

**Sexually Transmitted Infections and HIV
Epidemiology Annual Report,
2019 and 2020**

County of Santa Clara
Public Health Department
Infectious Disease and Response Branch
November 2021

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Executive Summary

This report summarizes key findings from surveillance data for HIV and other reportable infections that are primarily sexually transmitted, as reported to the County of Santa Clara Public Health Department. Compared to prior years' reports, this report differs in four key ways: First, the usual HIV and sexually transmitted disease reports have been combined and shortened to streamline access to information and address sexual healthcare and infection prevention in a more holistic way. Second, this is the first written publication of data from both the 2019 and 2020 calendar years, due to delayed reporting of 2019 surveillance data caused by the COVID-19 Pandemic. Third, to align with emerging best practices and the Center for Disease Control and Prevention's (CDC's) similar shift, this report will use the term Sexually Transmitted Infections (STIs) instead of Diseases (STDs) except in reference to an organization that uses "STD" in its name. Finally, the report incorporates a degree of year-over-year change in some cases not seen since the early years of HIV's emergence, although reasons for these changes may take years to uncover.

Due to the worldwide COVID-19 pandemic, the 2020 Calendar Year differed from prior years in many ways that may have affected transmission, diagnosis, and surveillance of HIV and STIs. Patterns of social and sexual interaction changed dramatically as shelter-in-place orders restricted means of meeting and interacting with sexual partners. At the same time, many healthcare providers reduced or delayed services of a less critical or time-sensitive nature, likely including routine sexual health screening and HIV viral load and CD4 T-cell count for HIV monitoring. Finally, resources for STI and HIV data transmission and surveillance may have been redirected to focus on COVID-19 data response.

In this context, and after non-HIV STI rates increased for decades to record highs in 2019, the following data summaries are most notable in 2020 for decreases in cases of all reportable STIs to varying degrees and across nearly all ages, genders, races, ethnicities, and risk factors. Some important exceptions included increases in early syphilis and HIV among young adults ages 25-29, and not all demographic groups experienced the decline in reporting equally. Whether these declines are due primarily to real decreases in transmission versus decreased or delayed diagnosis or reporting remains to be seen throughout the coming years. One signal that the decline in gonorrhea infections may be an artifact of decreased or delayed diagnosis was an apparent increase in disseminated gonococcal infections (DGI.) This more severe manifestation of gonorrhea, which is more likely to result in hospitalization and diagnosis, was difficult to track prior to 2020 and therefore not included in this report, but we anticipate an ability to report more fully on this trend in the coming years.

The dramatic changes in some disease reports from 2019 to 2020 were unfortunately not sufficient to move the needle on the decades of disparities that have negatively impacted LGBTQ populations and African-America/Black and Hispanic/Latinx community members. Fortunately, neither did these changes appear to notably exacerbate the apparent disparities. However, as we learn more about what changes in both transmission and diagnosis really occurred in 2020, we may find some groups were impacted more positively by decreased transmission, while others more negatively by decreased diagnosis, belying the apparently similar changes across most communities.

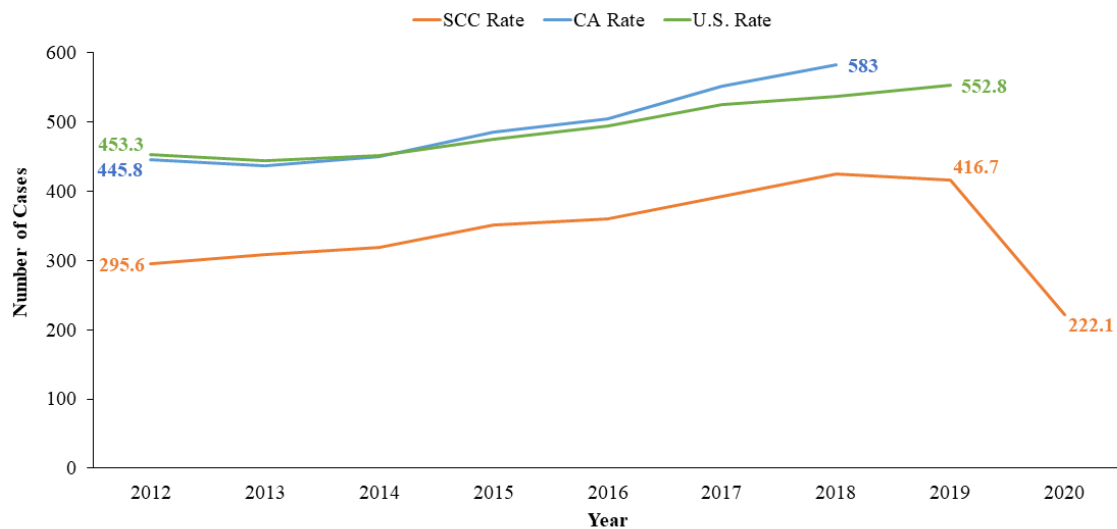
Overall, the work of the County Public Health Department's STI/HIV Prevention & Control Program will continue to focus on understanding the persistent trends of record-high rates of STIs; countering the pervasive disparities in sexual health and related outcomes based on race, ethnicity, gender, and sexual orientation; and improving data quality especially around gender data collection. A new body of work will involve investigating and responding to the harms of the COVID-19 pandemic and the ways in which it may have delayed diagnosis and exacerbated risk factors for STIs such as substance use, housing instability, and incarceration. However, the Program aims to sustain and grow the benefits gained during the pandemic, such as enhanced access to telemedicine, improved community awareness of the Public Health Department and its mission, and strengthening of critical relationships and collaboration with stakeholders and community partners. Enabling clinical service providers and community partners to enhance STI and HIV screening, provide guideline-based treatment and prevention such as HIV Pre-Exposure Prophylaxis (PrEP), and ensure expedited partner therapy will be critical to reversing the overall concerning trends of the last two decades and ensuring the gains of the pandemic outweigh the losses.

I. Chlamydia

General Trend Over Time

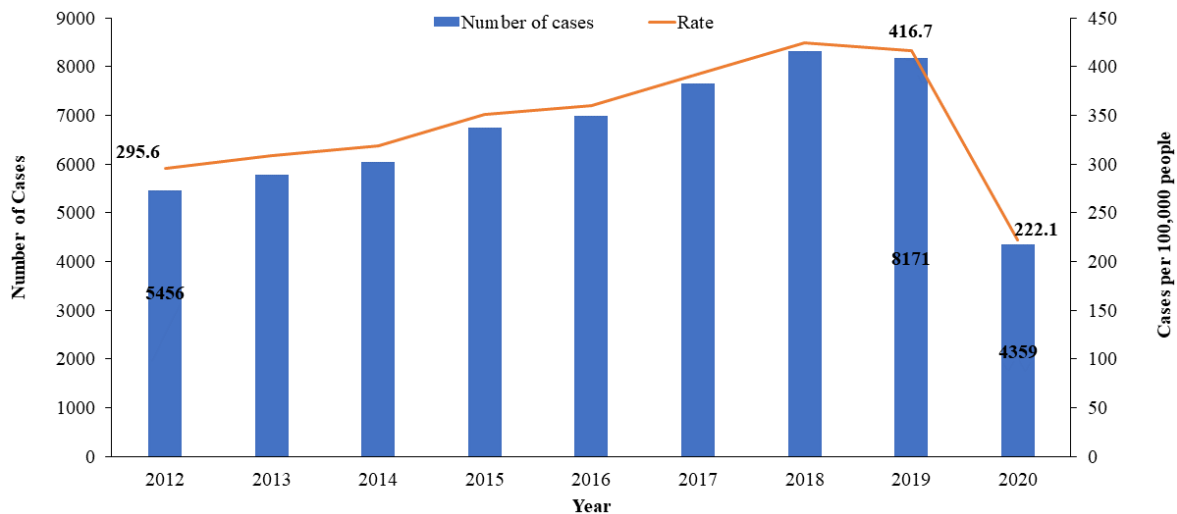
In Santa Clara County, Chlamydia was the most frequently reported STI. From 2012 – 2019, rates of chlamydia were lower in Santa Clara County, compared to California and the United States as a whole (Figure 1). In 2019, 8,171 cases were reported among residents in the County, which increased by nearly 50% from 5,456 cases in 2012. Chlamydia rates steadily increased over time from 295.6 cases per 100,000 people in 2012 to 416.7 in 2019. The number of cases and rates then decreased from 2019 to 2020 by 47% (Figure 2), with similar decreases seen across both males and females and most races, ethnicities, and age groups.

Figure 1: Chlamydia rates, County of Santa Clara, California, and United States 2012 – 2020



Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021; 4. California Department of Public Health STD Control Branch. Sexually Transmitted Diseases Surveillance Report 2019. Atlanta: U.S. Department of Health and Human Services; 2021.

Figure 2: Chlamydia case counts and rates, County of Santa Clara, 2012 – 2020

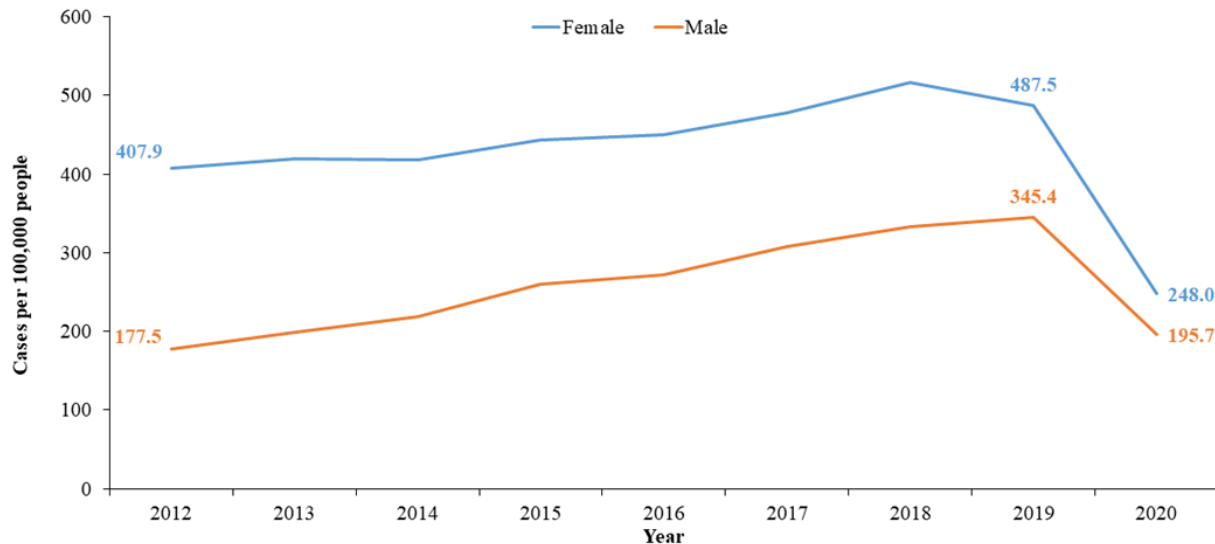


Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Chlamydia and Gender*

Overall, females had higher rates of chlamydia than males. In 2019, the rate among females was 487.5 cases per 100,000 people, 41% higher than the rate among males (345.4). In 2020, the rate among females was 248.0 cases per 100,000 people, 27% higher than the rate among males (195.7). From 2012 to 2019, chlamydia case rates increased among both females and males, with a more rapid increase among males (95% increase) than females (20% increase) (Figure 3). From 2010 to 2019, the increasing trends of chlamydia among both females and males were highly statistically significant ($p < 0.0001$).

Figure 3: Chlamydia case rates by gender*, County of Santa Clara, 2012 – 2020



*Gender variable name and categories are limited by how the California Department of Public Health is able to collect sexual orientation and gender identity (SOGI) data; Rates among transgender populations are not available due to small populations and undefined population denominators.
Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

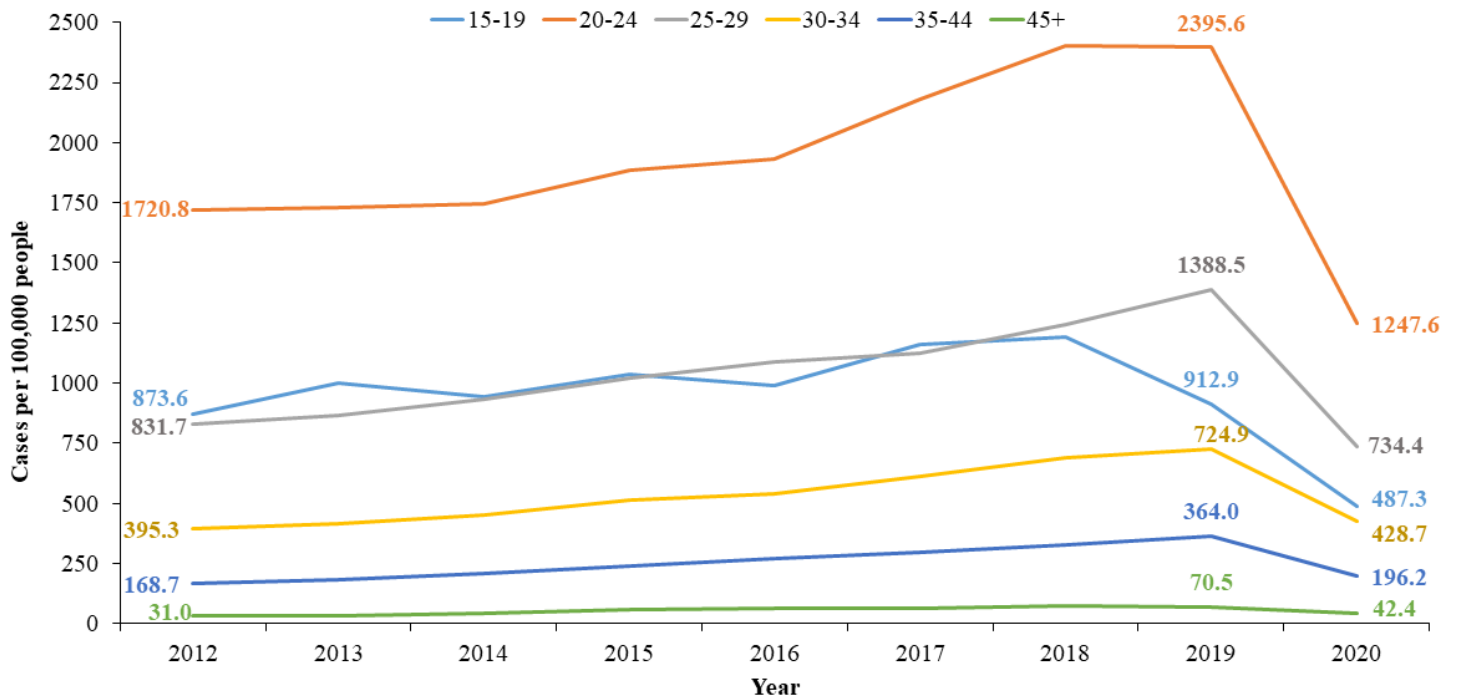
Chlamydia and Age

Young adults ages 20 to 24 had the highest rate of chlamydia among all age groups, with a rate of 2395.6 cases per 100,000 people in 2019 and 1247.6 cases per 100,000 people in 2020, which was over 5 times the average rate among the total population of the county (416.7 and 222.1, respectively) (Figure 4).

Age-specific rates among females reflected similar trends as the total population. Among females, the highest rate of chlamydia was among those ages 20 to 24 (Figure 5), which had a rate of 3344.3 cases per 100,000 people, nearly 7 times the female average rate in 2019 (487.5). From 2012 to 2018, females ages 15 to 19 had the second highest rate of chlamydia, but females ages 25-29 had the second highest rate in 2019-2020. From 2012-2019, females ages 25 to 29 had the most rapid increase in the rate of chlamydia among females younger than 30 years old, with a 31% increase in the rate, compared with slower increases among those ages 24 and under.

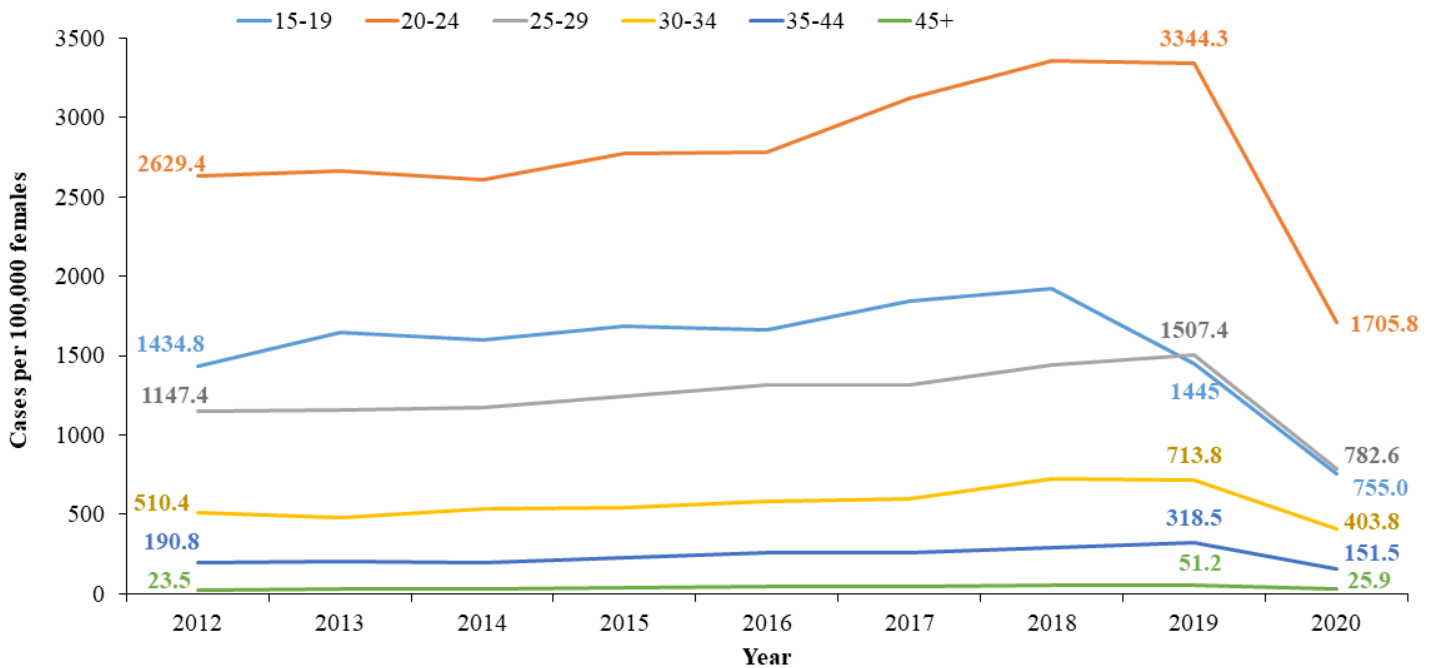
Figure 6 shows the rates of chlamydia among males in selected age groups from 2012 to 2020. Like females, the highest rate of male chlamydia cases was also in the age group 20 to 24 years in 2019 and 2020 (1488.8 cases per 100,000 people and 819.4 cases per 100,000 people), over 4 times the average rate among males in the same year. Males ages 25 to 29 had the second highest rate of chlamydia and the most significant increase among males younger than 30 years old, with a rate that increased by 141% between 2012 and 2019.

