



# Epidemiology of HIV in California — 2016



The 2016 data presented in this report<sup>1</sup> describe the epidemiology of human immunodeficiency virus (HIV) in California. HIV surveillance data is foundational to understand the scope and specifics of HIV in California, and help measure progress towards reducing new HIV infections and HIV-related disparities.

## Executive Summary

Since the beginning of the HIV/AIDS epidemic over 30 years ago, thousands of people throughout California have died from HIV related causes and thousands more are currently living with HIV. Treatment advances, such as highly active antiretroviral therapy (HAART) introduced in 1995, have shifted HIV/AIDS from a fatal disease to a chronic one. While the number of deaths among people living with HIV (PLWH) has significantly decreased, the number of PLWH continues to increase as people are living longer with the disease. In 2016, California ranked first in the country for the highest number of persons newly diagnosed with HIV and second for the highest number of people living with HIV<sup>2</sup>. Consistent with the National HIV/AIDS Strategy, California has set its own 2021 goals to address the HIV epidemic. California outlined multiple objectives in its [Laying a Foundation for Getting to Zero: California's Integrated HIV Surveillance, Prevention, and Care Plan](#) (GTZ plan), with the main goals of reducing the number of new HIV infections, increasing access to care and improving outcomes for PLWH, reducing HIV-related health disparities, and achieving a more coordinated statewide response to the HIV epidemic.

### *Living cases*

According to the most recent US Centers for Disease Control and Prevention (CDC) estimation method<sup>3</sup>, there were approximately 151,493 people living with HIV in California in 2016. Of those, 132,405 (87 percent) were diagnosed with HIV and an estimated 19,088 (13 percent) were infected but undiagnosed. California's GTZ objective by 2021 is to increase the percentage of people living with HIV who know their serostatus to at least 95 percent. Among the 132,405 people living with diagnosed HIV (PLWDH) in 2016, 73 percent were in HIV care and 63 percent achieved viral suppression. In order to reduce new infections and improve outcomes for people living

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<sup>1</sup> HIV surveillance data reported to the Office of AIDS through January 26, 2018

<sup>2</sup> Centers for Disease Control and Prevention. *HIV Surveillance Report, 2016*; vol. 28

<http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published November 2017. Accessed March 6, 2019

<sup>3</sup> This estimate is based on the CD4 count based estimation model. Hall HI, Song R, Tang T, An Q, Prejean J, Dietz P, Hernandez AL, Green T, Harris N, McCray E, Mermin J. HIV Trends in the United States: Diagnoses and Estimated Incidence. *JMIR Public Health Surveillance* 2017;3(1):e8

with HIV, California's GTZ objectives are to increase the percentage who are in HIV medical care to 90 percent and increase viral suppression to 80 percent by 2021. The number of deaths among people diagnosed with HIV was 1,718 in 2016.

### *New diagnoses*

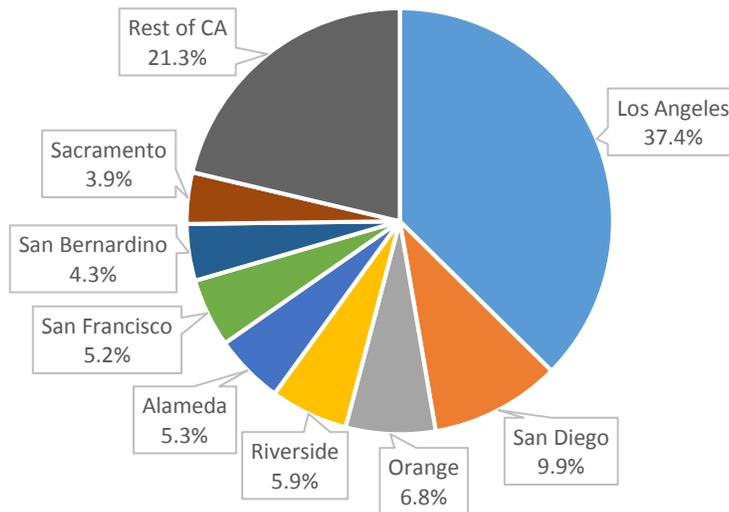
There were 5,061 people newly diagnosed with HIV in California during 2016. California's objective is to reduce the number of new HIV diagnoses to fewer than 2,500 per year by 2021. Among newly diagnosed cases, 89 percent were in HIV care and 69 percent achieved viral suppression. Seventy-six percent of newly diagnosed cases were linked to care within one month of diagnosis, and 58 percent of newly diagnosed cases achieved viral suppression within 6 months. California's GTZ objectives include linking 85 percent of newly diagnosed persons into care within one month of their HIV diagnosis and increasing the percentage who achieve viral suppression within six months to 75 percent by 2021.

