total.

[6] Includes all non-Latinx persons who have been reported with American Indian/Alaskan Native race, regardless of whether any other race or ethnicity information is reported.

[7] Rates for transmission category are not calculated because of the lack of denominator data.

[8] Persons without an identified risk factor are assigned a risk factor using multiple imputation (MI) methods (see Technical Notes). Due to rounding, the sum may not add up to the total.

[9] Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

[10] Other risk includes risk factor not reported/identified.

[11] Percent of total cases that are male and female is shown in this row.

Table 2A: Counts, percentages, and rates of HIV and stage 3 (AIDS) diagnoses, and deaths among persons aged ≥ 13 years living with diagnosed HIV by sex, Service Planning Area (SPA), and Health District (HD), LAC 2020-2021[1]

SPA/HD[3]	Male[2]										Female[2]										Total									
	2021 HIV Diagnoses			2021 AIDS Diagnoses			PLWDH as of 2022[4]			2021 Deaths[5]			2021 HIV Diagnoses			2021 AIDS Diagnoses			PLWDH as of 2022[4]			2021 Deaths[5]			2021 HIV Diagnoses			2021 AIDS Diagnoses			PLWDH as of 2022[4]			2021 Deaths[5]		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Antelope Valley [1]	**39**	**(3)**	**23**	**14**	**(3)**	**8**	**954**	**(2)**	**570**	**23**	**(3)**	**14**	**8**	**(5)**	**5**	**7**	**(8)**	**4**	**285**	**(5)**	**164**	**12**	**(14)**	**7**	**47**	**(3)**	**14**	**21**	**(3)**	**6**	**1,239**	**(2)**	**363**	**35**	**(5)**	**10**
Antelope Valley	39	(3)	23	14	(3)	8	954	(2)	570	23	(3)	14	8	(5)	5	7	(8)	4	285	(5)	164	12	(14)	7	47	(3)	14	21	(3)	6	1,239	(2)	363	35	(5)	10
San Fernando [2]	**208**	**(15)**	**22**	**102**	**(18)**	**11**	**7,094**	**(15)**	**762**	**95**	**(14)**	**10**	**23**	**(14)**	**2**	**5**	**(6)**	**1**	**913**	**(15)**	**95**	**10**	**(12)**	**1**	**231**	**(15)**	**12**	**107**	**(17)**	**6**	**8,007**	**(15)**	**423**	**105**	**(14)**	**6**
East Valley	70	(5)	37	33	(6)	17	2,250	(5)	1188	31	(5)	16	7	(4)	4	<5	(-)	-	213	(4)	112	<5	(-)	-	77	(5)	20	34	(5)	9	2,463	(5)	650	33	(4)	9
Glendale	15	(1)	10	10	(2)	7	852	(2)	587	9	(1)	6	<5	(-)	-	<5	(-)	-	91	(2)	58	<5	(-)	-	19	(1)	6	10	(2)	3	943	(2)	311	12	(2)	4
San Fernando	31	(2)	14	13	(2)	6	880	(2)	394	11	(2)	5	<5	(-)	-	<5	(-)	-	143	(2)	63	<5	(-)	-	35	(2)	8	14	(2)	3	1,023	(2)	227	11	(1)	2
West Valley	92	(7)	25	46	(8)	12	3,112	(7)	833	44	(6)	12	8	(5)	2	<5	(-)	-	466	(8)	120	5	(6)	1	100	(7)	13	49	(8)	6	3,578	(7)	470	49	(6)	6
San Gabriel [3]	**140**	**(10)**	**19**	**47**	**(8)**	**6**	**3,658**	**(8)**	**500**	**56**	**(8)**	**8**	**19**	**(12)**	**2**	**5**	**(6)**	**1**	**534**	**(9)**	**68**	**12**	**(14)**	**2**	**159**	**(10)**	**11**	**52**	**(8)**	**3**	**4,192**	**(8)**	**277**	**68**	**(9)**	**4**
Alhambra	19	(1)	13	6	(1)	4	578	(1)	410	6	(1)	4	7	(4)	4	<5	(-)	-	81	(1)	52	<5	(-)	-	26	(2)	9	10	(2)	3	659	(1)	222	9	(1)	3
El Monte	39	(3)	22	11	(2)	6	922	(2)	526	13	(2)	7	<5	(-)	-	<5	(-)	-	137	(2)	76	<5	(-)	-	43	(3)	12	11	(2)	3	1,059	(2)	297	17	(2)	5
Foothill	23	(2)	18	7	(1)	5	575	(1)	448	16	(2)	12	<5	(-)	-	<5	(-)	-	73	(1)	52	<5	(-)	-	25	(2)	9	8	(1)	3	648	(1)	242	17	(2)	6
Pasadena	10	(1)	17	6	(1)	10	509	(1)	845	11	(2)	18	<5	(-)	-	<5	(-)	-	65	(1)	102	<5	(-)	-	10	(1)	8	6	(1)	5	574	(1)	462	12	(2)	10
Pomona	49	(4)	22	17	(3)	8	1,074	(2)	474	10	(1)	4	6	(4)	2	<5	(-)	-	178	(3)	74	<5	(-)	-	55	(4)	12	17	(3)	4	1,252	(2)	268	13	(2)	3
Metro [4]	**314**	**(23)**	**62**	**133**	**(24)**	**26**	**17,093**	**(36)**	**3,357**	**233**	**(34)**	**46**	**24**	**(15)**	**5**	**15**	**(18)**	**3**	**1,110**	**(19)**	**234**	**10**	**(12)**	**2**	**338**	**(22)**	**34**	**148**	**(23)**	**15**	**18,203**	**(34)**	**1,852**	**243**	**(31)**	**25**