Figure 4: Chlamydia case rates by selected age group, County of Santa Clara, 2012 – 2020



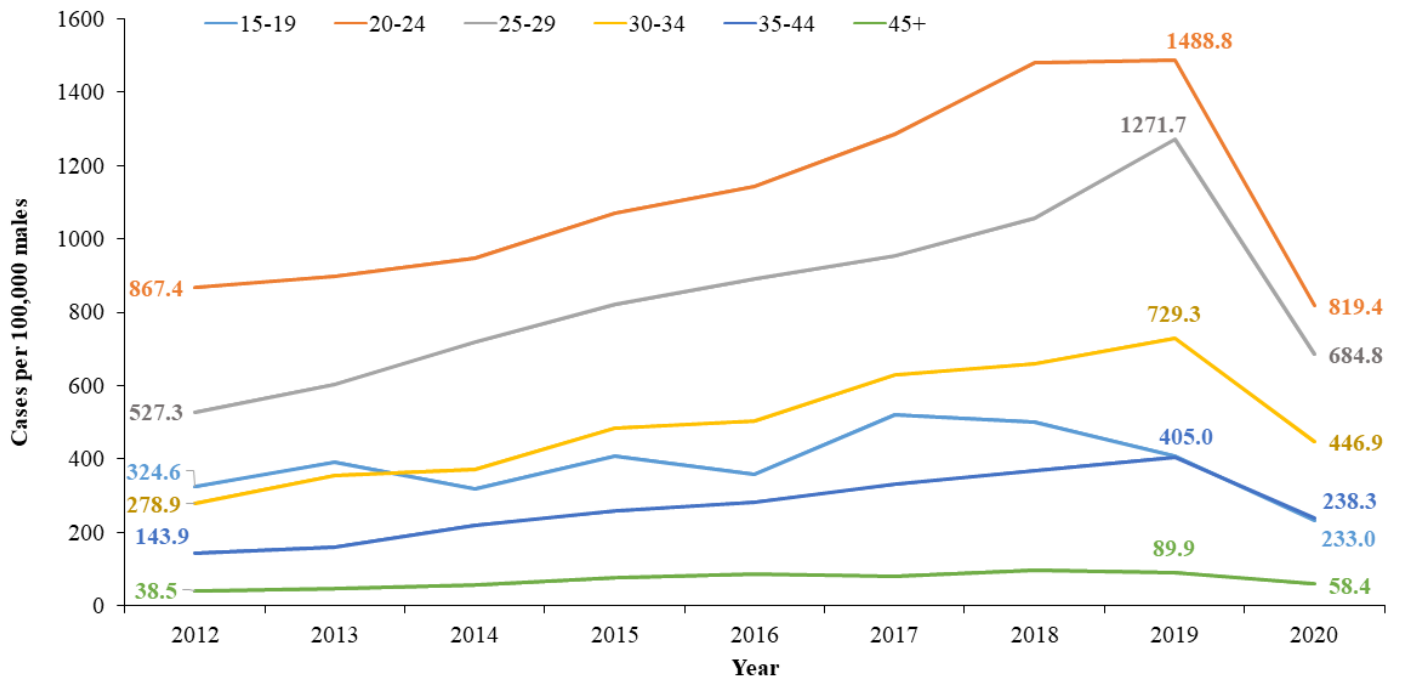
Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 5: Chlamydia case rates among females by selected age group, County of Santa Clara, 2012 – 2020



Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 6: Chlamydia case rates among males by selected age group, County of Santa Clara, 2012 – 2020



Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010-2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

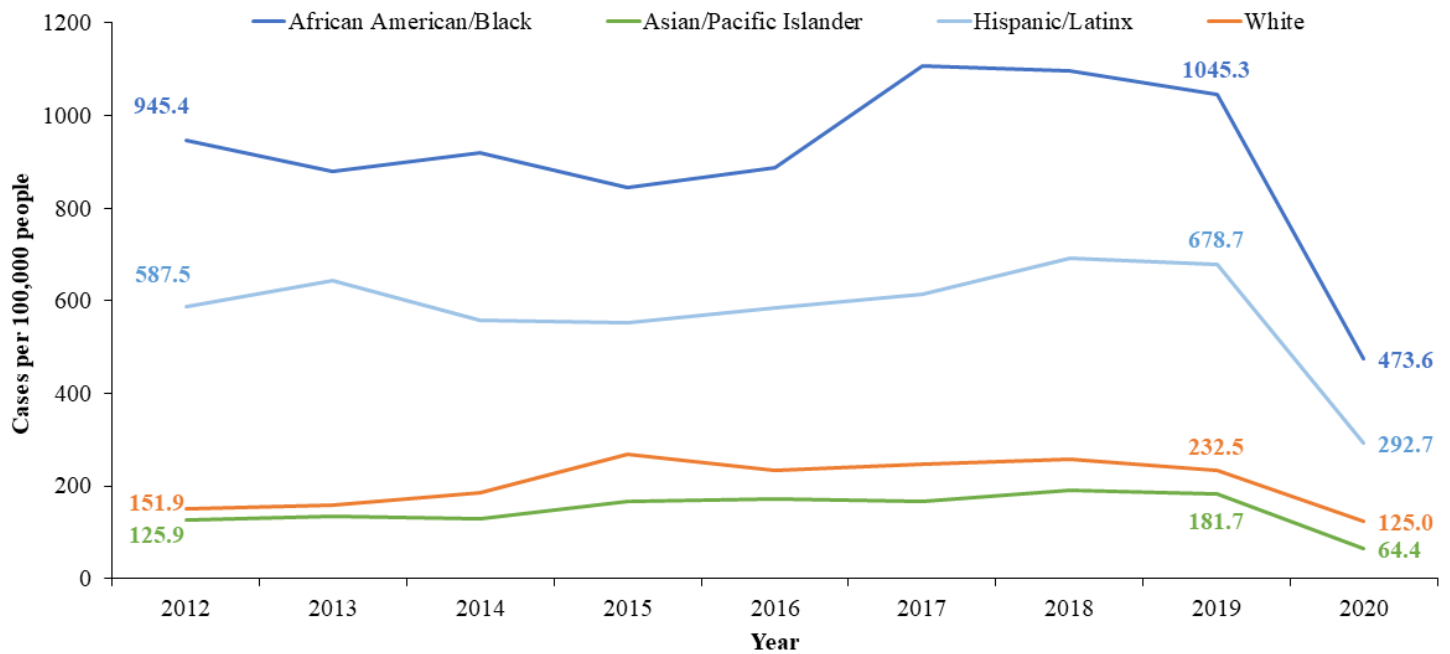
Chlamydia and Race/Ethnicity

Due to large proportions of chlamydia cases reported with unknown race or ethnicity, the race/ethnicity information were imputed (see Technical Notes) to obtain estimated numbers and rates of chlamydia by race/ethnicity. These numbers are not absolute and are intended to help describe the magnitude of the epidemic in each subgroup as compared to each other and to the county average.

The disease burden of chlamydia varied dramatically by race/ethnicity, but temporal trends were similar. Between 2012 and 2019, the rate of chlamydia increased among all racial/ethnic groups. Overall, African Americans/Blacks had the highest rate of chlamydia among all racial/ethnic groups, and Hispanic/Latinx had the second highest rate. In 2019, the rate of chlamydia among African Americans/Blacks was 1045.3 cases per 100,000 people, and the rate of chlamydia among Hispanic/Latinx was 678.7 cases per 100,000 people (Figure 7). Substantially higher rates of chlamydia among African Americans/Blacks than other racial/ethnic groups reflect the disproportionate impact of the disease on the relatively small African American/Blacks population of the county. The rates among Hispanic/Latinx have remained second highest and stable over the years, while the rates among whites and Asian/Pacific Islanders have been slowly increasing. African American/Blacks and Hispanic/Latinx females and males had the highest rates of chlamydia among all racial/ethnic groups. In 2019, chlamydia rates among African American/Blacks in the county were nearly 4 times higher than the rates among whites among females (Figure 8) and over 5 times higher than the rates among whites among males (Figure 9).

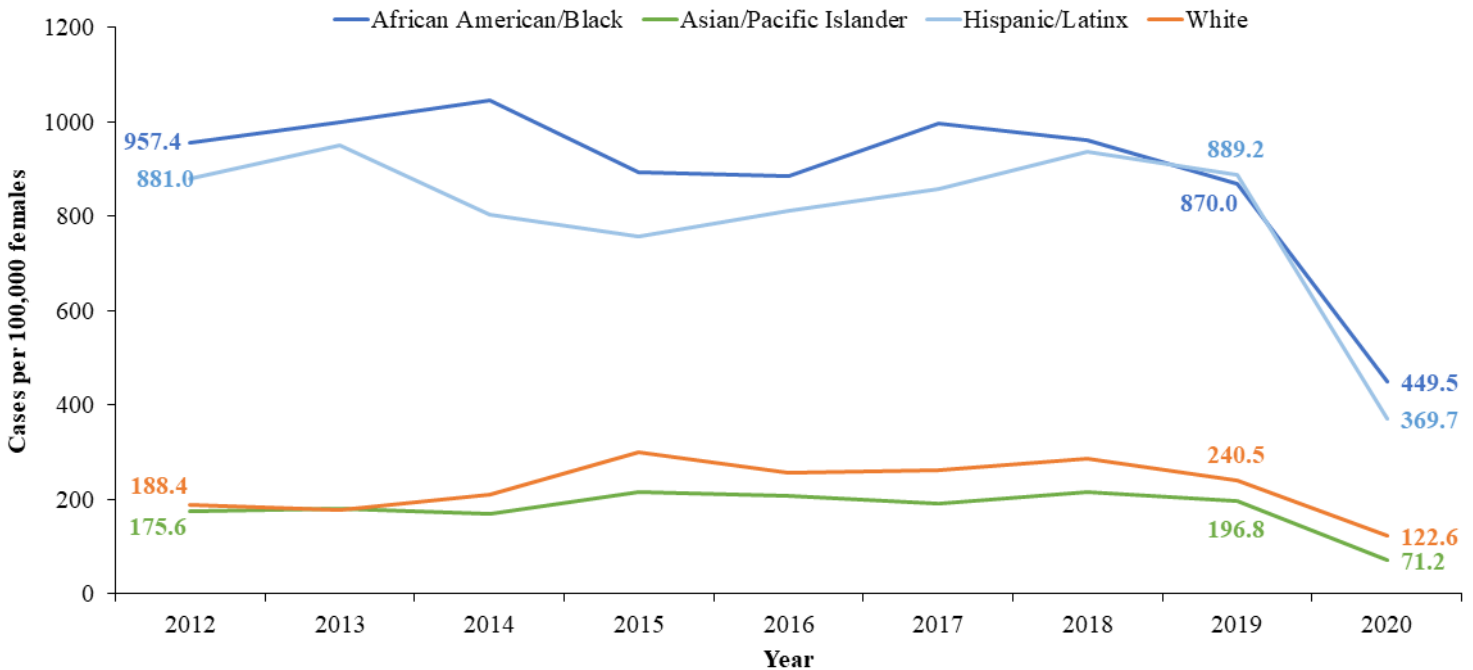
Figure 10 shows age-specific rates of chlamydia by race/ethnicity from 2012 to 2020. Generally, young adults ages 20 to 24 were more likely to have chlamydia than other age groups, and this feature was consistently observed across all racial/ethnic groups. The rate of chlamydia was highest among African American/Blacks age group 20-24. The rate of chlamydia in the youngest age group 15 to 19 was highest among African American/Black and Hispanic/Latinx residents.

Figure 7: Chlamydia case rates by imputed race/ethnicity*, County of Santa Clara, 2012 – 2020



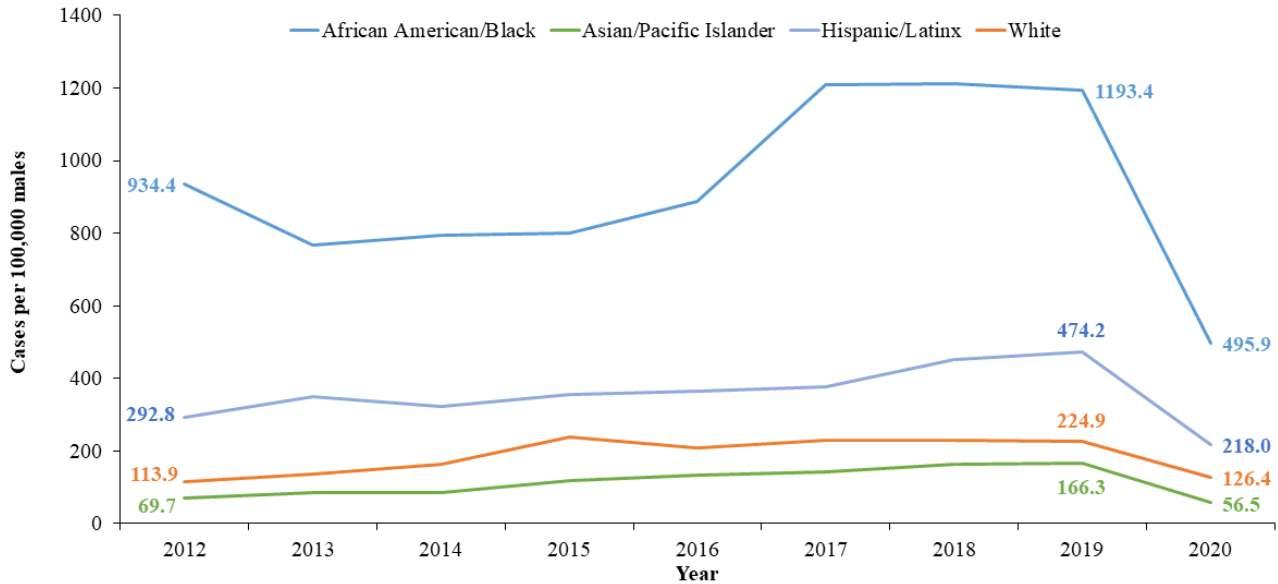
*Due to large proportions of missing data on race/ethnicity, unknown race/ethnicity cases were redistributed based on the proportions of the known race/ethnicity distribution by age groups. Rates and counts based on imputed race/ethnicity should be interpreted with caution. Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 8: Chlamydia case rates among females by imputed race/ethnicity*, County of Santa Clara, 2012 – 2020



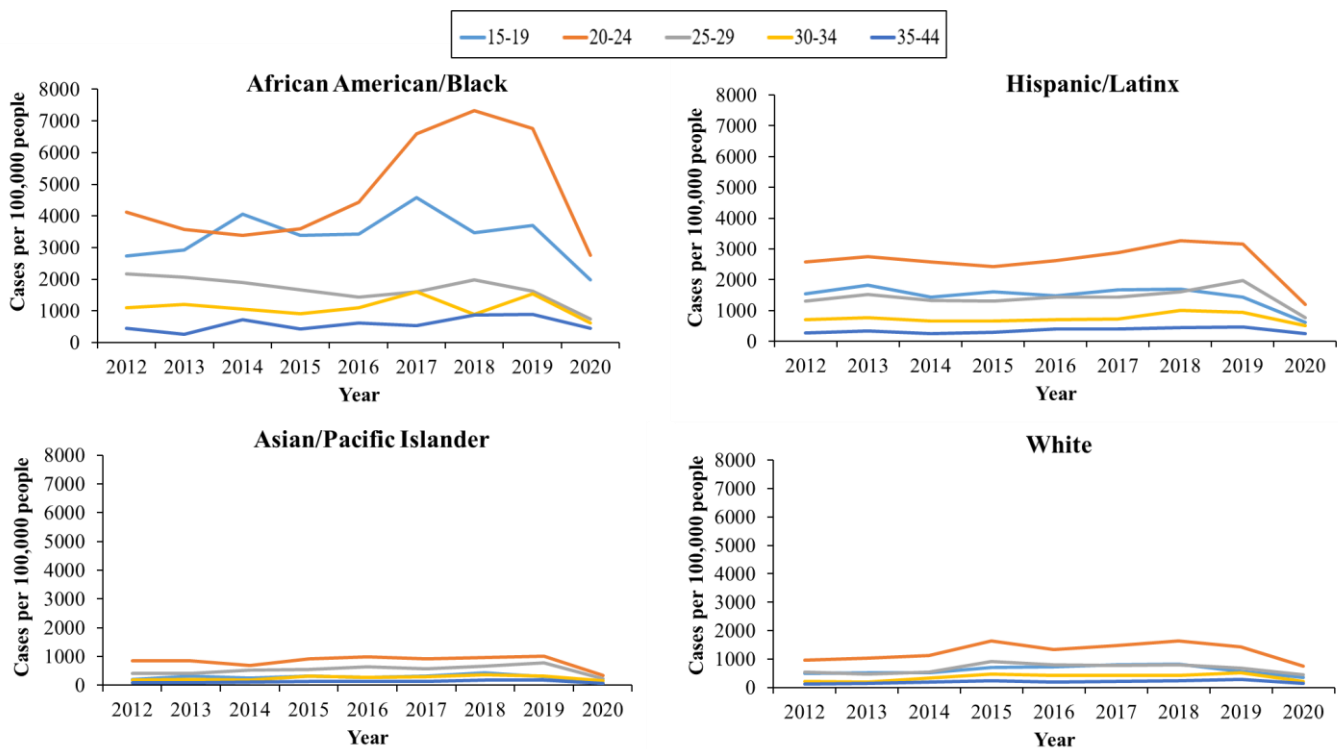
*Due to large proportions of missing data on race/ethnicity, unknown race/ethnicity cases were redistributed based on the proportions of the known race/ethnicity distribution by age groups. Rates and counts based on imputed race/ethnicity should be interpreted with caution. Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 9: Chlamydia case rates among males by imputed race/ethnicity*, County of Santa Clara, 2012 – 2020



*Due to large proportions of missing data on race/ethnicity, unknown race/ethnicity cases were redistributed based on the proportions of the known race/ethnicity distribution by age groups. Rates and counts based on imputed race/ethnicity should be interpreted with caution. Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 10: Chlamydia case rates by imputed race/ethnicity* in selected age groups, County of Santa Clara, 2012 – 2020

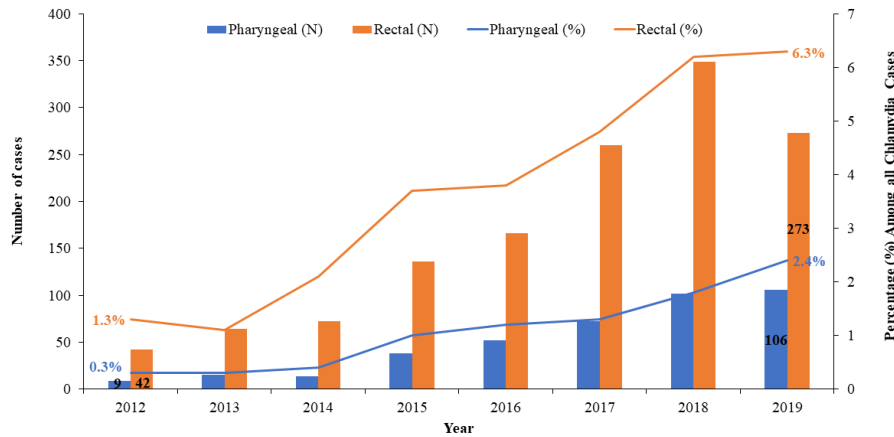


*Due to large proportions of missing data on race/ethnicity, unknown race/ethnicity cases were redistributed based on the proportions of the known race/ethnicity distribution by age groups. Rates and counts based on imputed race/ethnicity should be interpreted with caution. Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Chlamydia and Rectal/Pharyngeal Infections

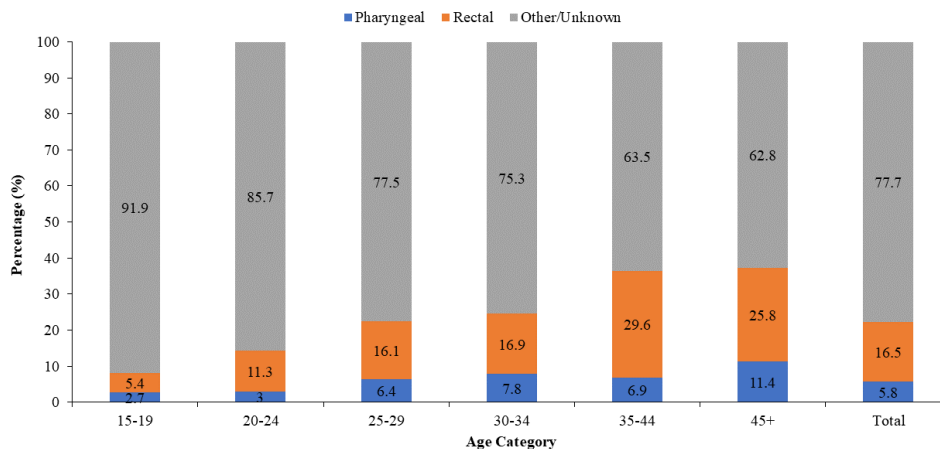
In the County of Santa Clara, rectal and pharyngeal screening for chlamydia and gonorrhea began in 2011 and has since expanded widely, especially among men who have sex with men (MSM) for whom this screening is recommended by the US Centers for Disease Control and Prevention (CDC). Reports of rectal chlamydia and pharyngeal chlamydia continued to increase between 2012 and 2019 (Figure 11). Among individuals with chlamydia, the percentage of those infections that were rectal infection significantly increased from 1.3% in 2012 to 6.3% in 2019. Male chlamydia cases were more frequently diagnosed with rectal chlamydia than females. Figure 12 shows rectal infection was associated with increasing age among male chlamydia cases. Older cases had a higher percentage of rectal infection than younger cases, and males ages 35-44 and 45+ had the highest and second highest percentage, respectively, of reported rectal infection (29.6% and 25.8%). Although pharyngeal chlamydia cases were fewer than rectal chlamydia cases, the percentage of pharyngeal infection among male chlamydia cases also increased from 0.3% in 2012 to 2.4% in 2019 (Figure 11). Older cases also had a higher percentage of pharyngeal infection than younger cases, and males ages 45+ had the highest percentage of reported pharyngeal infection (11.4%)

Figure 11: Number of cases and percentage of rectal/pharyngeal chlamydia, County of Santa Clara, 2012 – 2019



Source: Santa Clara County Public Health Department, CalREDIE (2012-2019), data are provisional as of July 2, 2021

Figure 12: Percentage of rectal and pharyngeal chlamydia among males* in selected age groups, County of Santa Clara, 2019



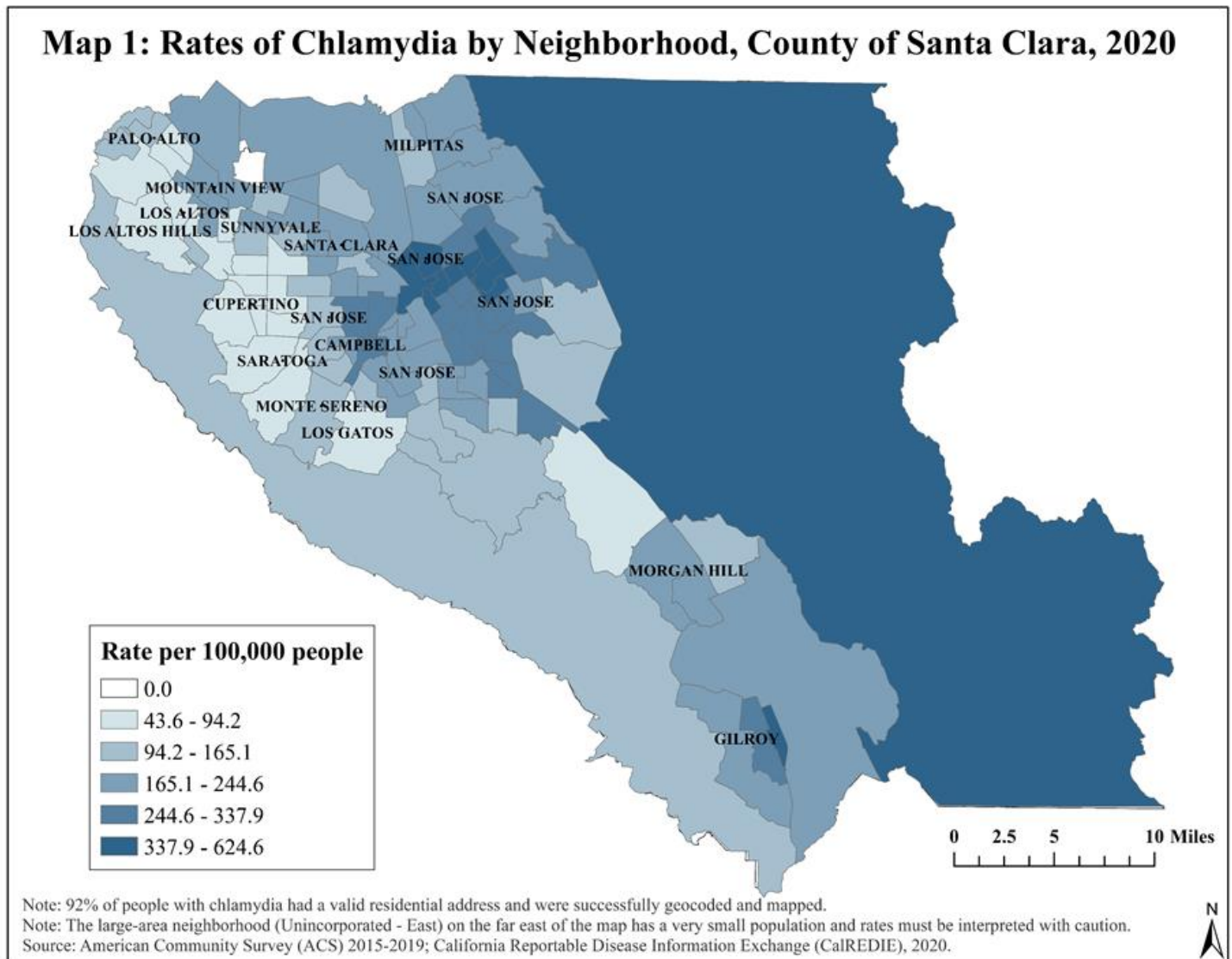
Source: Santa Clara County Public Health Department, CalREDIE (2019), data are provisional as of July 2, 2021

*Due to large numbers of missing rectal and pharyngeal testing data among females, analyses are only available among males. This may be in part due to the US Centers for Disease Control and Prevention (CDC) recommendation for regular rectal and pharyngeal screening for chlamydia and gonorrhea among men who have sex with men (MSM). For context, overall rectal and pharyngeal chlamydia rates are 0.1% and 0.4% among females respectively, and 16.5% and 5.8% among males respectively.