The majority of the HIV epidemic in California remains concentrated in men who have sex with men (MSM) communities. Transmission by male-to-male sexual contact (MMSM) accounted for 67 percent of new HIV diagnoses and 74 percent of all HIV diagnoses in 2016. Two counties in California, Los Angeles and San Francisco, made up 43 percent of newly diagnosed cases and 48 percent of PLWDH. Although most new HIV diagnoses occurred in people under 34 years old, the majority of people living with HIV were over the age of 45. Whites made up the largest racial/ethnic group of PLWDH in California, while Hispanics/Latinxs were the largest group among new diagnoses in 2016. Rates take into account population sizes and help describe disease in a particular group; they are calculated per 100,000 persons. African Americans are the most disproportionately affected by HIV with a rate of HIV 2.9 times the rate of Whites among PLWDH and 4.7 times that of Whites among new diagnoses in 2016. Disparities in linkage to care and viral suppression also exist, especially among African Americans and Hispanic/Latinxs.

### Regional Scope of HIV Burden

Eight counties made up almost 79 percent of new HIV diagnoses in 2016 (Figure 1). The highest burden counties include Los Angeles, San Francisco, San Diego, Orange, Riverside, Alameda, Sacramento, and San Bernardino.

Figure 1. New HIV diagnoses by county – California, 2016



Among all California counties, Los Angeles County had the most people with newly diagnosed HIV (37.4 percent) as well as the most PLWDH (38.3 percent). San Francisco County accounted for 5.2 percent of people newly diagnosed with HIV and 10.1 percent of PLWDH. The California Project Area (CPA), which includes all California counties except Los Angeles and San Francisco, accounted for the remaining 57.4 percent of people newly diagnosed with HIV and 51.6 percent of all PLWDH.

Los Angeles and San Francisco counties had the highest rate of newly diagnosed HIV in 2016 with 18.5 and 30.3 respectively per 100,000 population. Within the CPA, Alameda had the highest rate (16.4 per 100,000), followed by San Diego (15.2 per 100,000), Fresno (13.6 per 100,000), Sacramento (12.9 per 100,000), and Riverside county (12.7 per 100,000).

## HIV by Group

### Gender

In 2016, cisgender men made up 86.8 percent of new HIV diagnoses and 87.0 percent of PLWDH in California while cisgender women made up 11.6 percent of new HIV diagnoses and 11.7 percent of PLWDH. Women of color, specifically African Americans and Hispanic/Latinxs, are particularly affected by HIV. Among women newly diagnosed with HIV in 2016, Hispanic/Latinxs accounted for 33.4 percent and African Americans accounted for 33 percent. The rate of new HIV diagnoses among Hispanic/Latinx women in 2016 was 1.3 times that of White women while the rate among African American women was 8.7 times that of White women. Transgender people made up 1.6 percent of new HIV diagnoses in 2016 and 1.2 percent of PLWDH.