Central	127	(9)	76	61	(11)	36	6,229	(13)	3,709	99	(14)	59	14	(9)	10	9	(11)	6	566	(9)	396	6	(7)	4	141	(9)	45	70	(11)	23	6,795	(13)	2,187	105	(14)	34
Hollywood-Wilshire	143	(11)	65	57	(10)	26	9,160	(19)	4,178	108	(16)	49	10	(6)	5	<5	(-)	-	384	(6)	184	<5	(-)	-	153	(10)	36	61	(10)	14	9,544	(18)	2,232	110	(14)	26
Northeast	44	(3)	36	15	(3)	12	1,704	(4)	1,396	26	(4)	21	<5	(-)	-	<5	(-)	-	160	(3)	130	<5	(-)	-	44	(3)	18	17	(3)	7	1,864	(3)	761	28	(4)	11
West [5]	**47**	**(3)**	**17**	**24**	**(4)**	**8**	**2,320**	**(5)**	**818**	**23**	**(3)**	**8**	**<5**	**(-)**	**-**	**<5**	**(-)**	**-**	**228**	**(4)**	**74**	**<5**	**(-)**	**-**	**51**	**(3)**	**9**	**27**	**(4)**	**5**	**2,548**	**(5)**	**432**	**25**	**(3)**	**4**
West	47	(3)	17	24	(4)	8	2,320	(5)	818	23	(3)	8	<5	(-)	-	<5	(-)	-	228	(4)	74	<5	(-)	-	51	(3)	9	27	(4)	5	2,548	(5)	432	25	(3)	4
South [6]	**219**	**(16)**	**54**	**80**	**(14)**	**20**	**5,647**	**(12)**	**1,400**	**90**	**(13)**	**22**	**35**	**(21)**	**8**	**17**	**(20)**	**4**	**1,266**	**(21)**	**296**	**19**	**(22)**	**4**	**254**	**(17)**	**31**	**97**	**(15)**	**12**	**6,913**	**(13)**	**832**	**109**	**(14)**	**13**
Compton	50	(4)	46	20	(4)	18	912	(2)	839	16	(2)	15	6	(4)	5	5	(6)	4	185	(3)	160	<5	(-)	-	56	(4)	25	25	(4)	11	1,097	(2)	489	20	(3)	9
South	48	(4)	64	15	(3)	20	1,093	(2)	1,464	16	(2)	21	8	(5)	10	6	(7)	8	258	(4)	328	<5	(-)	-	56	(4)	37	21	(3)	14	1,351	(3)	881	19	(2)	12
Southeast	34	(3)	51	8	(1)	12	944	(2)	1,412	9	(1)	13	7	(4)	11	<5	(-)	-	198	(3)	302	<5	(-)	-	41	(3)	31	9	(1)	7	1,142	(2)	863	13	(2)	10
Southwest	87	(6)	57	37	(7)	24	2,698	(6)	1,760	49	(7)	32	14	(9)	8	5	(6)	3	625	(10)	374	8	(9)	5	101	(7)	32	42	(7)	13	3,323	(6)	1037	57	(7)	18
East [7]	**171**	**(13)**	**32**	**43**	**(8)**	**8**	**3,486**	**(7)**	**662**	**46**	**(7)**	**9**	**14**	**(9)**	**3**	**7**	**(8)**	**1**	**524**	**(9)**	**95**	**9**	**(10)**	**2**	**185**	**(12)**	**17**	**50**	**(8)**	**5**	**4,010**	**(7)**	**372**	**55**	**(7)**	**5**
Bellflower	37	(3)	25	7	(1)	5	806	(2)	543	13	(2)	9	<5	(-)	-	<5	(-)	-	128	(2)	81	<5	(-)	-	40	(3)	13	9	(1)	3	934	(2)	306	15	(2)	5
East Los Angeles	37	(3)	46	10	(2)	13	680	(1)	853	8	(1)	10	<5	(-)	-	<5	(-)	-	70	(1)	85	<5	(-)	-	41	(3)	25	12	(2)	7	750	(1)	462	12	(2)	7
San Antonio	69	(5)	42	17	(3)	10	1,297	(3)	783	14	(2)	8	<5	(-)	-	<5	(-)	-	229	(4)	134	<5	(-)	-	73	(5)	22	20	(3)	6	1,526	(3)	453	16	(2)	5
Whittier	28	(2)	21	9	(2)	7	703	(1)	529	11	(2)	8	<5	(-)	-	<5	(-)	-	97	(2)	69	<5	(-)	-	31	(2)	11	9	(1)	3	800	(1)	292	12	(2)	4
South Bay [8]	**182**	**(13)**	**28**	**76**	**(14)**	**12**	**6,857**	**(14)**	**1,070**	**114**	**(17)**	**18**	**30**	**(18)**	**4**	**17**	**(20)**	**3**	**1,059**	**(18)**	**156**	**12**	**(14)**	**2**	**212**	**(14)**	**16**	**93**	**(15)**	**7**	**7,916**	**(15)**	**600**	**126**	**(16)**	**10**
Harbor	14	(1)	17	6	(1)	7	625	(1)	743	5	(1)	6	<5	(-)	-	<5	(-)	-	107	(2)	123	<5	(-)	-	16	(1)	9	8	(1)	5	732	(1)	428	8	(1)	5
Inglewood	61	(5)	37	26	(5)	16	1,711	(4)	1027	36	(5)	22	10	(6)	6	9	(11)	5	359	(6)	200	<5	(-)	-	71	(5)	21	35	(5)	10	2,070	(4)	598	39	(5)	11
Long Beach	78	(6)	40	33	(6)	17	3,748	(8)	1,928	56	(8)	29	11	(7)	5	5	(6)	2	460	(8)	225	5	(6)	2	89	(6)	22	38	(6)	10	4,208	(8)	1,055	61	(8)	15
Torrance	29	(2)	15	11	(2)	6	773	(2)	395	17	(2)	9	7	(4)	3	<5	(-)	-	133	(2)	64	<5	(-)	-	36	(2)	9	12	(2)	3	906	(2)	225	18	(2)	4
Total[6,7]	**1,354**	**[89]**	**32**	**556**	**[87]**	**13**	**47,588**	**[89]**	**1,135**	**686**	**[89]**	**16**	**164**	**[11]**	**4**	**85**	**[13]**	**2**	**5,989**	**[11]**	**137**	**86**	**[11]**	**2**	**1,518**	**[100]**	**18**	**641**	**[100]**	**7**	**53,577**	**[100]**	**627**	**772**	**[100]**	**9**