Chlamydia and Geographic Distribution

Geographic areas of the County of Santa Clara with the highest rates of chlamydia by neighborhood were closest to the Downtown San Jose area (Northside, Downtown, and University neighborhoods) in the City of San Jose (337.9 – 624.6 cases per 100,000 people). Higher rates in the downtown area may be due to a younger population and higher percentages of African American/Black and Hispanic/Latinx residents residing in these areas compared to the county as a whole¹. Higher rates were also observed in Gilroy (South Central, North Central and East Side Neighborhoods). Rates in the East Unincorporated area should be interpreted with caution due to small population size in this area (Map 1).

Map 1: Rates of Chlamydia by Neighborhood, County of Santa Clara, 2020



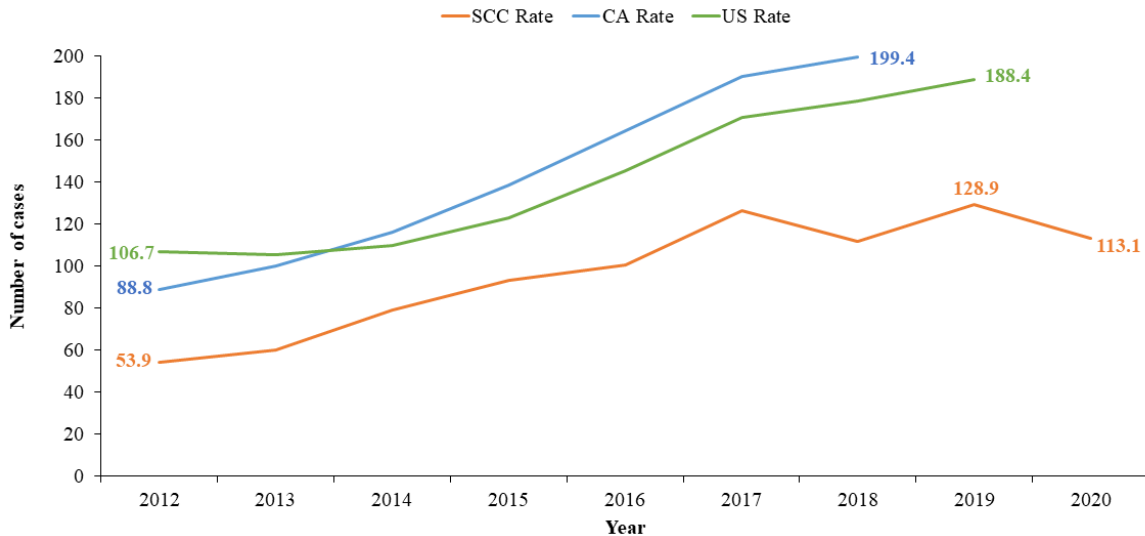
¹ Santa Clara County Public Health Department. Santa Clara County City and Small Area/Neighborhood Profiles: San Jose Downtown Profile 2016. 2016. <https://www.sccgov.org/sites/phd/hi/hd/Pages/san-jose.aspx>

II. Gonorrhea

General Trend Over Time

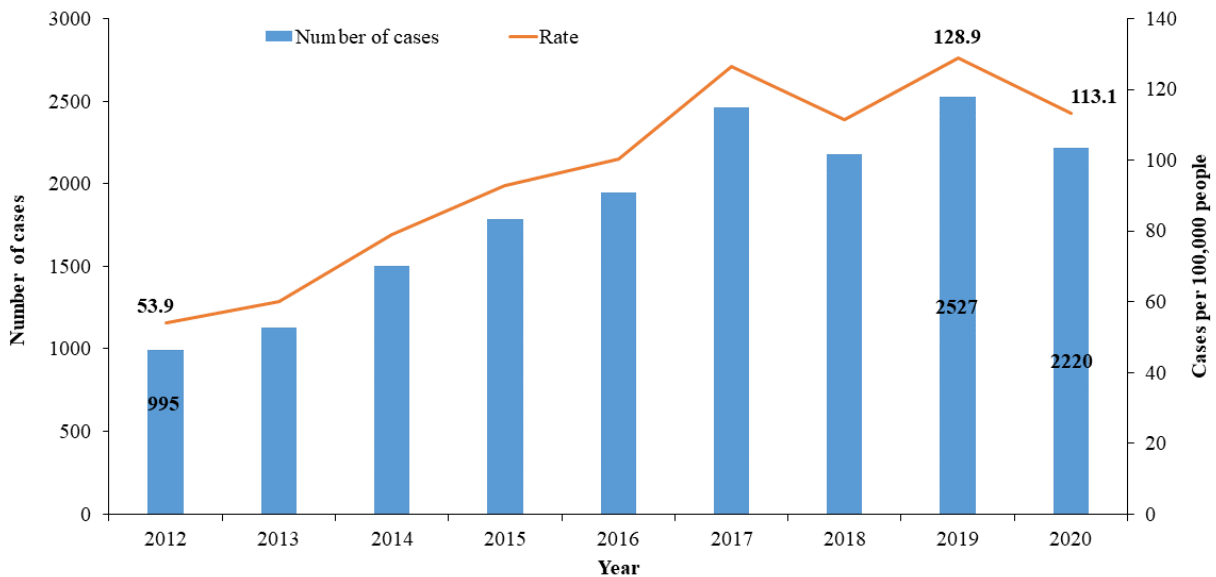
Gonorrhea was the second most frequently reported STI in the County of Santa Clara. From 2012 – 2019, rates of gonorrhea were lower in Santa Clara County, compared to California and the United States as a whole (Figure 13). Gonorrhea cases among all county residents more than doubled from 995 cases in 2012 to 2,527 cases in 2019, with a 12% decrease from 2019 to 2020. Gonorrhea rates among all county residents also more than doubled from 53.9 cases per 100,000 people in 2012 to 128.9 cases per 100,000 people in 2019, with a 12% decrease from 2019 to 2020 (Figure 14).

Figure 13: Gonorrhea rates, County of Santa Clara, California, and United States 2012 – 2020



Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010-2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021; 4. California Department of Public Health STD Control Branch. Sexually Transmitted Diseases Surveillance Report 2019; 5. Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2019. Atlanta: U.S. Department of Health and Human Services; 2021.

Figure 14: Gonorrhea case counts and rates, County of Santa Clara, 2012 – 2020

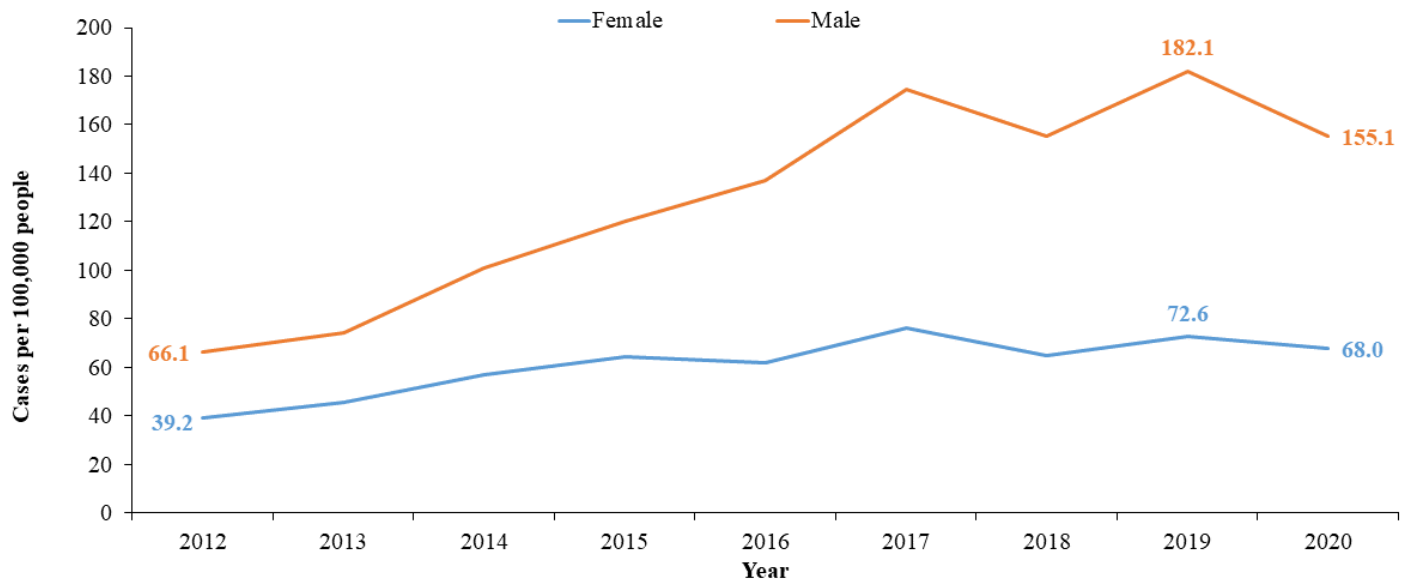


Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010-2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Gonorrhea and Gender*

Between 2012 and 2020, gonorrhea rates increased among both females and males, with a more rapid rise in cases among males. From 2012 to 2019, rate of gonorrhea cases among females nearly doubled while the rate among males nearly tripled. (Figure 15).

Figure 15: Gonorrhea case rates by gender*, County of Santa Clara, 2012 – 2020



*Gender variable name and categories are limited by how the California Department of Public Health is able to collect sexual orientation and gender identity (SOGI) data; Rates among transgender populations are not available due to small populations and undefined population denominators.

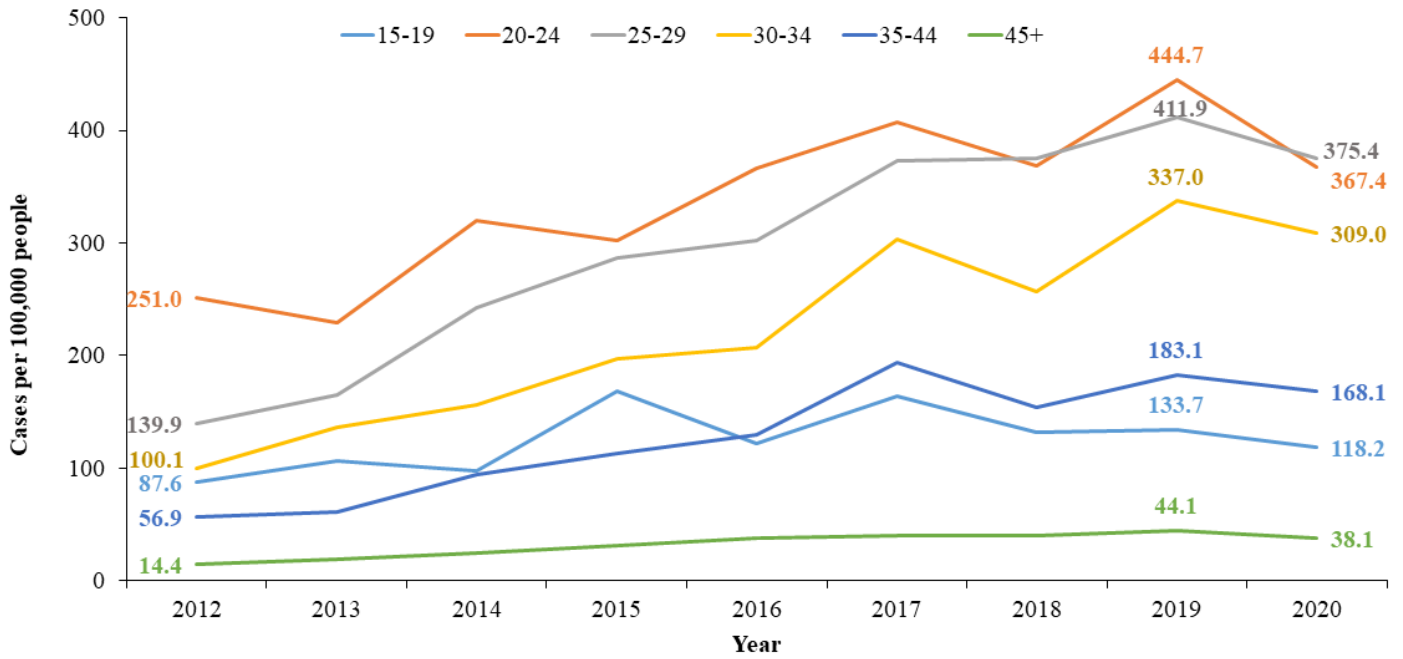
Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Gonorrhea and Age

From 2012-2019, gonorrhea rates increased across all age groups and was highest among people ages 20 to 24. In 2019, the rate of gonorrhea in the age group 20 to 24 was 444.7 cases per 100,000 people, more than 3 times the county average rate (128.9) and nearly doubled from 2012 (251.0). People ages 25 to 29 had the second highest rate of reported gonorrhea, nearly tripling from 139.9 cases per 100,000 people in 2012 to 411.9 cases per 100,000 in 2019 (Figure 16).

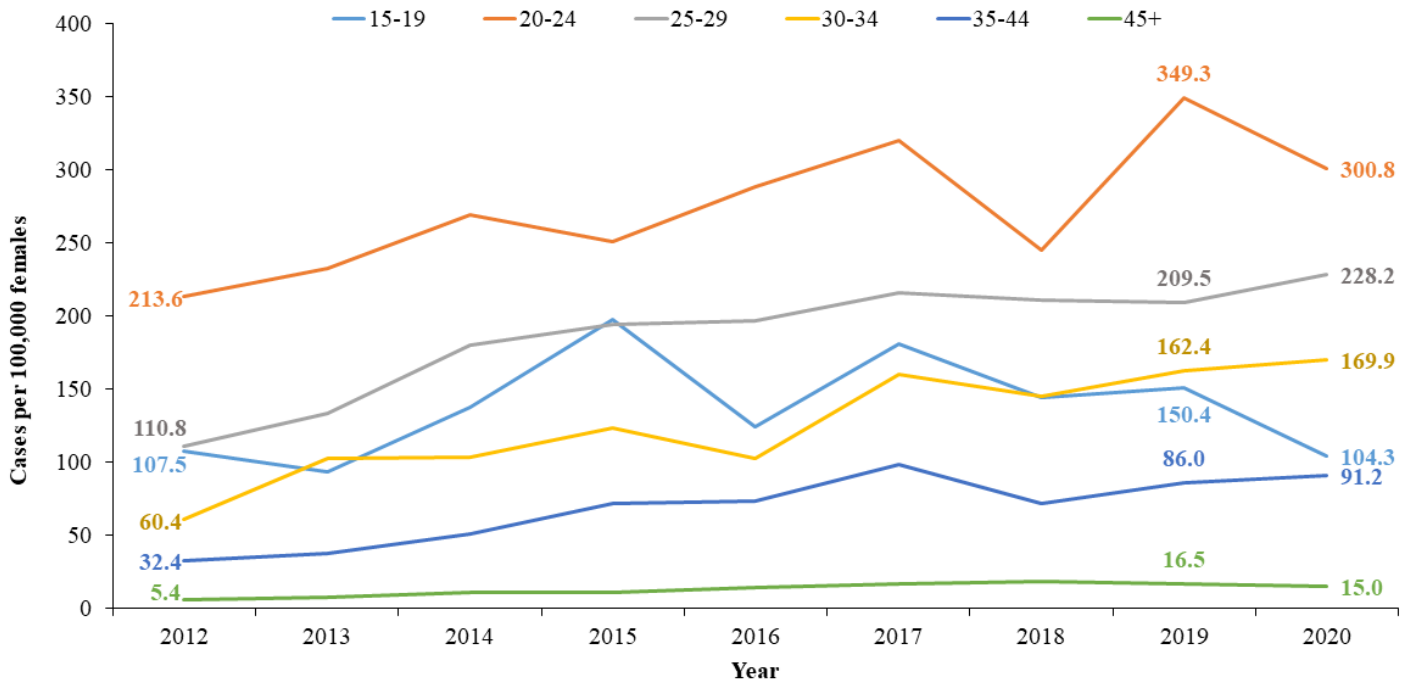
When stratified by sex, rates of gonorrhea over time increased from 2012 to 2019 among all age groups for both females and males, except females aged 15 – 19 (Figure 17 – 18). Males in age groups between 20 to 34 years had the highest rate of gonorrhea, nearly doubling the male average rate in 2019. An especially marked upsurge in gonorrhea rates was seen among males ages 25 to 29, among whom the rate increased more than three-fold from 161.9 cases per 100,000 people in 2012 to 591.8 cases in 2019. This increase in reported gonorrhea may be due to an increase in infections and/or a possible increase in screening for oral and rectal infections, especially among young MSM population. Among females in 2019 and 2020, the highest gonorrhea rates were among those ages 20 to 24 (349.3 and 300.8) and those ages 25 to 29 (209.5 and 228.2).

Figure 16: Gonorrhea case rates by selected age groups, County of Santa Clara, 2012 – 2020



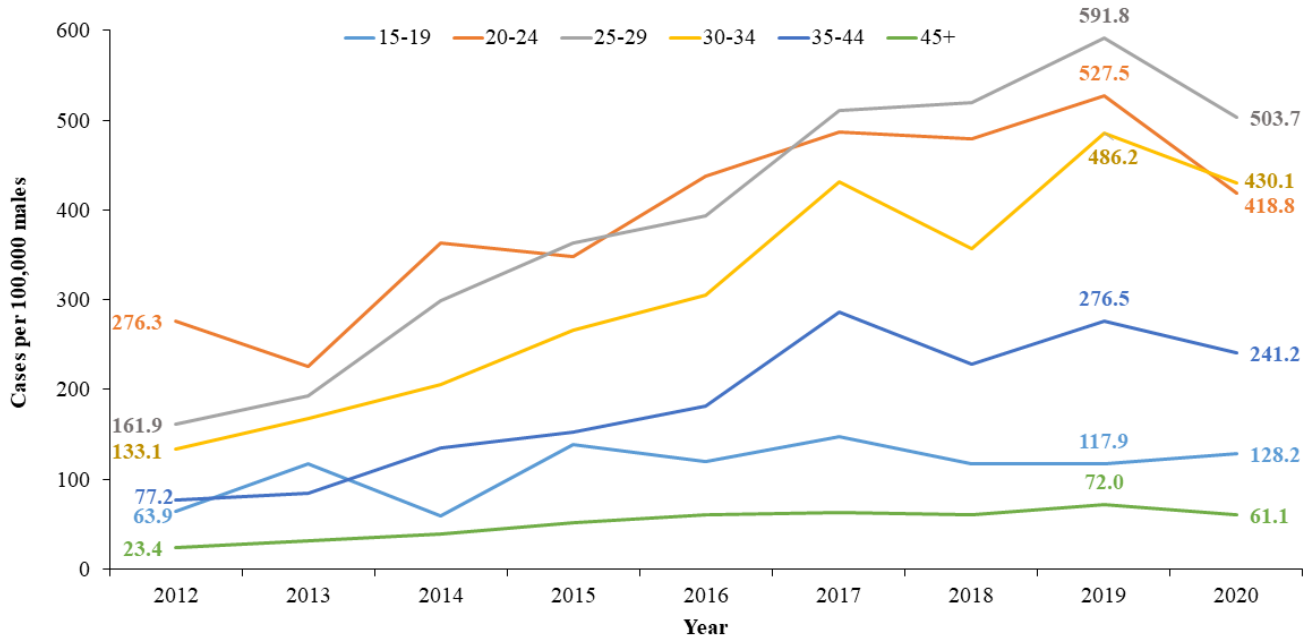
Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010-2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 17: Gonorrhea case rates among females by selected age groups, County of Santa Clara, 2012 – 2020



Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010-2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 18: Gonorrhea case rates among males by selected age groups, County of Santa Clara, 2012 – 2020



Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010-2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Gonorrhea and Race/Ethnicity

Due to large proportions of gonorrhea cases reported with unknown race or ethnicity, the race/ethnicity information were imputed (see Technical Notes) to obtain estimated numbers and rates of gonorrhea among each racial or ethnic group. These numbers are not absolute and are intended to help describe the magnitude of the epidemic in each subgroup compared to each other and to the county average.

