HIV Surveillance Annual Report 2020

Division of HIV and STD Programs
Department of Public Health
County of Los Angeles

County of Los Angeles Public Health

COUNTY OF LOS ANGELES
Public Health

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Dear Colleague:

We are pleased to announce the publication and release of the *Los Angeles County HIV Surveillance Annual Report, 2020*.

The Annual HIV Surveillance Report provides community and academic partners, public health planners, policymakers, and other stakeholders with insights into the evolving Los Angeles County (LAC) HIV epidemic. This report also describes achievements in our shared public health response to HIV, outlines opportunities for improving our local HIV response and offers critical data points to facilitate decision-making to achieve our shared *Ending the HIV Epidemic* goals.

This report includes HIV surveillance data reported to the Department of Public Health since the beginning of the HIV epidemic through December 31, 2020. 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 in Action* summary is presented at the end of each section to contextualize programmatic and policy implications for the local response to HIV.

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 sub-populations living with and most at risk for HIV infection. Increasingly these efforts are done in coordination and alignment with the goals for ending the national HIV epidemic by 2030. The current program priorities include enhancing HIV testing and screening efforts to ensure that we diagnose all HIV-positive persons as early as possible; 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 foci where HIV is being transmitted so that we can respond quickly and provide services to populations that need them the most.

The *Los Angeles County HIV Surveillance Annual Report, 2020* is available at: http://publichealth.lacounty.gov/dhsp 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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Andrea A. Kim, PhD, MPH
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We would like to thank 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 staff that collect, manage, analyze and provide oversight for HIV case reporting and HIV surveillance in Los Angeles County: Felipe Arevalo, Essam Botros, Laura Cervantes, Victoria Dominguez, Raymond Embrack, Maggie Esquivel, Alejandro Flores, Shnorik "Nora" Grigoryan, Erica Guerra, Mi Suk Harlan, Christina "Nina" Hohe, Virginia Hu, Eddie Javelosa, Andrea Kim, Grace Kim, Sonali Kulkarni, Chun-Mai Kuo, Colleen Lam, Alice Lee, Keisha Macon, Carolina Magana, Sameh Mansour, Pateel Margossian, Monica Munoz, Azita Naghdi, Kathleen Poortinga, Sophia Rumanes, Mona Seino, Zhijuan Sheng, Mary C. Vitale; (4) the National HIV Behavioral Surveillance Team at DHSP: Pierre Chambers, Angela Cristobal, Hugo Santa Cruz, Yingbo Ma, Gia Olaes, Martell Randolph Rutter, and Kwa Sey; (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.

Image Credit

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This report is inclusive of all gender, age, and racial/ethnic groups in Los Angeles County. 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, Asian and Pacific Islanders, American Indian and Alaskan 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 Infection Reporting: Effective June 2016, Title 17 CCR 2500(h) and (k) requires all health care providers report cases of acute HIV infection 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 infection 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 infection 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 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
AI/AN	American Indian/Alaskan Native
API	Asian and Pacific Islander
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 infection
HIV	Human Immunodeficiency Virus
HUD	U.S. Department of Housing and Urban Development
IDU	Injection drug use
LAC	Los Angeles County
MHS	Molecular HIV Surveillance
MSM	Men Who Have Sex with Men
NHAS	National HIV/AIDS Strategy
OMB	Office of Management and Budget
PEP	Post-exposure Prophylaxis
PLWH	Persons Living with HIV
PLWDH	Persons Living 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

This report presents surveillance data on the HIV epidemic in Los Angeles County (LAC) based on information reported to the Department of Public Health for persons diagnosed with HIV from the beginning of the HIV epidemic through December 31, 2020. Data on trends among persons with newly diagnosed HIV infection in LAC are presented on a subset of persons living with diagnosed HIV (PLWDH) through December 31, 2019. For high priority programs that require immediate action, including HIV-exposed infants, HIV cluster detection and response, and COVID-19 coinfection, we present HIV surveillance data through year-end 2020.

Report changes

The Annual HIV Surveillance Report 2020 includes new data reports on:

- Targets for Ending the HIV Epidemic in LAC and local progress on targets
- Molecular HIV surveillance and cluster detection
- Acute HIV infection
- Awareness of HIV infection among persons living with HIV by Health District
- HIV biobehavioral surveillance
- COVID-19 and HIV coinfection

Key findings in HIV epidemiology

- In 2019, 1,505 persons aged ≥ 13 years were *newly diagnosed* with HIV, and approximately one-third were identified in the early stage of disease progression based on their CD4 counts within 1 month of HIV diagnosis. In addition, 10% of persons newly diagnosed in 2019 were classified as having acute HIV infection (i.e., infected within 60 days prior to HIV diagnosis).
- Approximately 1,200 persons aged ≥ 13 years newly acquired HIV in 2019. These estimated new HIV infections that were acquired in 2019 may or may not have been diagnosed that year.
- An estimated 57,005 persons aged ≥ 13 years were living with HIV at year-end 2019, and approximately 5,100 (9%) were unaware of their infection.
- Among persons living with HIV, largest gaps in knowledge of HIV-positive status existed for persons aged <35 years, where approximately 40% of persons aged 13-24 years and 20% of persons aged 25-34 years with HIV were not aware of their HIV-positive status. Disparities also existed for persons who inject drugs (PWID). Over one-third of PWID with HIV did not know their HIV status and only 55% had been tested for HIV in the past 12 months.
- Though the number of HIV-positive pregnant women has decreased over time, the number of perinatal HIV transmissions is increasing. In 2020, there were four infants who acquired HIV perinatally, resulting in a perinatal HIV transmission rate of 8 per 100 HIV-exposed infants.

- There are continued disparities in HIV diagnosis by population and location. Rates of new HIV diagnosis are higher among men than women. Across age groups, young men aged 20-29 years and women aged 30-39 years had the highest rates of new HIV diagnosis. Black men and women had higher rates of HIV diagnosis compared with other race/ethnicity groups. Among men the highest rates of diagnoses were seen in Central, Hollywood-Wilshire, and Southeast Health Districts. The highest rates for women were seen in Central, South, Long Beach, Southwest and Inglewood Health Districts.
- Between 2018 and 2020, molecular HIV surveillance identified high priority clusters where recent and rapid HIV transmission could be occurring. High priority clusters were identified in West Hollywood, Downtown, and South Los Angeles zip codes. Among persons in high priority clusters, 1 in 5 had a history of methamphetamine use, 1 in 10 were unhoused, 7 in 10 reported anonymous sex, and 5 in 10 were coinfected with syphilis.
- HIV biobehavioral surveys in LAC confirm that survey participants who were transgender (TG) women had the highest HIV positivity rate (1 in 3 were HIV-positive) compared to other risk populations. Black TG women had the highest HIV positivity rate (52%) compared with Latinx (30%) and White (9%) TG women. MSM also had high positivity levels (~20%) while PWID (2%) and HET (<1%) had much lower positivity levels.
- Among participants in a HIV biobehavioral survey, high-risk injection practices were observed among younger PWID participants aged 18-29 years compared with older PWID participants. However, HIV positivity levels remained low among PWID, with no infections detected among young PWID participants. Among heterosexual survey participants, Latinx participants were more commonly engaged in high-risk sexual behavior and had lower testing behavior compared with Black participants.
- Among MSM survey participants, PrEP knowledge was high across all groups. White MSM participants were more likely to have used PrEP consistently for 2 or more months in the past year than Black or Latinx MSM participants.
- A total of 4,429 PLWDH were coinfected with COVID-19 between January 2020 and March 2021. COVID-19 patients with HIV coinfection were more likely to be hospitalized, hospitalized in the intensive care unit, require intubation while hospitalized, and die from COVID-19 compared with COVID-19 patients who were not coinfected with HIV.
- Overall death rates for PLWDH have declined over time, with rates of death due to HIV falling below rates of death due to non-HIV-related causes. In 2019, approximately two in three deaths among PLWDH were due to non-HIV causes, with one in five deaths due to diseases of the heart.

Key findings in the HIV continuum of care

- Due to the COVID-19 pandemic, access to routine HIV care services decreased in 2020. Consequently, we saw a reverse in progress along key steps in the HIV care continuum for adults, adolescents and children living with diagnosed HIV. Compared with 2019 achievements, we observed declines in the percentage of PLWDH who received care, were retained in care, and were virally suppressed in 2020.
- Linkage to HIV care within 1 month of diagnosis was not impacted by COVID-19 since this metric is measured for persons with a new HIV diagnosis in 2019. Linkages to care within 1 month increased slightly from 74% among persons diagnosed in 2018 to 77% in among persons diagnosed in 2019. For children, 100% of those newly diagnosed in 2018 and 2019 were linked to care within 1 month of diagnosis.
- Populations with lowest achievements in linkage to care within 1 month of HIV diagnosis were females, Blacks, and persons whose transmission risk included injection drug use and heterosexual contact. Only one Health District (Glendale) met the national target for timely linkage to care within 1 month, highlighting that nearly all Health Districts in LAC are in need of better interventions to improve linkages to care rates.
- Persons who were unhoused continue to experience less optimal outcomes along the HIV care continuum. HIV diagnosis rates are increasing among unhoused persons, and compared with housed persons, unhoused persons had lower rates of receiving HIV care, retention in care, and achieving viral suppression in 2020.
- Approximately 9 in 10 PLWDH were on HIV treatment. Of those, 8 in 10 had adhered to their drugs in the past 3 days. Treatment coverage was lowest for Black populations and persons aged < 40 years, while adherence was lowest for females, persons aged <40 years, Blacks, and heterosexual persons.
- Timeliness from HIV diagnosis to treatment initiation has improved over time. In a sample of persons newly diagnosed with HIV in 2019 and who had information on HIV treatment, 90% had initiated treatment within 3 months of diagnosis and over 70% within 1 month of diagnosis.
- Timeliness from HIV diagnosis to viral suppression is also improving. In 2019, 78% of persons newly diagnosed with HIV were virally suppressed within 12 months of diagnosis. Still more work is needed to help all PLWH achieve viral suppression more quickly: In 2019, only 55% of persons newly diagnosed with HIV reached viral suppression within 3 months and only 70% within 6 months.
- Greatest disparities in viral suppression were among Black populations, females and transgender persons, persons aged 30-49 years, and persons whose transmission risk included injection drug use. Geographically, unsuppressed viral load was highest in the Central Health District, followed by South, West, Southeast, Hollywood-Wilshire, Antelope Valley, and Harbor Health Districts.

Progress in local and national goals in the HIV response

- New infections: An estimated 1,200 new infections occurred in LAC in 2019. This highlights the significant gap in meeting the 2025 EHE target of no more than 380 new infections and 2030 EHE target of no more than 150 new infections.
- New HIV diagnosis: 1,505 persons were newly diagnosed with HIV in 2019, also underscoring the wide gap in reaching the 2025 EHE target of 450 new diagnoses and 2030 EHE target of 180 new diagnoses. 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 91% of persons living with HIV were aware of their HIV status in 2019. While LAC has surpassed the local LAC target of 90% for this metric, it is still 4 percentage points below the 2025/2030 EHE target of 95%.
- Linkage to HIV care: 77% of persons newly diagnosed with HIV in 2019 were linked to care within 1 month. This is 8 percentage points below the local 2020 target of 85% and 18 percentage points below the 2025/2030 EHE target of 95%.
- Retention in HIV care: The National HIV/AIDS Strategy (NHAS) set a 2020 target of 90% of persons with diagnosed HIV retained in care. In 2020, only 44% of PLWDH were retained in care, which was significantly below the NHAS target.
- Viral suppression: LAC is significantly under target for viral suppression at 60% among PLWDH. This is 20 percentage points below the local 2020 target of 80% and 35 percentage points below the 2025/2030 EHE target of 95%.
- PrEP: An estimated 39% of priority populations were prescribed PrEP in 2020, falling 11 percentage points below the 2025/2030 EHE target of 50%.

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 hundreds of millions of dollars 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 to target interventions to where they are needed most.

In Table 1, we list the key metrics that are being tracked to measure progress towards local targets in the HIV response, national 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.

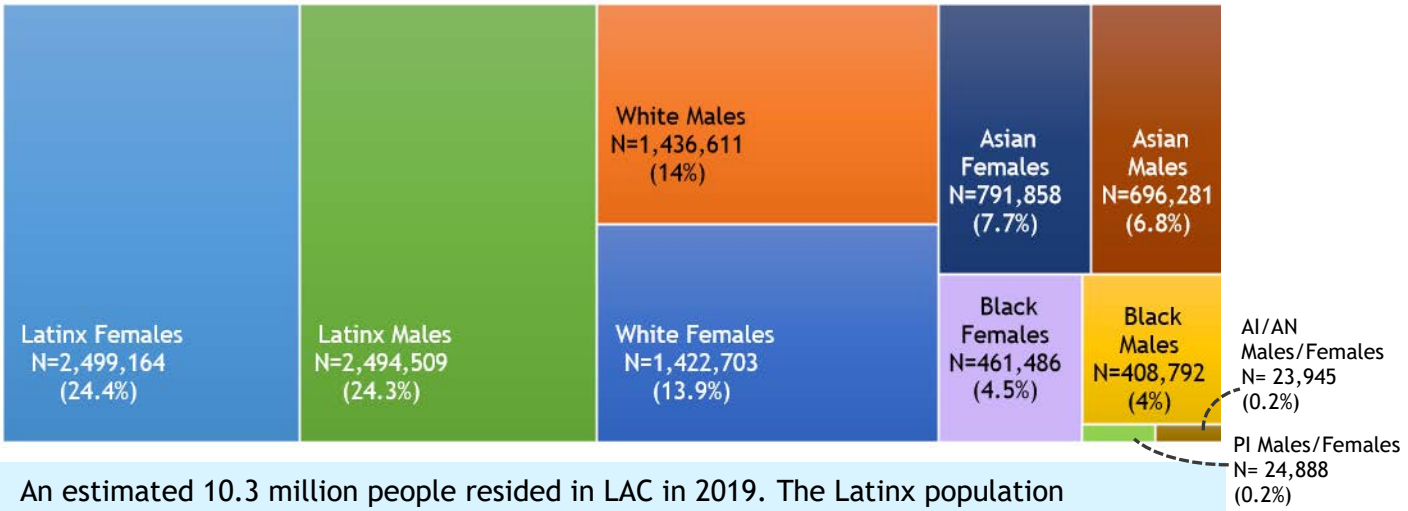
Table 1: Tracking achievements in local targets for the HIV response and national targets for the EHE initiative, 2019-2020

	LAC 2020 targets	EHE 2025 targets	EHE 2030 targets	Current LAC metrics
Number of new infections[1]	--	380	150	1,200 (2019)
Number of new HIV diagnoses[2]	--	450	180	1,505 (2019)
Knowledge of HIV-positive status among PLWH[1]	90%	95%	95%	91% (2019)
Linkage to HIV care within 1 month of diagnosis among PLWDH[2]	85%	95%	95%	77% (2019)
Retention in care among PLWDH	90%	--	--	46% (2020)
Viral Suppression among PLWDH[2]	80%	95%	95%	60% (2020)
Percentage of persons in with indications for PrEP having been prescribed PrEP[3]	--	50%	50%	39% (2020)

[1]Using Los Angeles County HIV surveillance data in the CDC Enhanced HIV/AIDS Reporting system (eHARS).
[2]Using the CD4-based model developed by the Centers for Disease Control and Prevention, modified for use by Los Angeles County.
[3] Using Los Angeles County data from the National HIV Behavioral Surveillance system, STD clinic data, online Apps survey, COE program data, and AHEAD dashboard.

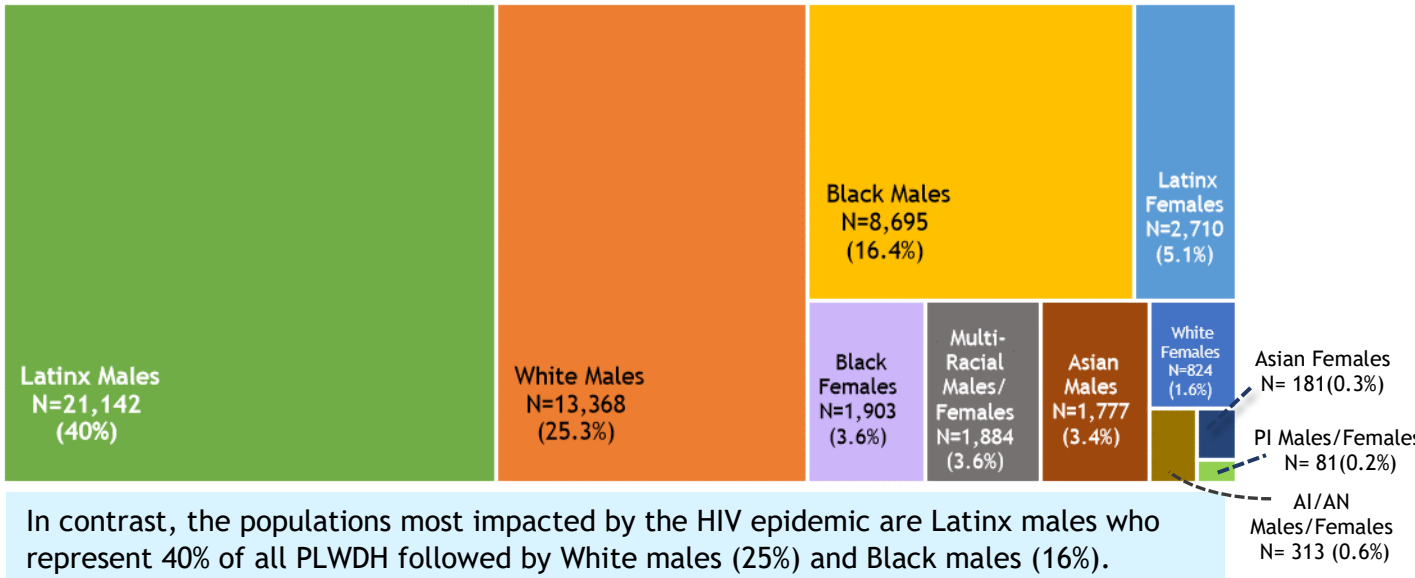
Epidemiology of HIV Infection in Los Angeles County

Figure 1: Distribution of sex[1] and race/ethnicity among LAC residents in 2019 (N=10,260,237)[2]



An estimated 10.3 million people resided in LAC in 2019. The Latinx population represents the largest population group (49%), followed by the White population (28%), the Asian population (15%), and the Black population (8%). Pacific Islanders and AI/AN population represented <1% of the total LAC population. Population estimates for multi-racial persons are not available.

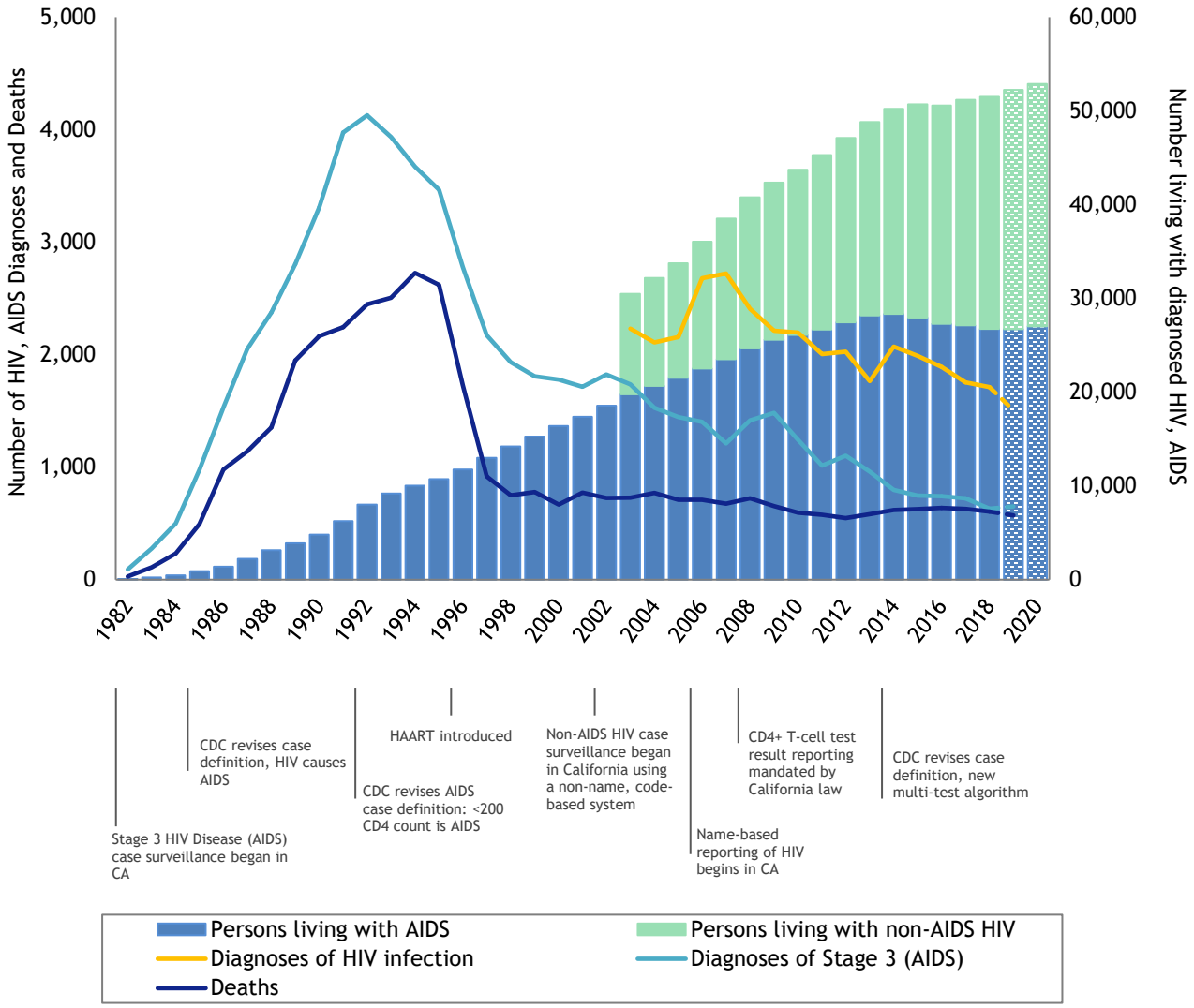
Figure 2: Distribution of sex[1] and race/ethnicity among persons living with diagnosed HIV at year-end 2020, LAC (N=52,878)



In contrast, the populations most impacted by the HIV epidemic are Latinx males who represent 40% of all PLWDH followed by White males (25%) and Black males (16%). Combined, these groups of men represent > 80% of PLWDH in LAC. All together, AI/AN, PI, and multi-racial men and women represented < 5% of PLWDH in LAC.

[1]Population estimates are not currently available for transgender persons, therefore male and female categories are based on biological sex at birth.
[2]Based on the 2019 population estimates provided by LAC Internal Services Department and contracted through Hedderson Demographic Services.

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 1982-2020[1,2,3,4]

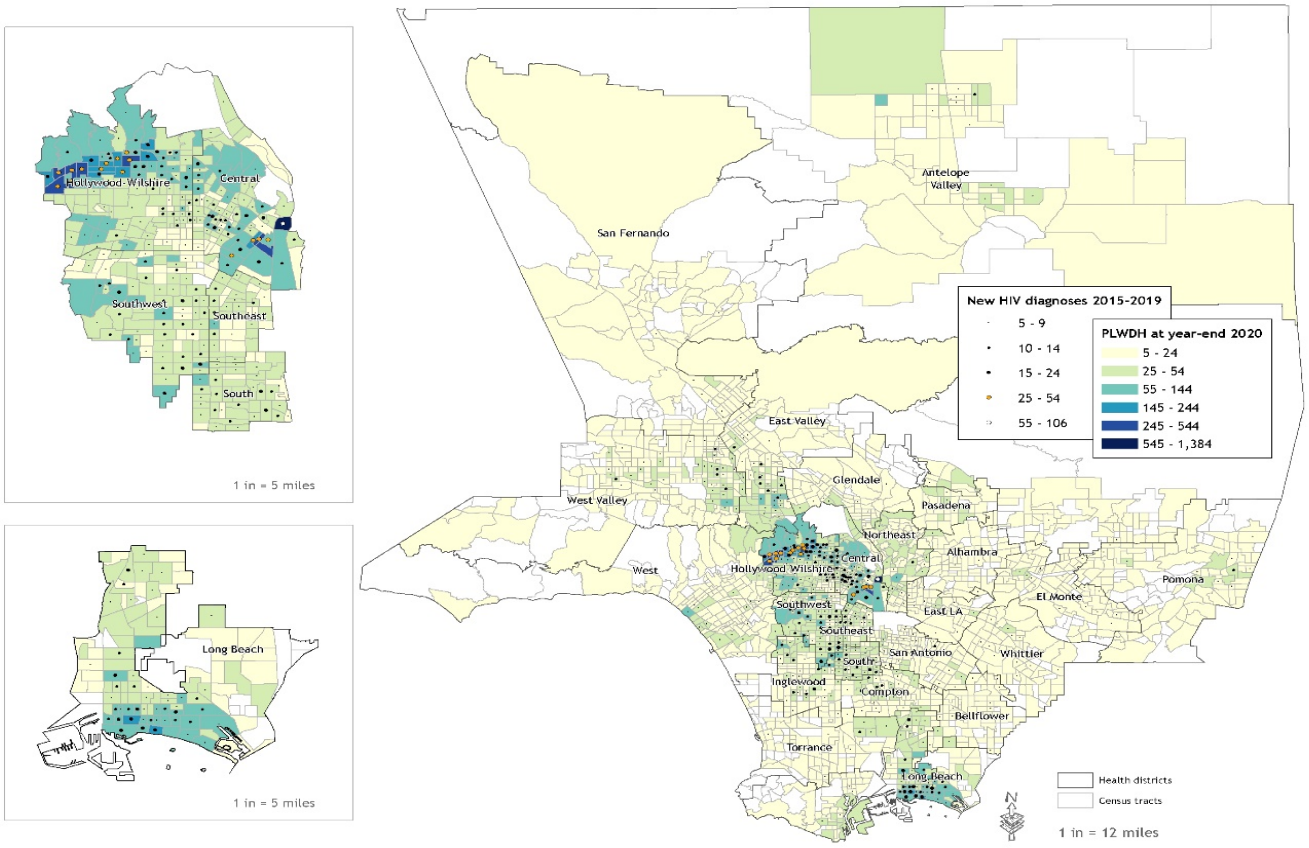


In LAC, AIDS reporting began in 1982 and peaked in 1992 with more than 4,000 cases reported that year. In 1994, deaths reached an all-time high followed by a significant decline that coincided with the introduction of highly active antiretroviral treatment (HAART) for HIV in 1996. In 2006, name-based HIV reporting began in California, allowing for better tracking of trends in diagnosed HIV infection irrespective of disease stage. HIV epidemic trends thereafter have declined for diagnosed HIV cases and deaths, the latter of which appear to have leveled out in more recent years.

[1]Includes new diagnoses of HIV infection regardless of the disease stage at time of diagnosis.
[2]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.
[3]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.
[4]2019 data for diagnoses of HIV/AIDS and deaths and 2019/2020 persons living with non-AIDS HIV and AIDS are provisional as indicated by the dashed line and pattern bar. 2020 diagnoses of HIV/AIDS and deaths are underreported/unreliable due to significant reporting delay, and therefore are not shown.

Geographic distribution of HIV infection

Figure 4: Geographic distribution[1] of persons living with diagnosed HIV at year-end 2020 and persons newly diagnosed with HIV in 2015-2019, LAC



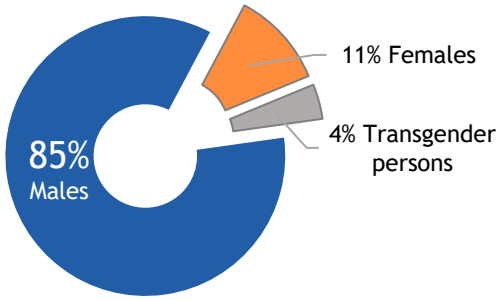
HIV infection is geographically focused in LAC, with the highest density of new HIV diagnoses residing in the central and southern regions. Among all 26 Health Districts, Hollywood-Wilshire, Central, and Long Beach Health Districts were identified as three epicenters for HIV, reporting the largest numbers of new HIV diagnoses in 2015-2019 and persons living with diagnosed HIV at year-end 2020.