[1] Data are provisional due to reporting delay. Rates per 100,000 based on July 1, 2021 Population Estimates (Provisional), prepared by Hedderson Demographic Services for LAC ISD, released October 2022. SPA and HD geographies integrated in by Population Health Assessment Team, Office of Health Assessment and Epidemiology (OHAE). Rates based on fewer than 12 observations may not be reliable (see Technical Notes).

[2] Male and female categories are based on biological sex at birth.

[3] Service Planning Area and Health District are based on 2022 boundaries. Persons are assigned a SPA/HD using their geocoded residence at diagnosis joined to census tract 2020, followed by their ZIP Code if no valid residence at diagnosis was available. The correspondence tables were provided by LAC DPH Information Management and Analytics Office, Office of Health Assessment and Epidemiology, GIS Unit team.

[4] Persons living with HIV are based on most recent known address at the end of 2022 in Los Angeles County.

[5] Includes persons whose residence at death was in Los Angeles County (LAC) or whose most recent known address before death was in LAC, when residence at death is missing.

[6] Percent of total cases that are male and female is shown in this row.

[7] The sum may not add up to the total due to persons with no information on Service Planning Area/Health District who are not shown but are included in the total.

Table 3A: HIV diagnoses counts, percentages, and rates[1] by gender, age group, race/ethnicity, and transmission category among persons aged ≥ 13 years newly diagnosed with HIV, LAC 2013-2021

	2013			2014			2015			2016			2017			2018			2019			2020			2021[2]		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Gender																											
Male	1,528	(87)	37	1,826	(88)	44	1,755	(88)	42	1,677	(88)	40	1,560	(88)	37	1,502	(87)	35	1,333	(85)	31	1,206	(85)	29	1,300	(86)	31
Female	192	(11)	5	216	(10)	5	190	(10)	4	191	(10)	4	176	(10)	4	186	(11)	4	178	(11)	4	148	(10)	3	162	(11)	4
Transgender[3]	38	(2)	-	27	(1)	-	48	(2)	-	45	(2)	-	41	(2)	-	38	(2)	-	62	(4)	-	60	(4)	-	56	(4)	-
Age Group (Yr)																											
13-19	70	(4)	7	63	(3)	6	76	(4)	8	64	(3)	7	54	(3)	6	67	(4)	7	58	(4)	6	37	(3)	4	55	(4)	6
20-29	599	(34)	38	772	(37)	50	749	(38)	49	744	(39)	48	692	(39)	45	653	(38)	43	543	(35)	36	509	(36)	35	472	(31)	33
30-39	481	(27)	33	586	(28)	41	531	(27)	36	540	(28)	37	498	(28)	33	507	(29)	34	485	(31)	32	422	(30)	28	525	(35)	36
40-49	369	(21)	26	376	(18)	27	354	(18)	25	319	(17)	23	281	(16)	20	268	(16)	19	240	(15)	17	248	(18)	18	222	(15)	16
50-59	181	(10)	14	203	(10)	16	217	(11)	16	193	(10)	14	178	(10)	13	148	(9)	11	182	(12)	13	142	(10)	10	170	(11)	13
≥60	58	(3)	3	69	(3)	4	66	(3)	4	53	(3)	3	74	(4)	4	83	(5)	4	65	(4)	3	56	(4)	3	74	(5)	4
Race/Ethnicity[4]																											
White	414	(24)	17	426	(21)	17	427	(21)	17	340	(18)	14	356	(20)	14	325	(19)	13	315	(20)	13	259	(18)	11	242	(16)	10
Black	348	(20)	49	384	(19)	54	432	(22)	61	427	(22)	60	358	(20)	50	378	(22)	53	323	(21)	45	295	(21)	44	350	(23)	52
Latinx	837	(48)	22	1,053	(51)	28	936	(47)	24	955	(50)	24	857	(48)	21	861	(50)	21	785	(50)	19	746	(53)	19	803	(53)	20
Asian	72	(4)	6	116	(6)	9	114	(6)	9	90	(5)	7	113	(6)	9	85	(5)	7	86	(5)	7	60	(4)	4	73	(5)	6
Pacific Islander	5	(<1)	26	<5	(-)	-	<5	(-)	-	<5	(-)	-	5	(<1)	25	6	(<1)	29	<5	(-)	-	<5	(-)	-	<5	(-)	-
American Indian/Alaskan Native[5]	7	(<1)	11	13	(1)	21	11	(1)	20	12	(1)	23	15	(1)	29	11	(1)	19	<5	(-)	-	9	(1)	16	10	(1)	16
Multi-race	74	(4)	68	73	(4)	65	67	(3)	55	85	(4)	69	71	(4)	56	57	(3)	44	50	(3)	36	33	(2)	16	20	(1)	10
Transmission Category[3,6]																											
Male-to-male sexual contact (MSM)	1,448	(82)	-	1,717	(83)	-	1,681	(84)	-	1,600	(84)	-	1,484	(84)	-	1,401	(81)	-	1,256	(80)	-	1,138	(80)	-	1,206	(79)	-
Injection drug use (IDU)	94	(5)	-	97	(5)	-	96	(5)	-	94	(5)	-	105	(6)	-	109	(6)	-	102	(6)	-	93	(7)	-	119	(8)	-
MSM/IDU	56	(3)	-	71	(3)	-	57	(3)	-	59	(3)	-	61	(3)	-	64	(4)	-	65	(4)	-	62	(4)	-	52	(3)	-
Heterosexual contact[7]	159	(9)	-	182	(9)	-	158	(8)	-	158	(8)	-	125	(7)	-	151	(9)	-	143	(9)	-	114	(8)	-	133	(9)	-
Perinatal exposure	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-
Other risk[8]	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	6	(<1)	-	7	(<1)	-	8	(1)	-
Total[4]	1,758	[100]	21	2,069	[100]	25	1,993	[100]	23	1,913	[100]	22	1,777	[100]	21	1,726	[100]	20	1,573	[100]	18	1,414	[100]	16	1,518	[100]	18