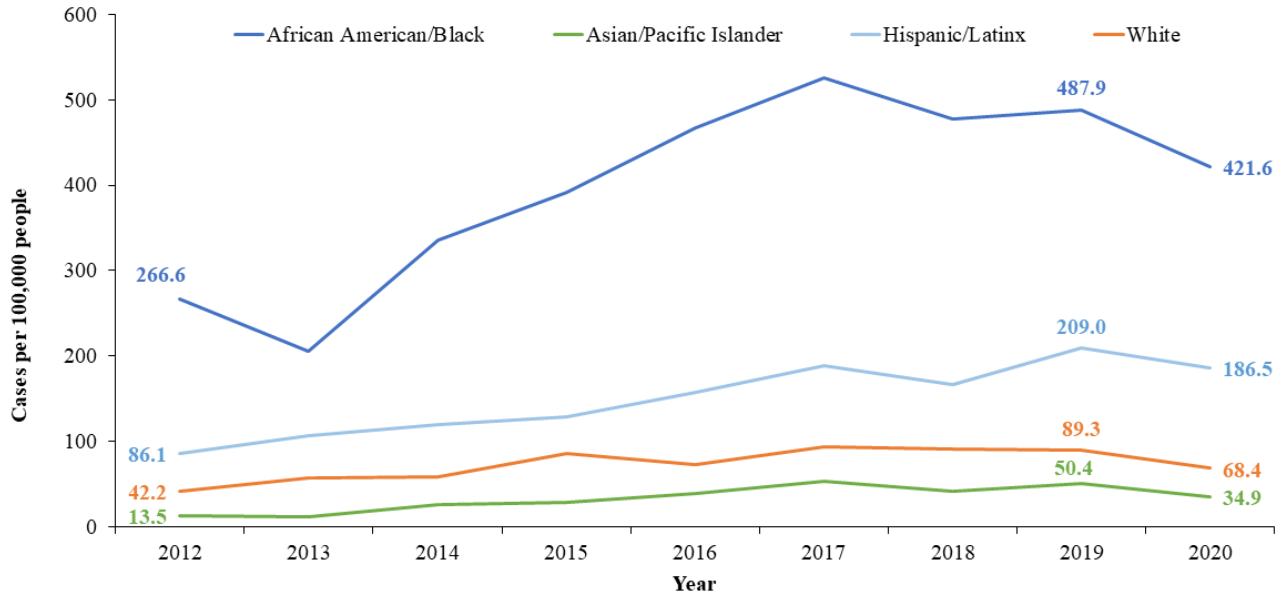
African American/Blacks had the highest rate of gonorrhea cases of all racial/ethnic groups (Figure 19). In 2019, the estimated gonorrhea rate among African American/Blacks (487.9 cases per 100,000 people) was over 2 times the rate among Hispanic/Latinx, over 5 times the rate among whites, and nearly 10 times the rate among Asian/Pacific Islanders. From 2012 – 2019, the rates of gonorrhea cases increased over time for all racial/ethnic groups, while the rate among African American/Blacks nearly doubled, and the rates among whites and Hispanic/Latinx more than doubling, and the rates among Asian/Pacific Islanders nearly quadrupling.

African American/Black females were most likely to experience gonorrhea among females of all racial/ethnic groups, followed by Hispanic/Latinx females (Figure 20). In 2019, the estimated rate of gonorrhea among African American/Black females was more than 4 times the female average rate, was nearly double the rate among Hispanic/Latinx females, over 5 times the rate among white females, and over 11 times the rate among Asian/Pacific Islander females. Similarly, African American/Black males had a higher estimated rate of gonorrhea than males in all other racial/ethnic groups. In 2019, the gonorrhea rate among African American/Black males was nearly 4 times the male average rate, nearly 3 times the rate among Hispanic/Latinx males, over 5 times the rate among white males, and nearly 9 times the rate among Asian/Pacific Islander males (Figure 21).

Figure 22 shows age-specific gonorrhea rates by race/ethnicity from 2012 to 2020. In 2020, young adults ages 20 to 29 had the highest rate of gonorrhea than any other age group, and this feature was consistently observed across

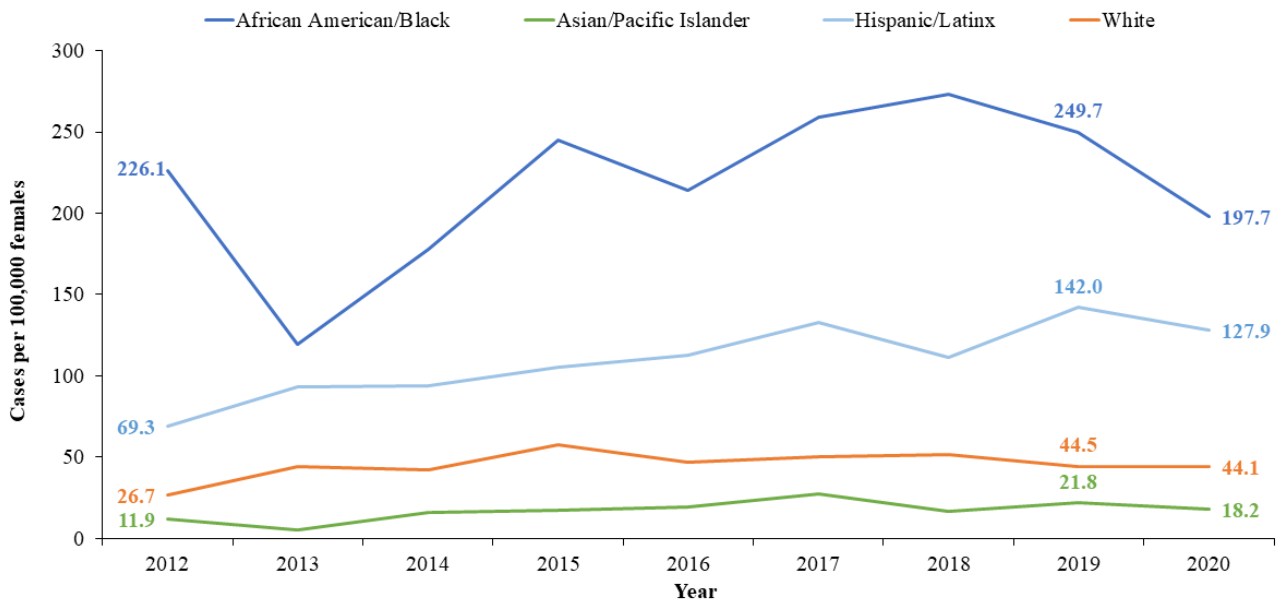
all racial/ethnic groups. African American/Blacks had the highest reported rate of gonorrhea reported in the county across all age groups among all racial/ethnic groups. Among African Americans/Blacks in 2019, the rates of gonorrhea among the oldest age group (35 to 44 years) was the lowest compared to all other age groups. From 2012 to 2019, gonorrhea rates in age groups older than 30 years continued to increase across all racial/ethnic groups.

Figure 19: Gonorrhea case rates by imputed race/ethnicity*, County of Santa Clara, 2012 – 2020



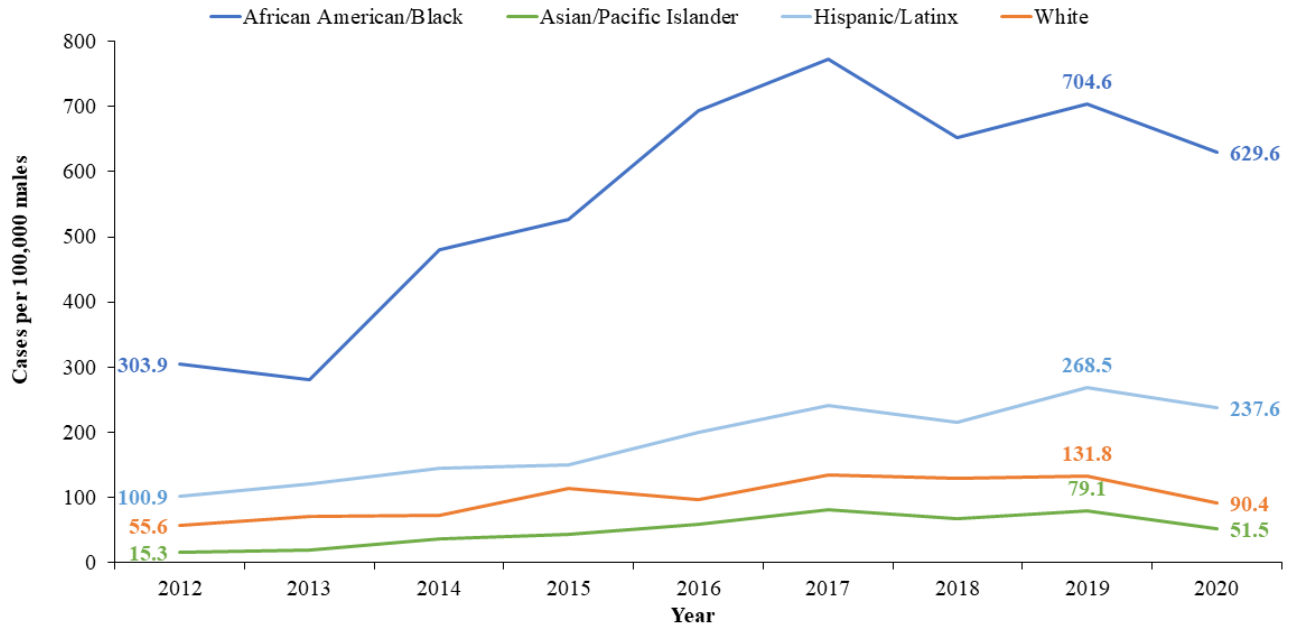
Due to large proportions of missing data on race/ethnicity, unknown race/ethnicity cases were redistributed based on the proportions of the known race/ethnicity distribution by age groups. Rates and counts based on imputed race/ethnicity should be interpreted with caution. Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 20: Gonorrhea case rates among females by imputed race/ethnicity*, County of Santa Clara, 2012 – 2020



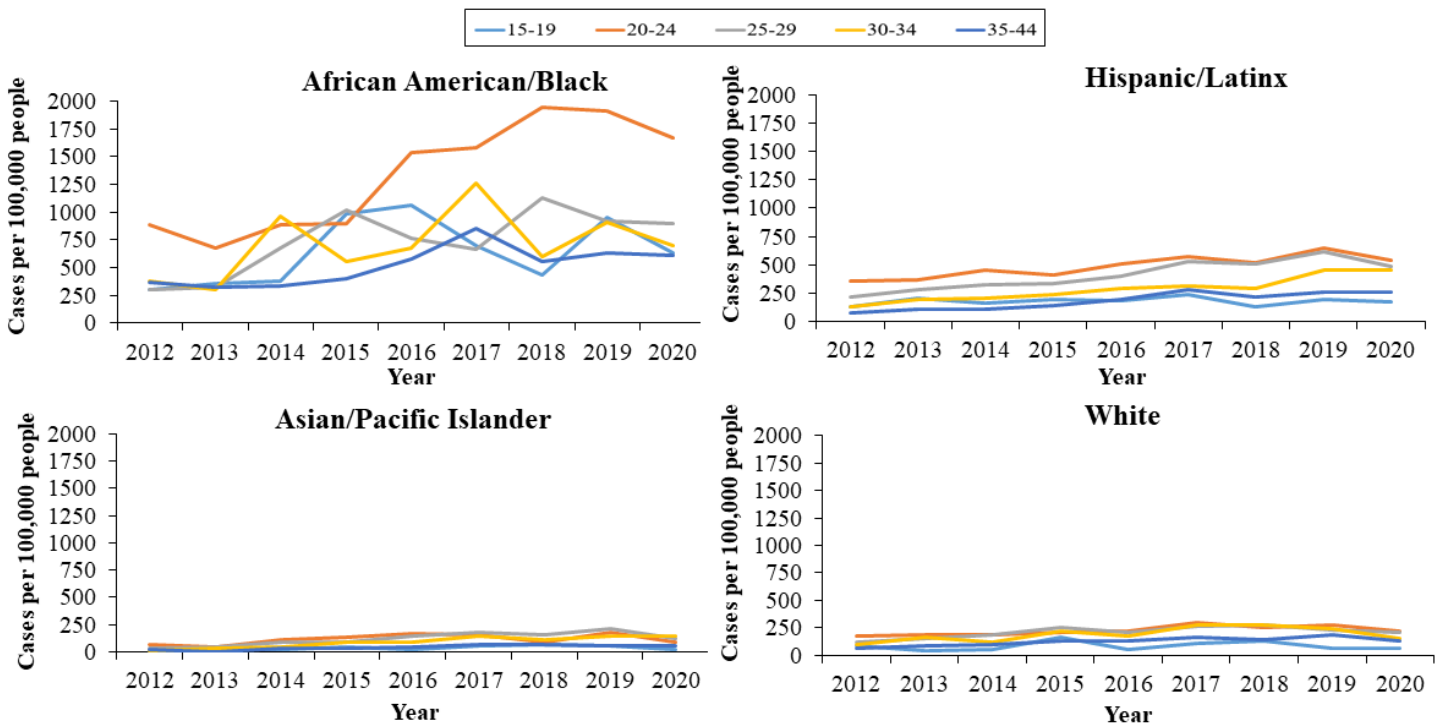
*Due to large proportions of missing data on race/ethnicity, unknown race/ethnicity cases were redistributed based on the proportions of the known race/ethnicity distribution by age groups. Rates and counts based on imputed race/ethnicity should be interpreted with caution. Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by

Figure 21: Gonorrhea case rates among males by imputed race/ethnicity*, County of Santa Clara, 2012 – 2020



*Due to large proportions of missing data on race/ethnicity, unknown race/ethnicity cases were redistributed based on the proportions of the known race/ethnicity distribution by age groups. Rates and counts based on imputed race/ethnicity should be interpreted with caution. Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010-2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 22: Gonorrhea case rates by imputed race/ethnicity* and selected age group, County of Santa Clara, 2012 – 2020

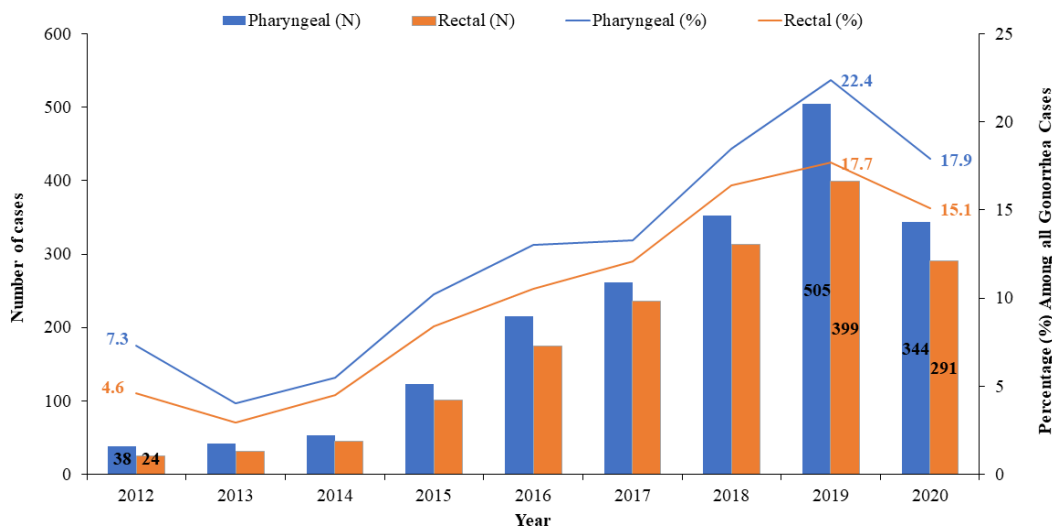


*Due to large proportions of missing data on race/ethnicity, unknown race/ethnicity cases were redistributed based on the proportions of the known race/ethnicity distribution by age groups. Rates and counts based on imputed race/ethnicity should be interpreted with caution. Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010-2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Gonorrhea and Rectal/Pharyngeal Infections

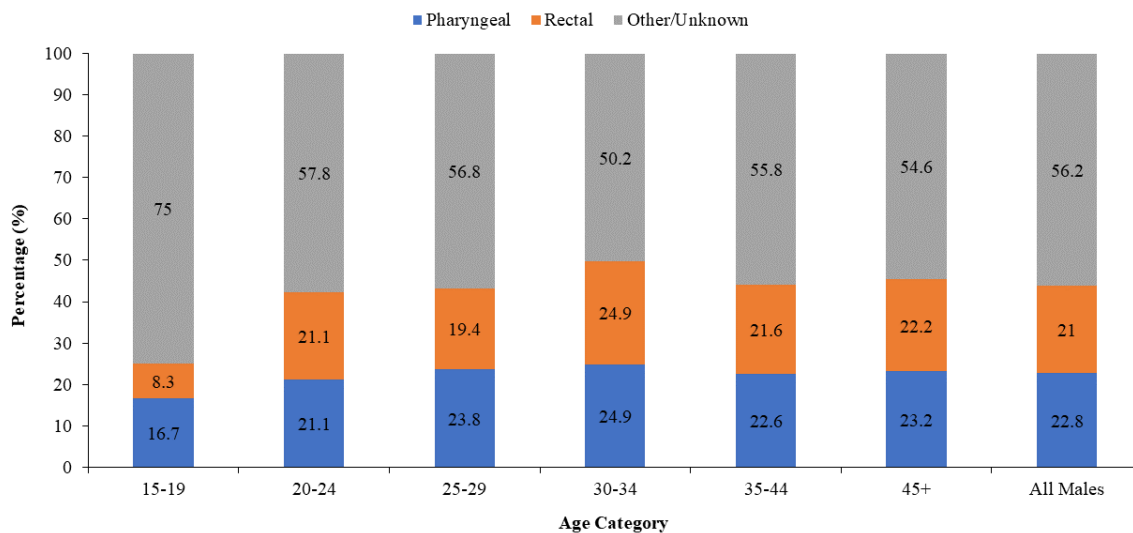
In 2019, 399 rectal gonorrhea and 505 pharyngeal gonorrhea cases were reported. In 2020, 291 rectal gonorrhea and 344 pharyngeal gonorrhea cases were reported. The majority of rectal and pharyngeal gonorrhea cases were male. The percentage of pharyngeal and rectal infections among gonorrhea cases had been increasing from 2012 - 2019, with the highest percentage of 22% and 18%, respectively, in 2019, but then decreased to 17.9% and 15.1%, respectively in 2020. Between 2012 and 2019, there was a thirteen-fold increase in the number of pharyngeal infections (38 to 505) and a seventeen-fold increase in the number of rectal infections (24 to 399) among gonorrhea cases (Figure 23). Among male gonorrhea cases, 21% were rectal infections and 23% were pharyngeal infections as reported in 2020 (Figure 24). The highest percentage of rectal (25%) and pharyngeal (25%) gonorrhea was reported among males ages 30 to 34 in 2020.

Figure 23: Number of cases and percentage of rectal/pharyngeal gonorrhea, County of Santa Clara, 2012 – 2020



Source: Santa Clara County Public Health Department, CalREDIE (2012-2020), data are provisional as of July 2, 2021.

Figure 24: Percentage of rectal and pharyngeal gonorrhea among males* by selected age group, County of Santa Clara, 2020



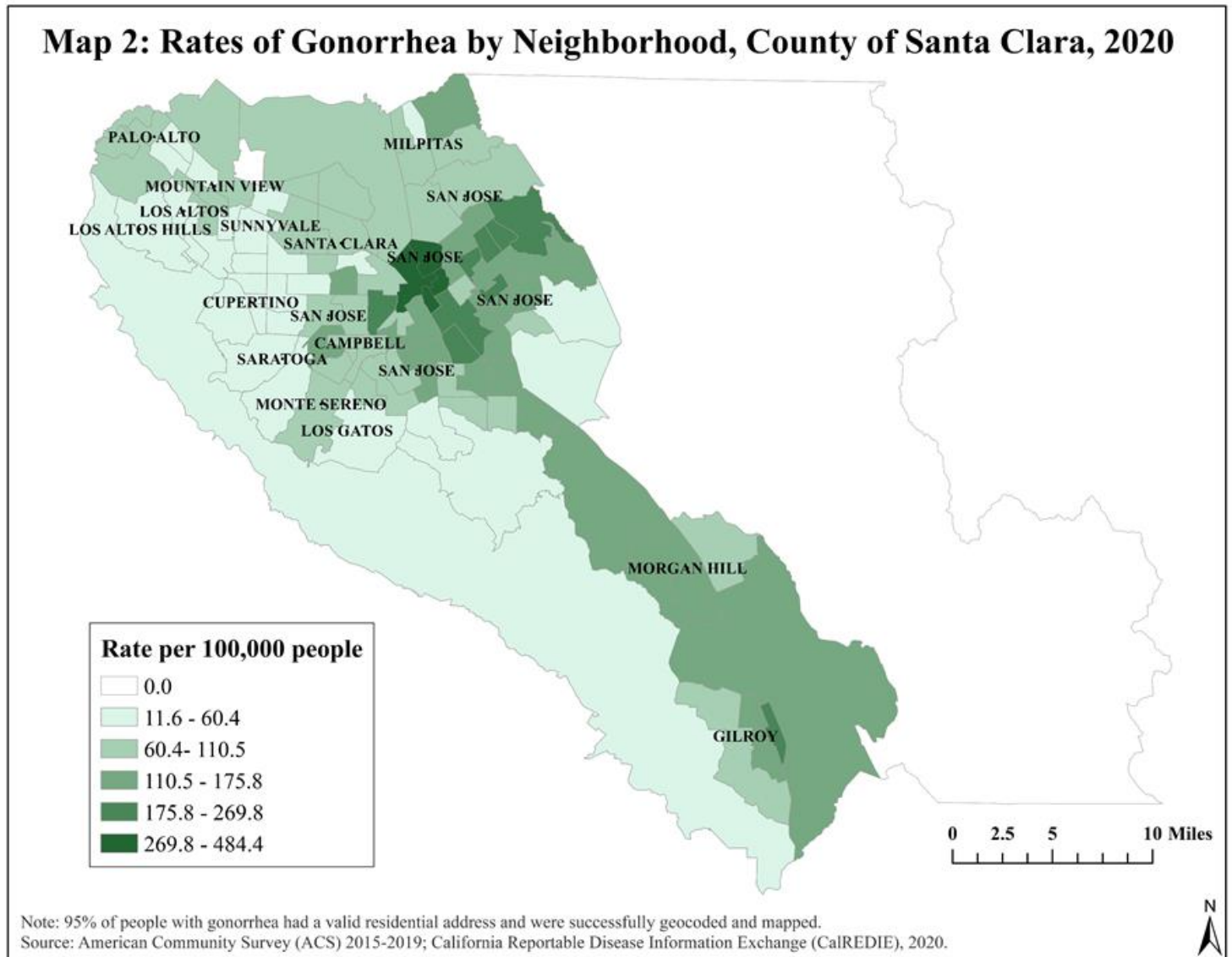
Source: Santa Clara County Public Health Department, CalREDIE (2020), data are provisional as of July 2, 2021

*Due to large numbers of missing rectal and pharyngeal testing data among females, analyses are only available among males. This may be in part due to the US Centers for Disease Control and Prevention (CDC) recommendation for regular rectal and pharyngeal screening for chlamydia and gonorrhea among men who have sex with men (MSM). For context, overall rectal and pharyngeal gonorrhea rates are 1.2% and 5.5% among females respectively, and 21% and 22.8% among males respectively.