### Transmission category

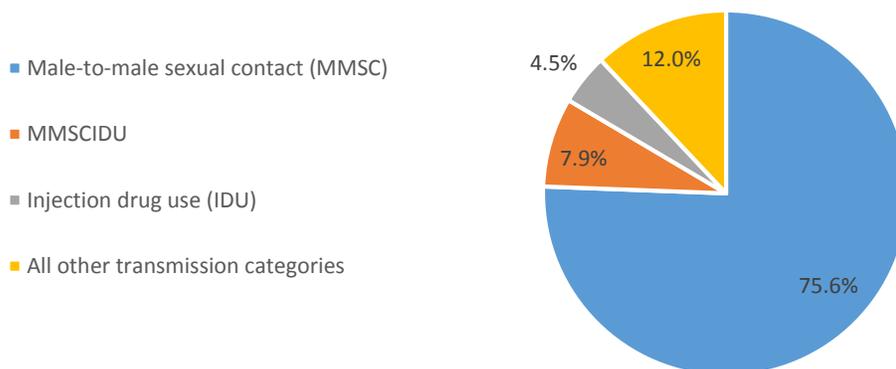
Transmission category is defined by the CDC for classifying cases based on a person's reported HIV risk factors. The classification results from selecting the single risk factor most likely to have been responsible for transmission, even if multiple risk factors were reported. The CDC hierarchy of risk factors, from most likely to lead to HIV transmission, to least likely, is as follows:

- Male-to-male sexual contact and injection drug use (MMSCIDU);
- MMSC alone;
- Injection drug use (IDU) alone;
- Receipt of clotting factor blood product for treatment of hemophilia or other chronic coagulation disorder; and
- High-risk-heterosexual contact (HRH) (e.g., having a partner who is HIV-positive, MSM, or a person who injects drugs)

Non-high-risk heterosexual contact (non-HRH) is last in the hierarchy and was added by the Office of AIDS (OA) to capture individuals who report sexual activity with a member of the opposite sex but do not report any risk behaviors for their partners. As required by the CDC, classifications are based on sex-at-birth and reported behaviors, rather than sexual orientation (gay, bisexual, heterosexual) or current gender identity. Because this sex-at-birth categorization obscures the impact of HIV on transgender men and women, OA conducts additional analyses to delineate these effects, reported separately.

Almost three-fourths (74 percent) of HIV diagnoses in 2016 were transmitted by MMSC, including 7 percent MMSCIDU. Among male PLWDH in 2016, MMSC accounted for almost 84 percent of HIV diagnoses including 7.9 percent MMSCIDU (Figure 2). Among female PLWDH, the largest risk factor categories were HRH (51.6 percent), non-HRH (21.1 percent), and IDU (17.9 percent).