[1]Census tract and health district information was based on most recently reported residential addresses. Person with no reported street address information were aggregated to the census tract or health district level data based on available ZIP code information. Source: HIV Surveillance data as of December 31, 2020; U.S. Department of Commerce, 2010 U.S. Census Tract; U.S. Department of Housing and Urban Development, HUD USPS ZIP Code – Census Tract Crosswalk Files, 2nd quarter 2017 was used for HIV diagnoses 2015-2019 and 4th quarter 2020 was used for PLWDH at year-end 2020.

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 2019. Due to reporting delays, the 2019 HIV diagnosis data are provisional as indicated by dashed lines or patterned bars.

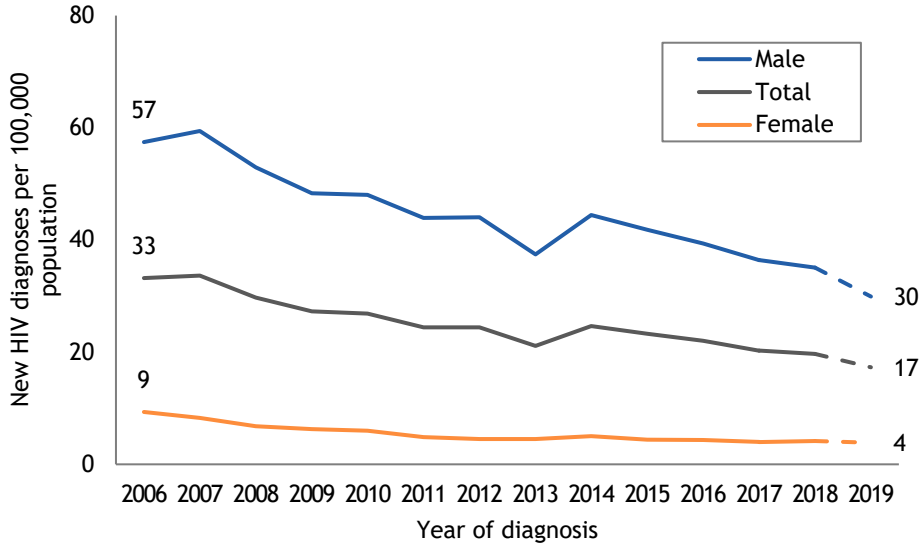
Figure 5: New HIV diagnoses by gender among persons aged ≥ 13 years, LAC 2019



Note: Between 2018 and 2019, the percentage of new HIV diagnoses that were among transgender persons increased from 2% to 4%. It is not known whether this change reflects increased HIV diagnosis among transgender persons or improved reporting of gender classification in HIV case reporting.

Males made up most of the new HIV diagnoses in 2019 (N=1,275, 85%). Females (N=171, 11%) and transgender persons (N=59, 4%) represented a much lower number and percentage of new HIV diagnoses in 2019. Among the 59 transgender persons newly diagnosed with HIV in 2019, 54 of these were among transgender women.

Figure 6: HIV diagnoses rates by gender[1] among persons aged ≥ 13 years, LAC 2006-2019[2]



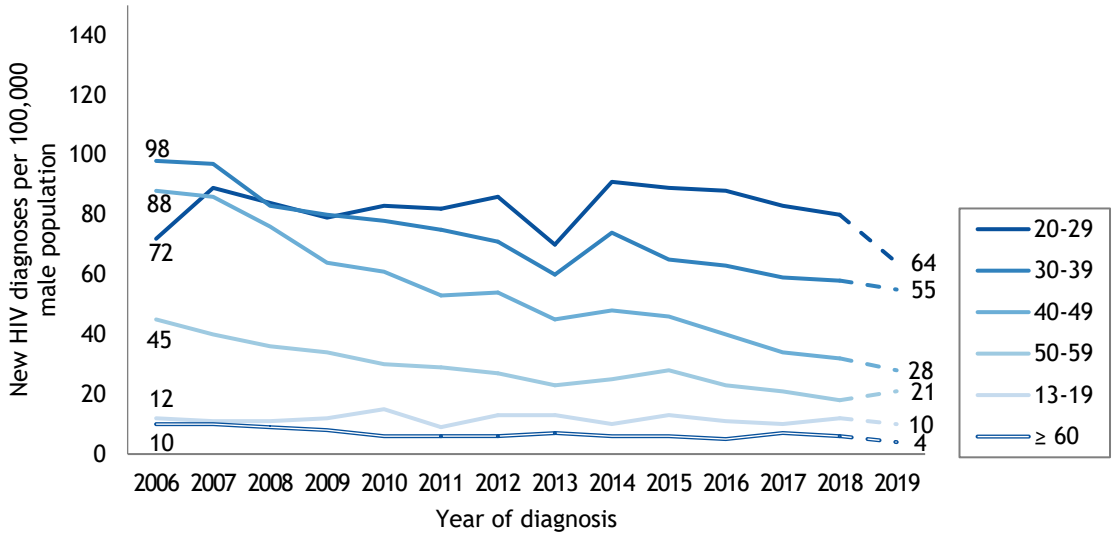
Note: HIV diagnoses rates among transgender persons are not presented due to unavailability of reliable population size estimates in LAC.

HIV diagnoses rates remain substantially higher among males than females but rates among men are on decline. Rates among females have remained low and stable since 2016.

[1] HIV diagnoses rates were not calculated for transgender persons due to lack of reliable population estimates for this population.
[2] Due to reporting delay, 2019 HIV diagnosis data are provisional as indicated by the dashed line.

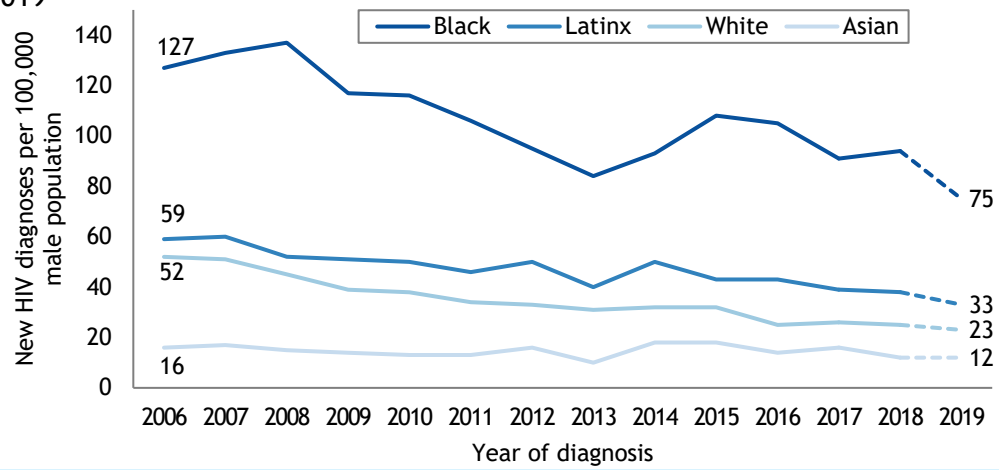
Trends in HIV diagnoses among males[1]

Figure 7: HIV diagnoses rates among males aged ≥ 13 years by age group, LAC 2006-2019[2]



Since 2006, HIV diagnoses rates have declined among males across age groups. Rates among males aged 20-29 years increased after 2006 and decreased since 2014.

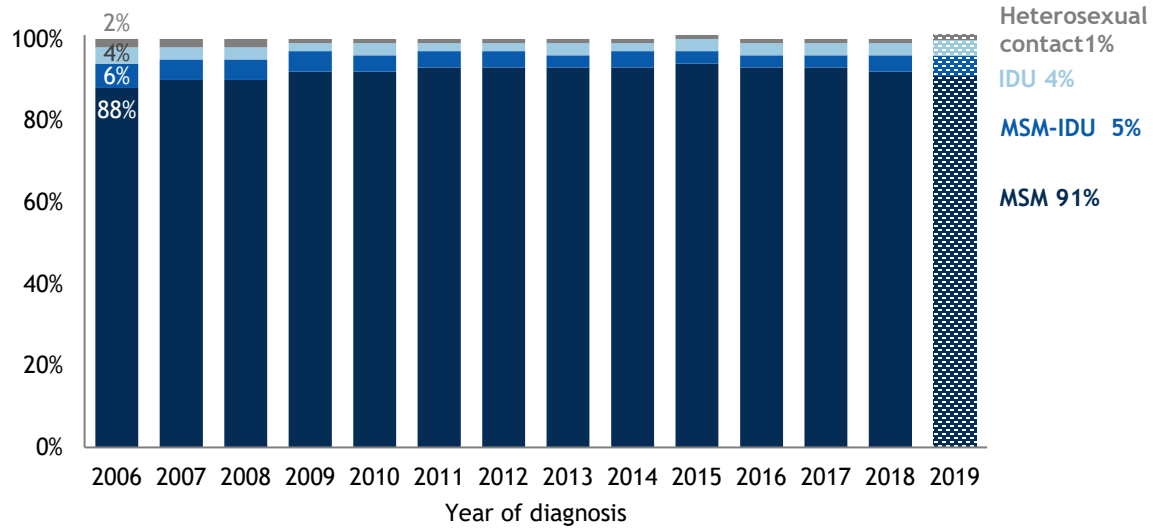
Figure 8: HIV diagnoses rates among males aged ≥ 13 years by race/ethnicity[3], LAC 2006-2019[2]



Between 2006 to 2013, HIV diagnoses rates declined for males in all race/ethnicity groups. After 2013, HIV diagnoses rates increased among Black, Latinx, and Asian males, and after 2015, rates declined in these groups. Though Blacks have higher HIV diagnoses rates than other race/ethnicity groups, the difference is narrowing.

[1] Based on biological sex at birth.
[2] Due to reporting delay, 2019 HIV diagnosis data are provisional as indicated by the dashed line.
[3] Pacific Islanders and American Indians/Alaskan Natives (AI/AN) 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 2019, Pacific Islanders, AI/AN and multi-racial persons represented 0.2%, 0.2%, and 2.1% of males newly diagnosed with HIV, respectively.

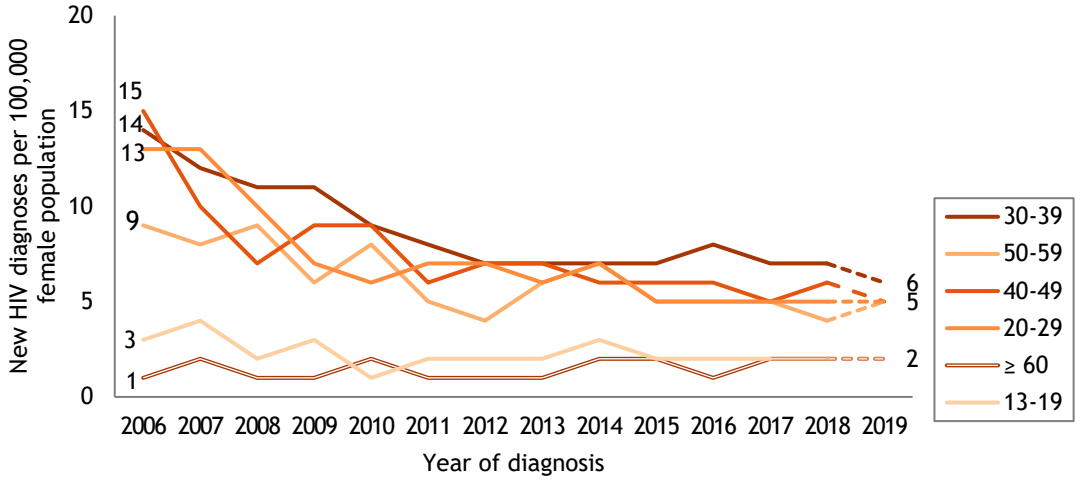
Figure 9: Transmission risk[1] among males newly diagnosed with HIV, LAC 2006-2019[2]



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

Trends in HIV diagnoses among females[3]

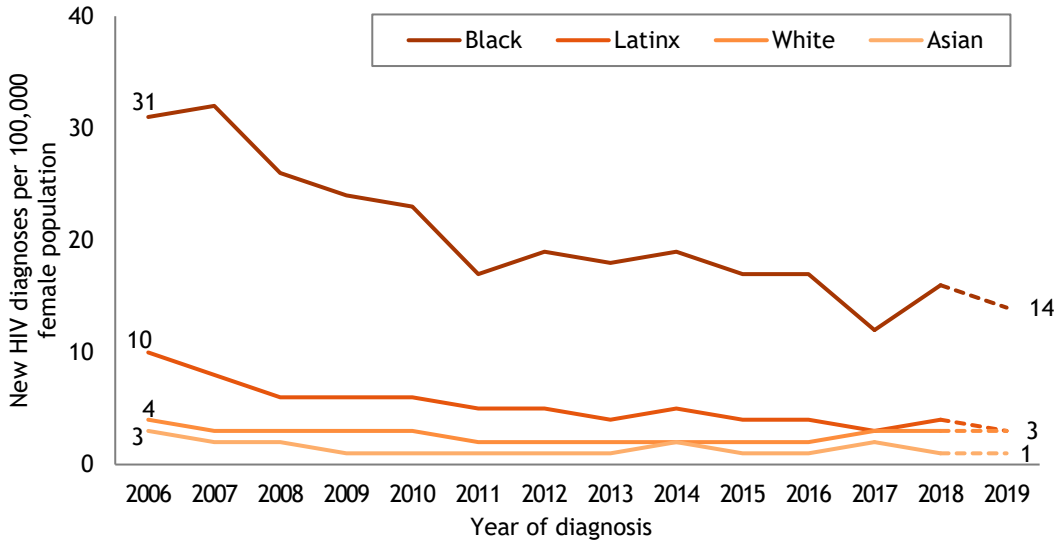
Figure 10: HIV diagnoses rates among females aged ≥ 13 years by age group, LAC 2006-2019[2]



Across female age groups, HIV diagnoses rates have declined for persons between the ages of 20 and 59 years. Rates have remained low and stable among persons aged 13-19 years and persons aged 60 years and older.

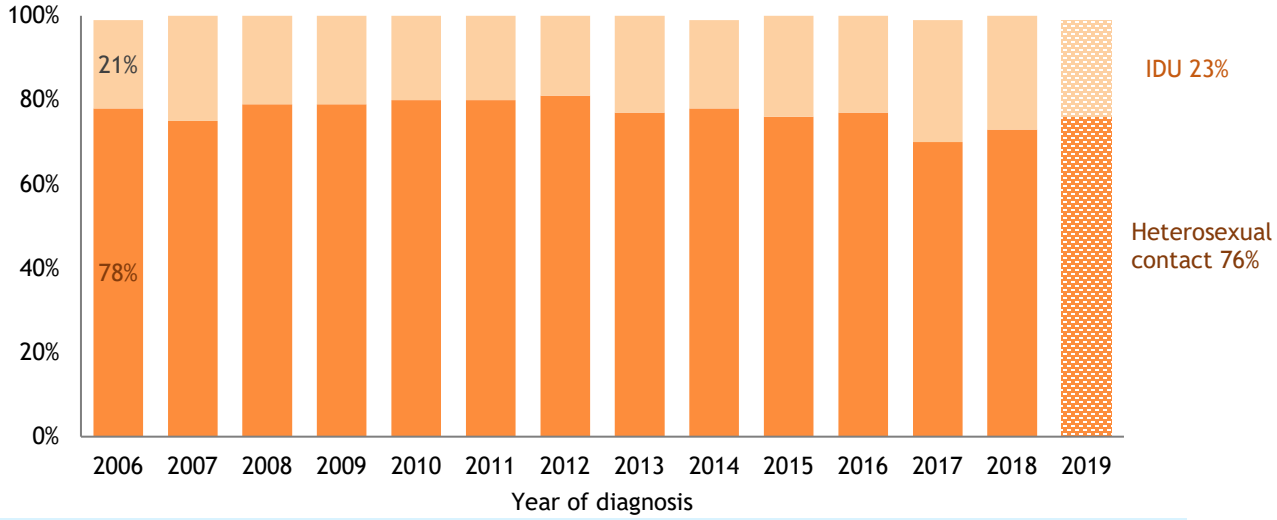
[1] Other transmission risk was identified for <1% of new diagnoses. Other includes perinatal, hemophilia, coagulation disorder, blood transfusion, and risk factor not reported/identified. Persons without an identified risk factor were assigned a risk factor using CDC-recommended multiple imputation methods.
[2] Due to reporting delay, 2019 HIV diagnosis data are provisional as indicated by the patterned bar and dashed line.
[3] Based on biological sex at birth.

Figure 11: HIV diagnoses rates among females aged ≥ 13 years by race/ethnicity[1], LAC 2006-2019[2]



Between 2006 to 2019, HIV diagnoses rates declined by 55% among Black females and by 70% among Latinx females. Still rates were highest among Black females.

Figure 12: Transmission risk among females newly diagnosed with HIV, LAC 2006-2019[2, 3]

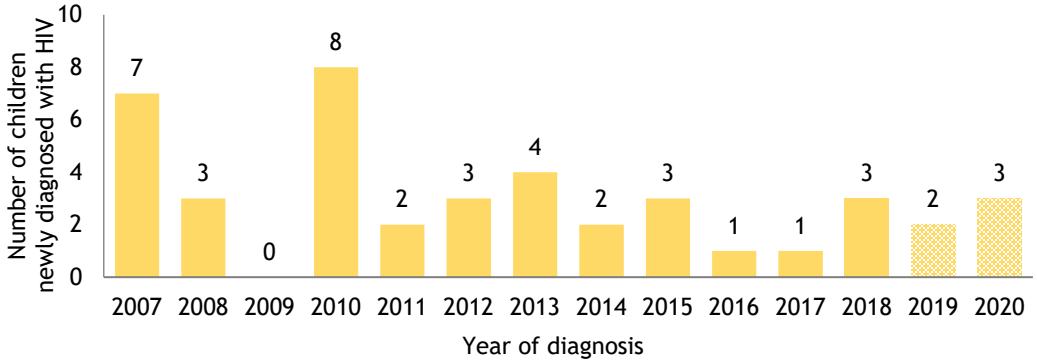


The primary HIV transmission route among females newly diagnosed with HIV was heterosexual contact followed by injection drug use. Since 2017, the percentage of cases with heterosexual contact as the primary transmission route has increased.

[1] Pacific Islanders and American Indians/Alaskan Natives (AI/AN) 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 2019, Pacific Islanders and AI/AN represented 0% of females newly diagnosed with HIV, while multi-racial persons represented 6% of females newly diagnosed with HIV.
[2] Due to reporting delay, 2019 HIV diagnosis data are provisional as indicated by the dashed line and patterned bar.
[3] Not presented in the chart are 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 among children

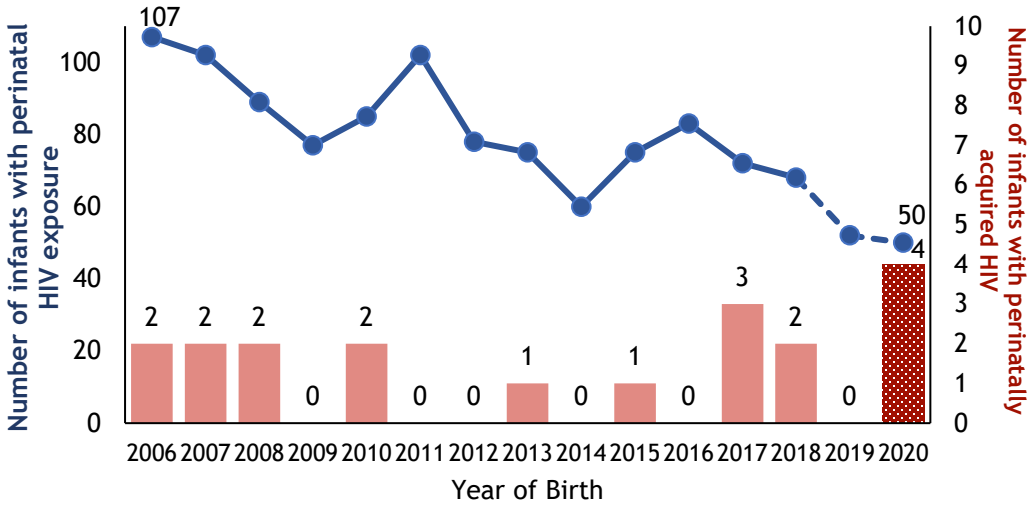
Figure 13: Number of children aged < 13 years newly diagnosed with HIV, LAC 2007-2020[1,2]



Note: Of the 42 children diagnosed with HIV since 2007, the majority had perinatally acquired HIV.

New HIV diagnoses in children peaked in 2010 at 8 cases. Since 2016, we observed general increases in new HIV diagnoses among children.

Figure 14: Number of infants with perinatal HIV exposure and perinatally acquired HIV, LAC 2006-2020[2,3]



Note: Common maternal characteristics for the 4 babies with perinatally acquired HIV in 2020 included methamphetamine use, unstable housing, mental illness, syphilis coinfection, and incarceration or partner incarceration history.

The number of infants with perinatal HIV exposure declined from 107 in 2006 to 50 in 2020. However, the number of infants with perinatally acquired HIV has increased since 2017.

[1] Year of diagnosis may not indicate year of birth, nor indicate infants newly diagnosed with HIV at birth.
[2] Due to reporting delay, 2019 and 2020 HIV data are provisional as indicated by the patterned bar and dashed line.
[3] The number of infants with perinatally acquired HIV includes perinatal transmissions that occurred 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 HIV-positive pregnant women who seek care in Los Angeles County. This is an underestimate of the total number of infants with a perinatal HIV exposure in the County.

Table 2: HIV incidence and perinatal transmission among infants aged <18 months, LAC 2006-2020[1]

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	127,526	75	0.8	1.3
2014	0	130,150	60	0	0
2015	1	124,438	75	0.8	1.3
2016	0	123,092	83	0	0
2017	3	116,850	72	2.6	4.2
2018	2	110,058	68	1.8	2.9
2019	0	113,027	53	0	0
2020	4	102,407	50	**3.9**	**8.0**

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

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

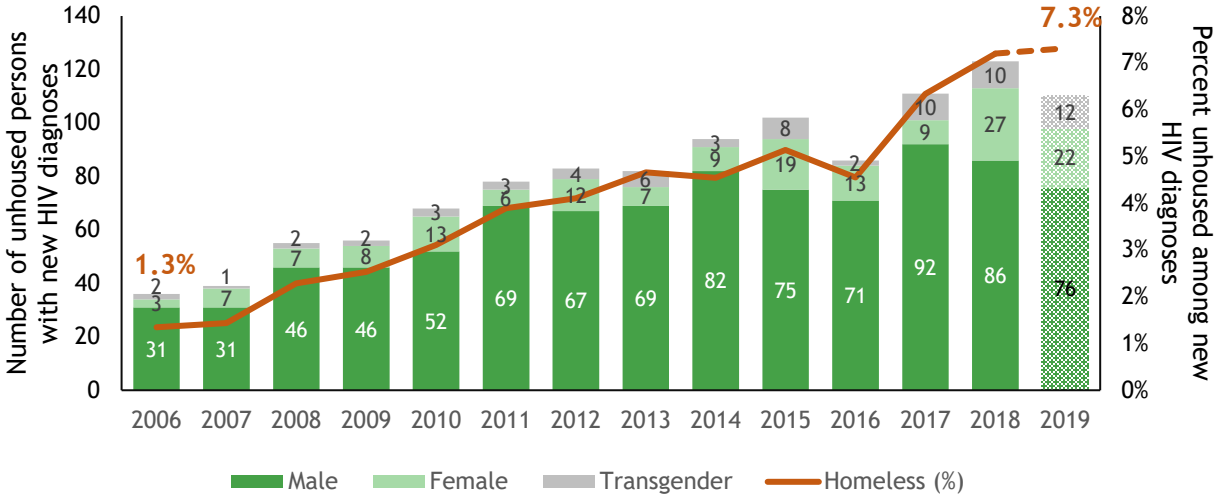
2. Perinatal transmission rate <1 per 100 HIV-exposed infants

Los Angeles County is not on track to eliminate mother-to-child transmission of HIV. In 2020, the perinatal HIV incidence rate and HIV transmission rate reached the highest level since monitoring began in 2006.

[1]The number of infants with perinatal HIV exposure was derived from 7 pediatric HIV-specialty sites which serve over 90% of HIV-positive pregnant women who seek care in the County. This is an underestimate of the total number of infants with a perinatal HIV exposure in Los Angeles County. For this reason, perinatal HIV transmission rates are not generalizable to Los Angeles County. Data for 2019 and 2020 are provisional due to reporting delay. Live birth data were derived from the California Department of Public Health-California Vital Data (Cal-ViDa) Query Tool. At the time of writing the vital registry match for 2020 was pending, therefore the number of 2020 live births may be an underestimate and by extension the perinatal transmission rate in 2020 may be an overestimate.

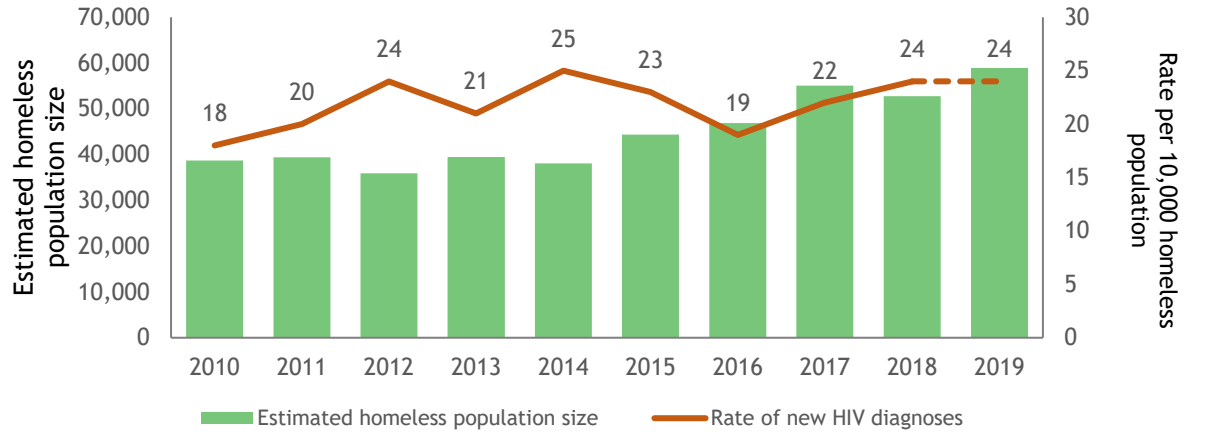
HIV among persons experiencing homelessness

Figure 15: Number of unhoused PLWDH by gender and percentage of persons aged ≥ 13 years newly diagnosed with HIV and unhoused at the time of diagnosis, LAC 2006-2019[1]



Since 2006, the percentage of persons newly diagnosed with HIV who were unhoused increased from 1.3% to 7.3%. In 2019, among 110 unhoused persons with a new HIV diagnosis, 76 (69%) were male, 22 (20%) were female, and 12 (11%) were transgender.

Figure 16: HIV diagnoses rates among persons aged ≥ 13 years experiencing homelessness, LAC 2010-2019[1,2]



HIV diagnoses rates have increased among unhoused persons in the past three years.

[1] Due to reporting delay, 2019 HIV diagnosis data are provisional as indicated by the patterned bar and dashed line.
[2] Data from Greater Los Angeles County Homeless Count, 2018 Results (https://www.lahsa.org/documents?id=2059-2018-greater-los-angeles-homeless-count-presentation.pdf) and 2019 Results (https://www.lahsa.org/documents?id=3437-2019-greater-los-angeles-homeless-count-presentation.pdf).

Timeliness of HIV diagnosis

To end the HIV epidemic, diagnosis and treatment of PLWH need to occur soon after infection to ensure that viral suppression is achieved and sustained in the early stage of infection and that forward transmission of HIV is interrupted.

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 infection has four stages of HIV infection: Stage 0, 1, 2, and 3. Stage 0 HIV disease is designed to capture early HIV infection which includes acute infections within 60 days before HIV diagnosis and early but not acute infections within 61-180 days before HIV diagnosis.