Gonorrhea and Geographic Distribution

Geographic areas of the County of Santa Clara with the highest rates of gonorrhea by neighborhood were closest to the Downtown San Jose, San Jose North Side and University neighborhoods area in the City of San Jose (269.8 to 484.4 cases per 100,000 people). Rates may be highest in this area due to a younger population and a higher percentage of African American/Black and Hispanic/Latinx residents residing in these areas compared to the county overall². Higher rates of gonorrhea were also reported in Gilroy (South Central and North Central) area in southern County (Map 2).

Map 2: Rates of Gonorrhea by Neighborhood, County of Santa Clara, 2020



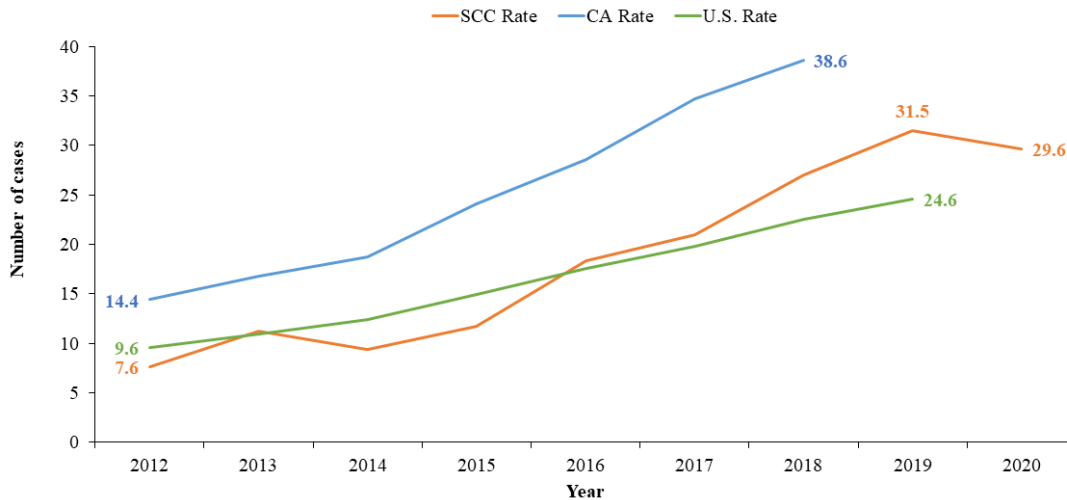
² Santa Clara County Public Health Department. Santa Clara County City and Small Area/Neighborhood Profiles: San Jose Downtown Profile 2016. 2016. <https://www.sccgov.org/sites/phd/hi/hd/Pages/san-jose.aspx>

III. Early Syphilis

General Trend Over Time

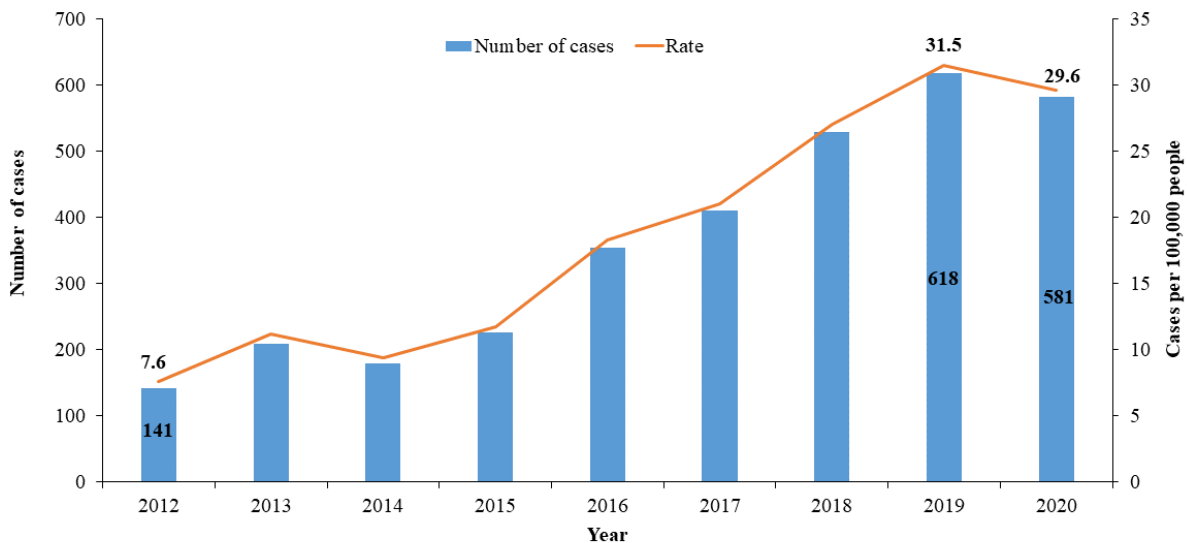
Early syphilis refers to primary, secondary, or early non-primary, non-secondary syphilis in this report. From 2012 – 2019, rates of early syphilis were lower in Santa Clara County compared to California but fluctuated above and below the United States average (Figure 25). Although early syphilis has been less frequently reported than chlamydia and gonorrhea, there has been a similarly increasing trend in reported cases of early syphilis over time. In 2019, 618 cases of early syphilis were reported in the County of Santa Clara at a rate of 31.5 cases per 100,000 people. From 2012 to 2019, the number and rate of early syphilis cases more than quadrupled, with steep increases in the number of early syphilis cases every year since 2014. From 2019 to 2020, the number of cases and rate decreased by 6% (Figure 26).

Figure 25: Early syphilis rates, County of Santa Clara, California, and United States 2012 – 2020



Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010-2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021; 4. California Department of Public Health STD Control Branch. Sexually Transmitted Diseases Surveillance Report 2019; 5. Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2019. Atlanta: U.S. Department of Health and Human Services; 2021.

Figure 26: Early syphilis case counts and rates, County of Santa Clara, 2012 – 2020

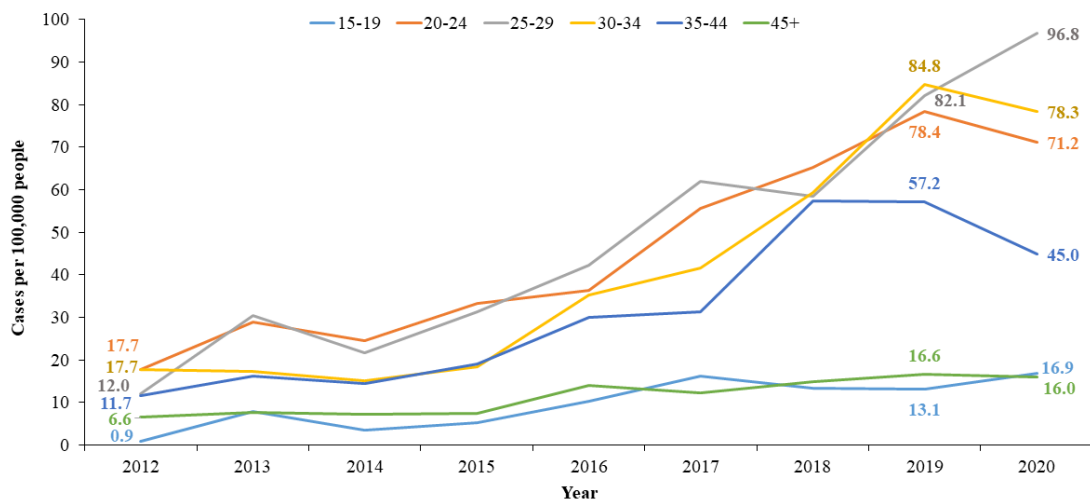


Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010-2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Early Syphilis and Age

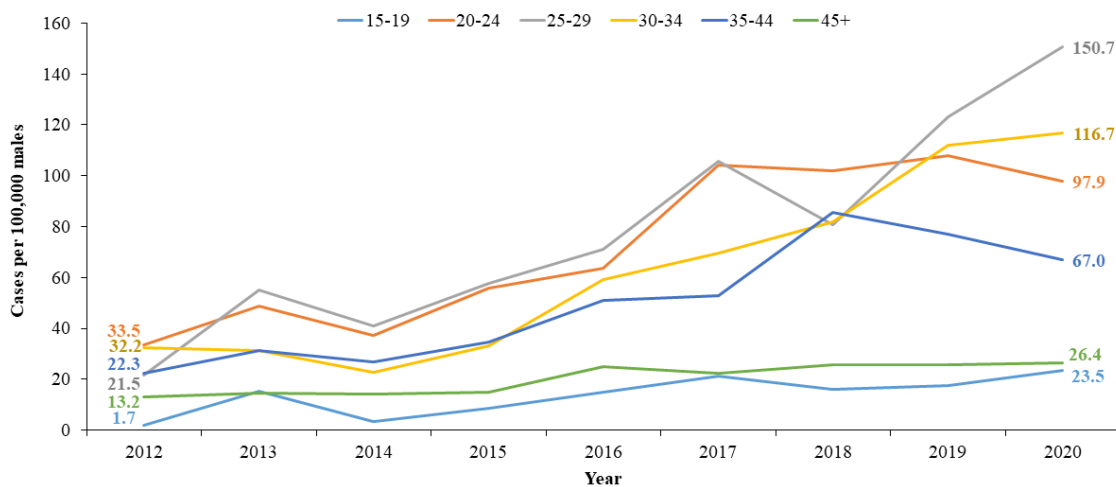
In 2019 and 2020, adults ages 25 to 34 were most likely to have early syphilis compared to other age groups. In 2020, adults ages 25 to 29 had a rate of 96.8 cases per 100,000 people, which was over three times the county average rate (29.6). In 2019 and 2020, all age groups between 20 to 44 years had rates of syphilis greater than the county average (Figure 27). In contrast, the youngest (15 to 19 years) and oldest (45 years and above) age groups had rates of syphilis lower than the county average. Age distribution among male early syphilis cases mirrored the age distribution for the county. In 2020, males between the ages 25 to 29 and 30 to 34 had the highest rates at 150.7 and 116.7 respectively. Adult males in age groups between 20 to 44 years had early syphilis rates greater than the average rate for males (45.5) in the county in 2020. Males ages 45 and older and males ages 15 to 19 were less likely to be diagnosed with early syphilis compared to other age groups and had early syphilis rates below the male average rate for the county in 2020 (Figure 28). Notably, since 2016 the rise in the early syphilis rate in the age group 25 to 29 years outpaced all other age groups (Figures 27-28).

Figure 27: Early syphilis case rates by selected age group, County of Santa Clara, 2012 – 2020



Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010-2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 28: Early syphilis rates among males by selected age group, County of Santa Clara, 2012 – 2020



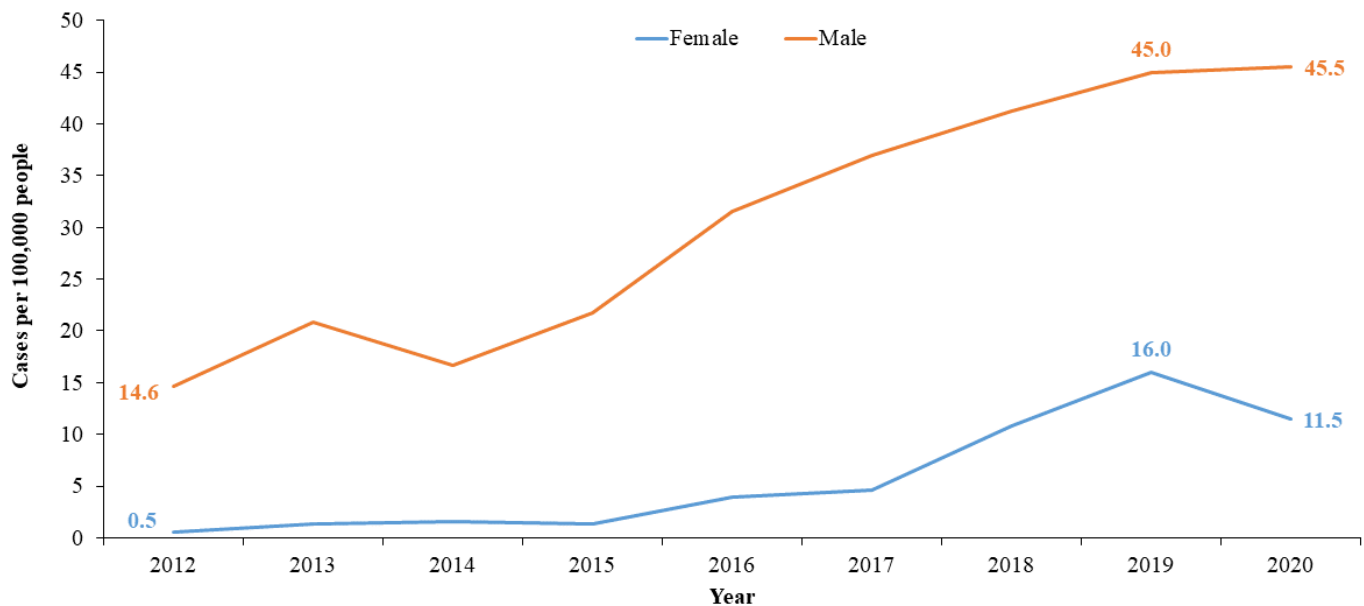
*Early syphilis cases include primary, secondary, and early latent syphilis. Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010-2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Early Syphilis by Gender* and Sexual Behavior

Males were more frequently diagnosed with early syphilis than females. In 2019 and 2020, the rate of early syphilis among males was nearly three and nearly four times, respectively, the rate among females (Figure 29). Between 2012 and 2019, the rates of early syphilis increased for both males and females, over tripling among males, and over thirty-fold increase among females.

Early syphilis cases in the County of Santa Clara were most frequently reported among MSM (Figure 30). This trend continued into 2020, however the overall share of all early syphilis cases that was among MSM decreased from 78% in 2012 to 49% in 2020. Simultaneously, the percentage of early syphilis cases among females more than quadrupled from 4% in 2012 to 20% in 2020. The share of early syphilis cases among men who have sex exclusively with women (MSW) also increased during the same period from 6% in 2012 to 17% in 2020. Amid ongoing changes in the distribution of early syphilis cases by reported gender and sexual behavior, it is important to note that the number and overall percentage of male early syphilis cases where information on sexual behavior was missing or unknown (MSUnknown) increased from 12% in 2012 to 15% in 2020. This change is likely attributable to a shift in the department’s disease investigation practice to interview fewer male cases in order to prioritize female cases at risk for syphilis during pregnancy.

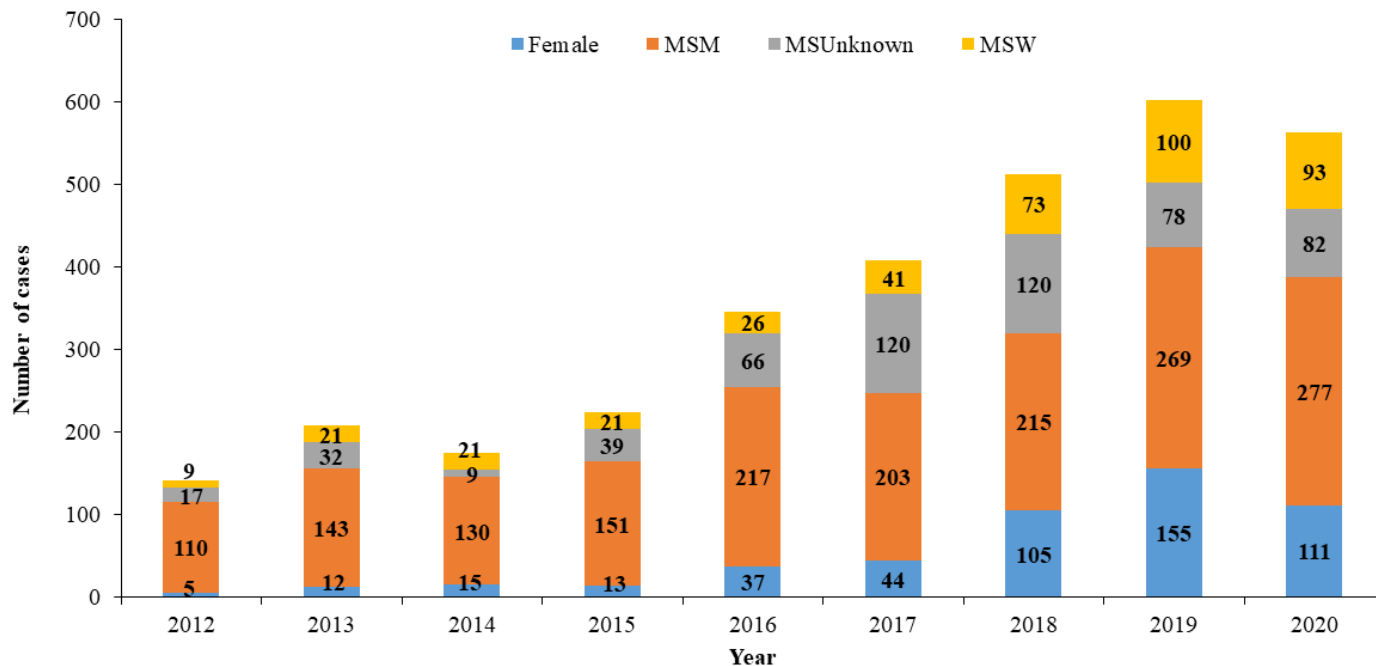
Figure 29: Early syphilis case rates by gender*, County of Santa Clara, 2012 – 2020



*Gender variable name and categories are limited by how the California Department of Public Health is able to collect sexual orientation and gender identity (SOGI) data; Rates among transgender populations are not available due to small populations and undefined population denominators.

Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 30: Number of early syphilis cases by gender* and sexual behavior, County of Santa Clara, 2012 – 2020



*Gender variable name and categories are limited by how the California Department of Public Health is able to collect sexual orientation and gender identity (SOGI) data; Rates among transgender populations are not available due to small populations and undefined population denominators.
 Source: Santa Clara County Public Health Department, CalREDIE (2012-2020), data are provisional as of July 2, 2021.

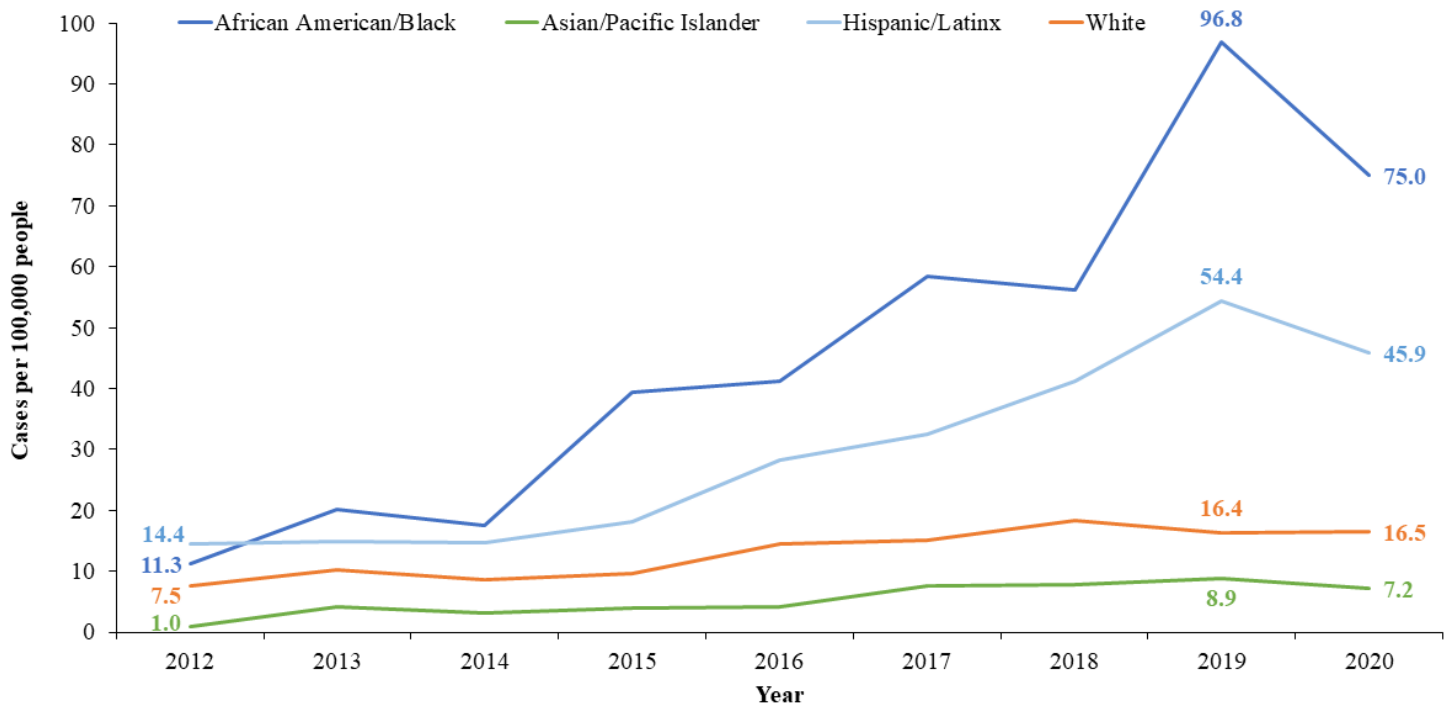
Early Syphilis and Race/ethnicity

Rates of early syphilis varied by race/ethnicity, with African American/Blacks most frequently diagnosed with early syphilis, followed by Hispanic/Latinx residents. From 2012 to 2019, there was an over eight-fold increase among African Americans/Blacks, over a four-fold increase among Hispanic/Latin, over a two-fold increase among whites, and nearly a nine-fold increase among Asian/Pacific Islanders. In 2019, the rate among African American/Blacks (96.8 cases per 100,000 people) was more than triple the county average rate (31.5), and nearly six times the rate among whites (16.4). Similarly, early syphilis rates among Hispanic/Latinx residents (54.4) of the county was nearly double the county average rate, and more than triple the rate among whites (Figure 31).