Figure 2. HIV Transmission Category Among Male PLWDH – California, 2016

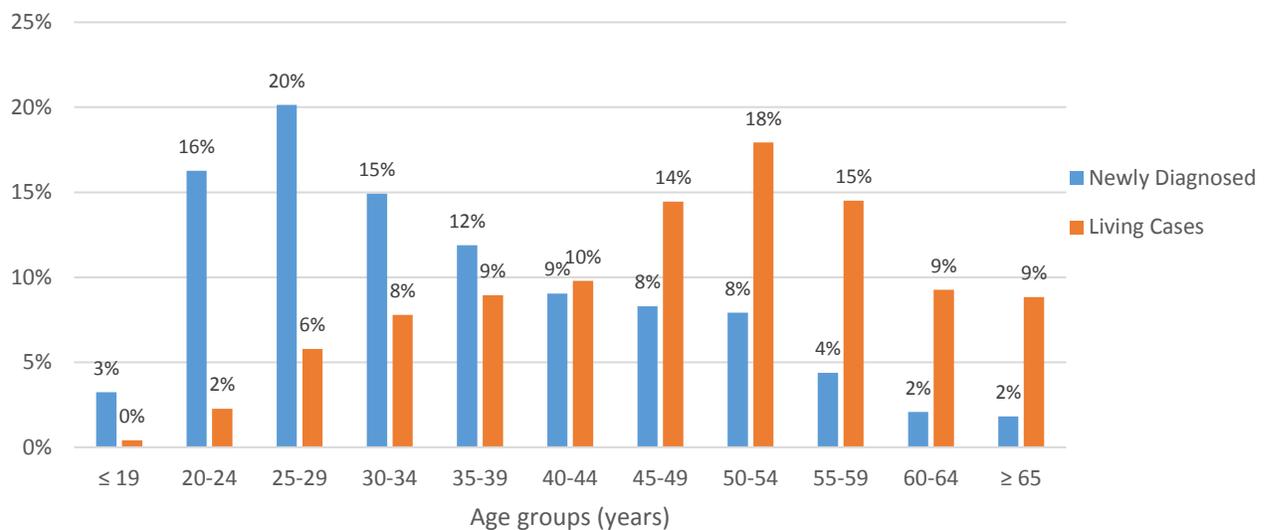


Among new HIV diagnoses in 2016, MMSC accounted for 67 percent including 3.1 percent MMSCIDU. Among newly diagnosed males, almost 76 percent of diagnoses were attributed to MMSC including 3.5 percent MMSCIDU. For newly diagnosed females, 44.1 percent reported non-HRH as their primary risk factor, 32.9 percent reported HRH, and 10.2 percent reported IDU.

### Age

More than 51 percent of people newly diagnosed with HIV in 2016 were individuals between 20-34 years old. The 25-29 age group made up the largest proportion of newly diagnosed cases (20.1 percent) followed by the 20-24 age group (16.3 percent). In contrast, more than 65 percent of PLWDH in 2016 were 45 or older. The 50-54 age group was the largest (17.9 percent) followed by the 55-59 age group (14.5 percent). Figure 3 shows the age differences between PLWDH and persons newly diagnosed with HIV in 2016.

Figure 3. Newly Diagnosed and Living HIV Cases by Age Group – California, 2016



### Race/Ethnicity

Of all PLWDH, the largest group was Whites (40.3 percent), followed by Hispanics/Latinxs (35.3 percent) and African Americans (17.5 percent) (Figure 4). However, African Americans had the highest prevalence rate (1,023 per 100,000 population), a rate 3.4 times that of Hispanics/Latinxs, and 2.9 times that of Whites (Figure 5).