[1] Rates per 100,000 based on population estimates 2013-2021 prepared by Hedderson Demographic Services for Los Angeles County Internal Services Department, whereby rates for 2020 are based on the 2nd provisional and rates for 2021 are based on the 1st provisional population estimates released October 2022. Rates based on fewer than 12 observations may not be reliable (see Technical Notes).

[2] Data are provisional due to reporting delay.

[3] Rates for transgender and transmission category are not calculated because of the lack of denominator data.

[4] Rates by race/ethnicity are based on 2013-2021 adjusted population estimates produced by LAC DPH OHAE, Vital Records and Demography Unit (see Technical Notes); persons with unknown race/ethnicity are not shown but are included in the total.

[5] Includes all non-Latinx persons who have been reported with American Indian/Alaskan Native race, regardless of whether any other race or ethnicity information is reported.

[6] Persons without an identified risk factor are assigned a risk factor using multiple imputation (MI) methods (see Technical Notes). Due to rounding, the sum may not add up to the total.

[7] Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

[8] Other risk includes risk factor not reported/identified.

Table 4A: HIV diagnoses counts, percentages, and rates[1] by Service Planning Area (SPA)/Health District (HD) of residence among persons aged ≥ 13 years newly diagnosed with HIV, LAC 2013-2021

SPA/HD[2]	Year of Diagnosis																							
	2013			2014			2015			2016			2017			2018			2019			2020			20213		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Antelope Valley [1]	**34**	**(2)**	**11**	**46**	**(2)**	**14**	**31**	**(2)**	**10**	**42**	**(2)**	**13**	**37**	**(2)**	**12**	**45**	**(3)**	**14**	**38**	**(2)**	**12**	**50**	**(4)**	**15**	**47**	**(3)**	**14**
Antelope Valley	34	(2)	11	46	(2)	14	31	(2)	10	42	(2)	13	37	(2)	12	45	(3)	14	38	(2)	12	50	(4)	15	47	(3)	14
San Fernando [2]	**242**	**(14)**	**13**	**303**	**(15)**	**16**	**299**	**(15)**	**16**	**304**	**(16)**	**16**	**256**	**(14)**	**13**	**291**	**(17)**	**15**	**272**	**(17)**	**14**	**214**	**(15)**	**11**	**231**	**(15)**	**12**
East Valley	74	(4)	20	85	(4)	23	91	(5)	24	90	(5)	23	75	(4)	19	100	(6)	26	76	(5)	20	56	(4)	15	77	(5)	20
Glendale	24	(1)	8	32	(2)	11	35	(2)	11	28	(1)	9	23	(1)	8	28	(2)	9	36	(2)	12	40	(3)	13	19	(1)	6
San Fernando	32	(2)	8	39	(2)	9	31	(2)	7	50	(3)	11	40	(2)	9	41	(2)	9	32	(2)	7	27	(2)	6	35	(2)	8
West Valley	112	(6)	15	147	(7)	20	142	(7)	19	136	(7)	18	118	(7)	15	122	(7)	16	128	(8)	16	91	(6)	12	100	(7)	13
San Gabriel [3]	**151**	**(9)**	**10**	**193**	**(9)**	**13**	**178**	**(9)**	**12**	**177**	**(9)**	**12**	**200**	**(11)**	**13**	**158**	**(9)**	**10**	**152**	**(10)**	**10**	**166**	**(12)**	**11**	**159**	**(10)**	**11**
Alhambra	22	(1)	7	33	(2)	11	30	(2)	10	28	(1)	9	36	(2)	12	22	(1)	7	20	(1)	6	13	(1)	4	26	(2)	9
El Monte	34	(2)	9	56	(3)	16	48	(2)	13	56	(3)	15	49	(3)	13	47	(3)	13	36	(2)	10	56	(4)	16	43	(3)	12
Foothill	28	(2)	11	38	(2)	15	29	(1)	11	23	(1)	9	32	(2)	12	24	(1)	9	20	(1)	7	15	(1)	6	25	(2)	9
Pasadena	24	(1)	20	25	(1)	21	27	(1)	22	18	(1)	15	20	(1)	16	18	(1)	14	14	(1)	11	15	(1)	12	10	(1)	8
Pomona	43	(2)	9	41	(2)	9	44	(2)	9	52	(3)	11	63	(4)	13	47	(3)	10	62	(4)	13	67	(5)	14	55	(4)	12
Metro [4]	**578**	**(33)**	**59**	**673**	**(33)**	**69**	**590**	**(30)**	**59**	**526**	**(27)**	**52**	**515**	**(29)**	**51**	**440**	**(25)**	**43**	**398**	**(25)**	**39**	**346**	**(24)**	**35**	**338**	**(22)**	**34**