African American/Black males had the highest rate of early syphilis compared to males of all other racial/ethnic groups in the county (Figure 32). In 2020, the rate of early syphilis cases among African American/Black males was nearly three times the male average rate, nearly double the rate among Hispanic/Latinx males, over five times the rate among white males, and over ten times the rate among Asian/Pacific Islander males.

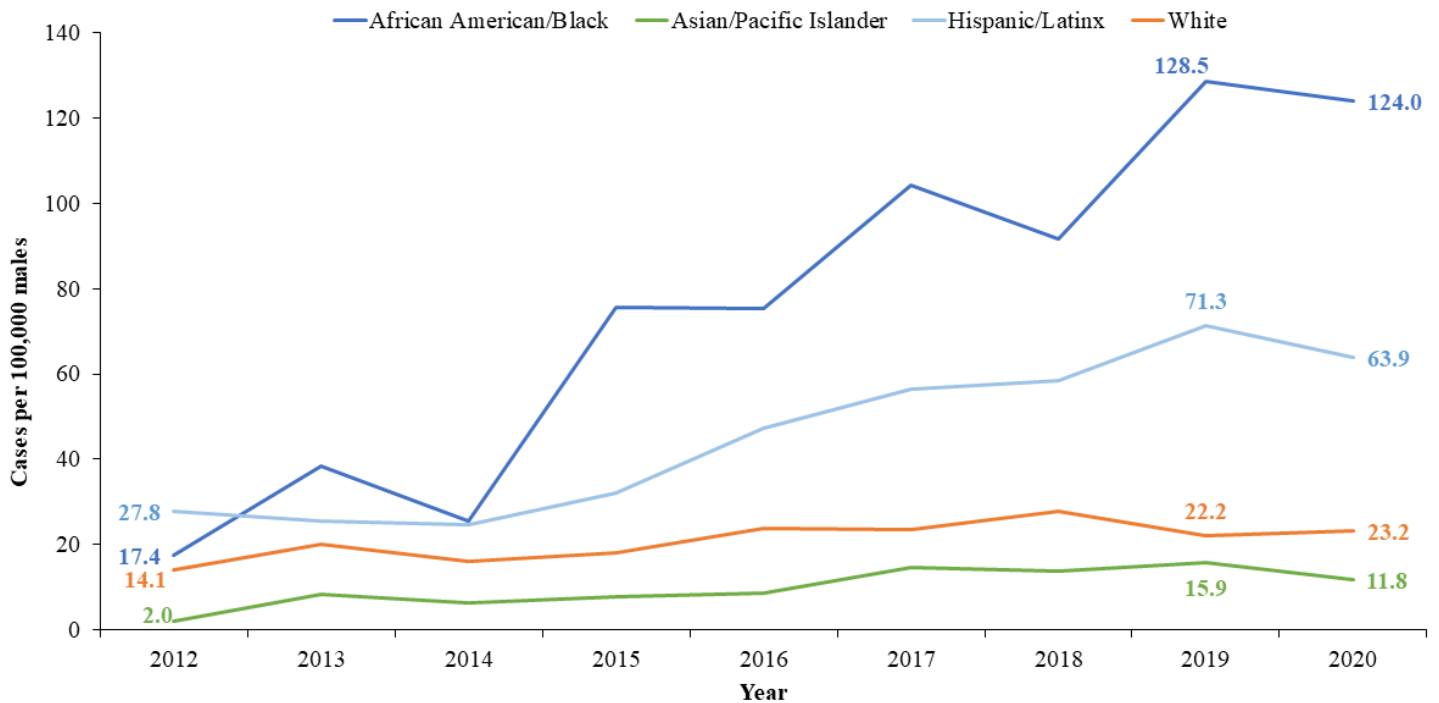
Generally, rates of early syphilis cases among females were lower than the rates among males. From 2012 to 2019, the rates of early syphilis increased from 0.4 to 32.1 cases per 100,000 females among Hispanic/Latinx and increased from 0.6 to 10.2 cases per 100,000 females among white females in the county (Figure 33). Rates of early syphilis among African American/Black females and Asian and Pacific Islander females were unstable due to small sample sizes and have not been presented here.

Figure 31: Early syphilis case rates by race/ethnicity, County of Santa Clara, 2012 – 2020



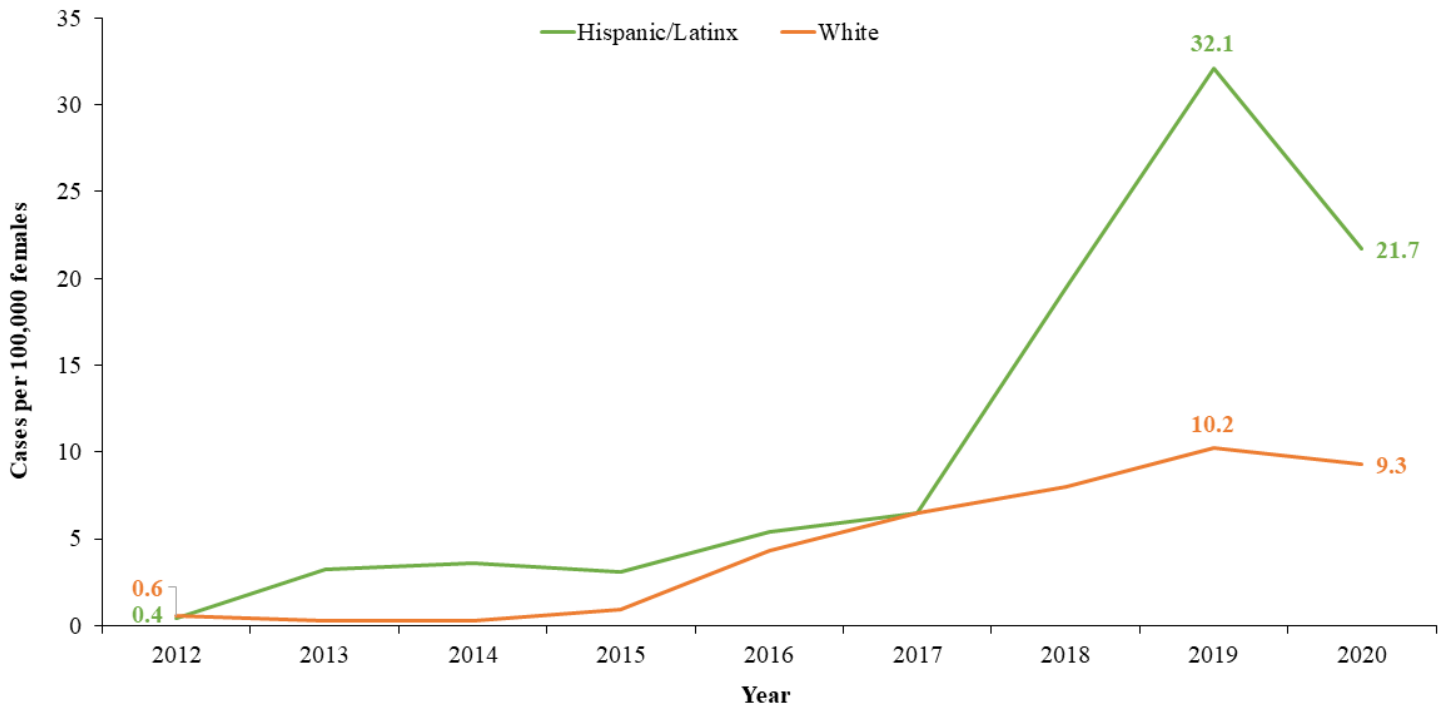
Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 32: Early syphilis rates among males by race/ethnicity, County of Santa Clara, 2012 – 2020



Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 33: Early syphilis rates among females by race/ethnicity*, County of Santa Clara, 2012 – 2020

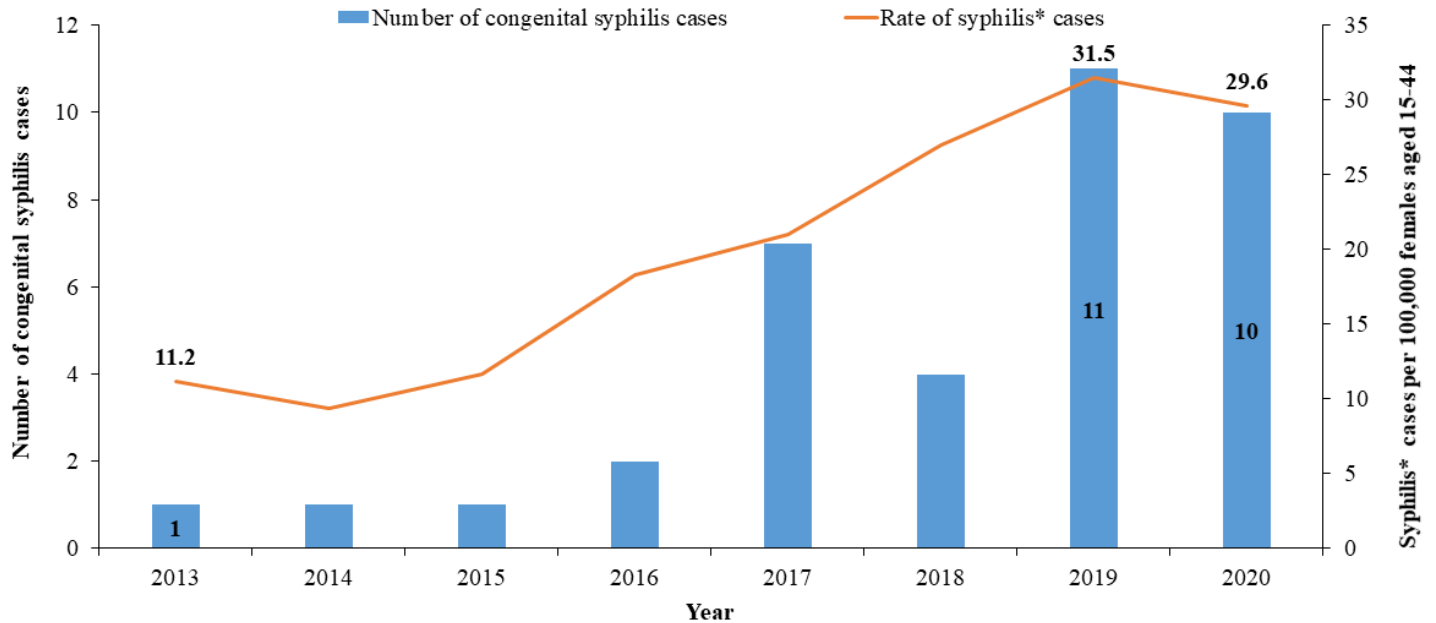


*Rates of early syphilis among African American and Asian/Pacific Islander females were unstable due to small sample sizes and have not been presented here.
 Source: 1. Santa Clara County Public Health Department, AVSS (2010-2011), CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Congenital and Pregnant Syphilis Cases

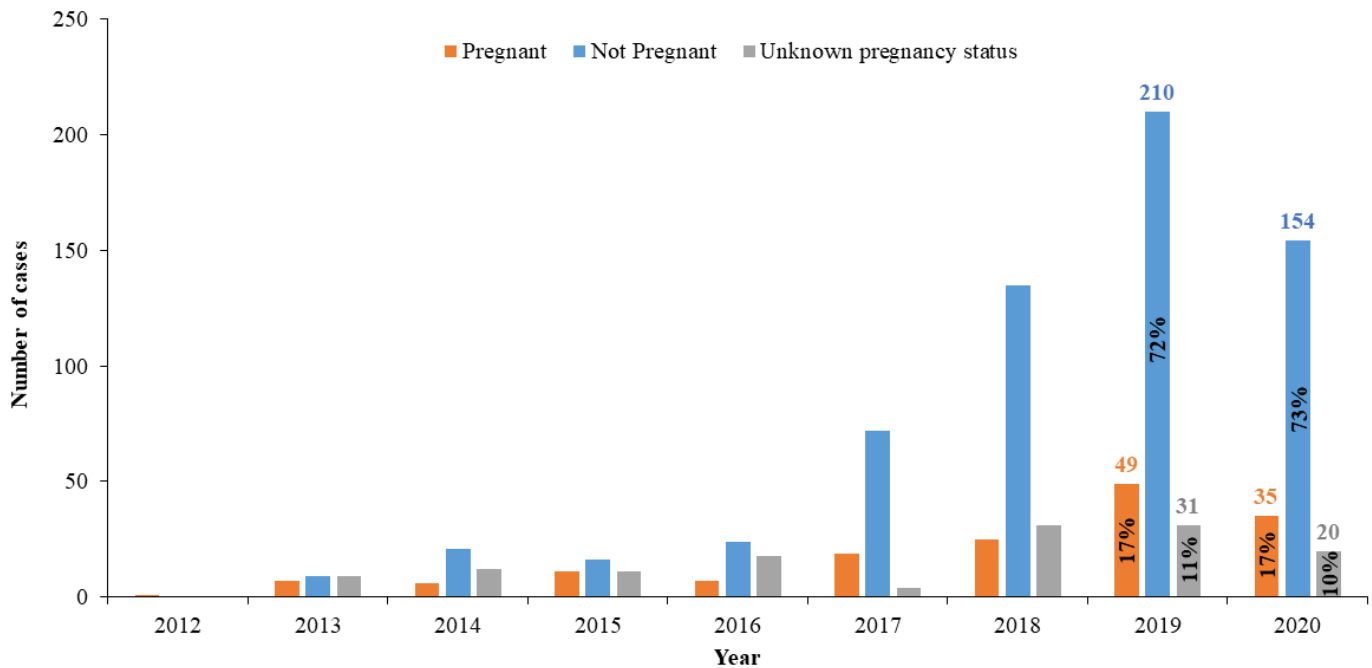
In 2020, 10 congenital syphilis cases were reported in the County of Santa Clara, which was lower than 2019 (11 cases) but still higher than years from 2013 – 2016 for which only 1 or 2 cases were reported annually. Notably, the rate of syphilis (all stages) and pregnant syphilis cases among women of reproductive age (15 – 44 years) continued to increase in 2019 compared to 2018, but then decreased by one case in 2020. Between 2013 and 2020, the rate of syphilis cases of all stages among women of reproductive age nearly tripled from 11.2 cases per 100,000 women of reproductive age in 2013 to 29.6 in 2020 (Figure 34). In 2020, 35 out of 209 (17%) female syphilis cases (all stages) of reproductive age (15 – 44 years) who had valid information of their pregnancy status were pregnant at the time of their syphilis diagnosis (Figure 35). Between 2012 and 2020, 160 female syphilis cases of reproductive age were known to be pregnant at the time of diagnosis and nearly three-quarters (72%) were late stage or of unknown duration (Figure 36).

Figure 34: Number of congenital syphilis cases and rate of syphilis* among women of reproductive age (15 – 44 years), County of Santa Clara, 2013 – 2020



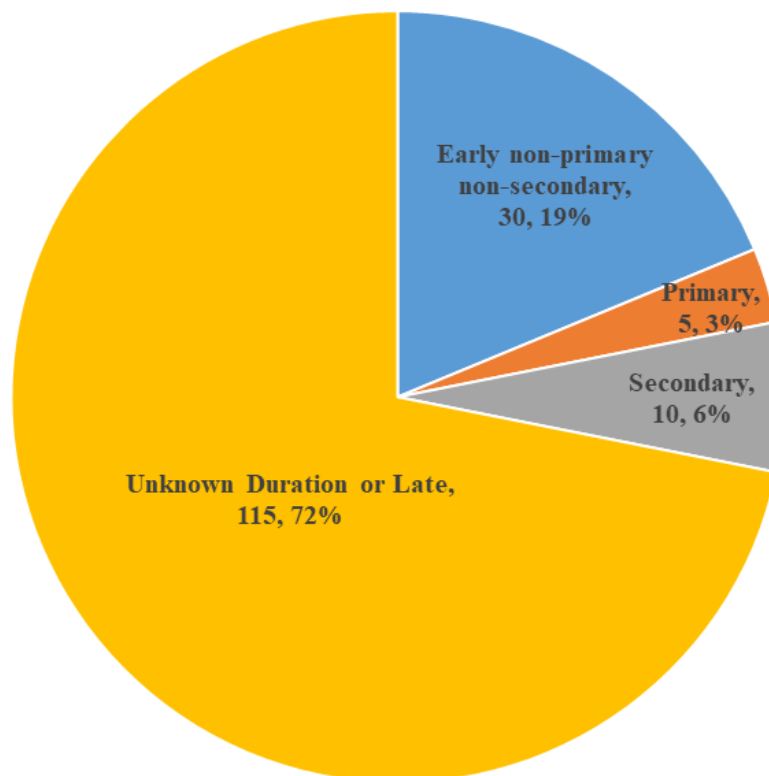
*Syphilis cases include both early syphilis (primary, secondary, and early non-primary non-secondary syphilis) and late or unknown duration syphilis. Source: 1. Santa Clara County Public Health Department, CalREDIE (2012-2020), data are provisional as of July 2, 2021; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021

Figure 35: Syphilis* cases among women of reproductive age (15–44 years) by pregnancy status, County of Santa Clara, 2012 – 2020



*Syphilis includes both early syphilis (primary, secondary, and early non-primary non-secondary syphilis), late syphilis, and syphilis of unknown duration. Source: Santa Clara County Public Health Department, CalREDIE (2012-2020), data are provisional as of July 2, 2021.

Figure 36: Pregnant syphilis* cases by disease stages, County of Santa Clara, 2012 – 2020



*Syphilis includes both early syphilis (primary, secondary, and early non-primary non-secondary syphilis), late syphilis, and syphilis of unknown duration. Source: Santa Clara County Public Health Department, CalREDIE (2012-2020), data are provisional as of July 2, 2021.

Syphilis and Substance Use

Substance use is associated with sexual behaviors that may raise the risk of syphilis infections^{3,4,5}. In the County of Santa Clara, a follow-up interview is conducted among priority syphilis cases to collect additional information on relevant risk factors, including substance use. Inclusion criteria for follow-up interviews are determined based on program priorities including factors such as case volume and staff availability. Until recently, primary and secondary syphilis cases were prioritized for follow-up interviews. Since late 2018, syphilis cases (all stages) among women of reproductive age (15 to 44 years) are the primary group that are prioritized for follow-up interviews. Methamphetamines and marijuana were the most commonly reported substances used by patients who completed the follow-up interviews. In 2020, nearly a third (29%) of early syphilis cases in the county who were interviewed reported methamphetamine use, a risk factor associated with syphilis including congenital syphilis⁵.

³ Feaster DJ, Parish CL, Gooden L, et al. Substance use and STI acquisition: Secondary analysis from the AWARE study. *Drug Alcohol Depend.* 2016;169:171–179. doi:10.1016/j.drugalcdep.2016.10.027.

⁴ Wu LT, Ringwalt CL, Patkar AA, Hubbard RL, Blazer DG. Association of MDMA/ecstasy and other substance use with self-reported sexually transmitted diseases among college-aged adults: a national study. *Public Health.* 2009;123(8):557–564. doi:10.1016/j.puhe.2009.06.012.

⁵ Kidd SE, Grey JA, Torrone EA, Weinstock HS. Increased Methamphetamine, Injection Drug, and Heroin Use Among Women and Heterosexual Men with Primary and Secondary Syphilis — United States, 2013–2017. *MMWR Morb Mortal Wkly Rep* 2019;68:144–148. DOI: <http://dx.doi.org/10.15585/mmwr.mm6806a4>.

Table 1: Number and percentage* of early syphilis cases who reported substance use, County of Santa Clara, 2012 – 2020

| Substance | | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|--------------------------------|----------|------|------|------|------|------|------|------|------|------|
| Cocaine | <i>n</i> | 3 | 5 | 3 | 10 | 7 | 8 | 4 | 3 | 0 |
| | <i>N</i> | 134 | 127 | 151 | 160 | 242 | 148 | 80 | 73 | 65 |
| | % | 2.2 | 3.9 | 2.0 | 6.3 | 2.9 | 5.4 | 5.0 | 4.1 | 0.0 |
| Crack | <i>n</i> | 0 | 0 | 3 | 1 | 2 | 1 | 1 | 0 | 0 |
| | <i>N</i> | 134 | 125 | 150 | 160 | 241 | 145 | 79 | 73 | 65 |
| | % | 0.0 | 0.0 | 2.0 | 0.6 | 0.8 | 0.7 | 1.3 | 0.0 | 0.0 |
| Heroin | <i>n</i> | 0 | 1 | 0 | 4 | 2 | 5 | 3 | 8 | 2 |
| | <i>N</i> | 134 | 125 | 151 | 160 | 241 | 145 | 79 | 74 | 65 |
| | % | 0.0 | 0.8 | 0.0 | 2.5 | 0.8 | 3.5 | 3.8 | 10.8 | 3.1 |
| Methamphetamine | <i>n</i> | 23 | 31 | 25 | 26 | 45 | 37 | 25 | 43 | 19 |
| | <i>N</i> | 134 | 136 | 152 | 160 | 245 | 152 | 86 | 79 | 66 |
| | % | 17.2 | 22.8 | 16.5 | 16.3 | 18.4 | 24.3 | 29.1 | 54.4 | 28.8 |
| Marijuana | <i>n</i> | - | 32 | 26 | 40 | 46 | 28 | 21 | 21 | 16 |
| | <i>N</i> | - | 139 | 151 | 162 | 241 | 149 | 85 | 74 | 66 |
| | % | - | 23.0 | 17.2 | 24.7 | 19.1 | 18.8 | 24.7 | 28.4 | 24.2 |
| Injection Drug Use | <i>n</i> | - | 9 | 3 | 4 | 9 | 10 | 3 | 4 | 3 |
| | <i>N</i> | - | 36 | 28 | 28 | 58 | 37 | 20 | 33 | 16 |
| | % | - | 25.0 | 10.7 | 14.3 | 15.5 | 27.0 | 15.0 | 12.1 | 18.8 |
| Other Drugs[§] | <i>n</i> | 4 | 10 | 6 | 16 | 13 | 9 | 3 | 2 | 1 |
| | <i>N</i> | 134 | 127 | 149 | 158 | 242 | 144 | 76 | 70 | 64 |
| | % | 3.0 | 7.9 | 4.0 | 10.1 | 5.4 | 6.3 | 4.0 | 2.9 | 1.6 |

*Denominators of all percentages were number of early syphilis cases who completed the follow up interview and provided valid information regarding their substance use status; data may be under-representative due to changes in inclusion criteria for follow-up interview over time.