Table 3: HIV disease stage criteria

HIV disease stage	Acute HIV Status	Staging criteria
Stage 0	Acute Infection	Based on the difference in days between the first HIV-positive test result and last documented HIV-negative test result[1]. If the difference falls within 60 days, HIV infection is classified as stage 0 disease with acute infection.
	Not Acute Infection or Unknown	Based on the difference in days between the first HIV-positive test result and last documented HIV-negative test result[1]. If the difference falls between 61 and 180 days, HIV infection is classified stage 0 disease with not acute infection or unknown if acute infection.
Stage 1	N/A	Based on first CD4 test result within 90 days of HIV diagnosis. If CD4 ≥ 500 cells/µL, HIV infection 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 infection 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 infection 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 infection is classified as unknown stage.

[1]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 4: HIV disease stage among persons aged ≥ 13 years newly diagnosed with HIV, LAC 2019

	New HIV Diagnoses	Stage 0[1]				Stage 1-2[2]		Stage 3[3]		Unknown[4]	
		Acute Infection		Not Acute							
	N	N	%	N	%	N	%	N	%	N	%
Total	1505	154	10%	102	7%	774	51%	235	16%	240	16%
Gender											
Male	1275	136	11%	93	7%	654	51%	203	16%	189	15%
Female	171	11	6%	5	3%	87	51%	30	18%	38	22%
Transgender	59	7	12%	<5		33	56%	<5		13	
Race/Ethnicity[5]											
White	322	38	12%	22	7%	168	52%	45	14%	49	15%
Black	319	29	9%	30	9%	171	54%	29	9%	60	19%
Latinx	734	79	11%	45	6%	368	50%	134	18%	108	15%
Asian	80	7	9%	<5		38	48%	17	21%	15	19%
Pacific Islander	<5	<5		<5		<5		<5		<5	
Multiracial	39	<5		<5		21	54%	10	26%	6	15%
Age at Diagnosis											
13-19	55	9	16%	<5		30	55%	<5		10	18%
20-29	524	69	13%	46	9%	282	54%	44	8%	83	16%
30-39	465	46	10%	34	7%	248	53%	64	14%	73	16%
40-49	228	13	6%	10	4%	119	52%	59	26%	27	12%
50-59	175	13	7%	7	4%	77	44%	46	26%	32	18%
60+	58	<5		<5		18	31%	20	34%	15	26%
Transmission Category[6]											
MSM	1,203	132	11%	90	7%	623	52%	181	15%	177	15%
IDU	88	8	9%	2	2%	38	43%	19	22%	20	23%
MSM/IDU	61	5	8%	6	10%	32	52%	9	15%	9	15%
Heterosexual	148	10	7%	<5		77	52%	27	18%	31	21%

In 2019, nearly 1 in 5 new HIV diagnoses were diagnosed at Stage 0 (an indicator of early disease). Over half of those diagnosed at Stage 0 were acutely infected at diagnosis. The proportion of acute HIV infection was highest among males, transgender persons, Whites, Latinx, persons aged <30 years, and MSM.

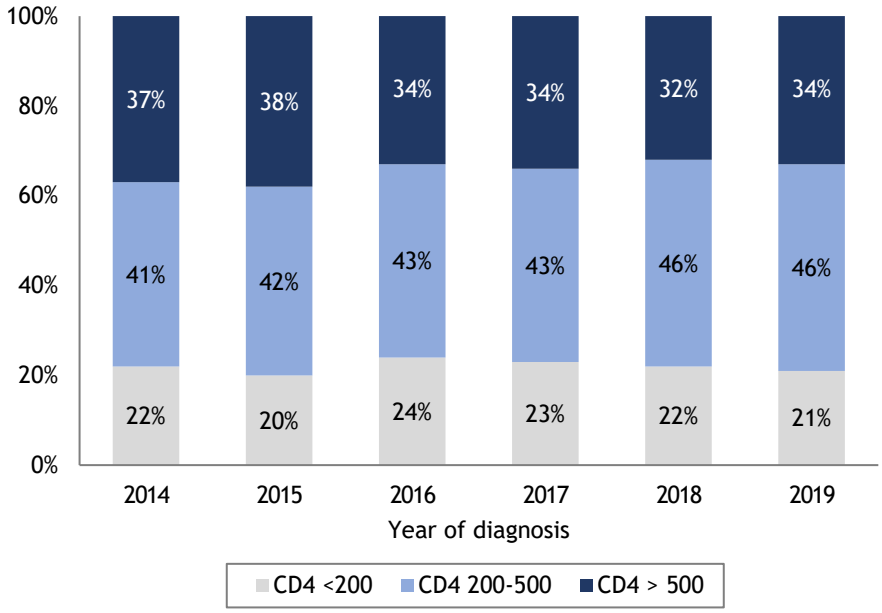
[1]The criteria for stage 0 infection is a sequence of discordant HIV test results in which a negative or indeterminate result was within 180 days of a positive result. The date of negative HIV test is based on laboratory documentation and, for this analysis, patient's self-report of last negative test in the absence of laboratory documentation. Stage 0 includes those acutely infected at diagnoses (Acute Infection) and those with no evidence of acute infection at diagnosis (Not Acute). Acute infection is based on the difference in days between the first HIV-positive test result and last documented HIV-negative test result. If the difference falls within 60 days, HIV infection is classified as acute. Not Acute is based on the difference in days between the first HIV-positive test result and last documented HIV-negative test result. If the difference falls between 61 and 180 days, HIV infection is classified as stage 0 disease, unknown if acute at diagnosis. The number of newly diagnosed persons with stage 0 HIV disease are likely underestimated due to under-reporting of HIV-negative test results.
[2]Stage 1 and 2 disease is based on the earliest CD4 test result within 90 days of HIV diagnosis. The criterion for Stage 1 disease is CD4 ≥ 500 cells/µL and the criterion for Stage 2 is CD4 between 200-499 cells/µL.
[3]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.
[4]Unknown stage includes persons without a CD4 test within 90 days of HIV diagnosis.
[5]American Indians and Alaskan Natives were not included in the analysis because of small numbers. Nine individuals with unknown race/ethnicity are not included.
[6]Five individuals with unknown transmission category are not included.

Using CD4 metrics to monitor the epidemic

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 this timeframe.

National goal: Decrease the percentage of persons with late stage HIV diagnoses by 25%

Figure 17: CD4+ T-cell count within 1 month of HIV diagnosis, LAC 2014-2019[1]



Note: To meet the national goal, the percentage of persons with late stage HIV disease at diagnosis (i.e., CD4 < 200) needs to decrease to 16%.

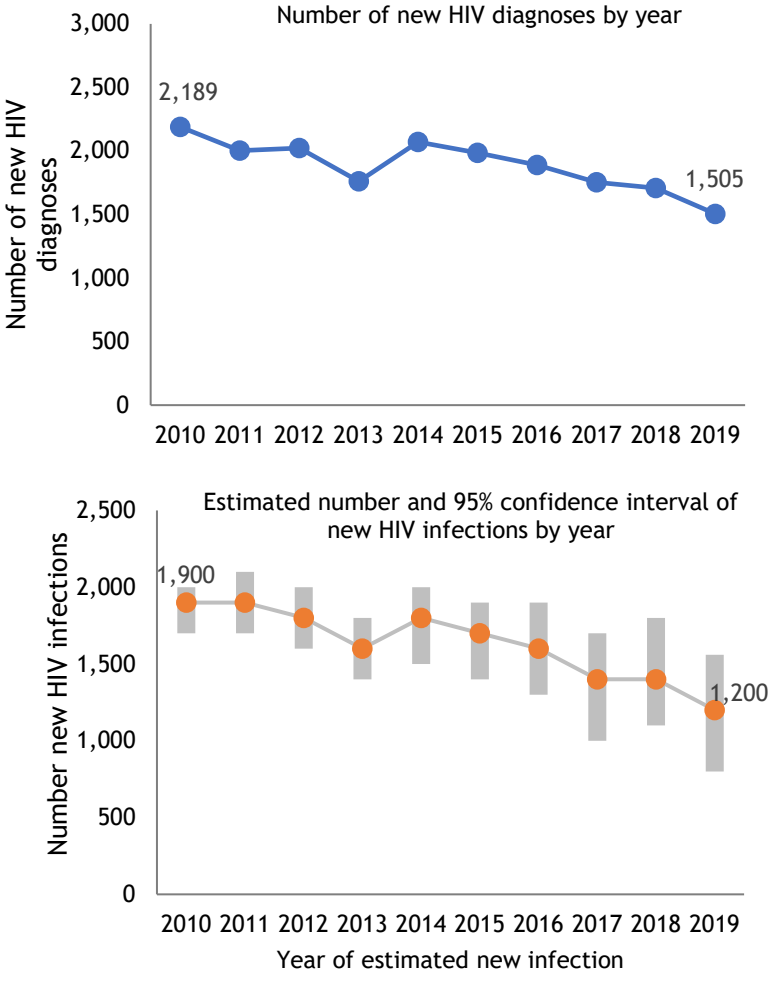
One in five new HIV diagnoses presented with CD4+ T-cells < 200 cells/μL at the time of diagnosis, indicative of late HIV disease. However, the percentage of persons presenting with late HIV disease has been decreasing, albeit slowly, since 2016.

[1]Based on first CD4 test within 1 month of HIV diagnosis. Among persons newly diagnosed with HIV between 2014-2019, 54% had a CD4 test within this period. Sum of percentages in 2016 and 2019 do add to 100% due to rounding error.

HIV incidence and undiagnosed HIV

Several indicators important for planning, monitoring, and evaluating the local HIV response are not directly measured through HIV surveillance: (1) the number of persons who acquired HIV each year, regardless of whether they had received an HIV diagnosis and (2) the number of PLWH but do not yet know they are HIV-positive (i.e., undiagnosed HIV). An estimate of these indicators can be computed using a mathematical model developed by the Centers for Disease Control and Prevention. Below we present estimates of newly acquired HIV (new HIV infection) and undiagnosed HIV among PLWH in LAC based on this model.

Figure 18: Number of persons newly diagnosed with HIV compared with the estimated number of persons with new HIV infection among PLWH aged ≥ 13 years, LAC 2010-2019[1,2]



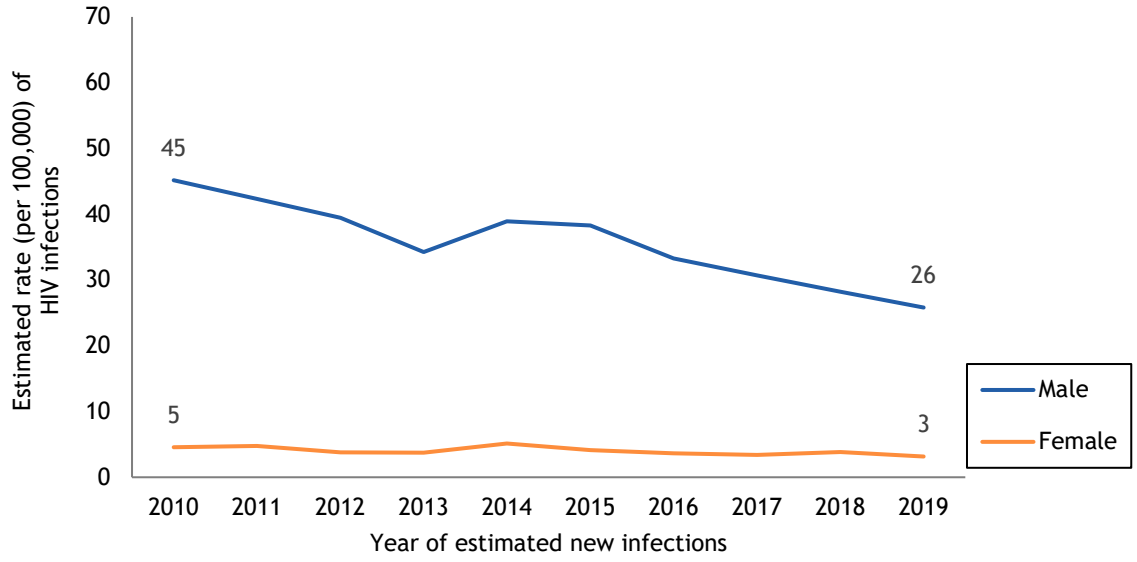
Note: The annual number of **new HIV diagnoses** is the number of PLWH who received a HIV diagnosis in a calendar year. This information is used to monitor trends in new HIV diagnosis and quantify the need for HIV care. A new HIV diagnosis is *not* equivalent to a new infection that was acquired in a calendar year. Many people live years before they are diagnosed and 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 single 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 programs are reducing transmission. Trends in new infections generally track similarly with trends in new diagnoses unless transmission is very low or high in the population.

The number of persons newly diagnosed with HIV and the estimated number of persons who acquired HIV (new infection) have declined between 2010 and 2019. In 2019, 1,505 persons were newly diagnosed with HIV, reflecting both new and old infections. An estimated 1,200 persons acquired HIV in 2019, reflecting new infections, some of whom were not diagnosed.

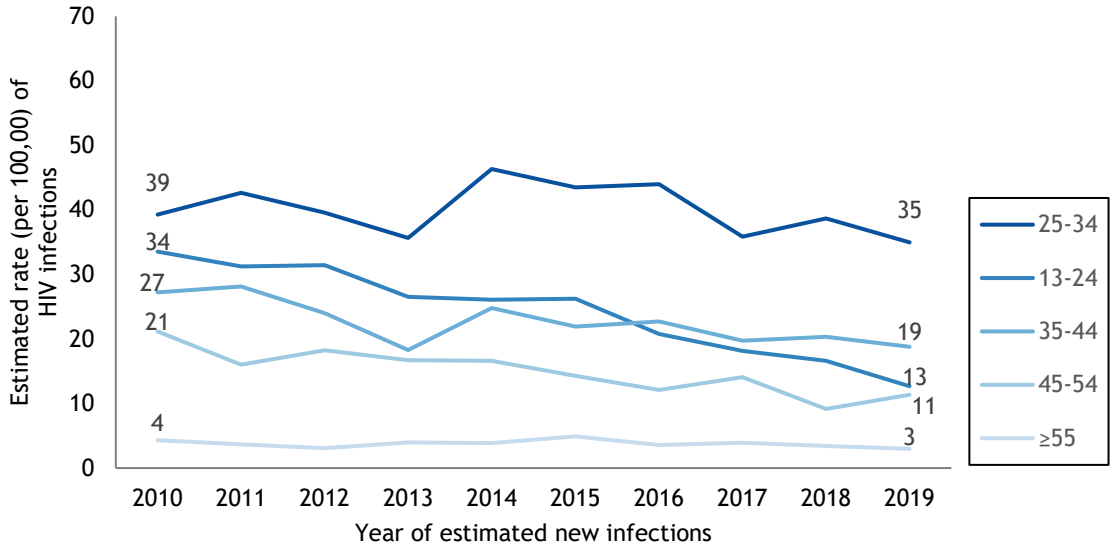
[1] Using the CD4-based model developed by the Centers for Disease Control and Prevention, modified for use by Los Angeles County.
[2] 2019 incidence estimates are preliminary.

Figure 19: Estimated HIV incidence rates by sex among persons aged ≥ 13 years, LAC 2010-2019[1,2,3]



Between 2010 and 2019, HIV incidence rates declined approximately 40% among males and females.

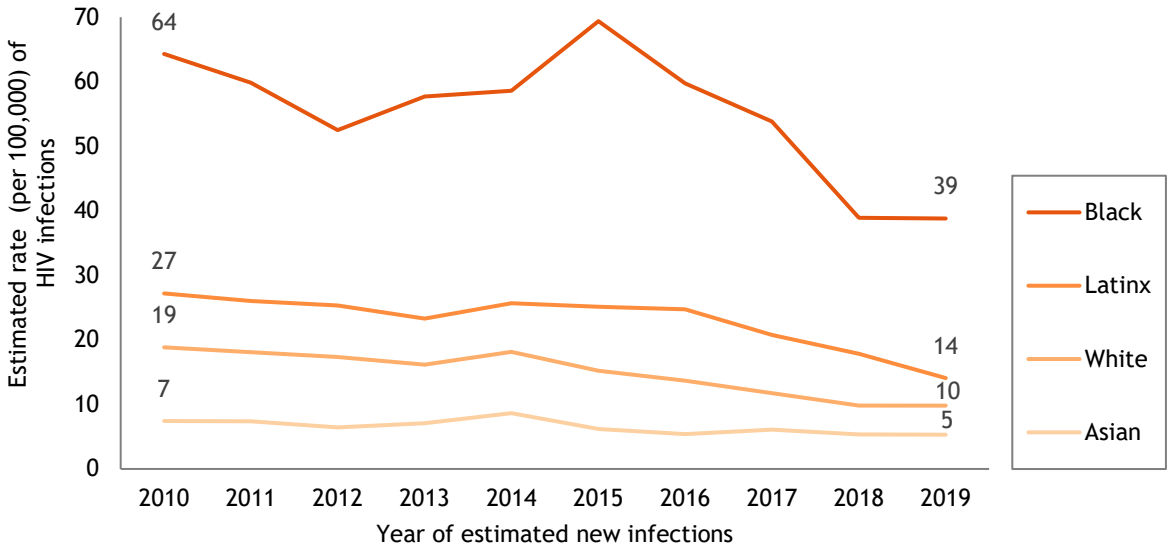
Figure 20: Estimated HIV incidence rates by age group among persons aged ≥ 13 years, LAC 2010-2019[2,3]



HIV incidence is highest among persons aged 25-34 years. Since 2015, declines in HIV incidence have been observed among persons across all age groups.

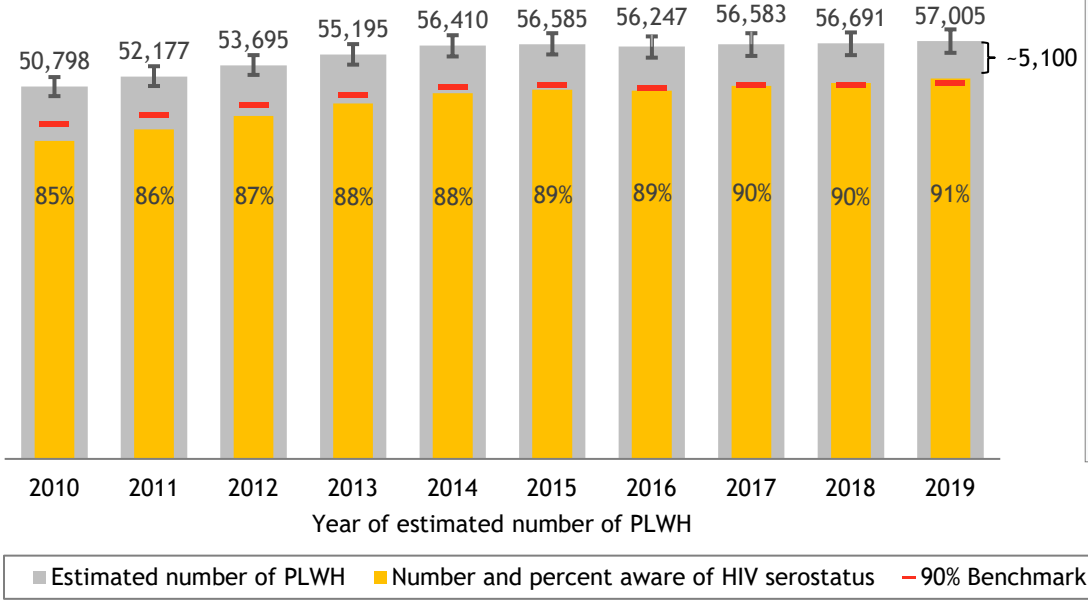
[1]Biological sex at birth was used in this analysis due to small numbers among transgender persons.
[2]Using the CD4-based model developed by the Centers for Disease Control and Prevention, modified for use by Los Angeles County.
[3] 2019 incidence estimates are preliminary.

Figure 21: Estimated HIV incidence rates by race/ethnicityamong persons aged ≥ 13 years, LAC 2010-2019[1,2,3]



Since 2015, HIV incidence declined among Black, Latinx and White populations. Blacks continue to have the highest incidence rate compared with other race/ethnicity groups.

Figure 22: Awareness of HIV-positive status among PLWH aged ≥ 13 years, LAC 2010-2019

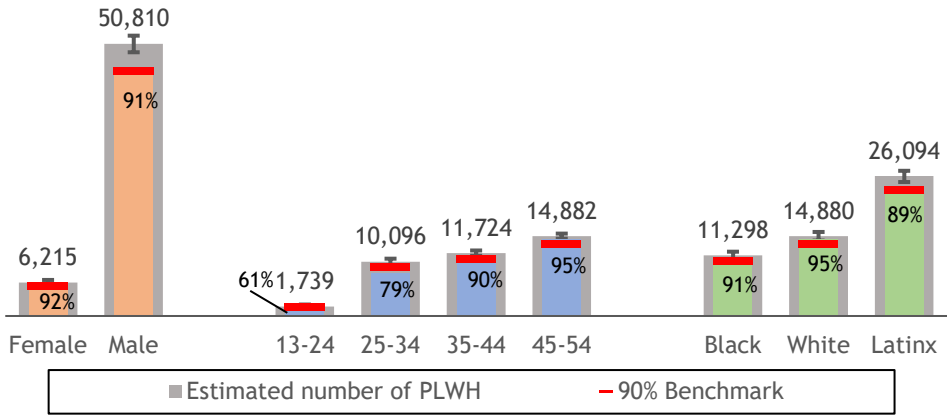


Note: The national goal is to increase the percentage of PLWH who know their HIV status to at least **90%** by 2022. The target for the Ending the HIV Epidemic in America is to increase this percentage to at least 95% by 2025.

In 2019, an estimated 91% of PLWH were aware of their HIV-positive status, surpassing the national benchmark of 90%. Still approximately 5,100 PLWH remained unaware of their HIV-positive status.

[1]American Indians, Alaskan Natives and persons of multiple race/ethnicities were not included in the analysis because of unstable results due to small numbers.
[2]Using the CD4-based model developed by the Centers for Disease Control and Prevention, modified for use by Los Angeles County
[3]2019 incidence estimates are preliminary.

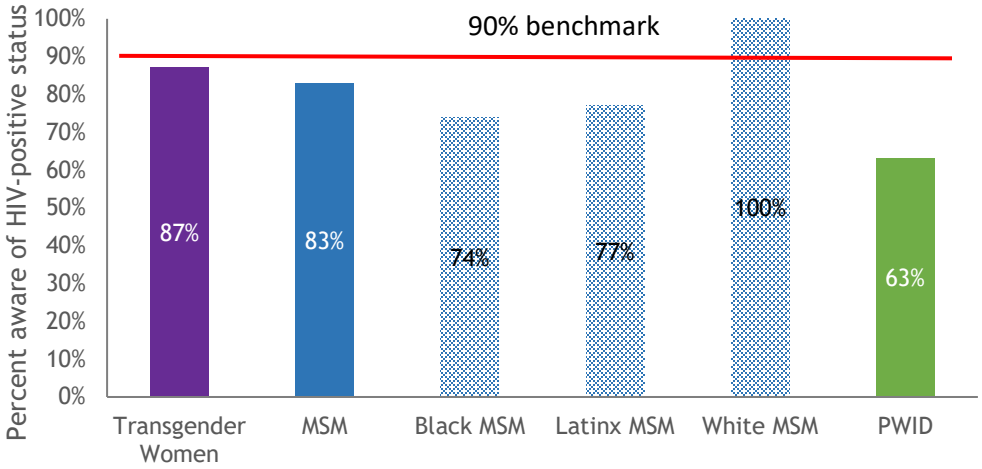
Figure 23: Awareness of HIV-positive status among PLWH aged ≥ 13 years by sex at birth, age group, and race/ethnicity, LAC 2019[1]



Changes since last surveillance report: Awareness of HIV-positive status increased across all age, sex, and race/ethnicity groups. The largest increases were observed among persons aged 13-24 years (+15 percentage points) and persons aged 25-34 years (+13 percentage points).

The greatest disparities in awareness of HIV-positive status were among young PLWH and Latinx PLWH.

Figure 24: Awareness of HIV-positive status among participants aged ≥ 18 years living with HIV by NHBS population and race/ethnicity, NHBS, LAC 2017-2019[1,2]

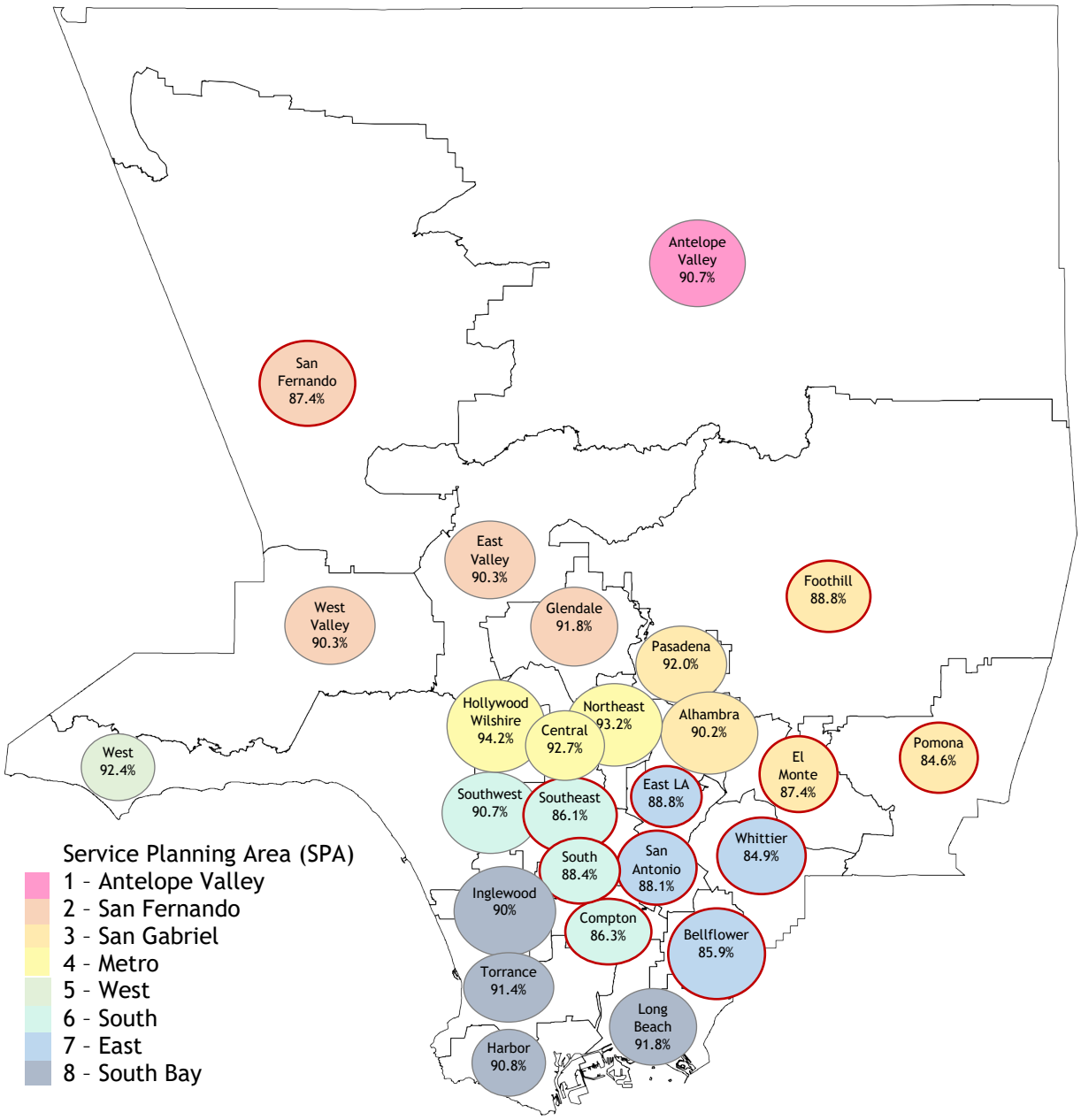


***Note*:** Among survey participants, transgender women (87%) and MSM (83%) reported high levels of HIV testing in the past year. White MSM (90%) reported higher levels of testing than Latinx and Black MSM (83%). Only 55% of PWID reported testing for HIV in the past year, with lowest levels of testing among White PWID (47%).