Central	212	(12)	72	230	(11)	78	218	(11)	73	215	(11)	71	181	(10)	59	196	(11)	64	165	(10)	52	124	(9)	39	141	(9)	45
Hollywood-Wilshire	304	(17)	71	369	(18)	85	319	(16)	73	263	(14)	59	275	(15)	62	197	(11)	44	198	(13)	44	170	(12)	39	153	(10)	36
Northeast	62	(4)	25	74	(4)	29	53	(3)	20	48	(3)	18	59	(3)	22	47	(3)	18	35	(2)	13	52	(4)	21	44	(3)	18
West [5]	**81**	**(5)**	**14**	**104**	**(5)**	**18**	**101**	**(5)**	**17**	**62**	**(3)**	**11**	**62**	**(3)**	**11**	**70**	**(4)**	**12**	**84**	**(5)**	**14**	**50**	**(4)**	**8**	**51**	**(3)**	**9**
West	81	(5)	14	104	(5)	18	101	(5)	17	62	(3)	11	62	(3)	11	70	(4)	12	84	(5)	14	50	(4)	8	51	(3)	9
South [6]	**227**	**(13)**	**28**	**254**	**(12)**	**31**	**289**	**(15)**	**35**	**304**	**(16)**	**36**	**288**	**(16)**	**34**	**272**	**(16)**	**32**	**222**	**(14)**	**26**	**188**	**(13)**	**23**	**254**	**(17)**	**31**
Compton	47	(3)	21	53	(3)	24	45	(2)	20	62	(3)	27	59	(3)	26	59	(3)	26	47	(3)	21	40	(3)	18	56	(4)	25
South	43	(2)	30	53	(3)	36	57	(3)	38	68	(4)	44	53	(3)	34	64	(4)	42	47	(3)	30	35	(2)	23	56	(4)	37
Southeast	33	(2)	25	45	(2)	34	40	(2)	29	46	(2)	33	46	(3)	33	48	(3)	35	38	(2)	28	41	(3)	31	41	(3)	31
Southwest	104	(6)	33	103	(5)	33	147	(7)	46	128	(7)	40	130	(7)	40	101	(6)	31	90	(6)	28	72	(5)	22	101	(7)	32
East [7]	**146**	**(8)**	**14**	**180**	**(9)**	**17**	**170**	**(9)**	**16**	**185**	**(10)**	**17**	**166**	**(9)**	**15**	**167**	**(10)**	**15**	**139**	**(9)**	**13**	**149**	**(11)**	**14**	**185**	**(12)**	**17**
Bellflower	45	(3)	15	43	(2)	14	45	(2)	15	45	(2)	15	38	(2)	13	37	(2)	12	38	(2)	12	27	(2)	9	40	(3)	13
East Los Angeles	25	(1)	15	27	(1)	17	28	(1)	17	35	(2)	21	28	(2)	17	29	(2)	17	21	(1)	13	31	(2)	19	41	(3)	25
San Antonio	46	(3)	14	66	(3)	20	65	(3)	19	68	(4)	20	68	(4)	20	62	(4)	18	55	(3)	16	56	(4)	17	73	(5)	22
Whittier	30	(2)	11	44	(2)	16	32	(2)	12	37	(2)	14	32	(2)	12	39	(2)	14	25	(2)	9	35	(2)	13	31	(2)	11
South Bay [8]	**273**	**(16)**	**21**	**290**	**(14)**	**22**	**294**	**(15)**	**22**	**276**	**(14)**	**21**	**225**	**(13)**	**17**	**240**	**(14)**	**18**	**233**	**(15)**	**18**	**197**	**(14)**	**15**	**212**	**(14)**	**16**
Harbor	18	(1)	11	35	(2)	20	20	(1)	11	23	(1)	13	16	(1)	9	28	(2)	16	22	(1)	12	13	(1)	8	16	(1)	9
Inglewood	85	(5)	25	86	(4)	25	92	(5)	27	90	(5)	26	71	(4)	20	78	(5)	22	77	(5)	22	67	(5)	19	71	(5)	21
Long Beach	132	(8)	34	130	(6)	33	138	(7)	35	129	(7)	32	110	(6)	27	100	(6)	25	101	(6)	25	90	(6)	22	89	(6)	22
Torrance	38	(2)	10	39	(2)	10	44	(2)	11	34	(2)	9	28	(2)	7	34	(2)	8	33	(2)	8	27	(2)	7	36	(2)	9
Total[4]	**1,758**	**[100]**	**21**	**2,069**	**[100]**	**25**	**1,993**	**[100]**	**23**	**1,913**	**[100]**	**22**	**1,777**	**[100]**	**21**	**1,726**	**[100]**	**20**	**1,573**	**[100]**	**18**	**1,414**	**[100]**	**16**	**1,518**	**[100]**	**18**

[1] Rates are per 100,000 and based on population estimates 2013-2021 prepared by Hedderson Demographic Services for Los Angeles County Internal Services Department, whereby 2020 rates are based on the July 1, 2020 population estimates (second provisional) released October 2022, and 2021 rates are based on July 1, 2023 poplation estimates (provisional) released October 2022. SPA and HD geographies integrated in by Population Health Assessment Team, Office of Health Assessment and Epidemiology (OHAE). Rates based on fewer than 12 observations may not be reliable (see Technical Notes).