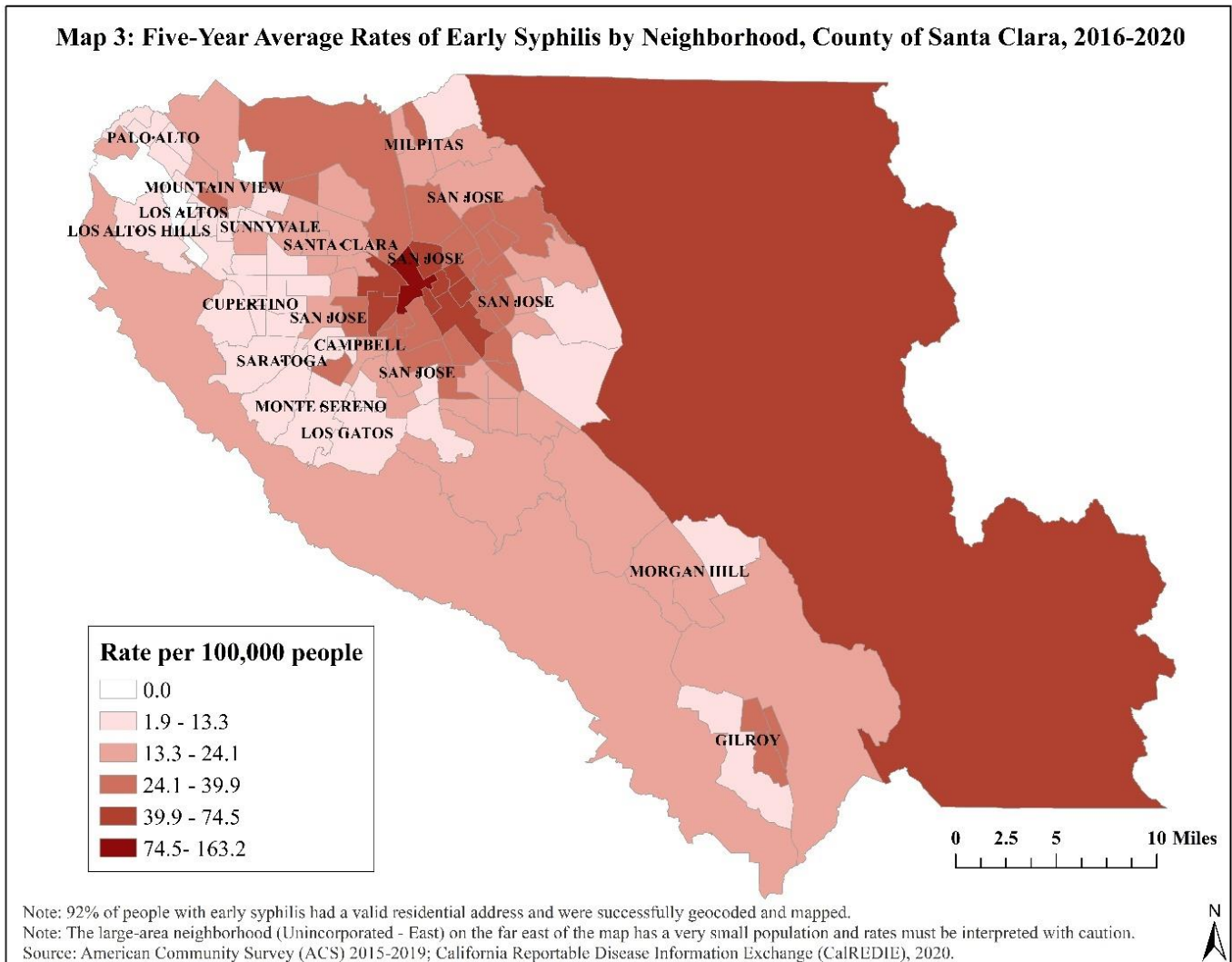
§ Other drugs include ecstasy, erectile dysfunction drugs, poppers, and any other drugs.

Source: County of Santa Clara Public Health Department, AVSS (2010-2011), CalREDIE (2011-2020), data are provisional as of July 2, 2021.

Early Syphilis and Geographic Distribution

Geographic areas of County of Santa Clara with the highest five-year average rates of early syphilis by neighborhood were closest to the Downtown San Jose area (Downtown, North Side, and University neighborhoods) in the City of San Jose. Higher rates were also observed in Gilroy (South Central and East Side Neighborhoods), Santa Clara (West Central and East Central neighborhoods), Milpitas (North Central and Southeastern neighborhoods), and Sunnyvale (Lakewood neighborhood). Rates in the East Unincorporated area should be interpreted with caution due to small population size in this area (Map 3).

Map 3: Five-Year Average Rates of Early Syphilis by Neighborhood, County of Santa Clara, 2016 – 2020

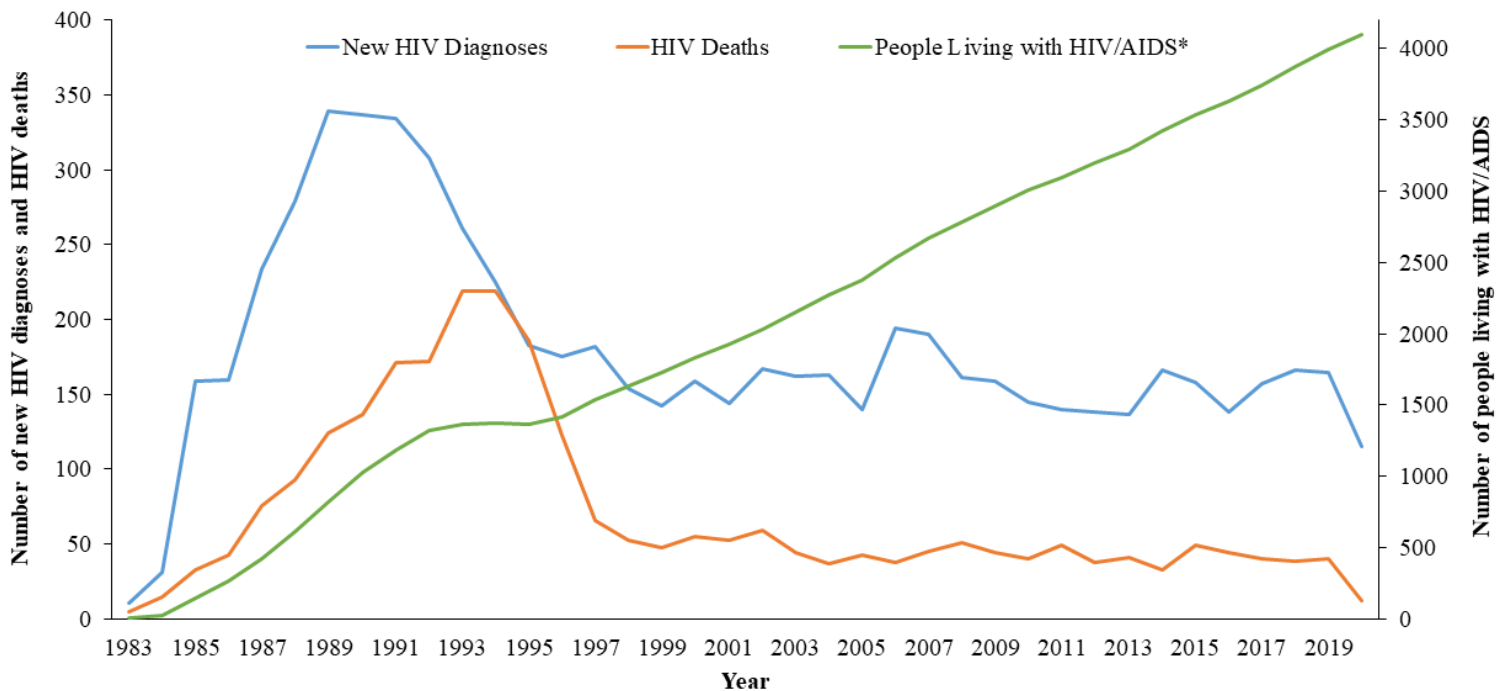


IV. HIV

A. Overview of HIV in the County of Santa Clara

The County of Santa Clara has collected data on Human Immunodeficiency Virus (HIV) infection and Acquired Immune Deficiency Syndrome (AIDS) since 1983. The number of annual new HIV diagnoses in the County peaked from 1989 until 1991, then declined through 2000 and has remained generally stable since. As of December 31, 2020, a total number of 6,778 individuals diagnosed with HIV had been reported to the County. Of these, 4,956 (73%) were diagnosed with AIDS. A cumulative number of 2,677 (40%) persons with HIV infection were known to have died, including 2,601 with a diagnosis of AIDS. In 2020, 3,588 current residents of the County were living with HIV, including 2,732 (76%) first reported with HIV in the County and 856 (24%) out of jurisdiction cases (Figure 37).

Figure 37: Number of new HIV diagnoses, deaths, and people living with HIV*, County of Santa Clara, 1983 – 2020



*Based on residence at the time of HIV diagnosis; Source: County of Santa Clara Public Health Department, eHARS data as of July 2, 2021, and are provisional.

New Diagnoses of HIV Infection

Diagnoses of HIV Infection in 2020

In 2020, 115 individuals were reported as newly diagnosed with HIV infection in the County of Santa Clara. The majority of these individuals were male (86%), more than half (65%) were between ages 25 and 44 years, 56% of Hispanic/Latinx ethnicity, and nearly two-thirds (60%) were MSM, including MSM who also use injection drugs (MSM & IDU) (Table 2).

- *Age*: The proportion of newly reported HIV cases who were adolescents and young adults, ages 13 to 24 years, was lower in the county (13%) compared to both California (18%) and the United States (21%). The highest proportion of new diagnoses in the county was among residents ages 25 to 44 years, who

accounted for (65%) of all new diagnoses, surpassing the same age group statewide (59%) and nationally (55%). Only three (3%) new diagnoses were made among individuals ages 65 and older in the county in 2020.

- *Gender*: Of all new cases reported, 99 (86%) were among males, comparable to the statewide proportion of male cases (85%) but slightly higher than the national proportion (79%). In 2020, two (2%) new cases were reported among individuals who identify as transgender.
- *Race/ethnicity*: Consistent with statewide data, Hispanic/Latinx residents accounted for the greatest proportion (56%) of new HIV diagnoses among all racial/ethnic groups in the county. Seven percent of new diagnoses were among Asian/Pacific Islanders, representing a higher proportion than was seen statewide (6%) and nationally (2%). While African American/Blacks accounted for 9% of new cases in the county—lower than the national proportion (42%)—they represent only 2% of the overall population of the county, such that African American/Blacks are the most disproportionately impacted of all racial/ethnic groups.
- *Transmission category*: Sixty percent of newly diagnosed cases were among MSM (59% MSM and 1% MSM & IDU), a proportion comparable to state (64%) and national data (70%). Heterosexual transmission (5%) and IDU (3%) accounted for a minority of cases. Notably, 32% of new cases in the county were missing information on associated transmission category⁶.

⁶ Transmission categories were statistically adjusted and imputed to account for missing information in the national data. Therefore, any comparison of transmission categories between county-level and state/national data should be interpreted with caution.

Table 2. Demographic and transmission characteristics of people newly diagnosed with HIV in the County of Santa Clara, California, and the United States (2020)

| Demographic Characteristic | Category | Santa Clara⁷, 2020 n (%) | California⁸, 2019 n (%) | United States⁹, 2019 n (%) |
|-----------------------------------|-------------------------------|--|---|--|
| Gender* | Male | 99 (86) | 3,753 (85) | 28,813 (79) |
| | Female | 14 (12) | 522 (12) | 6,897 (19) |
| | Transgender | 2 (2) | 121 (3) | 688 (2) |
| Age at diagnosis (years) | 0-12 | 0 (0) | 6 (<1) | 61 (<1) |
| | 13-24 | 15 (13) | 780 (18) | 7,588 (21) |
| | 25-44 | 75 (65) | 2,582 (59) | 20,082 (55) |
| | 45-64 | 22 (19) | 946 (22) | 7,793 (21) |
| | 65+ | 3 (3) | 82 (2) | 874 (2) |
| Race/ethnicity | African American/Black | 10 (9) | 764 (17) | 15,334 (42) |
| | White | 22 (19) | 1,087 (25) | 9,013 (25) |
| | Hispanic/Latinx | 64 (56) | 2,183 (50) | 10,120 (28) |
| | Asian/Pacific Islander | 8 (7) | 253 (6) | 803 (2) |
| | American Indian/Alaska Native | 0 (0) | 19 (<1) | 210 (<1) |
| | Multiple Races/Other | 11 (10) | 90 (2) | 918 (3) |
| Transmission category** | MSM | 68 (59) | 2,655 (60) | 23,866 (66) |
| | IDU | 3 (3) | 210 (5) | 2,481 (7) |
| | MSM & IDU | 1 (1) | 166 (4) | 1,457 (4) |
| | Heterosexual contact | 6 (5) | 803 (18) | 8,472 (23) |
| | Unknown/Other | 37 (32) | 562 (13) | 122 (<1) |

Trends in New HIV Diagnoses

The rate of new HIV diagnoses among people ages 13 years and older slightly increased from 9.8 per 100,000 people in 2010 to 10.1 in 2019 (Figure 38). Despite a 22% increase between 2013 and 2014 driven by an increase of new diagnoses among Hispanic/Latinx MSM, the rate of new HIV diagnoses then decreased in both 2015 and 2016. The increase in the rate of new HIV diagnoses since 2016 was attributed to increasing diagnoses among Hispanic/Latinx and Asian/Pacific Islander male patients (Figure 39). In 2019, the rate among males ages 13 and older (17.4 per 100,000 males) was seven times that of females ages 13 and older (2.5 per 100,000 females).

⁷ County of Santa Clara Public Health Department, eHARS data as of July 2, 2021, and are provisional.

⁸ California Department of Public Health, Office of AIDS, California HIV Surveillance Report – 2019 [Accessed July 2, 2021].

⁹ Centers for Disease Control and Prevention. HIV Surveillance Report, 2019; vol. 32.

<http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published May 2021. Accessed [July 2, 2021].

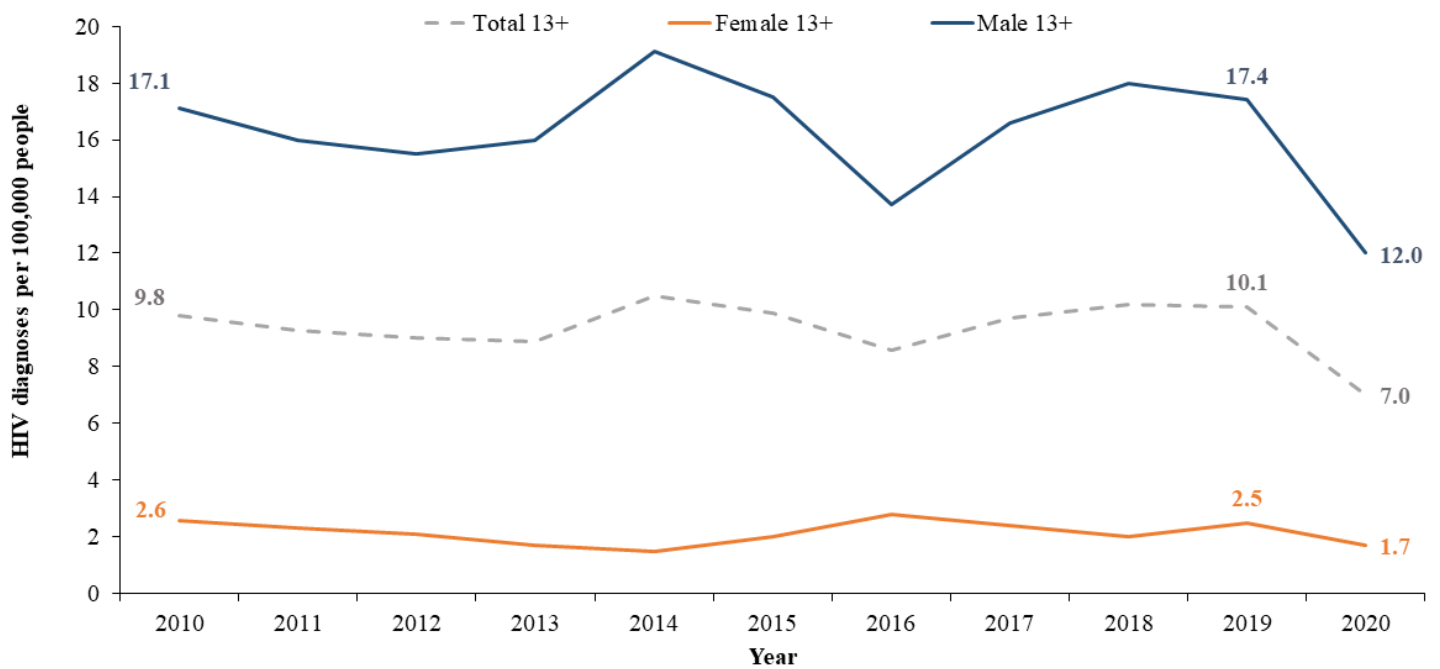
*Data on gender are based on variable completion of reporting data, may not distinguish between sex at birth and gender, and are only available for cases ≥13 years old at diagnosis. Although most transgender HIV cases reported in the County are trans female (male-to-female), data for transgender and gender diverse persons are presented with transgender men and women combined and without inclusion of other gender identities due to variations in how gender identity is collected and reported across jurisdictions, and also to protect their confidentiality.

**Centers for Disease Control and Prevention transmission risk data have been statistically adjusted to account for missing transmission category; therefore, values may not sum to overall total.

When stratified by race/ethnicity, the rate of HIV diagnoses in 2019 among males ages 13 years and older was highest among African American/Blacks (62.0 per 100,000 people) and Hispanic/Latinx (36.3), nearly seven times and four times that of their white counterparts (9.4), respectively. While the rates among white males decreased by 42% from 2010 through 2019 (from 16.3 to 9.4), rates increased across all other races - Asian/Pacific Islanders by 7% (from 6.9 to 7.4), Hispanic/Latinx by 25% (29.0 to 36.3), and African American/Blacks by 99% (31.2 to 62.0) – signifying increasingly disparate rates and trends between white males and populations of color (Figure 39).

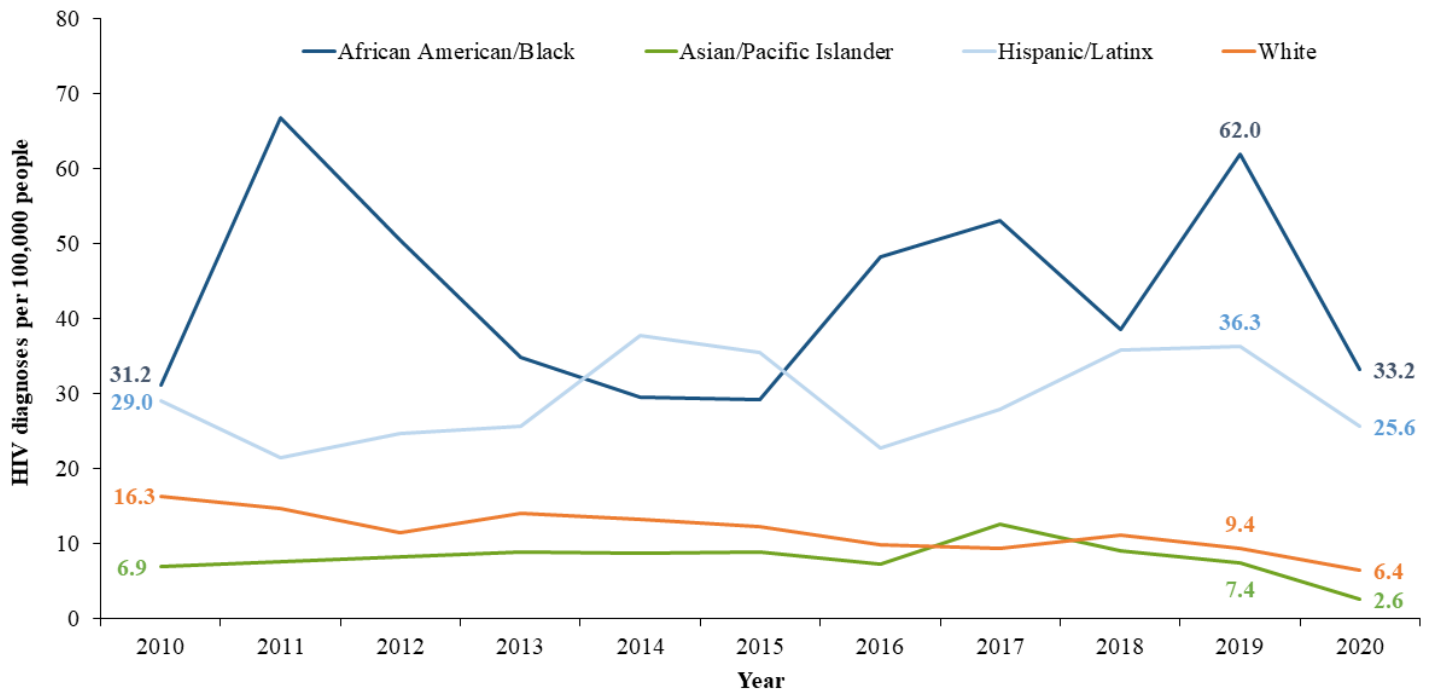
When stratified by age, the rate of HIV diagnosis in 2019 was the highest among males ages 20 to 24 (46.0 per 100,000 people), a sharp increase from 2018. From 2010 through 2019, overall rates of HIV diagnoses among all age groups under 40 years increased (Figure 40).