Among survey participants living with HIV, 87% of transgender women and 83% of MSM were aware of their HIV-positive status while only 63% of PWID were aware of their HIV-positive status. Among MSM living with HIV, 100% of White MSM knew of their HIV-positive status, but only 74% of Black MSM and 77% of Latinx MSM were aware.

[1]Asian/Pacific Islanders, American Indians, Alaskan Natives and persons of multiple race/ethnicities were not included in the analysis due to small numbers.
[2]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 and therefore should not be considered generalizable to the population groups represented. Data on HIV testing in past 12 months excludes participants diagnosed with HIV >12 months prior to the survey interview.

Figure 25: Percentage of PLWH aged ≥ 13 years who were aware of their HIV-positive status by health district, LAC 2019[1,2]



The percentage of persons living with HIV who are aware of their HIV-positive status varies by location. Locations where less than 90% of persons living with HIV were aware that they were HIV-positive are outlined in red and located in the San Fernando Health District and Health Districts located in the Eastern and Southeastern regions of the County.

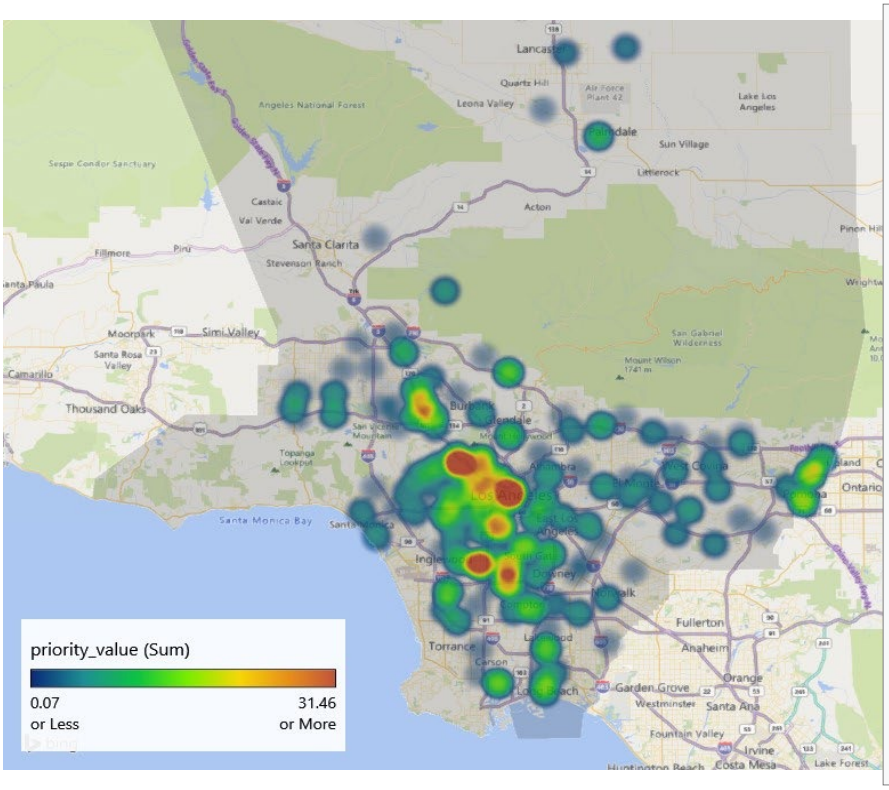
[1]Based on HIV surveillance data as of December 31, 2020 for persons aged ≥ 13 years at year-end 2019.
[2] Estimates based on the CD4-Based Model v3.0 developed by CDC, which derived by using HIV surveillance and CD4 data for persons aged ≥ 13 years at diagnosis. Estimates rounded to the nearest 100 for estimates of >1,000 and to the nearest 10 for estimates of ≤ 1,000 to reflect model uncertainty. Circles outlined in red represent Service Planning Areas where less than 90% of HIV-infected persons were aware of their infection.

Molecular HIV surveillance and cluster detection

Molecular HIV Surveillance (MHS) is a method of cluster detection that builds upon HIV genotype surveillance. Medical providers routinely obtain laboratory HIV viral genotype testing to determine whether an individual's HIV strain is resistant to certain drugs. The genotype testing, which results in a genetic sequence report about the individual's HIV viral strain, is reported to Public Health along with all 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 the HIV virus' 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).

Transmission clusters with numerous newly diagnosed HIV individuals 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 stop the chain of transmission in a geographic area and prioritize efforts to those who need them the most.

Figure 26: Molecular HIV cluster cases by zip code and priority level, LAC, 2018-2020



Note: Clusters are colored as low priority (**blue**: < 5 persons with new HIV diagnoses between 2018-2020), medium priority (**green**: ≥ 5 persons with new HIV diagnoses between 2018-2020), and high priority (**orange/red**: ≥ 5 cases diagnosed in 2020). Among 282 persons identified in high priority clusters, 195 (69%) were interviewed through Partner Services where additional behavioral and clinical information was collected.

Among persons in high priority clusters, 18% had a history of methamphetamine use, 11% had a history of being unhoused, 66% reported anonymous sex partners, and 49% had co-infection with syphilis.

The highest number of high priority clusters were in West Hollywood, Downtown, and South Los Angeles zip codes.

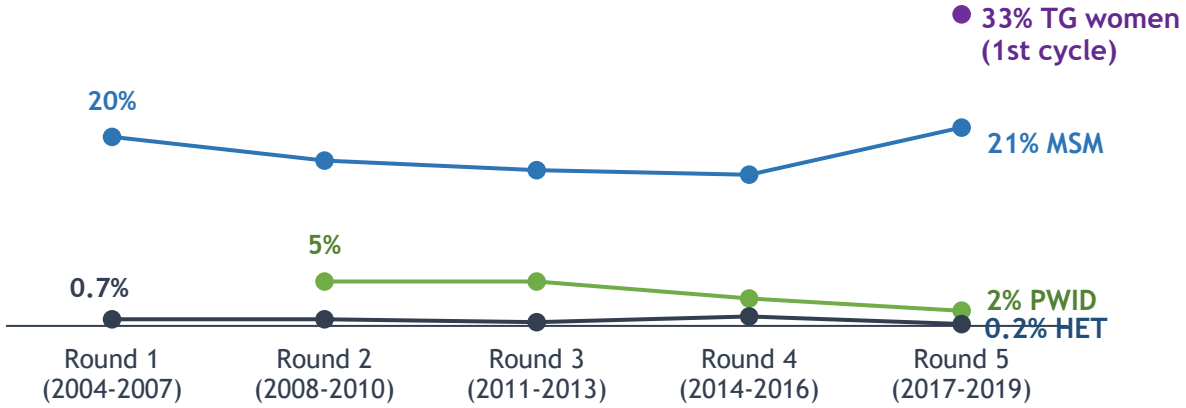
HIV biobehavioral surveillance

HIV biobehavioral surveys are a surveillance method for estimating HIV prevalence in a population and linking behavioral indicators to understand factors that may be associated with HIV infection.

The National HIV Behavioral Surveillance (NHBS) system is a CDC-funded HIV biobehavioral surveillance effort that allows state and local health departments to monitor HIV prevalence and risk behaviors among select populations at risk for HIV infection. These populations include men who have sex with men (MSM), persons who inject drugs (PWID), heterosexuals at increased risk for HIV infection (HET), and transgender (TG) women. NHBS uses a probability-based sampling strategy to recruit participants into the surveys. Sampling methods include venue-based, time space sampling for the MSM survey and respondent driven sampling for PWID, HET, and TG surveys. NHBS has been ongoing since 2004 in at least 20 sites nationwide, including LAC.

In this section, we highlight key findings from NHBS to date in LAC. Data presented in this report are not weighted. Results may not be generalizable to the broader population groups represented.

Figure 27: Trends in HIV positivity among NHBS participants by population, LAC, 2004-2019[1]

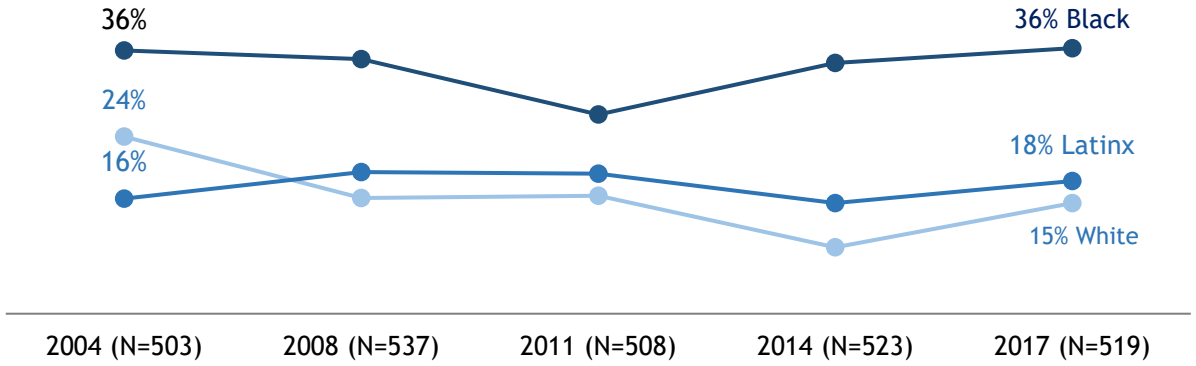


Transgender women had the highest HIV positivity across all populations surveyed in NHBS, with one in three participants living with HIV. HIV positivity was also high among MSM, with one in five participants living with HIV in the last surveillance round. In contrast, HIV positivity among PWID and HET survey participants was low.

[1]Participants were recruited into NHBS using 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.

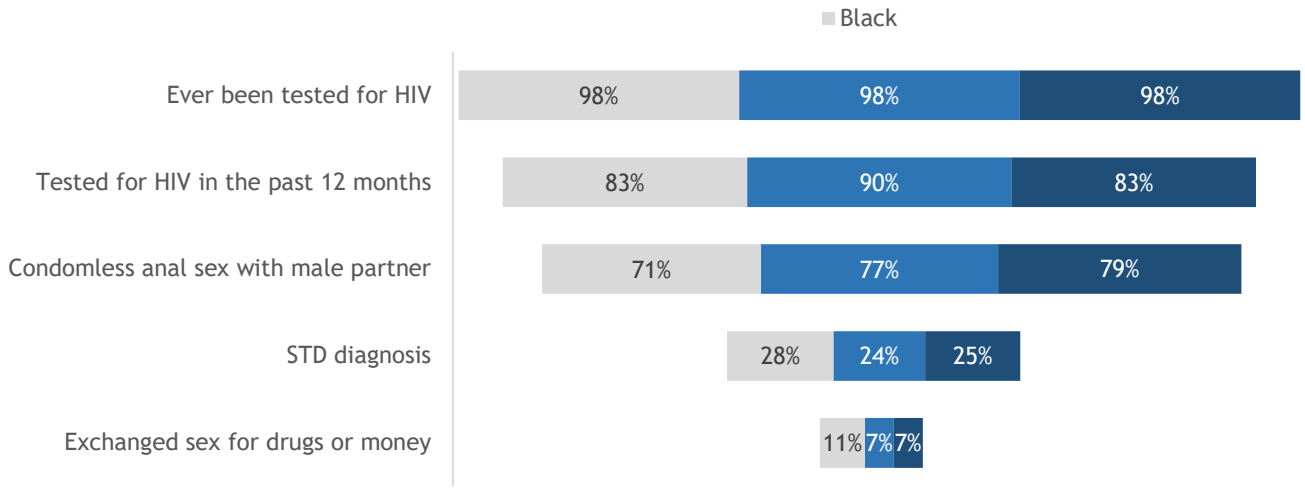
Men who have sex with men

Figure 28: Trends in HIV positivity among MSM participants by race/ethnicity, NHBS, LAC 2004-2017



HIV positivity was highest among Black MSM participants, with over one-third living with HIV. In comparison, HIV positivity was lowest among White MSM participants, where 15% were HIV-positive.

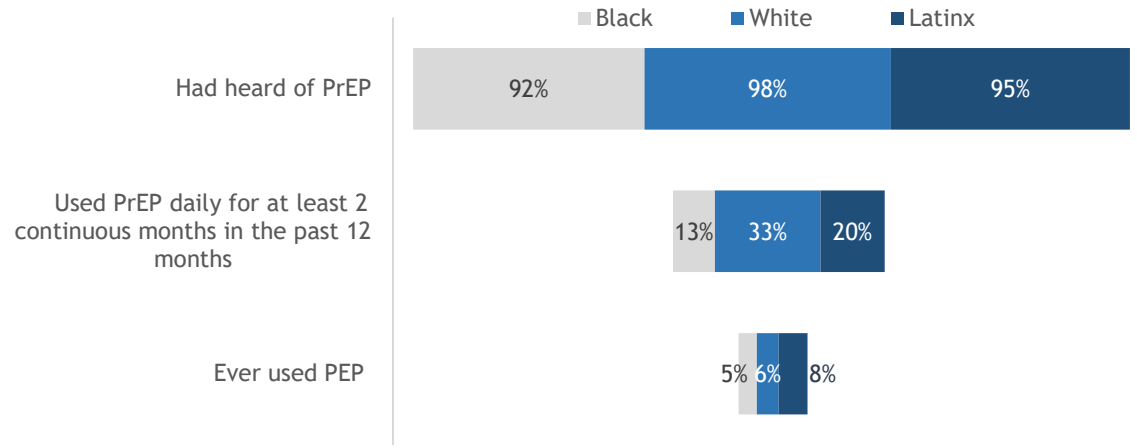
Figure 29: HIV testing behavior, STD diagnosis, and sexual behavior among MSM participants by race/ethnicity, NHBS, LAC, 2017[1]



HIV testing was high among MSM participants across all race/ethnicity groups; however, recent testing for HIV in the past 12 months was higher among White MSM participants compared with other MSM participants. Reports of condomless anal sex was high across MSM participants across all race/ethnicity groups, ranging from 71% to 79%.

[1]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. Condomless anal sex refers to either or both condomless receptive and/or condomless insertive anal sex. 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 self-reported and based on a health care provider diagnosis within 12 months prior to the interview.

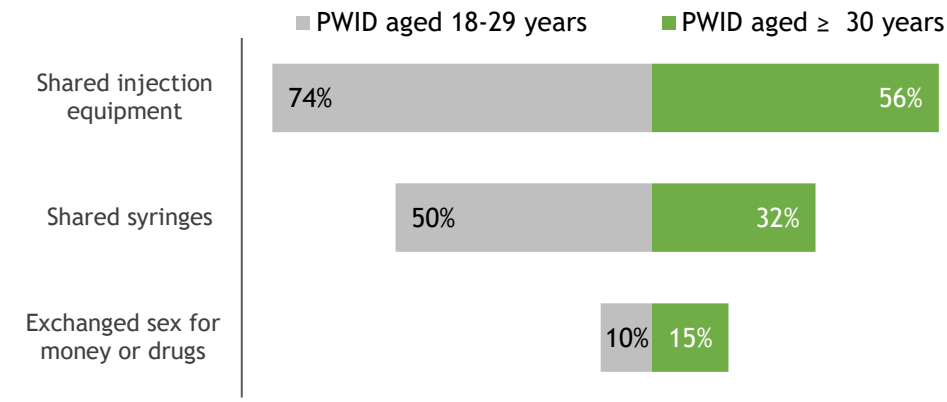
Figure 30: PrEP and PEP among MSM participants by race/ethnicity, NHBS, LAC, 2017[1]



Knowledge of PrEP was high among MSM. In the past 12 months, white MSM were more likely to have used PrEP consistently for at least 2 continuous months than Black and Latinx MSM. PEP use was low, ranging from 5-8% across Black, White, and Latinx MSM.

Persons who inject drugs

Figure 31: Injection drug use behavior and recent sexual behavior among PWID participants by age group, NHBS, LAC, 2018[2]



Note: HIV positivity among PWID participants was low at 1.6%. No HIV infections were identified among young PWID (aged 18-29 years) surveyed. Among PWID aged 30 years and older, 2% were living with HIV.

Higher percentages of younger PWID participants reported sharing syringes or injection equipment compared with older PWID participants, while a higher percentage of older PWID participants reported exchanging sex for money or drugs compared with younger PWID participants.

[1]PrEP: Pre-exposure prophylaxis; PEP: Post-exposure prophylaxis. PrEP and PEP data reflect responses from participants who reported HIV-negative or unknown HIV status.
[2]In the 2018 PWID NHBS surveillance round, there were 110 PWID aged 18-29 years and 401 PWID aged 30 years and older. All sexual behavior indicators reflect behavior in the 12 months prior to the survey interview. HIV testing in the past 12 months excludes participants who were diagnosed with HIV more than 12 months prior to the interview.

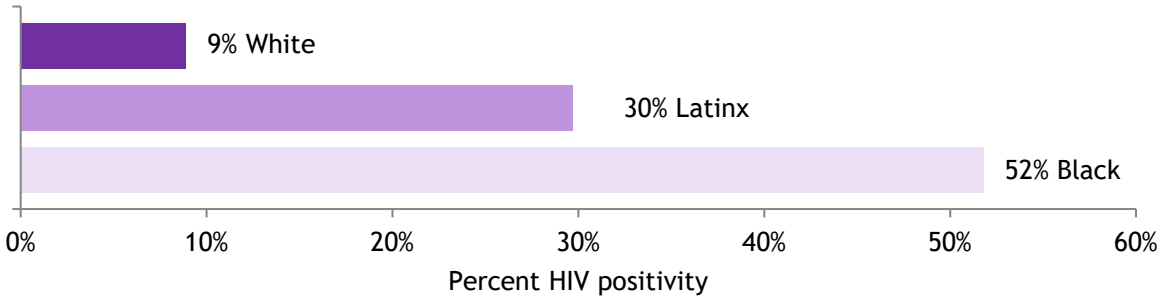
Heterosexuals at increased risk of HIV infection

Figure 32: Testing and sexual behavior among heterosexuals at increased risk of HIV infection (HET) by sex and race/ethnicity, NHBS, LAC, 2016[1]

Overall, condomless anal sex with the opposite sex was less common than condomless vaginal sex among HET participants. Female HET participants more commonly tested for HIV and STD than male HET participants; however, Latinx participants had lower rates of HIV and STD testing than Black participants.

Transgender women

Figure 33: HIV positivity among transgender women participating in NHBS by race/ethnicity, LAC, 2019[2]



Overall, 33% of transgender women participating in NHBS were living with HIV. HIV positivity varied widely by race/ethnicity, with over half of Black transgender women living with HIV, compared with 30% of Latinx and 9% of White transgender women.

[1]In the 2016 HET surveillance round, there were 146 Black males, 113 Latinx males, 155 Black females, and 73 Latinx females. All sexual behavior indicators reflect sexual behavior with the opposite sex in the 12 months prior to the survey interview. HIV testing in the past 12 months excludes participants who were diagnosed with HIV more than 12 months prior to the interview. STD diagnosis is based on self-report of diagnosis with any STD by a health care provider within 12 months prior to the interview.
[2]In the 2019 TG women surveillance round, there were a total of 112 Black, 302 Latinx, and 45 White transgender women who participated in the survey.

Data in Action: Progress and Opportunities in HIV Epidemic Monitoring

- In LAC, approximately 57,000 persons aged ≥ 13 years are living with HIV, and an estimated 5,100 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 control occurs when the number of new HIV infections falls below the number of deaths among PLWH. Approximately 1,200 new infections and 600 HIV deaths occur each year signaling that LAC is far from reaching "HIV epidemic control." To turn the tide, evidence-based prevention interventions with high impact, 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.
- The uptick in perinatal HIV transmission requires urgent attention. Laboratories need support to complete information on pregnancy status when reporting new cases to Public Health. Active surveillance should expand to identify all HIV-positive pregnant women in LAC. Substance abuse and homeless programs should provide pregnancy screening for women, HIV and STD testing for patients, and facilitate prompt linkage to care and prevention programs.
- Among PLWH, populations with lowest awareness of HIV-positive status were persons aged < 35 years, persons who injected drugs, and persons who resided in the San Gabriel Valley or parts of South LA County. These are the population groups and locations where capacity for HIV testing programs should expand to improve testing access and early HIV diagnosis.
- Molecular HIV surveillance confirms that likely hotspots of recent and rapid transmission are in Central and South Los Angeles zip codes, underscoring the importance of location-based interventions for testing, linkage to care, and retention.
- A mathematical model is used to estimate the number of newly acquired HIV in LAC. This model has a 12-month reporting delay, which limits the opportunity to respond rapidly to new infections to prevent further spread. To drive new HIV infections down, novel approaches are needed at the time of diagnosis to rapidly identify persons with recently acquired HIV and immediately link them and their exposed partners to the services needed to stop the chain of HIV transmission.

HIV Care Continuum

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 are able to 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.

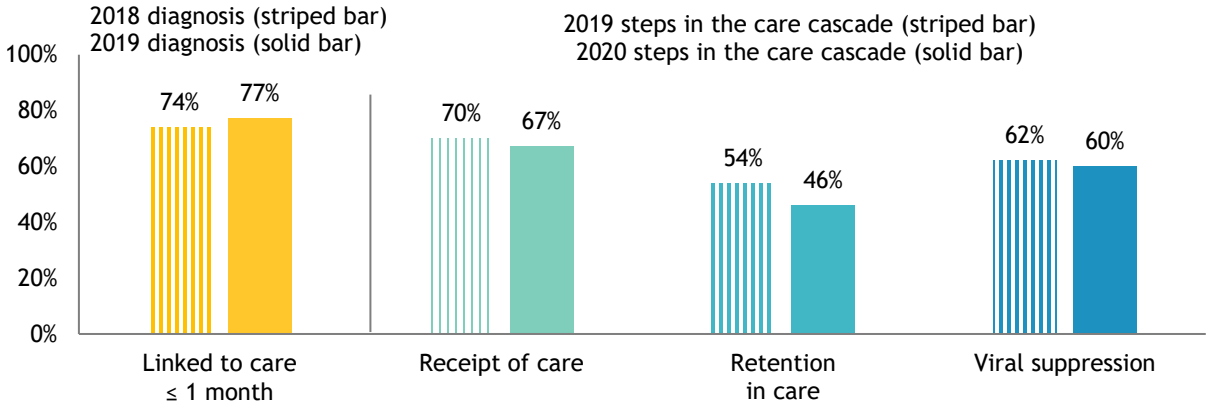
The HIV care continuum includes the following: (1) among persons receiving a diagnosis of HIV in a given calendar year, the percentage of persons who were linked to HIV care within 1 month of diagnosis (defined as ≥ 1 CD4/VL/Genotype test reported within 1 month of HIV diagnosis); and (2) among all persons 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 a HIV-positive diagnosis in a given calendar year, whereas the base populaton 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 in the current year. The latter ensures that there is at least one year of follow-up to measure receipt in care, retention in care, and viral suppression.

HIV care continuum targets

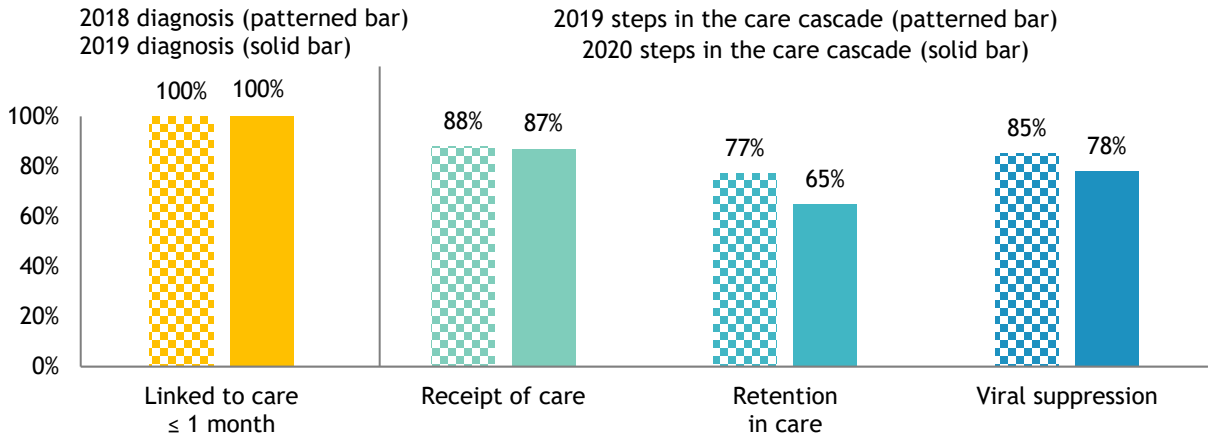
- Ending the HIV Epidemic 2025/2030 target: Increase the % of newly diagnosed persons linked to care within 1 month to **95%**
- National HIV/AIDS Strategy 2020 target: Increase the % of persons living with diagnosed HIV who are retained in care to ≥ **90%**
- Ending the HIV Epidemic 2025/2030 target: Increase the % of persons living with diagnosed HIV who are virally suppressed to ≥ **95%**

Figure 34: HIV care continuum[1] among persons aged ≥ 13 years, LAC 2018-2019[2] and 2019-2020[3]



Though linkage to care within 1 month of diagnosis improved slightly for persons diagnosed with HIV in 2019 compared to persons diagnosed in 2018, progress along the subsequent steps in the care cascade in 2020 reversed for receipt of care, retention in care, and viral suppression.

Figure 35: HIV care continuum[1] among children aged <13 years, LAC, 2018-2019[2] and 2019-2020[3]



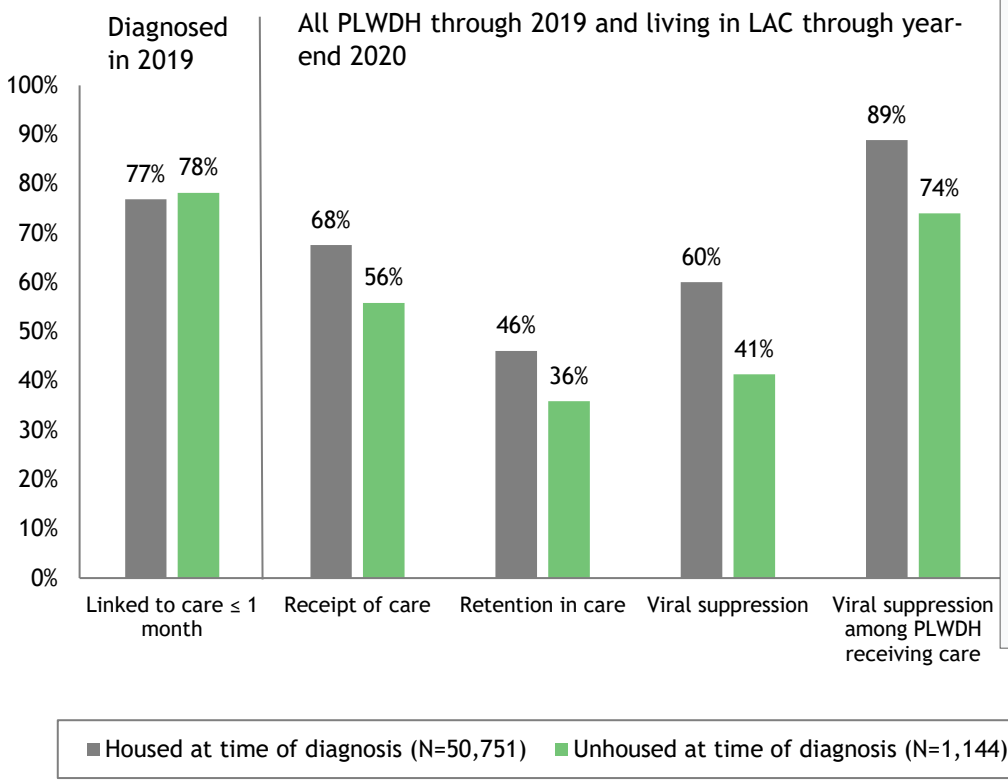
Children aged < 13 years fare better than adolescents and adults at key steps along the continuum of HIV care: 100% of children diagnosed with HIV in 2018 and 2019 were linked to HIV care within 1 month. However, similar to adults, receipt of care, retention in care, and viral suppression declined in 2020 compared to 2019.

[1]The HIV care continuum include 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 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.