[2] Service Planning Areas (SPA) and Health Districts (HD) are based on 2012 boundaries for diagnoses 2013-2019 and 2022 boundaries for diagnoses 2020-2021. Persons are assigned a SPA/HD using their geocoded residence at diagnosis joined to census tracts (CT), followed by their ZIP Code if no valid street address at diagnosis was available. The CT to SPA/HD and ZIP Code to SPA/HD correspondence tables were provided by LAC DPH Information Management and Analytics Office, Office of Health Assessment and Epidemiology, GIS Unit team.

[3] Data are provisional due to reporting delay.

[4] The sum may not add up to the total due to persons with no information on Service Planning Area/Health District (SPA/ HD) who are not shown but are included in the total.

Table 5A: HIV care continuum indicators among persons aged ≥ 13 years living with diagnosed HIV by gender, age group, race/ethnicity, and transmission category, LAC 2021-2022[1]

	HIV diagnoses 2021	Linked to care 1 month[2,3]		PLWDH as of 2022[4]	Engaged in care 2022[2,5]		Retained in care 2022[2,5]		No. of persons with ≥ 1 VL test in 2022	Viral Suppression[2] (VL < 200)		
										Virally suppressed	Among PLWDH[5]	Among persons with ≥ 1 VL test[6]
Characteristics	**N**	**N**	**%**	**N**	**N**	**%**	**N**	**%**	**N**	**N**	**%**	**%**
Gender												
Male	1,300	991	76	45,479	31,277	69	21,710	48	30,263	27,970	62	92
Female	162	119	73	5,793	3,884	67	2,766	48	3,813	3,441	59	90
Transgender	56	43	77	1,072	750	70	521	49	732	617	58	84
Age Group (Yr)[7]												
13-19	55	39	71	113	93	82	59	52	92	80	71	87
20-29	472	349	74	3,839	2,849	74	1,690	44	2,794	2,427	63	87
30-39	525	409	78	10,591	7,303	69	4,573	43	7,109	6,350	60	89
40-49	222	175	79	10,866	7,259	67	4,945	46	7,058	6,393	59	91
50-59	170	126	74	15,086	10,361	69	7,542	50	10,029	9,370	62	93
≥ 60	74	55	74	11,849	8,046	68	6,188	52	7,726	7,408	63	96
Race/Ethnicity[8]												
Black	350	253	72	10,510	6,701	64	4,352	41	6,527	5,718	54	88
Latinx	803	615	77	24,267	16,620	68	11,939	49	16,313	14,977	62	92
White	242	194	80	13,150	9,243	70	6,394	49	8,731	8,305	63	95
Asian	73	56	77	1,996	1,446	72	1,039	52	1,407	1,369	69	97
Pacific Islander	<5	<5	-	80	57	71	30	38	54	50	63	93
American Indian/Alaskan Native[9]	10	9	90	311	220	71	146	47	216	191	61	88
Multi-race	20	15	75	1,964	1,589	81	1,081	55	1,528	1,391	71	91
Transmission Category[10]												
Male-to-male sexual contact	1,206	925	77	41,170	28,617	70	19,889	48	27,696	25,728	62	93
Injection drug use (IDU)	119	84	71	2,684	1,562	58	1,075	40	1,518	1,324	49	87
MSM/IDU	52	43	83	2,873	1,960	68	1,353	47	1,895	1,624	57	86
Hemophilia/transfusion	<5	<5	-	99	64	65	41	41	60	58	59	97
Heterosexual contact[11]	133	101	76	5,192	3,464	67	2,493	48	3,403	3,102	60	91
Perinatal exposure	<5	<5	-	258	205	79	127	49	199	158	61	79
Other risk[12]	8	<5	-	67	39	58	20	30	38	33	49	87
Total[8]	1,518	1,153	76	52,344	35,911	69	24,997	48	34,808	32,028	61	92

[1] Data are provisional due to reporting delay.

[2] Persons are considered linked to care if there was at least one viral load, CD4+ T-cell, or genotype test within 1 month of an HIV diagnosis; persons are considered engaged in care if there was at least one viral load, CD4+ T-cell, or genotype test in 2022; persons are considered retained in care if there were ≥ 2 viral load, CD4+ T-cell, or genotype tests in 2022, at least 3 months apart; persons are considered virally suppressed when their last VL test in 2022 was < 200 copies/mL.

[3] Denominator for linkage to care includes persons who were reported with a new HIV diagnosis in 2021; does not include estimated persons unaware of HIV infection.

[4] Persons living with diagnosed HIV include those diagnosed with an HIV infection through 2021 and living in LAC at year-end 2022, based on most recent residence.

[5] Denominator for engagement and retention in care and overall viral load suppression in 2022 includes persons diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence.

[6] Denominator includes persons diagnosed with an HIV infection through 2021 and living in LAC at year-end 2022, based on most recent residence, who had at least one documented VL test in 2022.

[7] Age group for new diagnoses was based on age at the time of initial HIV diagnosis, whereas age group for persons living with diagnosed HIV was based on age at year-end 2021.

[8] Persons with unknown race/ethnicity are not shown but are included in the total.

[9] Includes all non-Latinx persons who have been reported with American Indian/Alaskan Native race, regardless of whether any other race or ethnicity information is reported.

[10] Persons without an identified risk factor are assigned a risk factor using multiple imputation (MI) methods (see Technical Notes). Due to rounding, the sum may not add up to the total.

[11] Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

[12] Other risk includes risk factor not reported/identified.