Figure 4. People Living with Diagnosed HIV by Race/Ethnicity – California, 2016

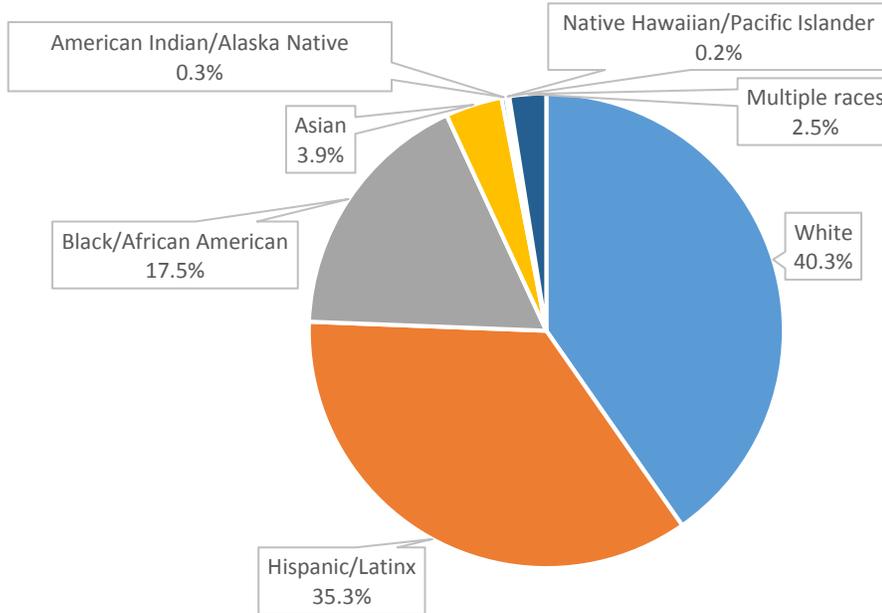
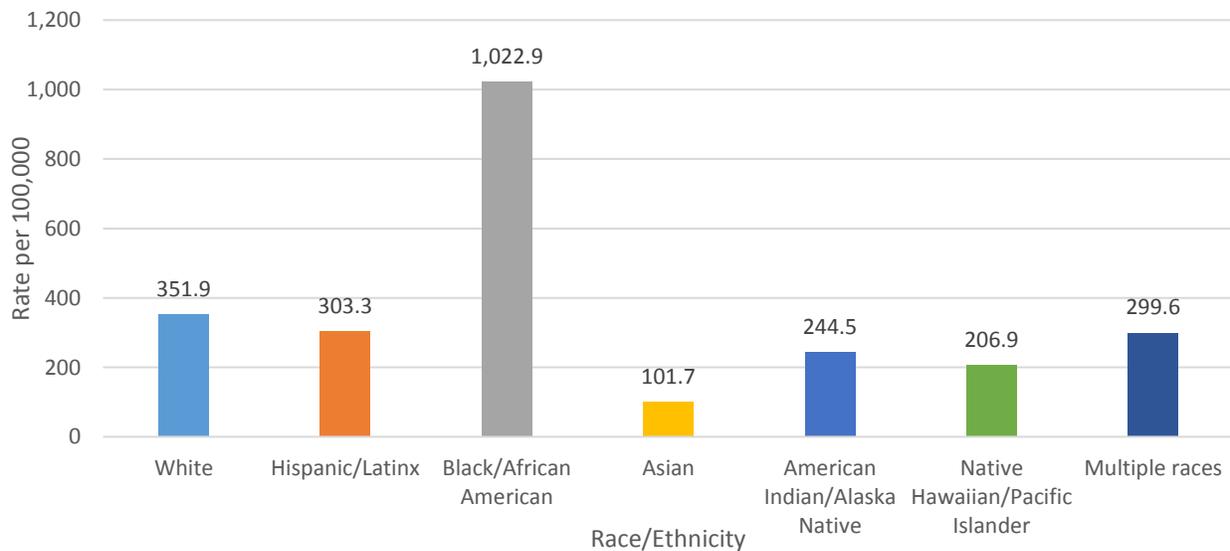
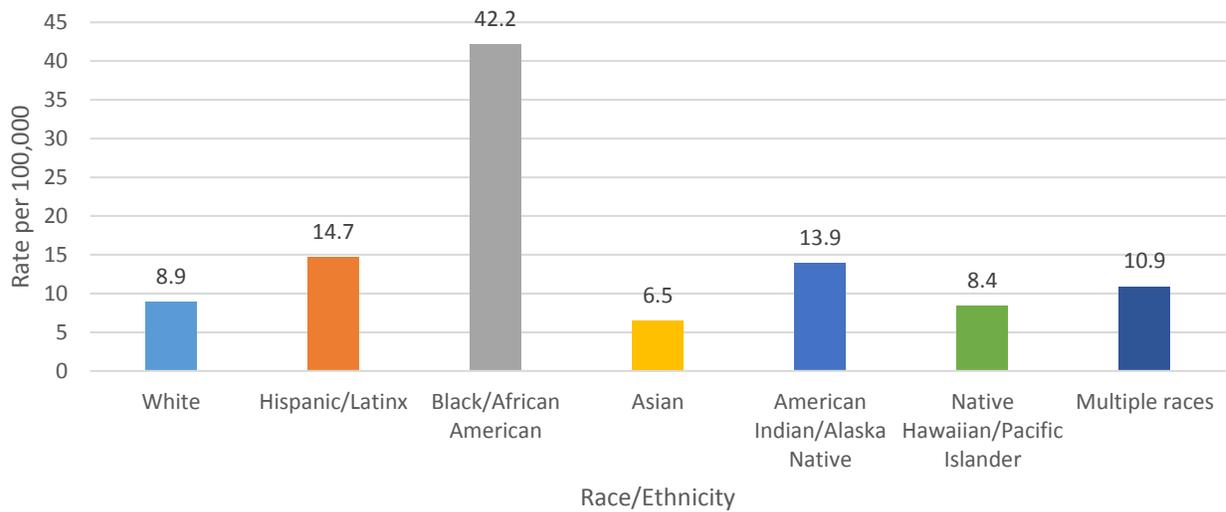