[2] The 2018-2019 HIV care continuum denominator includes persons diagnosed in 2018 to calculate linkage to care ≤ 1 month of diagnosis, and all PLWDH through 2018 and living in LAC at year-end 2019 to calculate receipt of care, retention in care, and viral suppression.

[3] The 2019-2020 HIV care continuum denominator includes persons diagnosed in 2019 to calculate linkage to care ≤ 1 month of diagnosis, and all PLWDH through 2019 and living in LAC at year-end 2020 to calculate receipt of care, retention in care, and viral suppression.

Figure 36: HIV care continuum among persons aged ≥ 13 years who were unhoused at the time of HIV diagnosis, LAC 2019-2020[1]



Note: Linkage to care levels did not differ 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, partners 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.

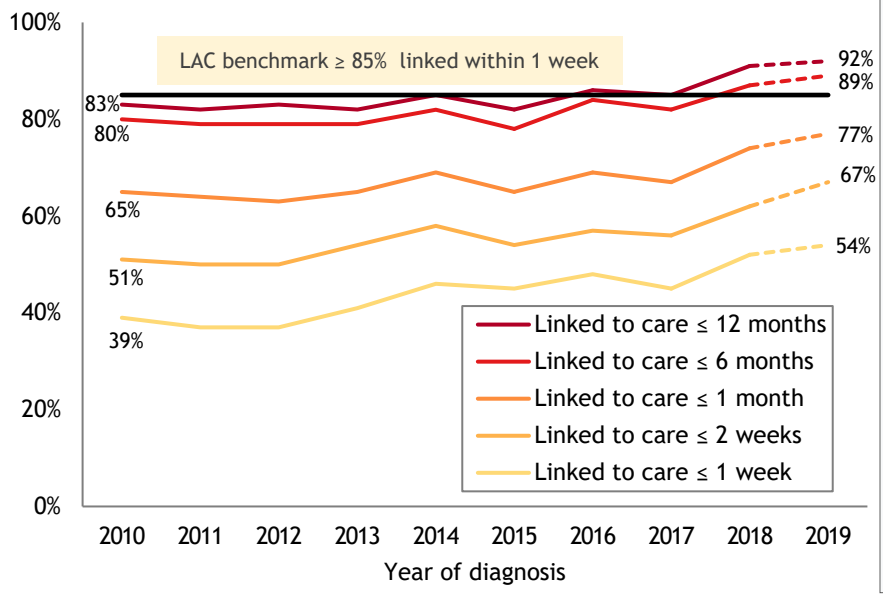
With the exception of linking to HIV care, unhoused persons had poorer outcomes in the HIV care continuum compared with housed persons, with greatest disparities observed in viral suppression. Note: Since the last surveillance report, we observed an increase in linkage to care (+7 points) but decreases in the level of receipt of care (-3 points), retention in care (-7 points), and viral suppression (-4 points).

[1]Linkage to care: numerator includes persons newly diagnosed with HIV in 2019 with ≥1 CD4/VL/Genotype test reported within 1 month of HIV diagnosis; denominator includes persons who were diagnosed with HIV in 2019.
Receipt of care: numerator includes PLWDH with ≥1 CD4/VL/Genotype test in 2020; denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence.
Retention in care: numerator includes PLWDH with ≥2 CD4/VL/Genotype tests at least 3 months apart in 2020; denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence.
Viral suppression: numerator includes PLWDH whose last VL test in 2020 was suppressed (HIV-1 RNA < 200 copies/mL); denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence. PLWDH without a VL test in 2020 were categorized as having unsuppressed viral load.

Opportunities in 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 infection. 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 infection can be started immediately.

Figure 37: Time from HIV diagnosis to linkage to care among persons aged ≥ 13 years newly diagnosed with HIV by year of HIV diagnosis, LAC 2010-2019[1,2]



Data in Context: Our local linkage to HIV care target is for ≥ 85% of persons with diagnosed HIV to be linked to HIV care within 1 week. Though not shown, populations and locations with lowest rates of linking to care within 1 week were females, adolescents, persons with heterosexual transmission risk, and persons residing in Bellflower, Whittier, Pasadena, Foothill, and Pomona Health Districts.

Though timeliness of linkage to care has improved over time, only 77% of persons who were newly diagnosed in 2019 were linked to HIV care within 1 month and only 54% were linked to HIV care within 1 week.

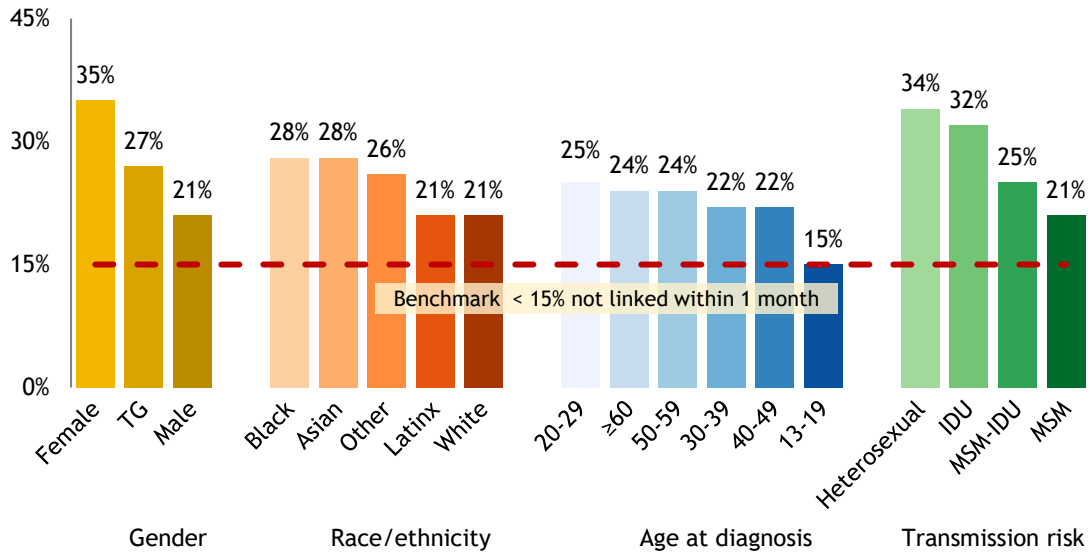
[1] Includes persons diagnosed with HIV in each calendar year and living through the following 12 months with ≥1 CD4/VL/Genotype test reported within 1 and 2 weeks, as well as 1, 6, and 12 months of diagnosis.
[2] Due to reporting delay, 2019 HIV linkage to care data are provisional as indicated by the dashed line.

PLWDH not linked to care

The next two figures describe specific populations of PLWDH that were not linked to HIV care within 1 month of diagnosis and we gauge where strategies for linkage to HIV care may require re-direction.

Data in context: The national goal for linkage to HIV care is to increase the percentage of newly diagnosed persons that are linked to care within 1 month to at least **85%**. This means that the percentage of newly diagnosed persons that are not linked to care within 1 month should not exceed **15%.**

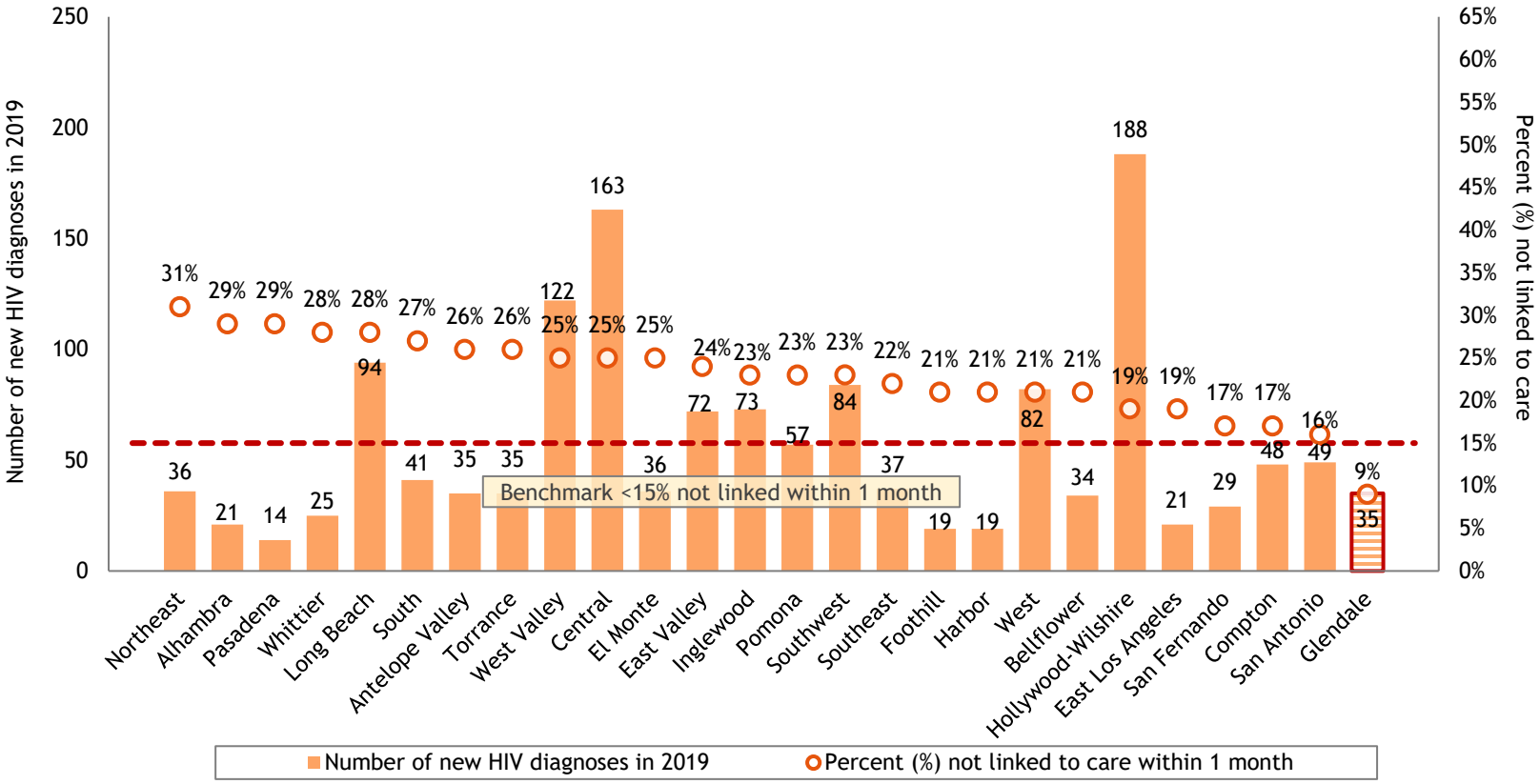
Figure 38: Persons aged ≥ 13 years newly diagnosed with HIV in 2019 and **not linked to care** within 1 month of diagnosis[1] by select demographics[2] and risk characteristics, LAC



Among persons newly diagnosed with HIV in 2019, groups that were more likely not to be linked to HIV care within 1 month of diagnosis were females (35%), Blacks (28%), persons aged >19 years (22% to 25%) and persons with heterosexual (34%) and IDU (32%) transmission risk.

[1]Not linked to care: numerator includes persons newly diagnosed with HIV in 2019 with no CD4/VL/Genotype test reported within 1 month of HIV diagnosis; denominator includes persons who were diagnosed with HIV in 2019.
[2]Other race/ethnicity includes American Indians, Alaskan Natives, Pacific Islanders, persons of multiple race/ethnicities, and persons with unknown race/ethnicity.

Figure 39: Persons aged ≥ 13 years newly diagnosed with HIV in 2019 and **not linked to care** within 1 month of diagnosis by Health District, LAC[1,2]



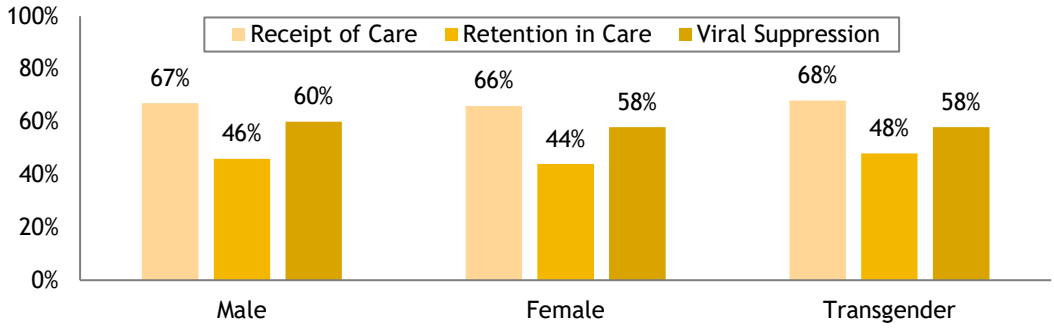
Only one of twenty-six Health Districts (Glendale) met the national target for timely linkage to HIV care (no less than 15% of persons newly diagnosed with HIV not linked to care within 1 month). Lowest achievement in linkages was observed in Northeast Health District where > 30% of cases were not linked within 1 month of HIV diagnosis. However, solutions for improving linkage to care are needed across LAC.

[1]Not linked to care: numerator includes persons newly diagnosed with HIV in 2019 with no CD4/VL/Genotype test reported within 1 month of HIV diagnosis; denominator includes persons who were diagnosed with HIV in 2019.
[2]Health Districts are based on 2012 boundaries.

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 2020 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.

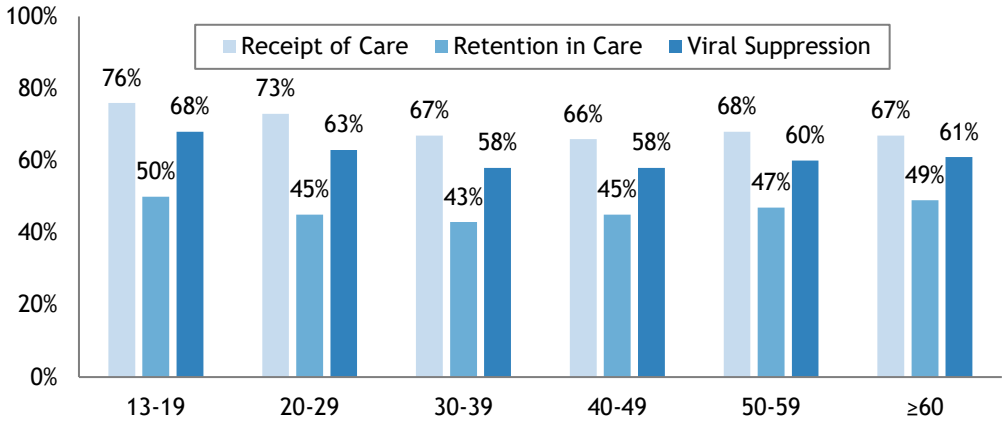
Figure 40: Receipt of care, retention in care, and viral suppression by gender among PLWDH aged ≥ 13 years diagnosed through 2019 and living in LAC at year-end 2020[1]



Change since last surveillance report: Receipt of HIV care decreased among transgender persons; retention in care decreased across all gender groups; and viral suppression remained stable.

The percentage of PLWDH who were receiving HIV care, retained in care, and virally suppressed in 2020 were similar across gender groups.

Figure 41: Receipt of care, retention in care, and viral suppression by age group among PLWDH aged ≥ 13 years diagnosed through 2019 and living in LAC at year-end 2020[1]

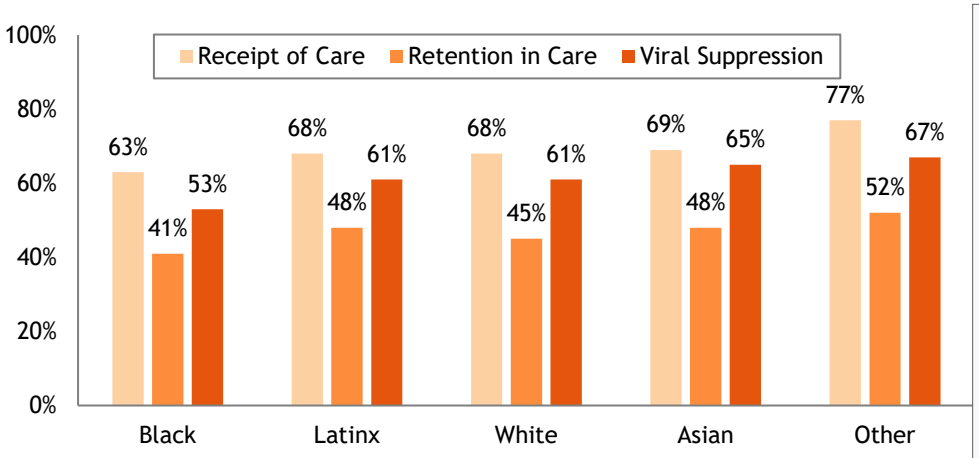


Change since last surveillance report: Receipt of care declined among adolescents; retention in care decreased across all age groups, and viral suppression remained stable across all age groups.

Adolescents had better HIV care outcomes than their counterparts in 2020, while persons aged 30-39 years and 40-49 years had the poorest outcomes across the care cascade.

[1]Receipt of care: numerator includes PLWDH with ≥1 CD4/VL/Genotype test in 2020; denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence.
Retention in care: numerator includes PLWDH with ≥2 CD4/VL/Genotype tests at least 3 months apart in 2020; denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence.
Viral suppression: numerator includes PLWDH whose last VL test in 2020 was suppressed (HIV-1 RNA < 200 copies/mL); denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence. PLWDH without a VL test in 2020 were categorized as having unsuppressed viral load.

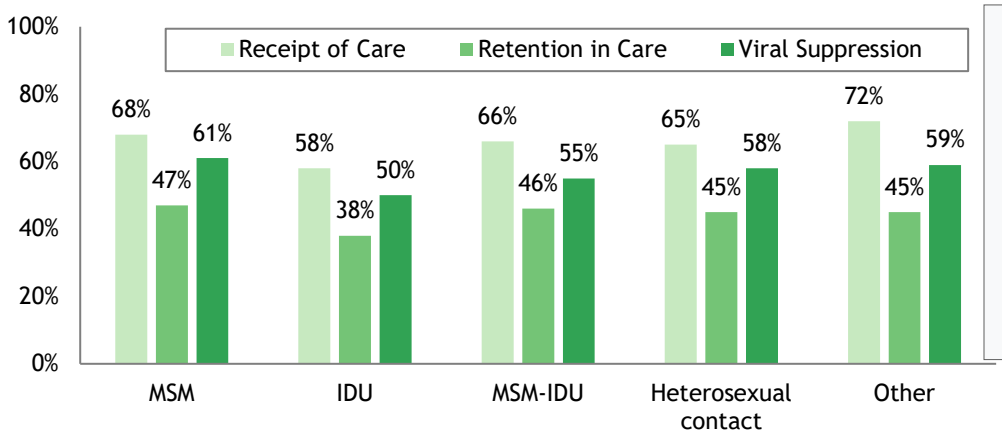
Figure 42: Receipt of HIV care, retention in HIV care, and viral suppression by race/ethnicity among PLWDH aged ≥ 13 years diagnosed through 2019 and living in LAC at year-end 2020[1, 2]



Changes since last surveillance report: Receipt of care declined in Black, Asian, and Other race/ethnicity populations. Though retention in care decreased across all groups, the sharpest decrease was among Asian and Other race/ethnicity groups who also observed the greatest declines in viral suppression.

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

Figure 43: Receipt of HIV care, retention in HIV care, and viral suppression by transmission risk category among PLWDH aged ≥ 13 years diagnosed through 2019 and living in LAC at year-end 2020[2, 3]

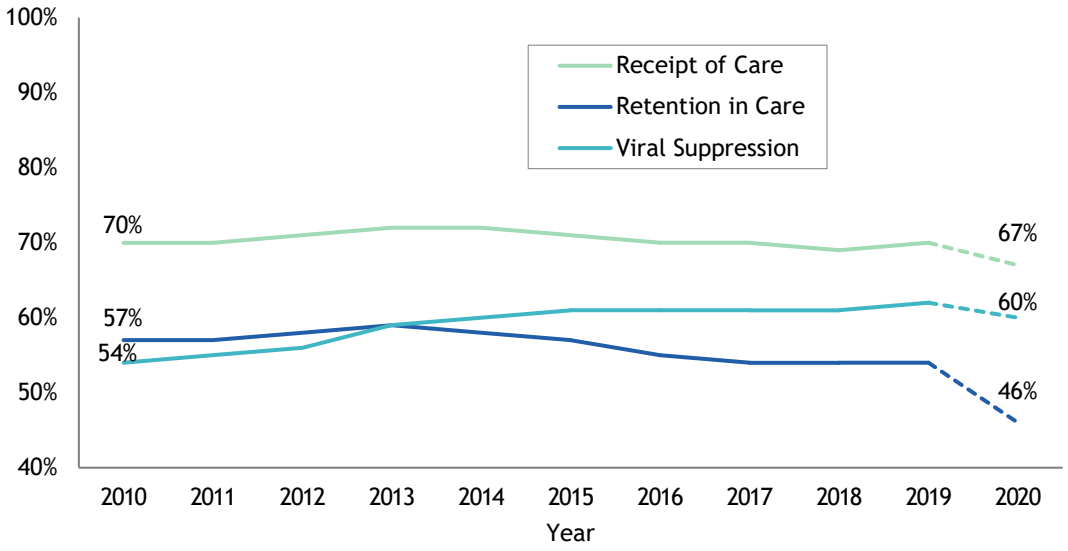


Changes since last surveillance report: Receipt of care decreased among IDU and MSM-IDU. Retention in care decreased across all groups. Viral suppression declined for IDU, MSM-IDU and persons with heterosexual contact.

Persons whose HIV transmission risk is IDU, followed by MSM-IDU, had the greatest disparities in HIV care, with lowest levels of receipt of care, retention in care, and viral suppression.

[1]Other race/ethnicity includes American Indians, Alaskan Natives, Pacific Islanders, persons of multiple race/ethnicities, and persons with unknown race/ethnicity.
[2]Receipt of care: numerator includes PLWDH with ≥1 CD4/VL/Genotype test in 2020; denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence.
Retention in care: numerator includes PLWDH with ≥2 CD4/VL/Genotype tests at least 3 months apart in 2020; denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence.
Viral suppression: numerator includes PLWDH whose last VL test in 2020 was suppressed (HIV-1 RNA < 200 copies/mL); denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence. PLWDH without a VL test in 2020 were categorized as having unsuppressed viral load.
[3] 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 44: 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, 2010-2020[1,2]



There has been minimal improvement in the HIV continuum of care over the last decade, with improvements only seen in viral suppression (+6 points). Due to the impact of COVID-19 on health care service delivery, the percentage for all HIV care outcomes declined from 2019 to 2020.

[1]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.
[2] Due to reporting delay, 2020 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. Public Health collects supplemental information on a subset of persons newly diagnosed with HIV through the National Medical Monitoring Project (MMP) to better understand achievements and gaps in HIV treatment and other HIV care services for PLWDH.

The MMP is a national HIV surveillance system funded by the 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.

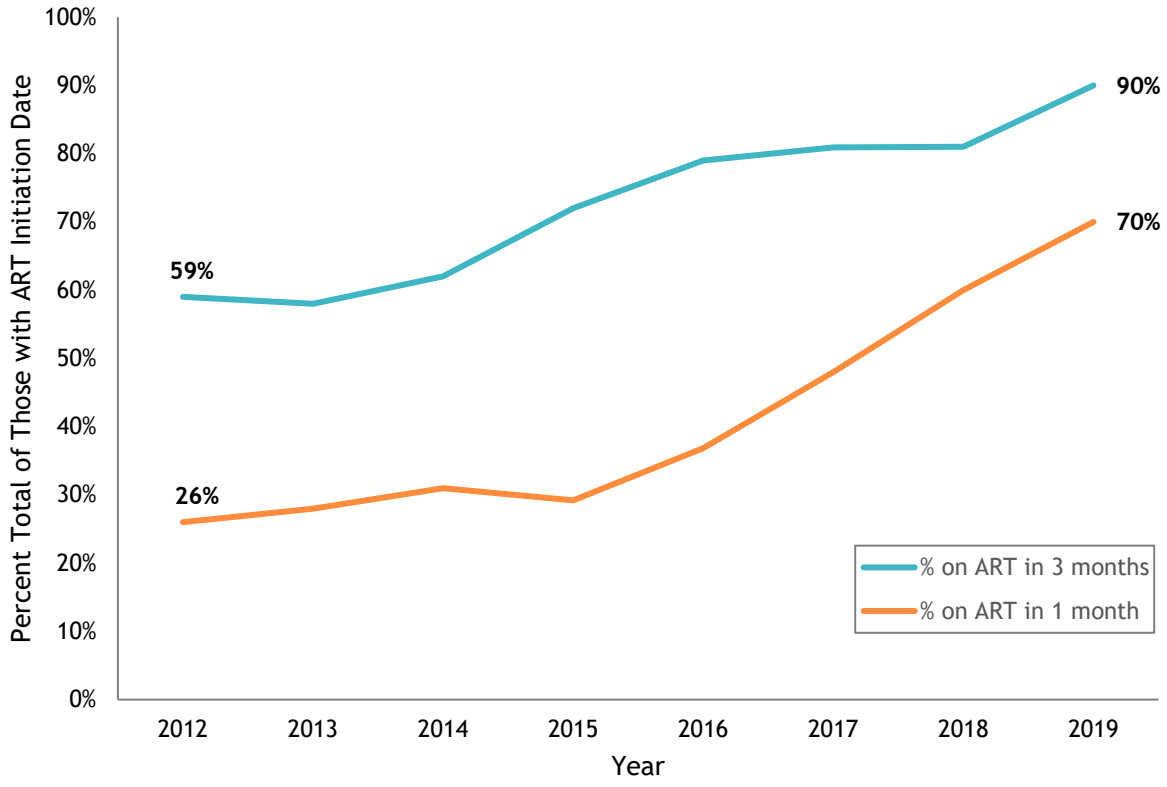
Table 5: Antiretroviral therapy use among persons living with diagnosed HIV by demographic and risk characteristics, Medical Monitoring Project, LAC 2015-2018[1]

	Prescribed antiretroviral therapy (ART)	ART dose adherence in the last 3 days
	(%)	(%)
Total (N=647)	88	83
Sex at birth		
Male	88	86
Female	93	72
Age group (years)		
18-29	80	71
30-39	82	75
40-49	91	83
≥50	91	89
Race/ethnicity		
White	90	92
Black	85	79
Latinx	90	83
Transmission risk		
MSM	89	86
Heterosexual	93	77

Between 2015-2018, there was high coverage of antiretroviral treatment (ART) and adherence to ART in a representative sample of PLWDH. Treatment uptake was lower than average for persons aged < 40 years and Blacks while adherence was lower than average among females, persons aged < 40 years, Blacks, and heterosexual persons.

[1]From 2015 to 2018 MMP interviewed 647 adult persons living with HIV in Los Angeles County. Their responses reflect their experiences during the 12 months before their interview, unless otherwise noted. All data presented are weighted.

Figure 45: Time from HIV diagnosis to treatment initiation among persons aged ≥ 13 years newly diagnosed with HIV by year of diagnosis, LAC 2012-2019[1]



The time from diagnosis to starting HIV treatment is getting shorter. The probability of starting ART within 1 month of diagnosis increased from 26% in 2012 to 70% in 2019. The probability of initiating ART within 3 months of diagnosis increased from 59% in 2012 to 90% in 2019.

[1]Data represent a subset of persons newly diagnosed with HIV and reported in LAC. It includes 4,616 persons newly diagnosed with HIV between 2012 and 2019 for whom ART initiation date is complete and excludes 10,081 persons newly diagnosed with HIV between 2012 and 2019 for whom ART initiation date is incomplete.