Table 6A: HIV care continuum indicators among persons aged ≥ 13 years living with diagnosed HIV by Service Planning Area (SPA) and Heath District (HD) of residence, LAC 2020-2021[1]

SPA/HD[2]	HIV diagnoses 2021	Linked to care 1 month[3,4]		PLWDH as of 2022[5]	Engaged in care 2022[3,6]		Retained in care 2022[3,6]		No. of persons with ≥ 1 VL test in 2022	Viral Suppression[3] (VL < 200)		
										Virally suppressed	Among PLWDH[6]	Among persons with ≥ 1 VL test[7]
	N	N	%	N	N	%	N	%	N	N	%	%
Antelope Valley [1]	**47**	**36**	**77**	**1,189**	**871**	**73**	**605**	**51**	**859**	**766**	**64**	**89**
Antelope Valley	47	36	77	1,189	871	73	605	51	859	766	64	89
San Fernando [2]	**231**	**182**	**79**	**7,817**	**5,666**	**72**	**3,955**	**51**	**5,488**	**5,148**	**66**	**94**
East Valley	77	64	83	2,402	1,720	72	1,205	50	1,667	1,561	65	94
Glendale	19	15	79	929	670	72	488	53	646	616	66	95
San Fernando	35	27	77	991	764	77	514	52	746	702	71	94
West Valley	100	76	76	3,495	2,512	72	1,748	50	2,429	2,269	65	93
San Gabriel [3]	**159**	**114**	**72**	**4,070**	**2,946**	**72**	**2,013**	**49**	**2,874**	**2,697**	**66**	**94**
Alhambra	26	15	58	638	465	73	319	50	456	427	67	94
El Monte	43	31	72	1,019	728	71	514	50	720	673	66	93
Foothill	25	22	88	640	483	75	322	50	471	450	70	96
Pasadena	10	8	80	567	405	71	281	50	390	366	65	94
Pomona	55	38	69	1,206	865	72	577	48	837	781	65	93
Metro [4]	**338**	**277**	**82**	**17,888**	**11,610**	**65**	**8,001**	**45**	**11,097**	**10,198**	**57**	**92**
Central	141	112	79	6,665	3,916	59	2,666	40	3,792	3,358	50	89
Hollywood-Wilshire	153	129	84	9,394	6,437	69	4,401	47	6,075	5,692	61	94
Northeast	44	36	82	1,829	1,257	69	934	51	1,230	1,148	63	93
West [5]	**51**	**42**	**82**	**2,510**	**1,701**	**68**	**1,153**	**46**	**1,614**	**1,520**	**61**	**94**
West	51	42	82	2,510	1,701	68	1,153	46	1,614	1,520	61	94
South [6]	**254**	**182**	**72**	**6,723**	**4,670**	**69**	**3,235**	**48**	**4,585**	**4,075**	**61**	**89**
Compton	56	41	73	1,065	771	72	563	53	759	693	65	91
South	56	46	82	1,309	871	67	607	46	860	747	57	87
Southeast	41	25	61	1,103	749	68	532	48	737	644	58	87
Southwest	101	70	69	3,246	2,279	70	1,533	47	2,229	1,991	61	89
East [7]	**185**	**127**	**69**	**3,886**	**2,825**	**73**	**2,020**	**52**	**2,782**	**2,568**	**66**	**92**
Bellflower	40	32	80	897	653	73	474	53	639	601	67	94
East Los Angeles	41	27	66	732	510	70	364	50	501	460	63	92
San Antonio	73	47	64	1,480	1,059	72	760	51	1,045	953	64	91
Whittier	31	21	68	777	603	78	422	54	597	554	71	93
South Bay [8]	**212**	**166**	**78**	**7,750**	**5,458**	**70**	**3,942**	**51**	**5,359**	**4,991**	**64**	**93**
Harbor	16	16	100	722	487	67	366	51	479	445	62	93
Inglewood	71	48	68	2,009	1,419	71	965	48	1,390	1,278	64	92
Long Beach	89	75	84	4,136	2,918	71	2,159	52	2,875	2,698	65	94
Torrance	36	27	75	883	634	72	452	51	615	570	65	93
Total[8]	**1,518**	**1,153**	**76**	**52,344**	**35,911**	**69**	**24,997**	**48**	**34,808**	**32,028**	**61**	**92**

[1] Data are provisional due to reporting delay.

[2] Service Planning Area and Health District are based on 2022 boundaries (see Technical Notes).

[3] Persons are considered linked to care if there was at least one viral load, CD4+ T-cell, or genotype test within 1 month of an HIV diagnosis; persons are considered engaged in care if there were ≥ 1 viral load, CD4+ T-cell, or genotype tests in 2022; persons are considered retained in care if there were ≥ 2 viral load, CD4+ T-cell, or genotype tests in 2022, at least 3 months apart; persons are considered virally suppressed when the last VL test in 2022 was < 200 copies/mL.

[4] Denominator for linkage to care includes persons who were reported with a new HIV diagnosis in 2021; does not include estimated persons unaware of HIV infection.

[5] Persons living with diagnosed HIV include those diagnosed with an HIV infection through 2021 and living in LAC at year-end 2022, based on most recent residence.

[6] Denominator for engagement and retention in care and overall viral load suppression in 2022 includes persons diagnosed through 2021 and living in LAC at year-end 2022 based on most recent residence.

[7] Denominator includes persons diagnosed with an HIV infection through 2021 and living in LAC at year-end 2022, based on most recent residence, who had at least one documented VL test in 2022.

[8] The sum may not add up to the total due to persons with no information on Service Planning Area/Health District who are not shown but are included in the total.