Figure 5. Rate of HIV by Race/Ethnicity – California, 2016



Hispanics/Latinxs made up the largest racial/ethnic group among new HIV diagnoses (44.8%), followed by Whites (26.6 percent), and African Americans (18.9 percent). The rate of new HIV diagnoses among Hispanic/Latinxs was 1.7 times the rate of Whites. The greatest disparity was among newly diagnosed African Americans at a rate 4.7 times that of Whites (Figure 6).

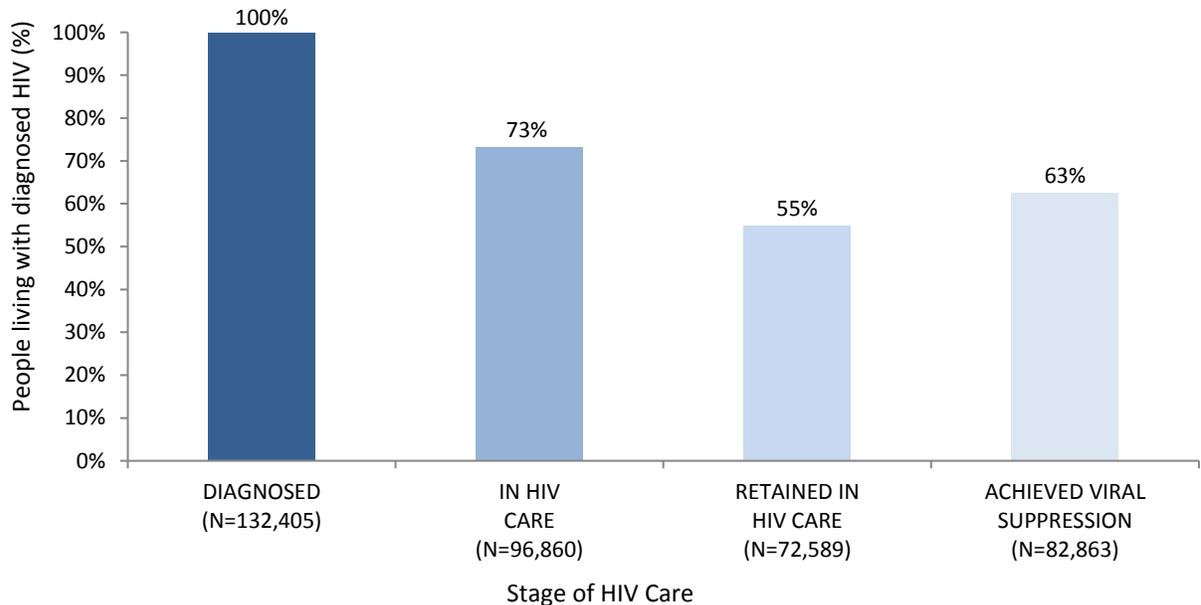
Figure 6. Rate of Newly Diagnosed HIV by Race/Ethnicity – California, 2016