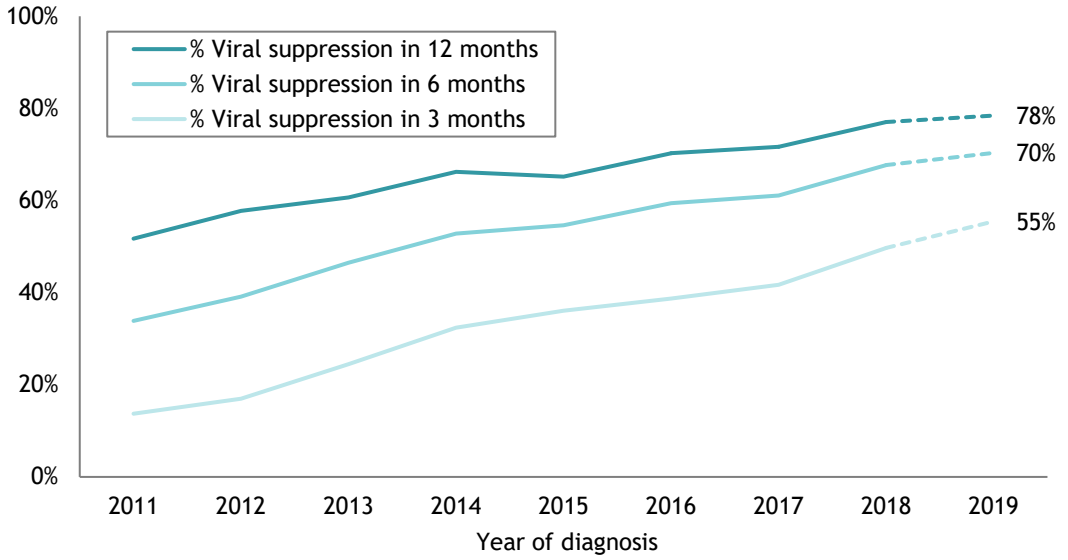
Opportunities in viral suppression

Only 60% of PLWDH achieved viral suppression in 2020, highlighting the substantial shortfall we have in reaching the national goal of ≥ 80%. For maximum impact, viral suppression should be reached soon after HIV diagnosis but as described earlier, this is dependent on how rapidly HIV-positive persons are linked into HIV care and receive HIV treatment.

Viral suppression is measured using the last viral load test for PLWDH in HIV care. However, this metric does not consider how soon after an HIV diagnosis PLWDH are reaching viral suppression and whether viral suppression is maintained over time. Moreover, it does not identify population disparities in viral suppression, all of which are needed to ensure that PLWDH can access and use the HIV services needed to achieve sustained viral suppression.

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.

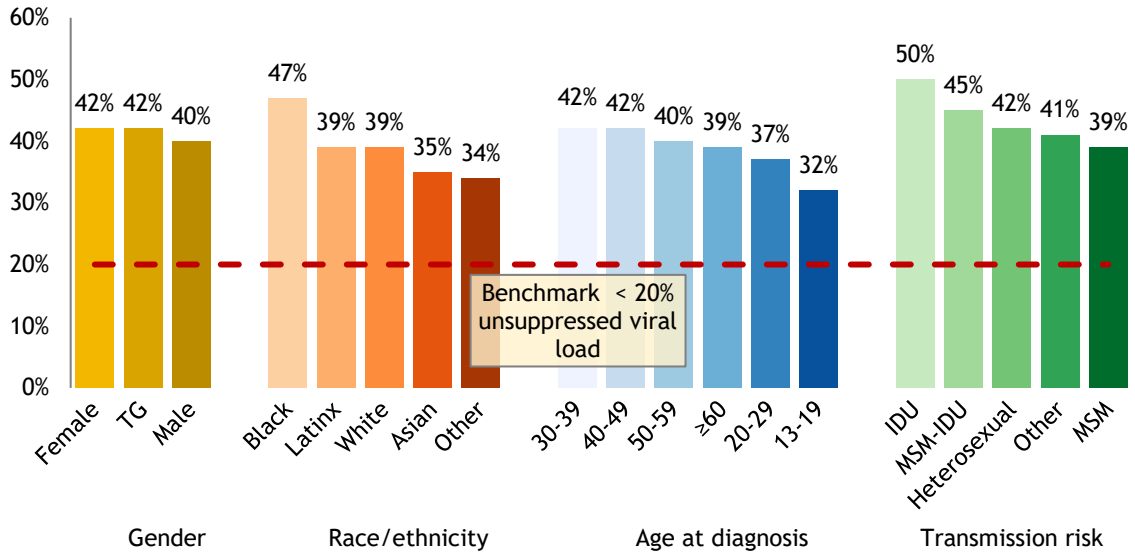
Figure 46: Time from diagnosis to viral suppression among persons diagnosed with HIV by year of HIV diagnosis, LAC 2011-2019[1,2]



Though time from HIV diagnosis to viral suppression has improved over time, LAC is still underperforming in this area, with only 55% of persons newly diagnosed with HIV in 2019 achieving viral suppression within 3 months.

[1]Analysis includes persons newly diagnosed with HIV in each calendar year and living in LAC at year-end 2019 with or without VL testing. 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.
[2] Due to reporting delay, 2019 HIV data are provisional as indicated by the dashed line.

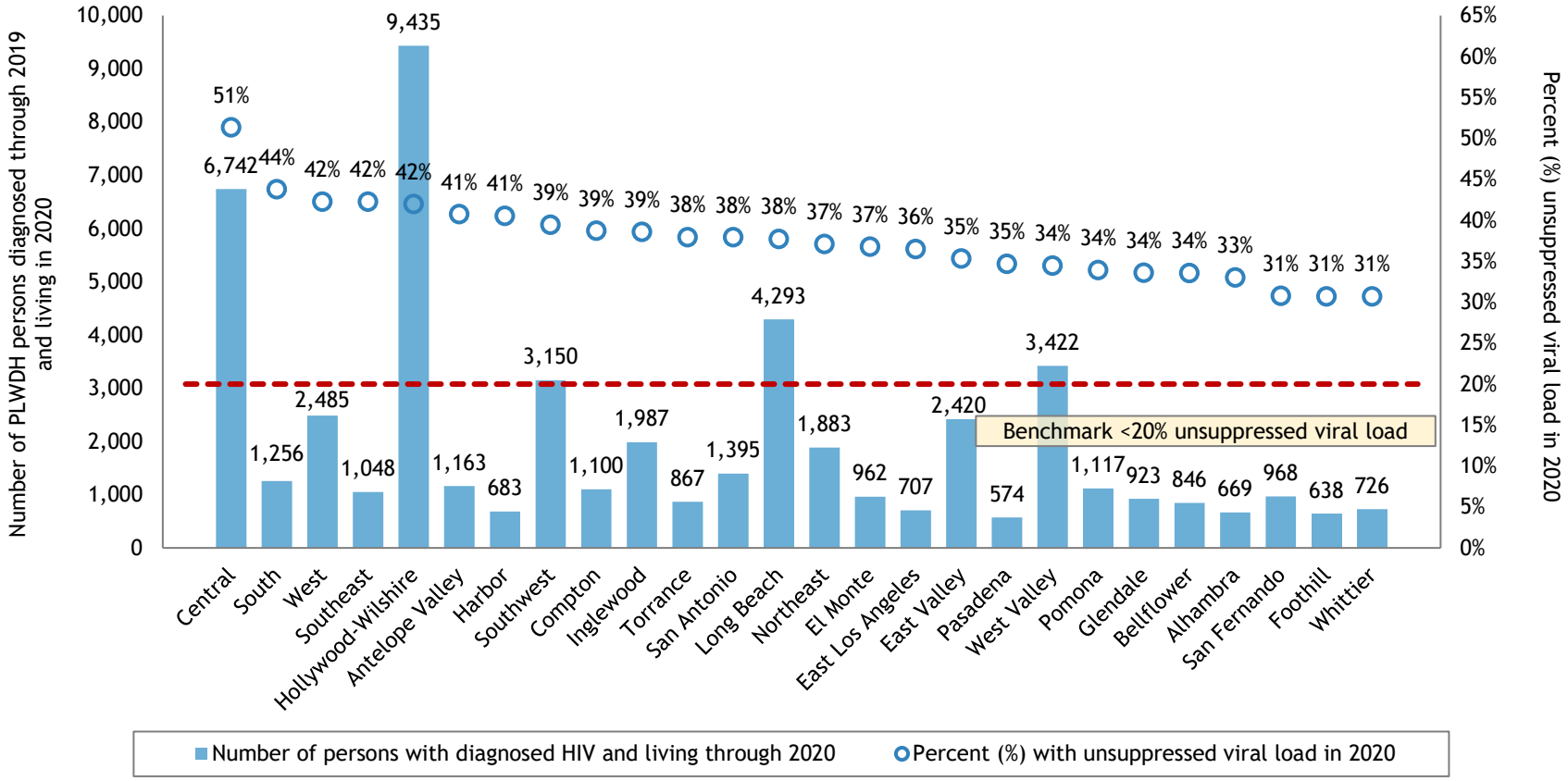
Figure 47: Unsuppressed viral load by selected demographic and risk characteristics among persons aged ≥ 13 years diagnosed through 2019 and living in LAC at year-end 2020[1],[2]



LAC is not within the target for viral suppression for PLWDH. In 2020, the largest disparities were observed among Blacks, persons aged 30-49 years, and persons with IDU and MSM-IDU transmission risk.

[1]Unsuppressed viral load: numerator includes PLWDH whose last VL test in 2020 was unsuppressed (HIV-1 RNA ≥ 200 copies/mL); denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence. PLWDH without a VL test in 2020 were categorized as having unsuppressed viral load.
[2]Other race/ethnicity includes American Indians, Alaskan Natives, Pacific Islanders, persons of multiple race/ethnicities, and persons with unknown race/ethnicity.

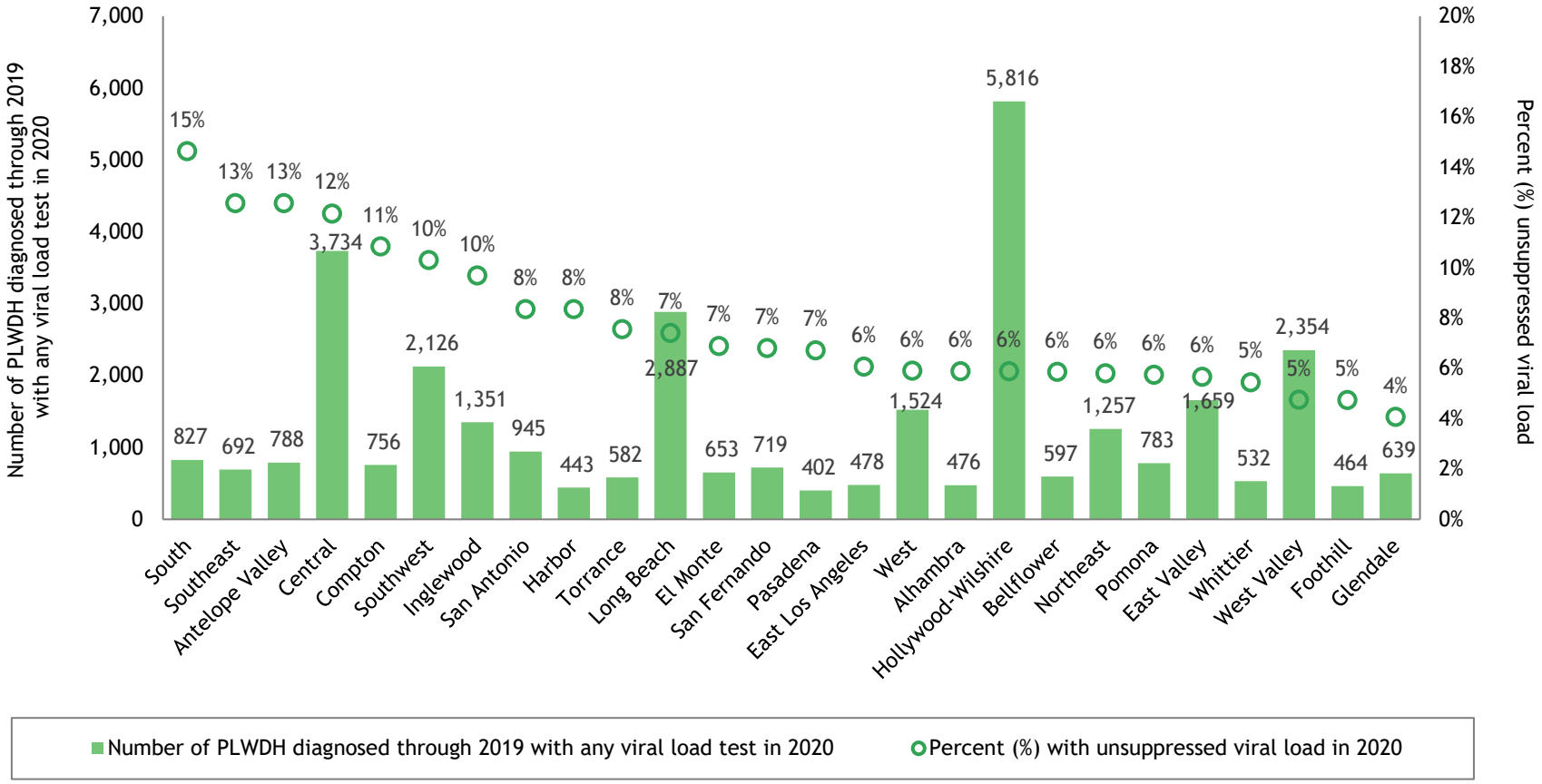
Figure 48: Unsuppressed viral load by Health District among persons aged ≥ 13 years diagnosed through 2019 and living in LAC at year-end 2020[1,2]



Unsuppressed viral load varies widely across LAC Health Districts. In 2020, no Health District achieved the national target for viral suppression (<20% with unsuppressed viral load). In several areas: Central, South, West, Southeast, and Hollywood-Wilshire Health Districts, over 40% of PLWDH were virally unsuppressed and therefore capable of transmitting HIV infection to others.

[1]Unsuppressed viral load: numerator includes PLWDH whose last VL test in 2020 was unsuppressed (HIV-1 RNA ≥ 200 copies/mL); denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence. PLWDH without a VL test in 2020 were categorized as having unsuppressed viral load.
[2]Health Districts are based on 2012 boundaries.

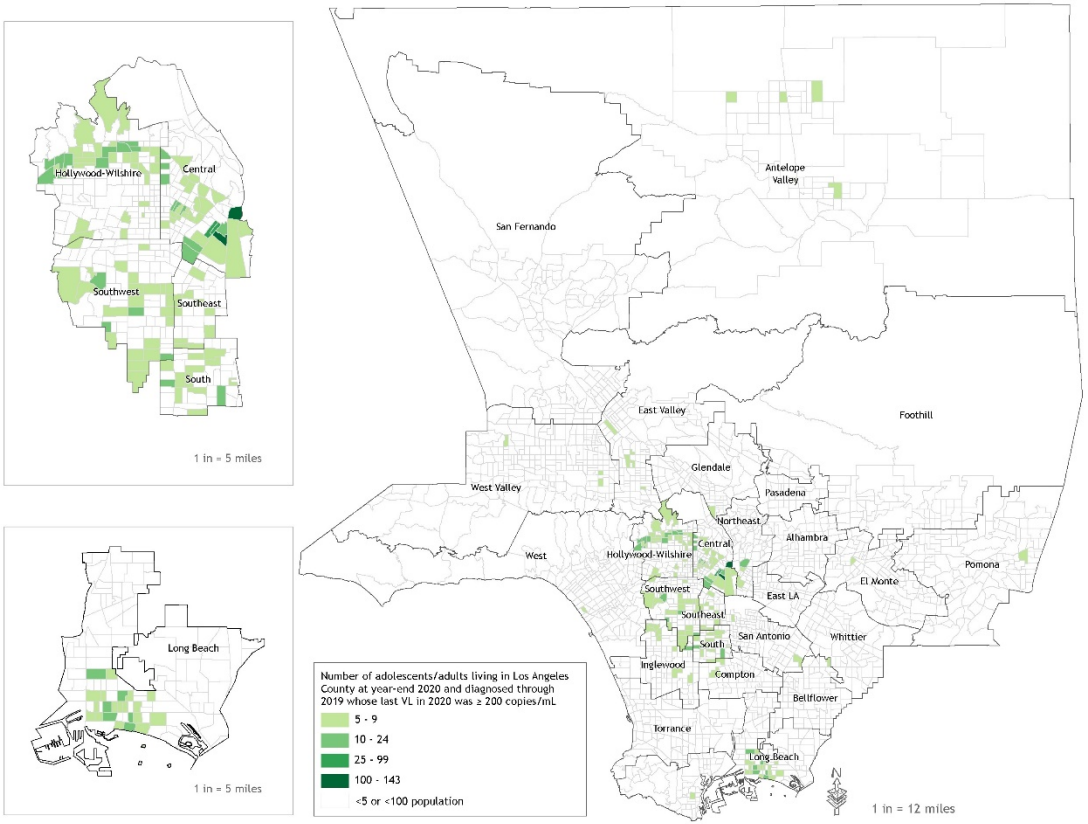
Figure 49: Unsuppressed viral load among persons aged ≥ 13 years receiving HIV care and who had any viral load test in 2020 by Health District LAC[1,2]



Once in care, the goal is for all PLWDH to achieve viral suppression as soon as possible. PLWDH do relatively well once they are receiving HIV care services. On average, nine in ten PLWDH with at least one viral load test in 2020 were suppressed. However, geographic analysis revealed disparities in South, Southeast, Antelope Valley, Central, Compton, Southwest, and Inglewood Health Districts, where higher percentage of PLWDH are virally unsuppressed.

[1] Unsuppressed viral load: numerator includes PLWDH whose last VL test in 2020 was unsuppressed (HIV-1 RNA ≥ 200 copies/mL); denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence who had any viral load test in 2020. PLWDH without a VL test in 2020 were categorized as having unsuppressed viral load.
[2] Health Districts are based on 2012 boundaries.

Figure 50: Unsuppressed viral load by census tract among persons aged ≥ 13 years diagnosed through 2019 and living in LAC at year-end 2020 (N=1,598)[1]



Census tracts located in 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 stop the chain of transmission. Other emerging hotspots of transmission that require close monitoring are in Southwest, Southeast, South, and Long Beach Health Districts.

[1]Unsuppressed viral load: numerator includes PLWDH whose last VL test in 2020 was unsuppressed (HIV-1 RNA ≥ 200 copies/mL); denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence. PLWDH without a VL test in 2020 were considered virally unsuppressed. Analysis excludes PLWDH diagnosed through 2019 and living at year-end 2020 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 2020, or (4) were in census tracts with small sample sizes (<5 persons with unsuppressed viral load or population size <100 persons). Exclusions represented 69% of PLWDH diagnosed through 2019 and living in 2020 whose last viral load was unsuppressed.

Table 6: Viral load dynamics among persons living with diagnosed HIV and receiving HIV care, LAC 2018-2020[1]

	Number of PLWDH with ≥1 viral load test 2018-2020	Last Undetectable viral load test	All Undetectable viral load tests
	N	%	%
Total	34,027	91%	72%
Gender			
Male	29,634	91%	73%
Female	3,802	89%	69%
Transgender	591	84%	57%
Race/ethnicity			
White	9,287	94%	81%
Black	6,485	85%	60%
Latinx	15,281	91%	71%
Asian	1,242	96%	84%
PI	49	90%	75%
AI/AN	211	86%	61%
Multi-Racial	1,470	88%	68%
Age group			
<13	12	100%	83%
13-19	37	92%	76%
20-29	1,809	84%	56%
30-39	6,230	86%	63%
40-49	7,173	89%	69%
50-59	10,947	92%	74%
≥60	7,819	95%	81%

Data in context: Examining sustained, or durable, viral suppression takes into account all of an individual's viral loads during a specific timeframe. Compared to examination of the last viral load test results only, sustained viral suppression offers a more robust and realistic assessment of treatment success.

Using the last viral load test, 91% of PLWDH in HIV care were virally suppressed. However, using the results of all viral load tests in a 3-year period, only 72% had sustained viral suppression (i.e., all viral loads suppressed). Populations with lowest levels of sustained viral suppression were transgender persons, Blacks, American Indians/Alaskan Natives (AI/AN) and persons aged 20-39 years.

[1] Analysis includes persons diagnosed with HIV through 2017, had ≥ 1 viral load test in 2018-2020 and living in LAC at year-end 2020.

Data in action: Gaps and opportunities in the HIV care continuum

- 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. More support is needed to strengthen the HIV surveillance system to ensure that reported laboratory data are timely, complete, and of high quality.
- Information reported by HIV providers for HIV surveillance provide direct information on care services for HIV patients; however, provider reports are commonly incomplete. 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 current trajectory of the HIV care continuum among persons living with HIV.
- The COVID-19 pandemic led to significant changes in health service delivery in 2020, resulting in reduced provision of and access to HIV care and treatment services. Across the care cascade, we observed a decline in levels of receipt of care, retention in care, and viral suppression in 2020. In addition, the availability of laboratory testing for PLWDH may have also been reduced due to the COVID-19 pandemic though the impact of this bias is not yet known.
- Groups with greatest disparities in the HIV care continuum are persons who are unhoused at the time of HIV diagnosis, those with injection drug use transmission risk, and the Black population. Person-centered interventions that respond directly to the challenges and needs of these populations continue to be needed.
- The metric tied to linkage to care within 1 month of diagnosis saw modest improvement since the last surveillance round. Of note, improvements in this metric were also observed in LAC's HIV testing services data.
- Linkage to care was not impacted by the COVID-19 epidemic as it represents persons who were diagnosed in 2019. Still only half of PLWDH were linked to HIV care within 1 week of diagnosis, highlighting that more work is needed to improve mechanisms to ensure that newly diagnosed persons are promptly linked to HIV care.
- Gaps in linkage to care are particularly high among Blacks, persons aged 20-29 years, females, and persons with heterosexual and IDU risk. Targeted interventions are needed to link these populations immediately to care after HIV diagnosis. Special attention is needed in the Northeast Health District where linkage rates are very low despite low burden of HIV disease.

Data in action: Gaps and opportunities in the HIV care continuum

- There has been no progress in retention in care levels over the past decade despite viral suppression rates slowly climbing upwards. Consequently, this has hindered improvement of viral suppression among PLWDH, which has remained far below national targets. More work is needed to understand the barriers for staying in care and the impact this has had on treatment adherence.
- Though treatment coverage is high, with approximately 90% of PLWDH on treatment, there is more work needed to ensure that treatment is started immediately after HIV diagnosis. Rapid ART programs should be scaled, especially for populations with lower treatment coverage (e.g., Black populations) and Health Districts that have low linkage to care and viral suppression levels.
- Even while receiving HIV care there are geographic disparities in viral suppression, particularly in Central, South, West, Southeast, Hollywood-Wilshire, and Antelope Valley Health Districts as these are also among the Health Districts with the highest numbers of PLWDH. These disparities highlight the need for a better understanding of challenges in retention and treatment adherence in these areas.
- Hollywood-Wilshire Health District has the highest counts of unsuppressed viral load, followed by Central, Long Beach, and Southwest Health Districts. The response needs to be intense in these areas to ensure that all PLWDH are linked and all out-of-care PLWDH are re-linked, so that all PLWDH can achieve viral suppression and prevent onward transmission of HIV.
- Population-levels of sustained viral suppression is 19 percentage points lower than viral suppression based on the most recent viral load test. Sustained viral suppression should be routinely monitored as an indicator of treatment success. It should also be included in U=U (undetectable = untransmissible) prevention messages, highlighting the importance of achieving and maintaining viral suppression to prevent sexual transmission of HIV.

HIV Coinfection and Mortality

COVID-19 and HIV Coinfection

Persons living with HIV may be at increased risk for severe outcomes of COVID-19 disease. However, little is known about the characteristics of PLWDH who are coinfected with COVID-19 and the severity of COVID-19 disease in this population. Using data on persons living with diagnosed HIV through December 2020 and newly diagnosed cases of COVID-19 infection reported to Public Health from January 2020 through March 2021, we calculated the COVID-19 coinfection rate among PLWDH, describe demographic and clinical characteristics of persons with COVID-19 and HIV coinfection, and calculated mortality rates for person with COVID-19 and HIV coinfection. Due to incomplete demographic data for COVID-19 cases, COVID-19 community rates are not provided. Note that COVID-19 and HIV coinfection data are for Los Angeles County excluding Long Beach and Pasadena, as each of these cities have their own health departments and do not report COVID-19 data to LAC.

Table 7: COVID-19 and HIV coinfection among PLWDH aged ≥ 13 years, LAC (excluding Long Beach and Pasadena), January 2020 to March 2021[1]

	COVID-19 and HIV Coinfected Cases	PLWDH Population[2]	COVID-19 and HIV Coinfected Cases per 10,000 PLWDH
Total	**4,429**	**47,913**	**924**
Gender			
Female	526	5,326	**988**
Male	3,851	41,695	924
Transgender	52	892	583
Age Group[2]			
12 to 17	1	29	345
18 to 29	434	3,682	**1,179**
30 to 49	2,077	19,651	1,057
50 to 64	1,594	19,298	826
65 to 79	291	4,870	598
≥80	32	383	836
Race/Ethnicity			
American Indian/Alaska Native	16	290	552
Asian	140	1,748	801
Pacific Islander	11	62	**1,774**
Black	599	9,612	623
Latinx	2,808	22,096	**1,271**
White	709	12,386	572
Other	146	1,717	850
SPA			
Antelope Valley [1]	121	1,187	1,019
San Fernando [2]	793	7,881	1,006
San Gabriel [3]	374	3,488	1,072
Metro [4]	1,436	18,317	784
West [5]	136	2,525	539
South [6]	720	6,687	1,077
East [7]	497	3,776	**1,316**
South Bay [8]	326	3,610	903

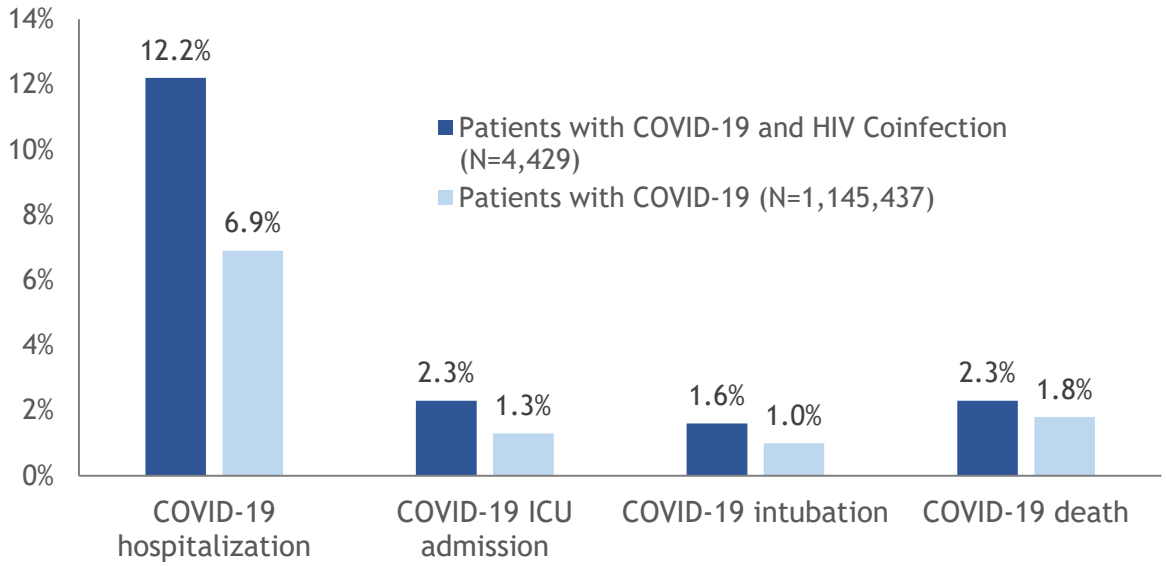
[1]COVID-19 rates in the population were not included as a comparison due to high proportion of missingness for race, age, and gender.
[2]Includes PLWDH at year-end 2020.

Table 7 (continued)	COVID-19 and HIV Coinfected Cases	PLWDH Population[1]	COVID-19 and HIV Coinfected Cases per 10,000 PLWDH
Transmission Category			
Male-Male sexual contact (MSM)	3,072	32,992	931
Heterosexual contact	299	2,585	**1,157**
Injection Drug User (IDU)	143	1,596	896
MSM/IDU	243	2,351	1,034
Other/Undetermined	672	8,389	801
Viral Suppression[2]			
Suppressed[3]	3,320	27,969	**1,187**
Not Suppressed	1,109	19,138	579
Experienced homelessness			
Yes	322	3,426	940
No	4107	44,487	923

Rates of COVID-19 and HIV coinfection among PLWDH were highest among females, persons aged 18 to 29 years, Latinx, Pacific Islanders, residents of SPA 7 (East), unhoused persons, persons with heterosexual transmission risk, and persons with suppressed HIV viral load (i.e., proxy for persons on HIV treatment).