Table 7A: Counts, percentages, and rates for underlying causes of death among PWDH aged ≥13 years by demographic and risk information LAC 2020-2021[1,2,3]

	HIV/AIDS			Diseases of the heart			Malignant neoplasms			Drug overdoses (unintentional)			COVID-19			Other/Unknown			Total		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Gender																					
Men	379	(87)	404	201	(92)	215	139	(81)	148	129	(82)	138	102	(86)	109	381	(86)	407	1,331	(86)	1,420
Women	47	(11)	395	16	(7)	134	30	(18)	252	22	(14)	185	15	(13)	126	52	(12)	437	182	(12)	1,528
TG women	11	(3)	543	<5	(-)	-	<5	(-)	-	7	(4)	346	<5	(-)	-	7	(2)	346	29	(2)	1,433
TG men	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-
Age (Yr)																					
Median age	53			60			61			46			61			58			57		
Age group																					
13-19	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-
20-29	14	(3)	162	<5	(-)	-	<5	(-)	-	17	(11)	197	<5	(-)	-	6	(1)	69	41	(3)	474
30-39	66	(15)	309	11	(5)	51	7	(4)	33	38	(24)	178	6	(5)	28	48	(11)	224	176	(11)	823
40-49	81	(19)	357	13	(6)	57	15	(9)	66	35	(22)	154	11	(9)	48	64	(15)	282	219	(14)	964
50-59	140	(32)	438	75	(34)	235	52	(30)	163	46	(29)	144	29	(24)	91	115	(26)	360	457	(30)	1,429
≥60	136	(31)	599	117	(54)	515	96	(56)	423	22	(14)	97	72	(61)	317	208	(47)	916	651	(42)	2,867
Race/Ethnicity																					
White	111	(25)	395	72	(33)	256	58	(34)	206	45	(29)	160	14	(12)	50	131	(30)	466	431	(28)	1,533
Black	94	(22)	442	60	(28)	282	43	(25)	202	44	(28)	207	25	(21)	118	92	(21)	433	358	(23)	1,684
Latinx	186	(43)	378	65	(30)	132	59	(35)	120	50	(32)	102	71	(60)	144	171	(39)	347	602	(39)	1,222
Asian	11	(3)	275	6	(3)	150	5	(3)	125	<5	-	-	5	(4)	125	9	(2)	225	37	(2)	923
Other	35	(8)	702	15	(7)	301	6	(4)	120	18	(11)	361	<5	-	-	38	(9)	762	116	(8)	2,326
Transmission Risk																					
MSM	308	(70)	364	157	(72)	186	111	(65)	131	84	(53)	99	86	(73)	102	310	(70)	367	1,055	(68)	1,248
IDU	37	(8)	660	17	(8)	303	24	(14)	428	27	(17)	481	6	(5)	107	42	(10)	749	152	(10)	2,710
MSM/IDU	50	(12)	821	28	(13)	460	10	(6)	164	33	(21)	542	9	(8)	148	40	(9)	657	170	(11)	2,792
Heterosexual contact	40	(9)	374	17	(8)	159	22	(13)	206	13	(9)	122	18	(15)	168	45	(10)	421	155	(10)	1,450
Other	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	12	(1)	1,471
Experienced homelessness																					
Yes	107	(25)	1,079	38	(17)	383	14	(8)	141	62	(39)	626	20	(17)	202	77	(17)	777	318	(21)	3,208
No	330	(76)	337	180	(83)	184	157	(92)	161	96	(61)	98	99	(83)	101	364	(83)	372	1,226	(79)	1,253
Virally suppressed (VL≥200)	147		234	108		172	120		191	69		110	86		137	210		334	740		1,175
Yes (% of all)		(41)			(51)			(76)			(49)			(77)			(52)			(54)	
Yes (% of VL)		(54)			(76)			(89)			(68)			(91)			(78)			(73)	
Total	437	(28)	406	218	(14)	202	171	(11)	159	158	(10)	147	119	(8)	110	441	(29)	409	1,544	(100)	1,433

[1] Includes persons with diagnosed HIV who died in 2020-2021 and whose residence at death was in LAC or whose most recent known address before death was in LAC, when residence at death is missing. Rates per 100,000 are based on persons living in LAC with diagnosed HIV (PLWDH) at the beginning of 2020 or diagnosed in 2020 plus PLWDH at the beginning of 2021 or diagnosed in 2021, based on the most recent known address at that time*.

[2] Cause of death information was based on the first-listed underlying cause of death. International Classification of Diseases (ICD)-10 codes were used to classify the underlying causes of death into six categories: (1) HIV/AIDS (B20-B24); (2) Diseases of the heart (I00-I09, I11, I13, I20-I51); (3) Malignant neoplasms (C00-C97); (4) Drug poisonings (overdose) Unintentional (X40-X44); (5) COVID-19 (U07.1); (6) All other causes (remaining non-missing ICD-10 codes) or Unknown causes (R99 or missing).

[3] Age is based on age at death. 'Other' race/ethnicity includes American Indians and Alaska Natives (AIAN) and persons of multiple race/ethnicities; persons without an identified risk factor are assigned a risk factor using multiple imputation (MI) methods (see Technical Notes); 'Other' transmission risk includes perinatal exposure, recipient of clotting factor, transfusion or organ transplant, and risk factor not reported/identified. Persons experiencing homelessness (PEH) includes persons who have ever experienced homelessness, if reported. Viral suppression (≥200 copies/mL) is based on a person's last viral load within the year prior to their year of death, the percentage among PWDH is based on persons living at year-end prior to their year of death (2019 or 2020) and diagnosed the year before (2018 or 2019) with or without a viral load test, the percent among those with at least 1 VL test is based on the same criteria but limited to persons who had at least one viral load test.

*PWDH denominator was based on methodology from CDC: Bosh KA, Johnson AS, Hernandez AL, Prejean J, Taylor J, Wingard R, Valleroy LA, Hall HI. Vital Signs: Deaths Among Persons with Diagnosed HIV Infection, United States, 2010-2018. MMWR Morb Mortal Wkly Rep. 2020 Nov 20;69(46):1717-1724. doi: 10.15585/mmwr.mm6946a1. PMID: 33211683; PMCID: PMC767664

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