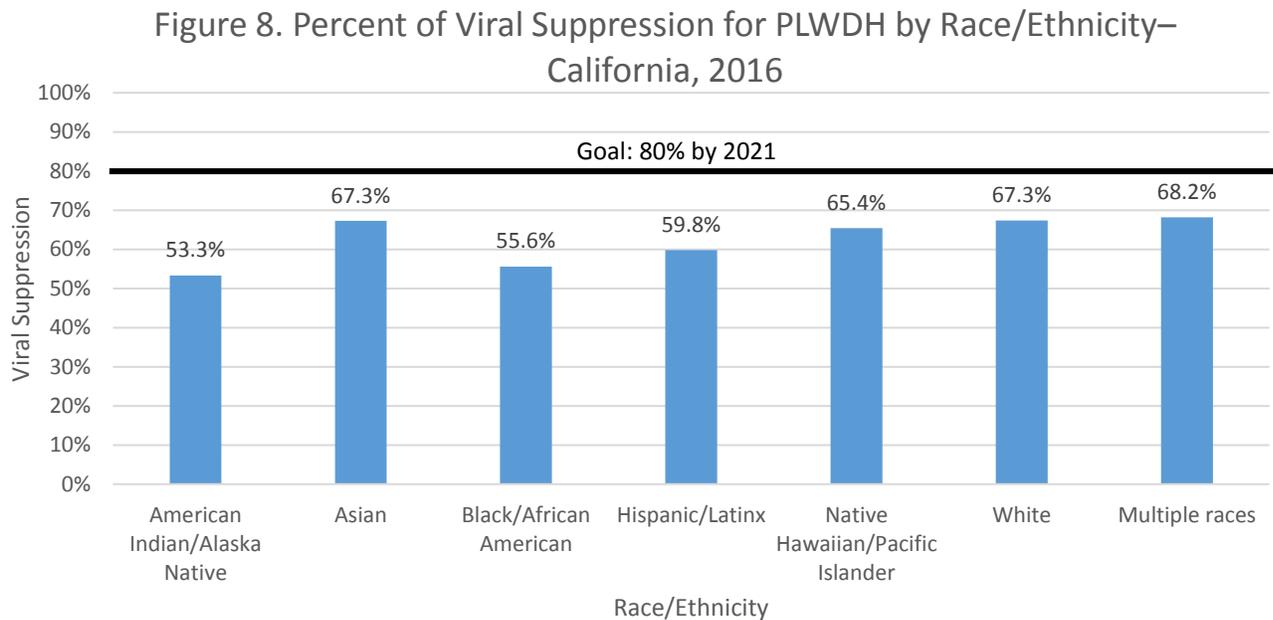
### The Continuum of HIV Care

The Continuum of HIV Care is a model that outlines the stages of HIV medical care for persons living with HIV, from initial diagnosis to viral suppression. The ultimate goal of HIV treatment is to achieve viral suppression, which means the amount of HIV in the blood is at a very low level or undetectable. Viral suppression is measured by laboratory data indicating an HIV viral load of  $\leq 200$  copies/ml. Sustained HIV viral suppression virtually eliminates HIV transmission to sexual partner(s), improves the health of people living with HIV, and is used as a marker for health care quality.