[1]Includes PLWDH at year-end 2020 in Los Angeles County (excludes Pasadena and Long Beach).
[2] Viral suppression data include persons diagnosed through 2019 and living in LAC at year-end 2020 (i.e., excludes persons newly diagnosed in 2020 because they have not yet had time to achieve viral suppression).
[3] HIV RNA <200 copies/mL within the prior year.

Figure 51: COVID-19 clinical characteristics among COVID-19 patients aged ≥ 13 years, LAC, January 2020 to March 2021



Compared with patients who were not coinfected with HIV and COVID-19, patients with HIV and COVID-19 coinfection had higher levels of hospitalization, intensive care unit admission, intubation, and death.

Table 8: COVID-19 Deaths and HIV Coinfection, PLWDH aged ≥ 13 years, LAC (excluding Long Beach and Pasadena), January 2020 to March 2021

	Deaths among Persons with COVID-19 and HIV Coinfection	COVID-19 and HIV Coinfection Mortality Rate per 100,000 PLWDH[1]	Expected Number of Deaths[2]
Gender			
Female	10	188	7
Male	90	**216**	41
Transgender	0	--	0
Age Group[3]			
12 to 17	0	0	0
18 to 29	3	81	2
30 to 49	13	66	16
50 to 64	43	223	21
65 to 79	33	678	7
≥80	8	**2,089**	2
Race/Ethnicity			
American Indian/Alaska Native	0	0	0
Asian	7	**400**	0
Pacific Islander	0	0	0
Black	24	250	9
Latinx	50	226	25
White	15	121	9
Other	4	233	2
SPA[4]			
Antelope Valley [1]	4	**337**	2
San Fernando [2]	10	127	8
San Gabriel [3]	9	258	6
Metro [4]	26	142	13
West [5]	4	158	1
South [6]	23	**344**	10
East [7]	10	265	6
South Bay [8]	11	305	4
Transmission Category			
Male-Male sexual contact (MSM)	62	188	28
Heterosexual contact	7	271	5
Injection Drug User (IDU)	5	313	4
MSM/IDU	8	**340**	5
Other/Undetermined	18	215	7

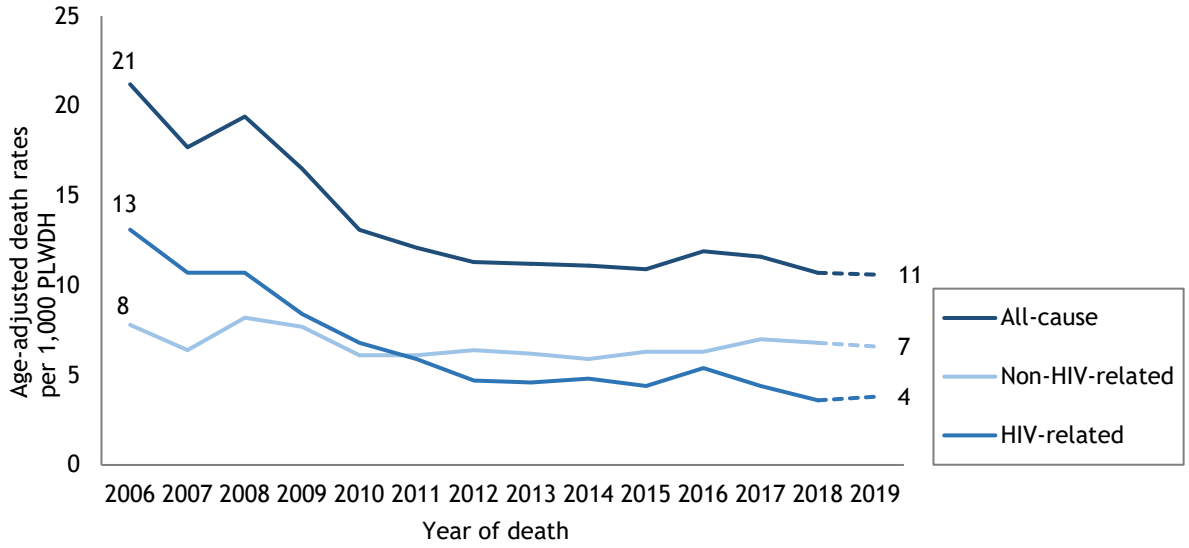
Deaths among persons with HIV and COVID-19 coinfection were substantially higher than the expected number of deaths for PLWDH. Mortality rates for persons with HIV and COVID-19 coinfection were highest in males, persons aged 80 years and older, persons with Asian race/ethnicity, residents of SPA 1 and SPA 6, and persons with MSM/IDU transmission risk.

[1]Mortality rate is crude and presented per 100,000 population.
[2]Expected number of deaths was calculated based on the most recent death rate among PLWH (2019) multiplied by the number of COVID-19 and HIV coinfected cases.
[3] Age groups reflect the categories reported for COVID-19 surveillance. In this analysis, the 12-17 age group excludes persons aged 12 years for persons with HIV and COVID-19 coinfection.
[4]The sum may not add up to the total due to missing information on Service Planning Area for some individuals. These individuals are not included in a specific SPA category but included in the total.

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, death rates, and survival among PLWDH.

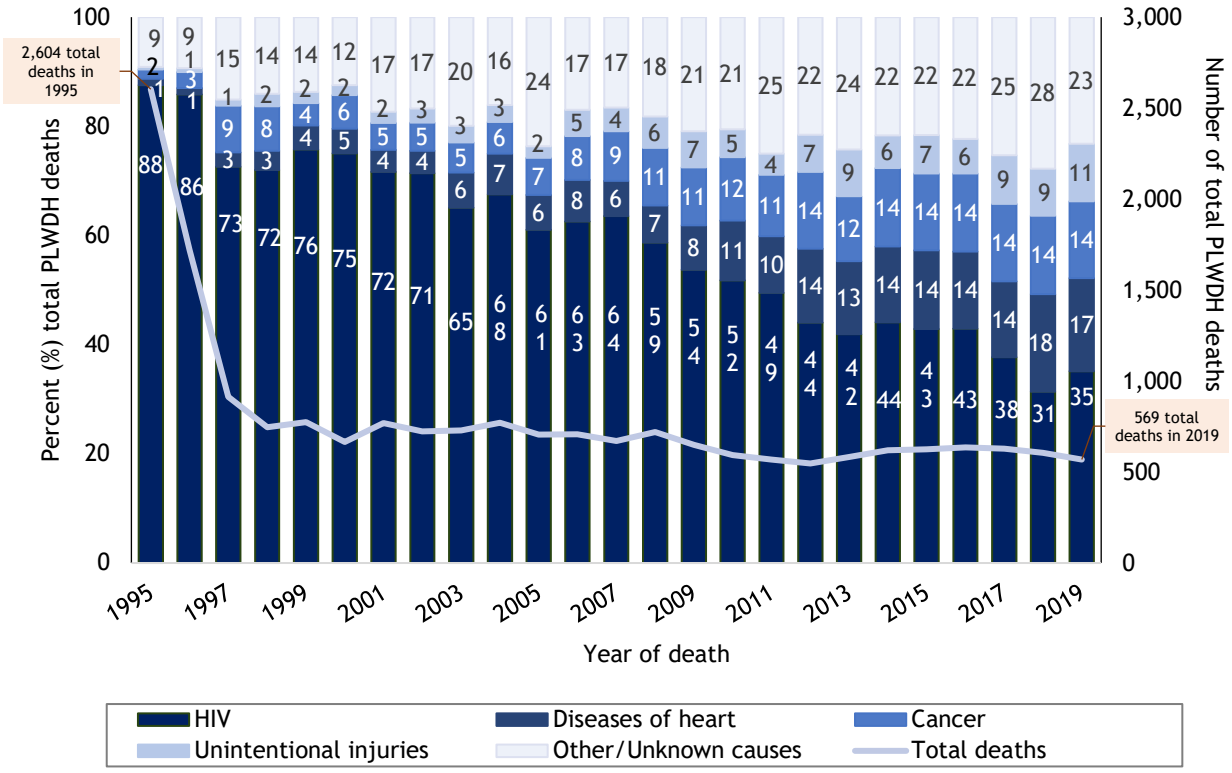
Figure 52: Age-adjusted death rates among persons aged ≥ 13 years living with diagnosed HIV, by HIV-related and non-HIV related cause of death, LAC 2006-2019[1,2]



The age-adjusted death rate among persons diagnosed with HIV dropped 48% from 2006 to 2019. The rate attributed to HIV-related and non-HIV-related death declined by 69% and 13%, respectively.

[1]Age-adjusted to the LAC 2010 population estimates. Persons newly diagnosed with HIV at death were excluded from the numerator. Includes persons with unknown cause of death (2.2% of all deaths).
[2] Due to reporting delay, 2019 death rate data among PLWDH are provisional as indicated by the dashed line.

Figure 53: Trends in main causes of death among persons aged ≥ 13 years living with diagnosed HIV, LAC 1995-2019[1]



The number of deaths among PLWDH decreased sharply following the introduction of highly active antiretroviral treatment and has remained stable at approximately 500-600 deaths per year for the past decade. HIV as the leading cause of death among PLWDH declined from 88% of deaths in 1995 to 35% of deaths in 2019. In contrast, diseases of the heart increased from 1% in 1995 to 17% in 2019, followed by cancer from 2% to 14%, and unintentional injuries from <1% to 11%.

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

Data in Action: Progress and Opportunities for Addressing Coinfection and Mortality

- Matching HIV surveillance data with other disease surveillance data provides the opportunity to monitor diseases of concern among PLWDH.
- Persons living with diagnosed HIV and coinfected with COVID-19 have higher levels of severe COVID-19 outcomes, including higher levels of hospitalization, intensive care unit admissions, and deaths due to COVID-19 disease. Additional analysis is needed to investigate whether HIV patients with COVID-19 coinfection have higher rates of COVID-19 vaccine breakthrough infections. This information from a large and diverse county can be used to inform prioritization for receipt of COVID-19 vaccine and COVID-19 booster doses among persons living with diagnosed HIV.
- As HIV-positive persons live longer and die from 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.
- Health information systems need to 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 infection, including AIDS in Los Angeles County (LAC) is conducted through active and passive surveillance to identify and collect information on newly diagnosed HIV cases 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 LAC, about 75% to 80% of case reports for newly diagnosed HIV infection are collected through active surveillance activities.

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".[1]

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. The reporting completeness among newly diagnosed HIV infection in 2019 is estimated to be 65%. Therefore, HIV diagnosis data presented in this report are for HIV diagnosis through 2018. Data completeness for 2018 HIV diagnosis data is 90%. 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 are aware of their infection or 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 California. As such, LAC HIV surveillance data are 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 the persons experiencing homelessness which are presented per 10,000

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

homeless population. The population denominators used to compute the rates in the general population were based on 2010-2019 estimates provided by LAC Internal Services Department and contracted through Hedderson Demographic Services. Population denominators for persons experiencing homelessness were derived from the Greater Los Angeles County Homeless Count, 2018 Results (https://www.lahsa.org/documents?id=2059-2018-greater-los-angeles-homeless-count-presentation.pdf) and 2019 Results (https://www.lahsa.org/documents?id=3437-2019-greater-los-angeles-homeless-count-presentation.pdf).

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 corresponded 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 LAC jurisdiction.

A person was considered living in LAC at each respective year-end based on their last available address at any time on or before that year-end. If a person's exact address, city, or ZIP Code was located in LAC or that person used the LAC name, that person was considered to be residing in LAC at the end of the respective year. A CDC SAS program was used to calculate last known residence at each respective year-end.

Caution should be used when interpreting geographic level (Health District or census tract) case counts and rates because these values are inclusive of correctional populations and may be artificially inflated when an institution was housed within a given census tract.

Maps

For 5-year HIV diagnoses (2015-2019), 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 for June 2017.

For PLWDH at year-end 2019, 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 for December 2020.

For persons whose last viral load in 2020 was ≥ 200 copies/mL, 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 for December 2020.

The following criteria were applied to the data presented in maps to protect the confidentiality, privacy, and security of PLWDH in LAC. If 2019 census tracts had a population of less than 100 persons or counts of the outcome of interest was less than 5 observations in a census tract (e.g., HIV diagnoses counts, unsuppressed viral load counts), the count was set to missing.

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 or Alaskan Native, Asian, Black, 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/Alaskan Native (AI/AN)' if the race field contained AI/AN information, regardless of any other race information found for this person. Asians and Pacific Islanders were categorized in two separate groups as Asian or Pacific Islander. Except for AI/AN and PI 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.

Native Hawaiian and Other Pacific Islander Ethnic Origin (denoted as 'PI' below)
For this report, HIV diagnoses and PLWDH who were reported with unspecified Asian/Pacific Islander (PI) race/ethnicity were re-assigned between two separate categories: either Asians, or Pacific Islanders after an extensive review among available reporting sources, including electronic medical records, original case report forms, Ryan White client registry, STD Case Watch and so on. In addition, information on extended race, country of birth, and full name were also considered in the review.

Persons identified with presumed PI race were included in the PI group regardless of their identification of Asian race in the records.

HIV transmission risk categories
For surveillance purposes, a diagnosis of HIV infection is counted only once in the hierarchy of transmission categories. Persons with more than one reported risk factor for HIV infection 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 infection (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 of HIV incidence and undiagnosed HIV infection
HIV incidence and undiagnosed HIV infection are approximated using CDC's CD4 depletion model.[1] 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 infections. The date of HIV acquisition is

[1] 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.

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 infection at year-end each year, is estimated by subtracting reported cumulative deaths from cumulative infections. The number of persons with undiagnosed HIV infection is estimated by subtracting the number of persons living with diagnosed infection from total prevalence. The percentage of diagnosed (or undiagnosed) infections is determined by dividing the number of persons living with diagnosed (or undiagnosed) infections by the total prevalence for each year.

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 2019.

National HIV Behavioral Surveillance

The National HIV Behavioral Surveillance (NHBS) was designed to generate estimates of HIV prevalence and behavioral indicators that are representative of the surveyed population. 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 risk for HIV infection (HET) and Transgender women participants. In addition to population specific eligibility criteria, NHBS participants were residents of LAC and at least 18 years of age. 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 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 infection, 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.

HIV Care Continuum

On July 3, 2015 the White House released the updated National HIV/AIDS Strategy (NHAS).[1] This plan describes the nation's comprehensive coordinated HIV/AIDS roadmap with clear and measurable targets to be achieved by the end of 2020. Key targets from the NHAS include: 1) increasing the proportion of newly diagnosed patients linked to clinical care within one month (30 days) of their HIV diagnosis to 85%; 2) increasing the proportion of persons with diagnosed HIV infection who are retained in HIV medical care to 90%; and, 3) increasing the proportion of persons with diagnosed HIV infection who are virally suppressed to 80%.

Biomarkers such as HIV viral load (VL), CD4+ T-cell counts, and HIV genotype testing are used as markers to approximate early HIV infection and achievements in 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 infection 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 diagnosed PLWDH in care.

Stage 0 HIV disease: Stage 0 is designed to capture early HIV infection which includes acute HIV infection 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.

[1] National HIV/AIDS Strategy for the United States: Updated to 2020. Washington, DC: White House Office of National AIDS Policy; 2015

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 one or more VL tests with HIV-1 RNA < 200 viral copies per milliliter of blood plasma**.** Unsuppressed viral load was defined as having one or more VL tests with HIV-1 RNA ≥ 200 viral copies per milliliter of blood plasma.

Sustained viral suppression: Sustained viral suppression was defined for a person when all reported VL values were < 200 copies/mL during a specified 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 2019 and living in LAC as of December 31, 2020.

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). Death data for 2019 are subject to change due to reporting delay. 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 or later. ICD-9 codes 042-044 were used to denote HIV/AIDS-related deaths that occurred before 1999.

COVID-19 and HIV Coinfection: Confirmed COVID-19 cases (i.e., persons with at least one positive lab result indicating COVID-19 infection) in Los Angeles County were downloaded from the COVID-19 surveillance system and matched to HIV surveillance data using deterministic matching in SAS 9.4 and probabilistic matching with LinkPlus.

COVID-19 deaths: Cases were classified as COVID-19 associated deaths if they had COVID-19 listed as a cause of death or contributing condition on their death certificate or if the death occurred within 60 days of the first positive COVID-19 test and did not have a traumatic or accidental cause of death.

Data Tables

Table 1A: Counts, percentages, and rates[1] 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 2019-2020

	Male[2]												Female[2]												Total											
	2019 HIV Diagnoses			2019 AIDS Diagnoses			PLWDH as of 2020[3]			2019 Deaths[4]			2019 HIV Diagnoses			2019 AIDS Diagnoses			PLWDH as of 2020[3]			2019 Deaths[4]			2019 HIV Diagnoses			2019 AIDS Diagnoses			PLWDH as of 2020[3]			2019 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	47	(4)	10	<5	(-)	-	60	(<1)	13	<5	(-)	-	8	(5)	2	<5	(-)	-	34	(1)	8	<5	(-)	-	55	(4)	6	<5	(-)	-	94	(<1)	10	<5	(-)	-
20-29	490	(37)	64	97	(18)	13	3,530	(8)	464	20	(4)	3	34	(19)	5	13	(13)	2	353	(6)	48	<5	(-)	-	524	(35)	35	110	(17)	7	3,883	(7)	260	22	(4)	1
30-39	420	(32)	55	168	(31)	22	9,293	(20)	1,219	66	(13)	9	45	(26)	6	25	(25)	3	922	(16)	125	6	(8)	1	465	(31)	31	193	(30)	13	10,215	(19)	680	72	(13)	5
40-49	194	(15)	28	128	(23)	18	9,779	(21)	1,396	68	(14)	10	34	(19)	5	23	(23)	3	1,382	(23)	195	21	(27)	3	228	(15)	16	151	(23)	11	11,161	(21)	792	89	(16)	6
50-59	140	(11)	21	102	(19)	15	14,247	(30)	2,098	158	(32)	23	35	(20)	5	18	(18)	3	1,783	(30)	253	19	(24)	3	175	(12)	13	120	(18)	9	16,030	(30)	1,159	177	(31)	13
≥60	38	(3)	4	52	(9)	6	10,051	(21)	1,129	180	(37)	20	20	(11)	2	21	(21)	2	1,424	(24)	129	31	(39)	3	58	(4)	3	73	(11)	4	11,475	(22)	576	211	(37)	11
Race/Ethnicity[5]																																				
White	288	(22)	23	105	(19)	8	13,367	(28)	1,049	156	(32)	12	34	(19)	3	11	(11)	1	822	(14)	65	13	(16)	1	322	(21)	13	116	(18)	5	14,189	(27)	558	169	(30)	7
Black	261	(20)	75	98	(18)	28	8,692	(19)	2,508	128	(26)	37	58	(33)	14	24	(24)	6	1,902	(32)	475	33	(42)	8	319	(21)	43	122	(19)	16	10,594	(20)	1,417	161	(28)	22
Latinx	667	(50)	33	296	(54)	15	21,137	(45)	1,050	173	(35)	9	67	(38)	3	51	(51)	3	2,708	(46)	133	27	(34)	1	734	(49)	18	347	(53)	9	23,845	(45)	589	200	(35)	5
Asian	76	(6)	12	27	(5)	4	1,777	(4)	292	5	(1)	1	<5	(-)	-	<5	(-)	-	180	(3)	25	<5	(-)	-	80	(5)	6	29	(4)	2	1,957	(4)	148	5	(1)	<1
Pacific Islander	<5	(-)	-	<5	(-)	-	74	(<1)	720	<5	(-)	-	<5	(-)	-	<5	(-)	-	6	(<1)	56	<5	(-)	-	<5	(-)	-	<5	(-)	-	80	(<1)	381	<5	(-)	-
American Indian/Alaskan Native[6]	<5	(-)	-	<5	(-)	-	271	(1)	2,635	7	(1)	68	<5	(-)	-	<5	(-)	-	42	(1)	379	<5	(-)	-	<5	(-)	-	<5	(-)	-	313	(1)	1,464	8	(1)	37
Multi-race[7]	28	(2)	-	22	(4)	-	1,604	(3)	-	23	(5)	-	11	(6)	-	9	(9)	-	234	(4)	-	5	(6)	-	39	(3)	-	31	(5)	-	1,838	(3)	-	28	(5)	-
Transmission Category[7,8]																																				
Male-to-male sexual contact (MSM)	1,203	(91)	-	487	(89)	-	41,476	(88)	-	382	(78)	-	-	(-)	-	-	(-)	-	-	(-)	-	-	(-)	-	1,203	(80)	-	487	(75)	-	41,476	(78)	-	382	(67)	-
Injection drug use (IDU)	47	(4)	-	22	(4)	-	1,450	(3)	-	28	(6)	-	41	(23)	-	33	(33)	-	1,263	(21)	-	29	(37)	-	88	(6)	-	55	(8)	-	2,714	(5)	-	57	(10)	-
MSM/IDU	61	(5)	-	29	(5)	-	2,951	(6)	-	63	(13)	-	-	(-)	-	-	(-)	-	-	(-)	-	-	(-)	-	61	(4)	-	29	(4)	-	2,951	(6)	-	63	(11)	-
Hemophilia/transfusion	<5	(-)	-	<5	(-)	-	62	(<1)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	44	(1)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	106	(<1)	-	<5	(-)	-
Heterosexual contact[9]	15	(1)	-	9	(2)	-	872	(2)	-	16	(3)	-	133	(76)	-	66	(66)	-	4,437	(75)	-	50	(63)	-	148	(10)	-	75	(12)	-	5,308	(10)	-	66	(12)	-
Perinatal exposure	<5	(-)	-	<5	(-)	-	104	(<1)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	143	(2)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	247	(<1)	-	<5	(-)	-
Other risk[10]	<5	(-)	-	<5	(-)	-	45	(<1)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	11	(<1)	-	<5	(-)	-	6	(<1)	-	<5	(-)	-	56	(<1)	-	<5	(-)	-
Total[5,11]	1,329	[88]	31	550	[85]	13	46,960	[89]	1,102	492	[86]	12	176	[12]	4	100	[15]	2	5,898	[11]	133	79	[14]	2	1,505	[100]	17	650	[100]	7	52,858	[100]	608	571	[100]	7

[1] Data are provisional due to reporting delay. Rate per 100,000. Rates for 2020 are based on population estimates for 2019. 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 2020 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] 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 multi-race and 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[1] 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 2019-2020

	Male[2]												Female[2]												Total											
SPA/HD[3]	2019 HIV Diagnoses			2019 AIDS Diagnoses			PLWDH as of 2020[4]			2019 Deaths[5]			2019 HIV Diagnoses			2019 AIDS Diagnoses			PLWDH as of 2020[4]			2019 Deaths[5]			2019 HIV Diagnoses			2019 AIDS Diagnoses			PLWDH as of 2020[4]			2019 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]	**27**	**(2)**	**17**	**13**	**(2)**	**8**	**911**	**(2)**	**563**	**16**	**(3)**	**10**	**8**	**(5)**	**5**	**6**	**(6)**	**4**	**276**	**(5)**	**166**	**6**	**(8)**	**4**	**35**	**(2)**	**11**	**19**	**(3)**	**6**	**1,187**	**(2)**	**361**	**22**	**(4)**	**7**
Antelope Valley	27	(2)	17	13	(2)	8	911	(2)	563	16	(3)	10	8	(5)	5	6	(6)	4	276	(5)	166	6	(8)	4	35	(2)	11	19	(3)	6	1,187	(2)	361	22	(4)	7
San Fernando [2]	**226**	**(17)**	**24**	**87**	**(16)**	**9**	**6,990**	**(15)**	**739**	**68**	**(14)**	**7**	**32**	**(18)**	**3**	**16**	**(16)**	**2**	**891**	**(15)**	**91**	**6**	**(8)**	**1**	**258**	**(17)**	**13**	**103**	**(16)**	**5**	**7,881**	**(15)**	**409**	**74**	**(13)**	**4**
East Valley	65	(5)	34	25	(5)	13	2,256	(5)	1166	18	(4)	9	7	(4)	4	5	(5)	3	207	(4)	106	<5	(-)	-	72	(5)	19	30	(5)	8	2,463	(5)	635	19	(3)	5
Glendale	34	(3)	23	13	(2)	9	865	(2)	580	15	(3)	10	<5	(-)	-	<5	(-)	-	86	(1)	53	<5	(-)	-	35	(2)	11	14	(2)	4	951	(2)	304	16	(3)	5
San Fernando	25	(2)	11	11	(2)	5	848	(2)	384	10	(2)	5	<5	(-)	-	<5	(-)	-	135	(2)	60	<5	(-)	-	29	(2)	7	14	(2)	3	983	(2)	221	12	(2)	3
West Valley	102	(8)	27	38	(7)	10	3,021	(6)	789	25	(5)	7	20	(11)	5	7	(7)	2	463	(8)	117	<5	(-)	-	122	(8)	16	45	(7)	6	3,484	(7)	447	27	(5)	3
San Gabriel [3]	**134**	**(10)**	**18**	**34**	**(6)**	**5**	**3,554**	**(8)**	**471**	**49**	**(10)**	**6**	**13**	**(7)**	**2**	**10**	**(10)**	**1**	**517**	**(9)**	**64**	**7**	**(9)**	**1**	**147**	**(10)**	**9**	**44**	**(7)**	**3**	**4,071**	**(8)**	**261**	**56**	**(10)**	**4**
Alhambra	18	(1)	12	8	(1)	5	589	(1)	401	<5	(-)	-	<5	(-)	-	<5	(-)	-	88	(1)	54	<5	(-)	-	21	(1)	7	10	(2)	3	677	(1)	219	<5	(-)	-
El Monte	32	(2)	17	9	(2)	5	871	(2)	473	17	(3)	9	<5	(-)	-	5	(5)	3	128	(2)	68	<5	(-)	-	36	(2)	10	14	(2)	4	999	(2)	267	19	(3)	5
Foothill	18	(1)	14	<5	(-)	-	576	(1)	440	5	(1)	4	<5	(-)	-	<5	(-)	-	76	(1)	53	<5	(-)	-	19	(1)	7	<5	(-)	-	652	(1)	239	6	(1)	2
Pasadena	11	(1)	18	<5	(-)	-	519	(1)	842	<5	(-)	-	<5	(-)	-	<5	(-)	-	64	(1)	98	<5	(-)	-	14	(1)	11	<5	(-)	-	583	(1)	459	<5	(-)	-
Pomona	55	(4)	24	13	(2)	6	999	(2)	433	20	(4)	9	<5	(-)	-	<5	(-)	-	161	(3)	66	<5	(-)	-	57	(4)	12	14	(2)	3	1,160	(2)	244	24	(4)	5
Metro [4]	**353**	**(27)**	**67**	**142**	**(26)**	**27**	**17,197**	**(37)**	**3,265**	**144**	**(29)**	**27**	**34**	**(19)**	**7**	**20**	**(20)**	**4**	**1,120**	**(19)**	**225**	**20**	**(25)**	**4**	**387**	**(26)**	**38**	**162**	**(25)**	**16**	**18,317**	**(35)**	**1,786**	**164**	**(29)**	**16**
Central	136	(10)	81	65	(12)	39	6,258	(13)	3,717	50	(10)	30	27	(15)	18	13	(13)	9	580	(10)	395	10	(13)	7	163	(11)	52	78	(12)	25	6,838	(13)	2,169	60	(11)	19
Hollywood-Wilshire	185	(14)	81	62	(11)	27	9,197	(20)	4,041	78	(16)	34	<5	(-)	-	<5	(-)	-	369	(6)	169	8	(10)	4	188	(12)	42	66	(10)	15	9,566	(18)	2,143	86	(15)	19
Northeast	32	(2)	24	15	(3)	11	1,742	(4)	1,332	16	(3)	12	<5	(-)	-	<5	(-)	-	171	(3)	128	<5	(-)	-	36	(2)	14	18	(3)	7	1,913	(4)	725	18	(3)	7
West [5]	**79**	**(6)**	**28**	**24**	**(4)**	**9**	**2,293**	**(5)**	**815**	**21**	**(4)**	**7**	**<5**	**(-)**	**-**	**<5**	**(-)**	**-**	**232**	**(4)**	**76**	**<5**	**(-)**	**-**	**82**	**(5)**	**14**	**26**	**(4)**	**4**	**2,525**	**(5)**	**431**	**22**	**(4)**	**4**
West	79	(6)	28	24	(4)	9	2,293	(5)	815	21	(4)	7	<5	(-)	-	<5	(-)	-	232	(4)	76	<5	(-)	-	82	(5)	14	26	(4)	4	2,525	(5)	431	22	(4)	4
South [6]	**182**	**(14)**	**44**	**74**	**(13)**	**18**	**5,454**	**(12)**	**1,331**	**77**	**(16)**	**19**	**28**	**(16)**	**6**	**15**	**(15)**	**3**	**1,233**	**(21)**	**281**	**19**	**(24)**	**4**	**210**	**(14)**	**25**	**89**	**(14)**	**10**	**6,687**	**(13)**	**788**	**96**	**(17)**	**11**
Compton	45	(3)	41	16	(3)	15	953	(2)	864	9	(2)	8	<5	(-)	-	<5	(-)	-	182	(3)	153	<5	(-)	-	48	(3)	21	18	(3)	8	1,135	(2)	495	12	(2)	5
South	32	(2)	43	19	(3)	26	1,006	(2)	1,351	16	(3)	21	9	(5)	11	7	(7)	9	278	(5)	349	<5	(-)	-	41	(3)	27	26	(4)	17	1,284	(2)	833	20	(4)	13
Southeast	33	(2)	48	11	(2)	16	882	(2)	1,272	12	(2)	17	<5	(-)	-	<5	(-)	-	191	(3)	278	<5	(-)	-	37	(2)	27	12	(2)	9	1,073	(2)	778	13	(2)	9
Southwest	72	(5)	46	28	(5)	18	2,613	(6)	1,678	40	(8)	26	12	(7)	7	5	(5)	3	582	(10)	339	11	(14)	6	84	(6)	26	33	(5)	10	3,195	(6)	976	51	(9)	16
East [7]	**117**	**(9)**	**22**	**59**	**(11)**	**11**	**3,265**	**(7)**	**607**	**41**	**(8)**	**8**	**12**	**(7)**	**2**	**9**	**(9)**	**2**	**511**	**(9)**	**91**	**6**	**(8)**	**1**	**129**	**(9)**	**12**	**68**	**(10)**	**6**	**3,776**	**(7)**	**343**	**47**	**(8)**	**4**
Bellflower	33	(2)	22	14	(3)	9	738	(2)	496	5	(1)	3	<5	(-)	-	<5	(-)	-	122	(2)	77	<5	(-)	-	34	(2)	11	15	(2)	5	860	(2)	280	8	(1)	3
East Los Angeles	19	(1)	23	12	(2)	15	663	(1)	809	9	(2)	11	<5	(-)	-	<5	(-)	-	69	(1)	81	<5	(-)	-	21	(1)	13	14	(2)	8	732	(1)	438	11	(2)	7
San Antonio	43	(3)	25	22	(4)	13	1,209	(3)	704	15	(3)	9	6	(3)	3	6	(6)	3	224	(4)	126	<5	(-)	-	49	(3)	14	28	(4)	8	1,433	(3)	410	16	(3)	5
Whittier	22	(2)	16	11	(2)	8	655	(1)	485	12	(2)	9	<5	(-)	-	<5	(-)	-	96	(2)	67	<5	(-)	-	25	(2)	9	11	(2)	4	751	(1)	270	12	(2)	4
South Bay [8]	**183**	**(14)**	**28**	**82**	**(15)**	**13**	**6,905**	**(15)**	**1,072**	**74**	**(15)**	**11**	**38**	**(22)**	**6**	**17**	**(17)**	**2**	**1,067**	**(18)**	**156**	**14**	**(18)**	**2**	**221**	**(15)**	**17**	**99**	**(15)**	**7**	**7,972**	**(15)**	**601**	**88**	**(15)**	**7**
Harbor	15	(1)	17	7	(1)	8	593	(1)	682	6	(1)	7	<5	(-)	-	<5	(-)	-	100	(2)	110	<5	(-)	-	19	(1)	11	8	(1)	5	693	(1)	390	8	(1)	5
Inglewood	61	(5)	36	27	(5)	16	1,663	(4)	991	18	(4)	11	12	(7)	7	6	(6)	3	368	(6)	203	5	(6)	3	73	(5)	21	33	(5)	9	2,031	(4)	582	23	(4)	7
Long Beach	76	(6)	39	34	(6)	17	3,893	(8)	1,999	38	(8)	20	18	(10)	9	9	(9)	4	469	(8)	228	<5	(-)	-	94	(6)	23	43	(7)	11	4,362	(8)	1,089	42	(7)	10
Torrance	31	(2)	16	14	(3)	7	756	(2)	389	12	(2)	6	<5	(-)	-	<5	(-)	-	130	(2)	63	<5	(-)	-	35	(2)	9	15	(2)	4	886	(2)	221	15	(3)	4
Total[6,7]	**1,329**	**[88]**	**31**	**550**	**[85]**	**13**	**46,960**	**[89]**	**1,102**	**492**	**[86]**	**12**	**176**	**[12]**	**4**	**100**	**[15]**	**2**	**5,898**	**[11]**	**133**	**79**	**[14]**	**2**	**1,505**	**[100]**	**17**	**650**	**[100]**	**7**	**52,858**	**[100]**	**608**	**571**	**[100]**	**7**

[1] Data are provisional due to reporting delay. Rate per 100,000. Rates for 2020 are based on population estimates for 2019. 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 2012 boundaries.

[4] Persons living with HIV are based on most recent known address at the end of 2020 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 and rates[1] by gender, age group, race/ethnicity, and transmission category among persons aged ≥13 years newly diagnosed with HIV, LAC 2010-2019

	Year of Diagnosis																											
	2010			2011			2012			2013			2014			2015			2016			2017			2018			2019[2]		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Gender																														
Male	1,914	(87)	48	1,764	(88)	44	1,787	(88)	44	1,530	(87)	37	1,828	(88)	44	1,747	(88)	42	1,655	(88)	39	1,542	(88)	36	1,491	(87)	35	1,275	(85)	30
Female	249	(11)	6	203	(10)	5	192	(9)	5	192	(11)	5	215	(10)	5	190	(10)	4	190	(10)	4	175	(10)	4	184	(11)	4	171	(11)	4
Transgender[3]	26	(1)	-	36	(2)	-	44	(2)	-	39	(2)	-	27	(1)	-	49	(2)	-	45	(2)	-	36	(2)	-	34	(2)	-	59	(4)	-
Age Group (Yr)																														
13-19	86	(4)	8	55	(3)	5	76	(4)	8	71	(4)	7	62	(3)	6	73	(4)	8	61	(3)	6	54	(3)	6	65	(4)	7	55	(4)	6
20-29	693	(32)	46	673	(34)	45	713	(35)	47	600	(34)	39	772	(37)	50	742	(37)	48	731	(39)	48	683	(39)	45	654	(38)	43	524	(35)	35
30-39	626	(29)	44	596	(30)	42	558	(28)	39	482	(27)	34	589	(28)	41	529	(27)	36	534	(28)	36	494	(28)	33	497	(29)	33	465	(31)	31
40-49	501	(23)	35	413	(21)	29	426	(21)	30	367	(21)	26	374	(18)	27	361	(18)	26	322	(17)	23	276	(16)	19	265	(16)	19	228	(15)	16
50-59	226	(10)	18	213	(11)	17	194	(10)	15	183	(10)	14	205	(10)	16	217	(11)	16	190	(10)	14	174	(10)	13	147	(9)	11	175	(12)	13
≥60	57	(3)	4	53	(3)	3	56	(3)	3	58	(3)	3	68	(3)	4	64	(3)	4	52	(3)	3	72	(4)	4	81	(5)	4	58	(4)	3
Race/Ethnicity[4]																														
White	517	(24)	20	454	(23)	18	439	(22)	17	419	(24)	16	429	(21)	17	430	(22)	17	343	(18)	13	364	(21)	14	347	(20)	14	322	(21)	13
Black	470	(21)	66	417	(21)	58	391	(19)	54	353	(20)	48	390	(19)	53	434	(22)	59	428	(23)	58	359	(20)	48	389	(23)	52	319	(21)	43
Latinx	1,005	(46)	28	950	(47)	26	1,018	(50)	27	833	(47)	22	1,054	(51)	28	930	(47)	24	934	(49)	24	838	(48)	21	833	(49)	21	734	(49)	18
Asian	78	(4)	6	81	(4)	7	98	(5)	8	71	(4)	6	115	(6)	9	112	(6)	9	90	(5)	7	112	(6)	9	81	(5)	6	80	(5)	6
Pacific Islander	<5	(-)	-	<5	(-)	-	<5	(-)	-	5	(<1)	25	<5	(-)	-	5	(<1)	24	<5	(-)	-	<5	(-)	-	6	(<1)	29	<5	(-)	-
American Indian/Alaskan Native[5]	16	(1)	96	20	(1)	118	16	(1)	94	7	(<1)	40	11	(1)	63	14	(1)	81	12	(1)	71	14	(1)	86	10	(1)	47	<5	(-)	-
Multi-race[3]	99	(5)	-	77	(4)	-	58	(3)	-	73	(4)	-	67	(3)	-	60	(3)	-	79	(4)	-	61	(3)	-	43	(3)	-	39	(3)	-
Transmission Category[3,6]																														
Male-to-male sexual contact (MSM)	1,779	(81)	-	1,671	(83)	-	1,700	(84)	-	1,450	(82)	-	1,726	(83)	-	1,678	(84)	-	1,583	(84)	-	1,466	(84)	-	1,395	(82)	-	1,203	(80)	-
Injection drug use (IDU)	104	(5)	-	77	(4)	-	74	(4)	-	91	(5)	-	90	(4)	-	94	(5)	-	90	(5)	-	99	(6)	-	100	(6)	-	88	(6)	-
MSM/IDU	82	(4)	-	75	(4)	-	78	(4)	-	54	(3)	-	66	(3)	-	57	(3)	-	55	(3)	-	54	(3)	-	61	(4)	-	61	(4)	-
Heterosexual contact[7]	223	(10)	-	179	(9)	-	171	(8)	-	166	(9)	-	186	(9)	-	157	(8)	-	161	(9)	-	132	(8)	-	154	(9)	-	148	(10)	-
Perinatal exposure	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-
Other risk[8]	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	6	(<1)	-
Total[4]	2,189	[100]	27	2,003	[100]	24	2,023	[100]	24	1,761	[100]	21	2,070	[100]	25	1,986	[100]	23	1,890	[100]	22	1,753	[100]	20	1,709	[100]	20	1,505	[100]	17

[1] Rate per 100,000. 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, multi-race, and transmission category are not calculated because of the lack of denominator data.

[4] 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 and rates[1] by Service Planning Area (SPA)/Health District (HD) of residence among persons aged ≥ 13 years newly diagnosed with HIV, LAC 2010-2019

SPA/HD[2]	Year of Diagnosis																					
	2010			2011			2012			2013			2014			2015			2016			2017			2018			2019[3]		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Antelope Valley [1]	**51**	**(2)**	**17**	**37**	**(2)**	**12**	**37**	**(2)**	**12**	**33**	**(2)**	**10**	**46**	**(2)**	**14**	**31**	**(2)**	**10**	**42**	**(2)**	**13**	**36**	**(2)**	**11**	**46**	**(3)**	**14**	**35**	**(2)**	**11**
Antelope Valley	51	(2)	17	37	(2)	12	37	(2)	12	33	(2)	10	46	(2)	14	31	(2)	10	42	(2)	13	36	(2)	11	46	(3)	14	35	(2)	11
San Fernando [2]	**271**	**(12)**	**15**	**276**	**(14)**	**15**	**274**	**(14)**	**15**	**245**	**(14)**	**13**	**301**	**(15)**	**16**	**298**	**(15)**	**16**	**296**	**(16)**	**16**	**250**	**(14)**	**13**	**290**	**(17)**	**15**	**258**	**(17)**	**13**
East Valley	79	(4)	22	97	(5)	26	96	(5)	26	73	(4)	19	85	(4)	23	92	(5)	24	90	(5)	23	73	(4)	19	100	(6)	26	72	(5)	19
Glendale	29	(1)	10	24	(1)	8	38	(2)	13	25	(1)	8	31	(1)	10	35	(2)	11	26	(1)	9	22	(1)	7	28	(2)	9	35	(2)	11
San Fernando	38	(2)	9	40	(2)	10	33	(2)	8	34	(2)	8	39	(2)	9	31	(2)	7	49	(3)	11	41	(2)	9	40	(2)	9	29	(2)	7
West Valley	125	(6)	17	115	(6)	16	107	(5)	15	113	(6)	15	146	(7)	20	140	(7)	19	131	(7)	17	114	(7)	15	122	(7)	16	122	(8)	16
San Gabriel [3]	**154**	**(7)**	**11**	**158**	**(8)**	**11**	**182**	**(9)**	**12**	**149**	**(8)**	**10**	**192**	**(9)**	**13**	**177**	**(9)**	**12**	**170**	**(9)**	**11**	**200**	**(11)**	**13**	**157**	**(9)**	**10**	**147**	**(10)**	**9**
Alhambra	27	(1)	9	32	(2)	11	33	(2)	11	22	(1)	7	33	(2)	11	30	(2)	10	28	(1)	9	36	(2)	12	23	(1)	7	21	(1)	7
El Monte	42	(2)	12	33	(2)	9	48	(2)	14	33	(2)	9	55	(3)	15	49	(2)	13	54	(3)	15	51	(3)	14	47	(3)	13	36	(2)	10
Foothill	24	(1)	9	31	(2)	12	21	(1)	8	28	(2)	11	38	(2)	15	29	(1)	11	22	(1)	8	32	(2)	12	23	(1)	9	19	(1)	7
Pasadena	17	(1)	14	14	(1)	12	25	(1)	21	24	(1)	20	26	(1)	21	27	(1)	22	14	(1)	12	20	(1)	16	17	(1)	14	14	(1)	11
Pomona	44	(2)	10	48	(2)	11	55	(3)	12	42	(2)	9	40	(2)	9	42	(2)	9	52	(3)	11	61	(3)	13	47	(3)	10	57	(4)	12
Metro [4]	**809**	**(37)**	**84**	**662**	**(33)**	**69**	**660**	**(33)**	**68**	**592**	**(34)**	**61**	**676**	**(33)**	**69**	**594**	**(30)**	**60**	**531**	**(28)**	**53**	**509**	**(29)**	**50**	**439**	**(26)**	**43**	**387**	**(26)**	**38**
Central	287	(13)	99	220	(11)	76	221	(11)	76	215	(12)	73	232	(11)	79	221	(11)	74	217	(11)	71	174	(10)	57	193	(11)	63	163	(11)	52
Hollywood-Wilshire	439	(20)	104	379	(19)	90	371	(18)	87	311	(18)	72	370	(18)	86	319	(16)	73	265	(14)	60	275	(16)	62	201	(12)	45	188	(12)	42
Northeast	83	(4)	34	63	(3)	25	68	(3)	27	66	(4)	26	74	(4)	29	54	(3)	21	49	(3)	19	60	(3)	23	45	(3)	17	36	(2)	14
West [5]	**120**	**(5)**	**21**	**95**	**(5)**	**17**	**98**	**(5)**	**17**	**82**	**(5)**	**14**	**106**	**(5)**	**18**	**98**	**(5)**	**17**	**61**	**(3)**	**10**	**61**	**(3)**	**10**	**67**	**(4)**	**11**	**82**	**(5)**	**14**
West	120	(5)	21	95	(5)	17	98	(5)	17	82	(5)	14	106	(5)	18	98	(5)	17	61	(3)	10	61	(3)	10	67	(4)	11	82	(5)	14
South [6]	**266**	**(12)**	**34**	**282**	**(14)**	**36**	**245**	**(12)**	**31**	**230**	**(13)**	**28**	**255**	**(12)**	**31**	**289**	**(15)**	**35**	**307**	**(16)**	**36**	**283**	**(16)**	**33**	**272**	**(16)**	**32**	**210**	**(14)**	**25**
Compton	53	(2)	25	63	(3)	29	35	(2)	16	46	(3)	21	56	(3)	25	44	(2)	20	64	(3)	28	60	(3)	26	59	(3)	26	48	(3)	21
South	50	(2)	36	58	(3)	41	51	(3)	36	45	(3)	31	52	(3)	35	58	(3)	39	67	(4)	43	51	(3)	33	64	(4)	42	41	(3)	27
Southeast	41	(2)	33	37	(2)	29	37	(2)	28	33	(2)	25	45	(2)	34	40	(2)	29	45	(2)	32	46	(3)	33	47	(3)	34	37	(2)	27
Southwest	122	(6)	40	124	(6)	40	122	(6)	39	106	(6)	34	102	(5)	32	147	(7)	46	131	(7)	40	126	(7)	38	102	(6)	31	84	(6)	26
East [7]	**167**	**(8)**	**16**	**184**	**(9)**	**18**	**170**	**(8)**	**16**	**144**	**(8)**	**14**	**180**	**(9)**	**17**	**169**	**(9)**	**16**	**181**	**(10)**	**17**	**167**	**(10)**	**15**	**168**	**(10)**	**15**	**129**	**(9)**	**12**
Bellflower	42	(2)	14	39	(2)	13	36	(2)	12	44	(2)	15	43	(2)	14	42	(2)	14	44	(2)	15	39	(2)	13	39	(2)	13	34	(2)	11
East Los Angeles	29	(1)	18	36	(2)	22	32	(2)	19	24	(1)	15	26	(1)	16	28	(1)	17	35	(2)	21	29	(2)	18	30	(2)	18	21	(1)	13
San Antonio	68	(3)	21	69	(3)	21	60	(3)	18	46	(3)	14	67	(3)	20	66	(3)	19	67	(4)	19	66	(4)	19	60	(4)	17	49	(3)	14
Whittier	28	(1)	11	40	(2)	15	42	(2)	16	30	(2)	11	44	(2)	16	33	(2)	12	35	(2)	13	33	(2)	12	39	(2)	14	25	(2)	9
South Bay [8]	**341**	**(16)**	**27**	**303**	**(15)**	**24**	**346**	**(17)**	**27**	**274**	**(16)**	**21**	**289**	**(14)**	**22**	**297**	**(15)**	**23**	**271**	**(14)**	**21**	**225**	**(13)**	**17**	**237**	**(14)**	**18**	**221**	**(15)**	**17**
Harbor	37	(2)	23	19	(1)	11	22	(1)	13	17	(1)	10	34	(2)	20	22	(1)	13	21	(1)	12	16	(1)	9	26	(2)	15	19	(1)	11
Inglewood	106	(5)	32	89	(4)	27	100	(5)	30	87	(5)	26	86	(4)	25	91	(5)	27	90	(5)	26	71	(4)	20	79	(5)	23	73	(5)	21
Long Beach	153	(7)	40	158	(8)	41	190	(9)	49	132	(7)	34	131	(6)	34	141	(7)	36	127	(7)	32	111	(6)	28	99	(6)	25	94	(6)	23
Torrance	45	(2)	12	37	(2)	10	34	(2)	9	38	(2)	10	38	(2)	10	43	(2)	11	33	(2)	8	27	(2)	7	33	(2)	8	35	(2)	9
Total[4]	**2,189**	**[100]**	**27**	**2,003**	**[100]**	**24**	**2,023**	**[100]**	**24**	**1,761**	**[100]**	**21**	**2,070**	**[100]**	**25**	**1,986**	**[100]**	**23**	**1,890**	**[100]**	**22**	**1,753**	**[100]**	**20**	**1,709**	**[100]**	**20**	**1,505**	**[100]**	**17**

[1] Rate per 100,000. Rates based on fewer than 12 observations may not be reliable (see Technical Notes).

[2] Service Planning Area and Health District are based on 2012 boundaries.

[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 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 2019-2020[1]

	HIV diagnoses 2019	Linked to care 1 month[2,3]		PLWDH as of 2020[4]	Engaged in care 2020[2,5]		Retained in care 2020[2,5]		No. of persons with ≥ 1 VL test in 2020	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	1,275	1,004	79	45,199	30,503	67	20,796	46	29,320	27,082	60	92
Female	171	111	65	5,749	3,776	66	2,553	44	3,690	3,317	58	90
Transgender	59	43	73	924	630	68	445	48	612	537	58	88
Age Group (Yr)												
13-19	55	47	85	111	84	76	55	50	82	75	68	91
20-29	524	395	75	4,271	3,101	73	1,926	45	3,037	2,675	63	88
30-39	465	361	78	10,163	6,782	67	4,330	43	6,594	5,851	58	89
40-49	228	178	78	11,432	7,544	66	5,107	45	7,287	6,646	58	91
50-59	175	133	76	15,828	10,697	68	7,485	47	10,242	9,573	60	93
≥ 60	58	44	76	10,067	6,701	67	4,891	49	6,380	6,116	61	96
Race/Ethnicity[7]												
Black	319	229	72	10,381	6,525	63	4,254	41	6,332	5,523	53	87
Latinx	734	579	79	23,323	15,761	68	11,100	48	15,379	14,168	61	92
White	322	255	79	14,024	9,581	68	6,365	45	8,988	8,530	61	95
Asian	80	58	73	1,905	1,317	69	923	48	1,270	1,232	65	97
Pacific Islander	<5	<5	-	79	52	66	30	38	48	44	56	92
American Indian/Alaskan Native[8]	<5	<5	-	308	204	66	140	45	196	169	55	86
Multi-race	39	28	72	1,823	1,456	80	976	54	1,396	1,258	69	90
Transmission Category[9]												
Male-to-male sexual contact (MSM)	1,203	951	79	40,688	27,734	68	18,921	47	26,649	24,756	61	93
Injection drug use (IDU)	88	60	68	2,660	1,556	58	1,024	38	1,509	1,318	50	87
MSM/IDU	61	46	75	2,908	1,932	66	1,326	46	1,857	1,593	55	86
Hemophilia/transfusion	<5	<5	-	106	72	68	50	47	66	64	60	97
Heterosexual contact[10]	148	98	66	5,225	3,406	65	2,346	45	3,337	3,037	58	91
Perinatal exposure	<5	<5	-	241	181	75	111	46	176	144	60	82
Other risk[11]	6	<5	-	45	28	62	15	33	28	24	53	86
Total[7]	1,505	1,158	77	51,872	34,909	67	23,794	46	33,622	30,936	60	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 2020; persons are considered retained in care if there were ≥ 2 viral load, CD4+ T-cell, or genotype tests in 2020, at least 3 months apart; persons are considered virally suppressed when their last VL test in 2020 was < 200 copies/mL.

[3] Denominator for linkage to care includes persons who were reported with a new HIV diagnosis in 2019; does not include estimated persons unaware of HIV infection.

[4] Persons living with diagnosed HIV include those diagnosed with an HIV infection through 2019 and living in LAC at year-end 2020, based on most recent residence.

[5] Denominator for engagement and retention in care and overall viral load suppression in 2020 includes persons diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence.

[6] Denominator includes persons diagnosed with an HIV infection through 2019 and living in LAC at year-end 2020, based on most recent residence, who had at least one documented VL test in 2020.

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

[8] 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.

[9] 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.

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

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

Table 6A: HIV care continuum indicators among persons aged ≥ 13 years living with diagnosed HIV infection by Service Planning Area (SPA)/Health District (HD) of residence, Los Angeles County, 2019-2020[1]

SPA/HD[2]	HIV diagnoses 2019	Linked to care 1 month[3,4]		PLWDH as of 2020[5]	Engaged in care 2020[3,6]		Retained in care 2020[3,6]		No. of persons with ≥ 1 VL test in 2020	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]	**35**	**26**	**74**	**1,163**	**818**	**70**	**549**	**47**	**788**	**689**	**59**	**87**
Antelope Valley	35	26	74	1,163	818	70	549	47	788	689	59	87
San Fernando [2]	**258**	**202**	**78**	**7,733**	**5,549**	**72**	**3,834**	**50**	**5,371**	**5,090**	**66**	**95**
East Valley	72	55	76	2,420	1,714	71	1,164	48	1,659	1,565	65	94
Glendale	35	32	91	923	666	72	454	49	639	613	66	96
San Fernando	29	24	83	968	733	76	496	51	719	670	69	93
West Valley	122	91	75	3,422	2,436	71	1,720	50	2,354	2,242	66	95
San Gabriel [3]	**147**	**111**	**76**	**3,960**	**2,865**	**72**	**1,917**	**48**	**2,778**	**2,611**	**66**	**94**
Alhambra	21	15	71	669	488	73	320	48	476	448	67	94
El Monte	36	27	75	962	669	70	451	47	653	608	63	93
Foothill	19	15	79	638	480	75	330	52	464	442	69	95
Pasadena	14	10	71	574	418	73	275	48	402	375	65	93
Pomona	57	44	77	1,117	810	73	541	48	783	738	66	94
Metro [4]	**387**	**299**	**77**	**18,060**	**11,422**	**63**	**7,569**	**42**	**10,807**	**9,938**	**55**	**92**
Central	163	122	75	6,742	3,896	58	2,562	38	3,734	3,280	49	88
Hollywood-Wilshire	188	152	81	9,435	6,235	66	4,131	44	5,816	5,474	58	94
Northeast	36	25	69	1,883	1,291	69	876	47	1,257	1,184	63	94
West [5]	**82**	**65**	**79**	**2,485**	**1,617**	**65**	**1,063**	**43**	**1,524**	**1,434**	**58**	**94**
West	82	65	79	2,485	1,617	65	1,063	43	1,524	1,434	58	94
South [6]	**210**	**164**	**78**	**6,554**	**4,516**	**69**	**3,070**	**47**	**4,401**	**3,892**	**59**	**88**
Compton	48	40	83	1,100	772	70	511	46	756	674	61	89
South	41	30	73	1,256	849	68	580	46	827	706	56	85
Southeast	37	29	78	1,048	706	67	485	46	692	605	58	87
Southwest	84	65	77	3,150	2,189	69	1,494	47	2,126	1,907	61	90
East [7]	**129**	**103**	**80**	**3,674**	**2,592**	**71**	**1,831**	**50**	**2,552**	**2,380**	**65**	**93**
Bellflower	34	27	79	846	607	72	447	53	597	562	66	94
East Los Angeles	21	17	81	707	486	69	347	49	478	449	64	94
San Antonio	49	41	84	1,395	957	69	665	48	945	866	62	92
Whittier	25	18	72	726	542	75	372	51	532	503	69	95
South Bay [8]	**221**	**165**	**75**	**7,830**	**5,385**	**69**	**3,883**	**50**	**5,263**	**4,837**	**62**	**92**
Harbor	19	15	79	683	463	68	335	49	443	406	59	92
Inglewood	73	56	77	1,987	1,377	69	948	48	1,351	1,220	61	90
Long Beach	94	68	72	4,293	2,942	69	2,192	51	2,887	2,673	62	93
Torrance	35	26	74	867	603	70	408	47	582	538	62	92
Total[8]	**1,505**	**1,158**	**77**	**51,872**	**34,909**	**67**	**23,794**	**46**	**33,622**	**30,936**	**60**	**92**

[1] Data are provisional due to reporting delay.

[2] Service Planning Area and Health District are based on 2012 boundaries.

[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 2020; persons are considered retained in care if there were ≥ 2 viral load, CD4+ T-cell, or genotype tests in 2020, at least 3 months apart; persons are considered virally suppressed when the last VL test in 2020 was < 200 copies/mL.

[4] Denominator for linkage to care includes persons who were reported with a new HIV diagnosis in 2019; does not include estimated persons unaware of HIV infection.

[5] Persons living with diagnosed HIV include those diagnosed with an HIV infection through 2019 and living in LAC at year-end 2020, based on most recent residence.

[6] Denominator for engagement and retention in care and overall viral load suppression in 2020 includes persons diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence.

[7] Denominator includes persons diagnosed with an HIV infection through 2019 and living in LAC at year-end 2020, based on most recent residence, who had at least one documented VL test in 2020.

[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.

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