Figure 7. Continuum of HIV Care – California, 2016

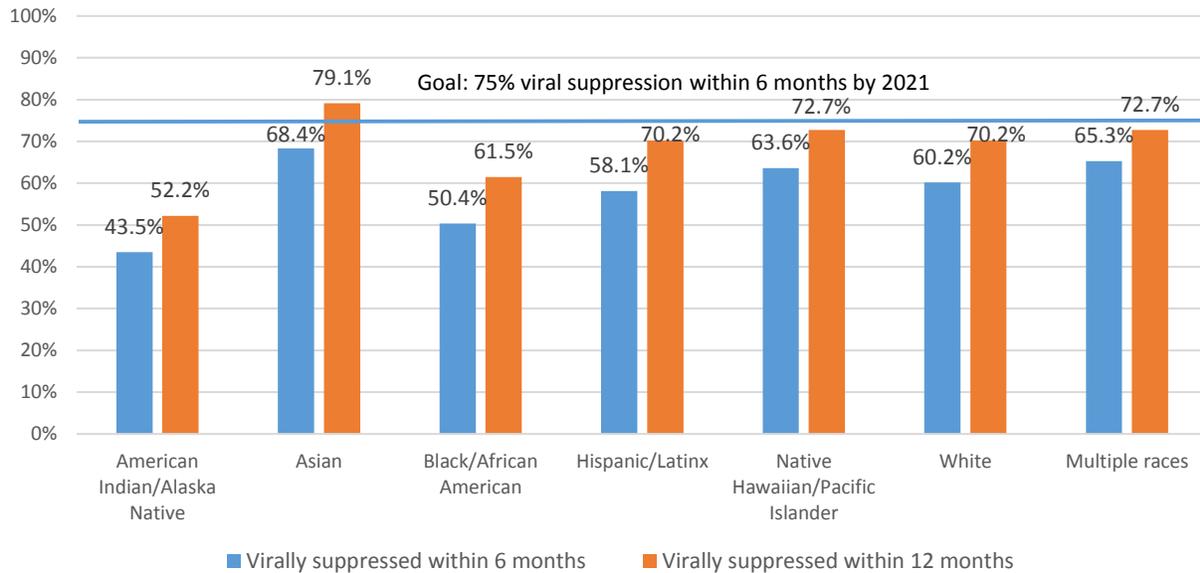


Among the 132,405 PLWDH in California, 63 percent achieved viral suppression in 2016 (Figure 7). California’s objective by 2021 is to increase viral suppression to 80 percent, which is why it is important to engage and retain people living with HIV at every stage of the HIV care continuum. Figure 8 shows notable disparities in viral suppression rates especially among American Indian/Alaska Natives, Black/African Americans, and Hispanic/Latinxs (53.3 percent, 55.6 percent, and 59.8 percent respectively).



California’s GTZ goal is to increase the percentage of people virally suppressed within six months of diagnosis to 75 percent by 2021. Among those newly diagnosed with HIV in 2016, American Indian/Alaska Natives, Black/African Americans, and Hispanic/Latinxs had the lowest viral suppression within 6 months of diagnosis at 43.5 percent, 50.4 percent, and 58.1 percent respectively (Figure 9). American Indian/Alaska Natives and Black/African Americans had the lowest viral suppression within 12 months of diagnosis at 52.2 percent and 61.5 percent respectively. Asians had the highest viral suppression at 79.1 percent followed by Native Hawaiian/Pacific Islanders and multi-racial persons (72.7 percent in both).

Figure 9. Percent of Viral Suppression among Newly Diagnosed by Race/Ethnicity – California, 2016



## Conclusion

Advances in HIV medical treatment have led to the decline in deaths among people diagnosed with HIV while improving health outcomes and life expectancy of those living with HIV. Despite progress, California is still one of the most highly impacted states in the country with about 5,000 new HIV diagnoses per year for the past five years. Although the number of people newly diagnosed with HIV has remained stable, HIV continues to have a disproportionate impact on certain populations. Racial disparities exist especially in rates of new diagnoses and along all stages of the HIV care continuum, while MSM communities continue to be the most impacted by HIV.

Early detection and treatment are key to improving the health of people living with HIV and preventing further transmissions. In 2016, an estimated 12 percent of people infected with HIV were unaware they were infected and of those diagnosed only 63 percent achieved viral suppression. In order to achieve California’s objectives by 2021, it is crucial to engage and retain people living with HIV in care so they ultimately achieve and sustain viral suppression. This will require prioritizing communities disproportionately affected by HIV and using data to guide decision-making related to the prevention, care, and treatment of people who are at risk or living with HIV.