Figure 38: Rate of HIV diagnoses among individuals age 13+, overall and by sex, County of Santa Clara, 2010 – 2020



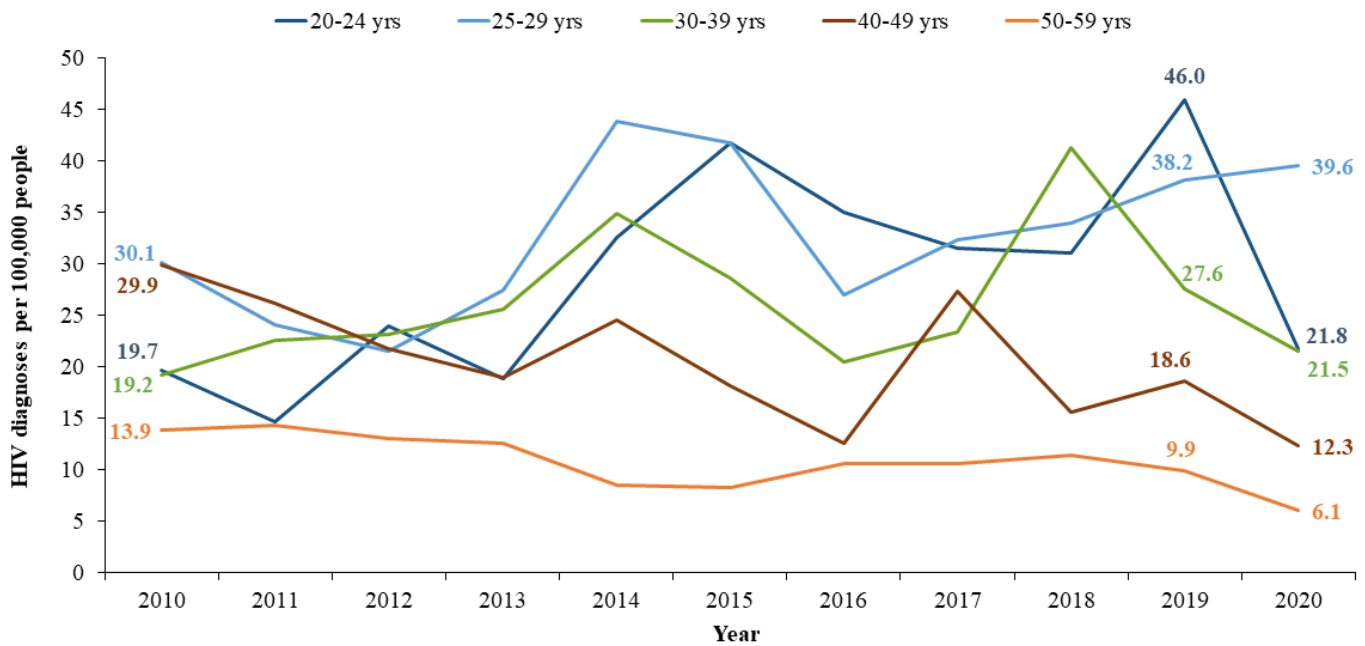
Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 39: Rate of HIV diagnoses among males 13+ by race/ethnicity, County of Santa Clara, 2010 – 2020



Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 40: Rate of HIV diagnoses among males by selected age group, County of Santa Clara, 2010 – 2020

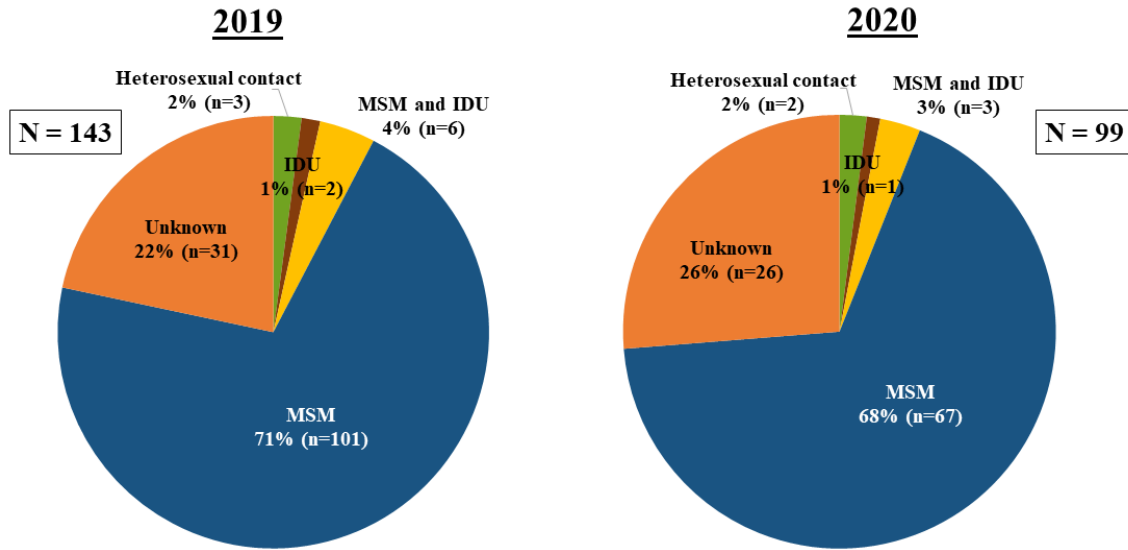


Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

HIV Diagnoses by Transmission Mode

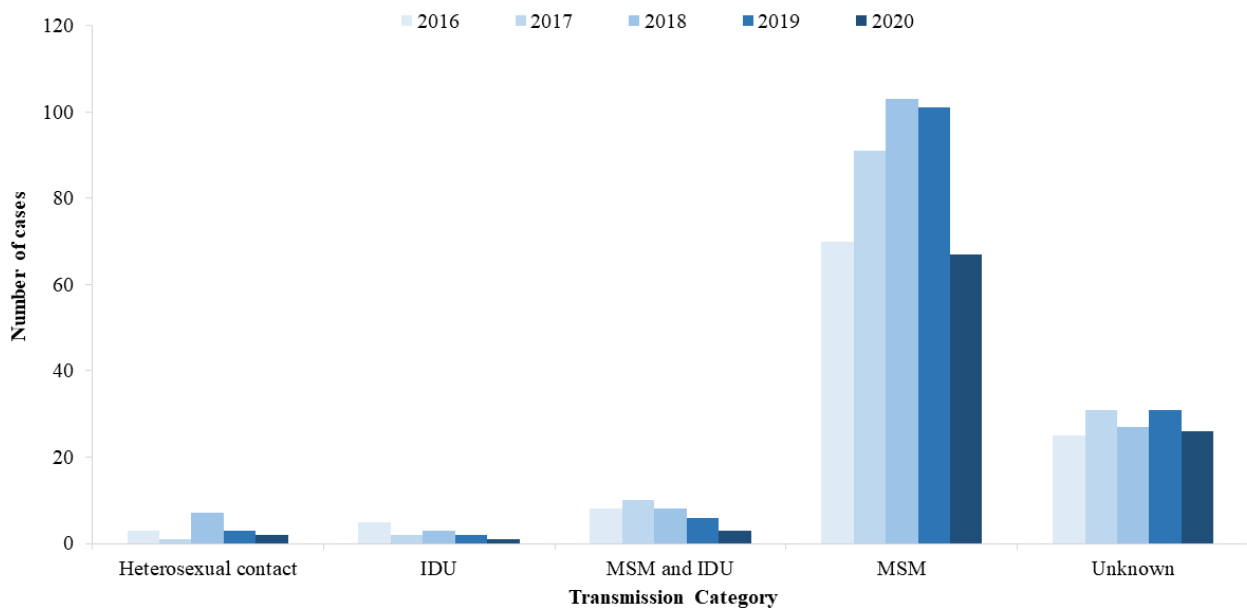
In 2019 and 2020, around three-quarters (75% and 71%) of males newly diagnosed with HIV were MSM including MSM & IDU. Notably, information on associated mode of transmission for 22% and 26% of new diagnoses among males in 2019 and 2020 was unknown (Figure 41). HIV diagnoses among MSM increased from 2016 to 2018, slightly decreased in 2019, and then had a large decrease in 2020 (Figure 42).

Figure 41: Proportion of males age 13+ newly diagnosed with HIV by transmission category, County of Santa Clara, 2019 & 2020



Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 42: Number of males age 13+ newly diagnosed with HIV by transmission category, County of Santa Clara, 2016 – 2020



Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional.

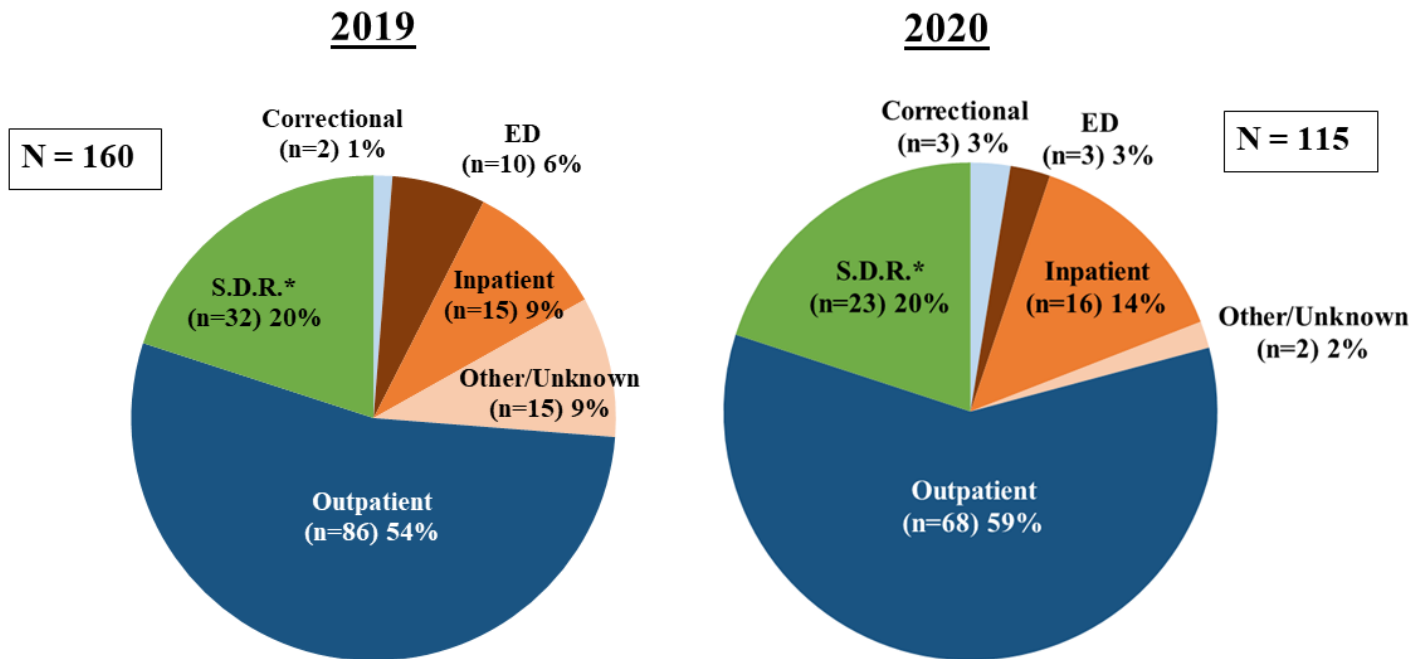
HIV Diagnoses by Diagnostic Setting

In 2019 and 2020, 86 (54%) and 68 (59%) new diagnoses were made in the outpatient setting which include primary care or specialty clinics, community health centers, and public health clinics among others; 32 (20%) and 23 (20%) at screening, diagnostic and referral agencies; 15 (9%) and 16 (14%) during inpatient admissions; 2 (1%) and 3 (3%) at correctional facilities; and 10 (6%) and 3 (3%) in an emergency department (Figure 43).

From 2018 to 2019, The number of HIV cases diagnosed in emergency departments, inpatient setting, and outpatient setting increased, while correctional facilities and screening, diagnostic, and referral agencies decreased (Figure 44).

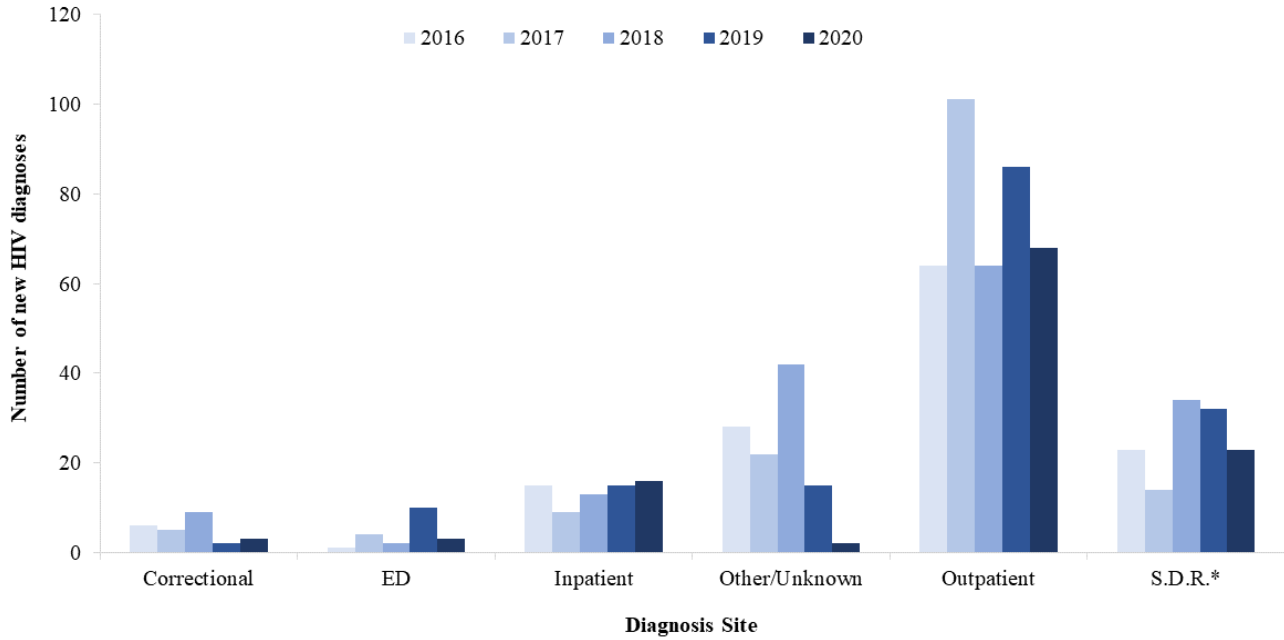
In 2020, Hispanic/Latinx cases were more frequently diagnosed at screening, diagnostic and referral agencies (25%, 16 of 64 cases) and Asian/Pacific Islander cases at outpatient settings (88%, 7 of 8 cases) compared to other racial/ethnic groups (Figure 45).

Figure 43: HIV diagnoses by facility type, County of Santa Clara, 2019 & 2020



Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

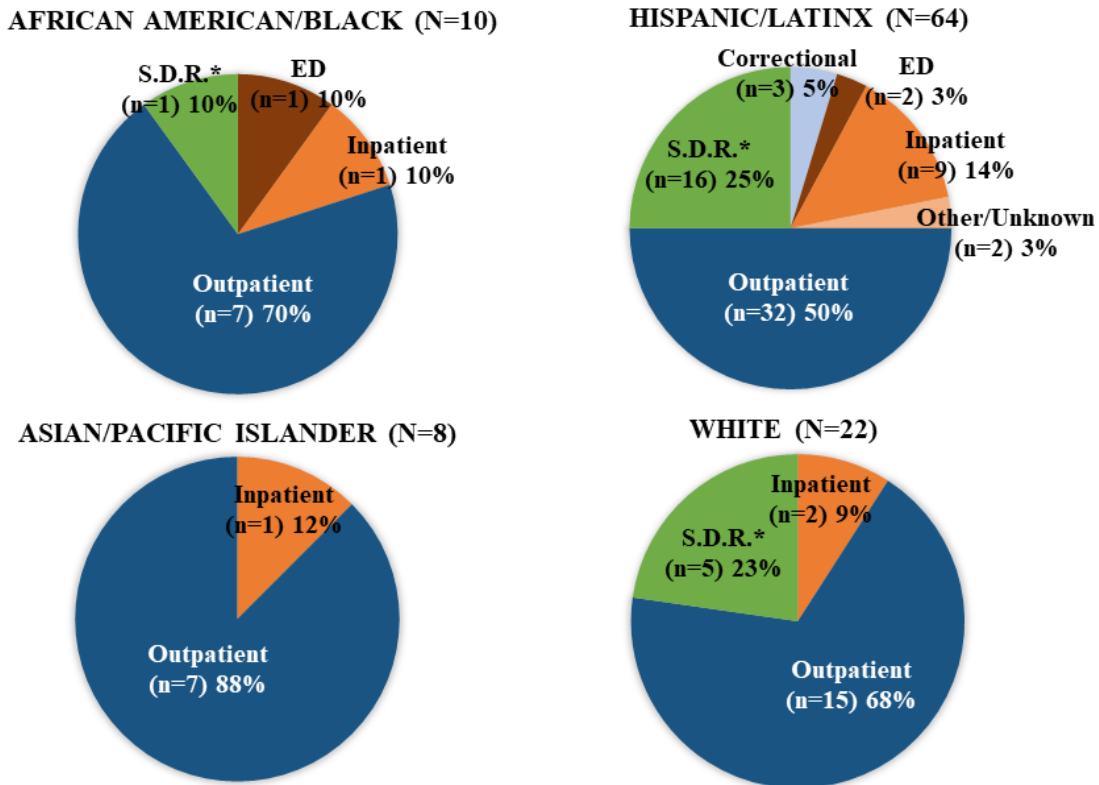
Figure 44: HIV diagnoses by facility type, County of Santa Clara, 2016 – 2020



*Screening, diagnostic, and referral agency

Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional.

Figure 45: HIV diagnosis by facility type and race/ethnicity, County of Santa Clara, 2020



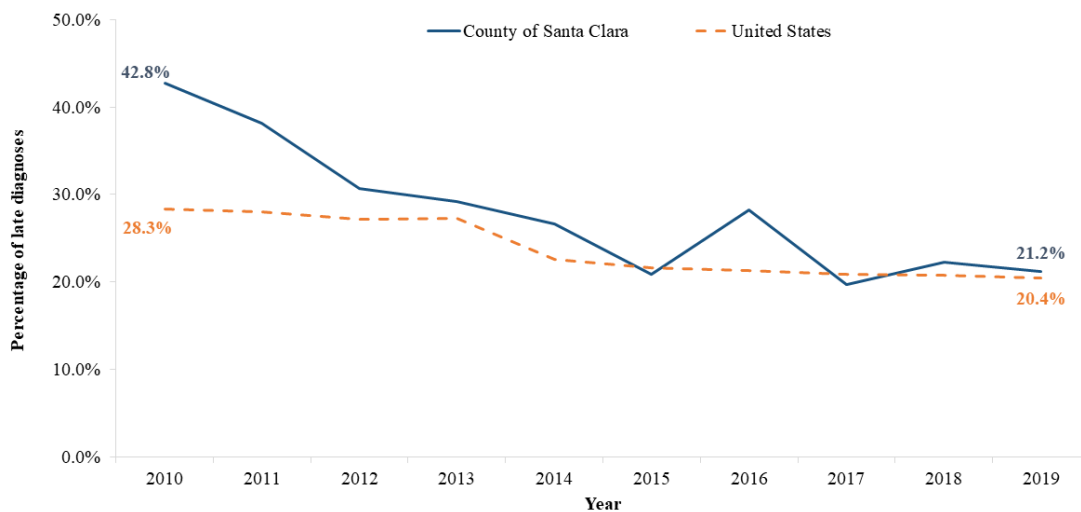
*Screening, diagnostic, and referral agency

Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Late HIV Diagnoses

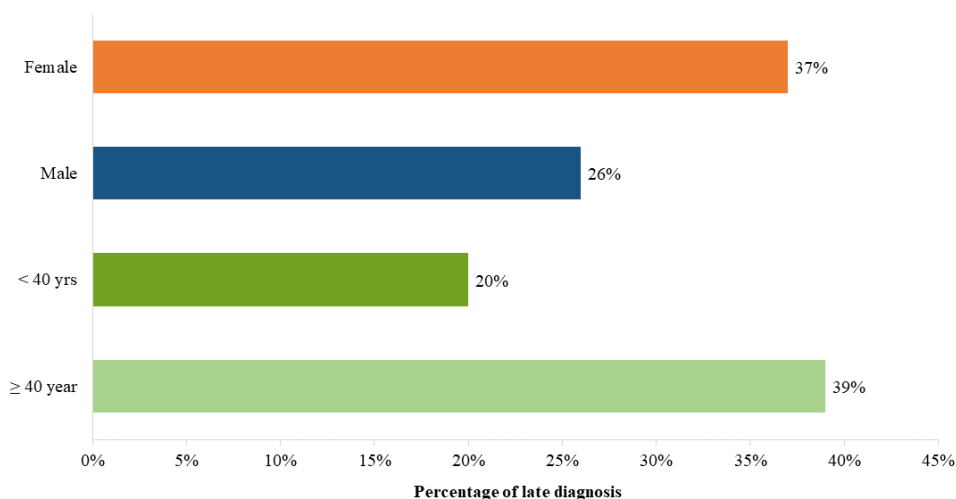
On average, the percentage of late diagnoses (onset of AIDS within three months from HIV diagnosis) among new cases decreased by more than half, from 42.8% in 2010 to 21.2% in 2019. Closing a gap of more than fourteen percent compared to the national average in 2010, the percentage of late HIV diagnoses in the county was lower than the national average in 2017 (Figure 46). Combining data from 2010 through 2019, females and people ages 40 and older were more likely to receive a late diagnosis (37% and 39%, respectively) than their male and/or younger counterparts (26% and 20%, respectively) (Figure 47). African American/Blacks (32%), Asian/Pacific Islanders (34%), and Hispanic/Latinx (28%) were more frequently diagnosed late compared to whites (22%) (Figure 48). People who acquired HIV through injection drug use (37%), MSM and injection drug use (28%), heterosexual contact (33%) or other modes of transmission (39%) were more likely to be diagnosed late than MSM (22%) (Figure 49).

Figure 46: Percentage of late HIV diagnoses*, County of Santa Clara and United States, 2010 – 2019



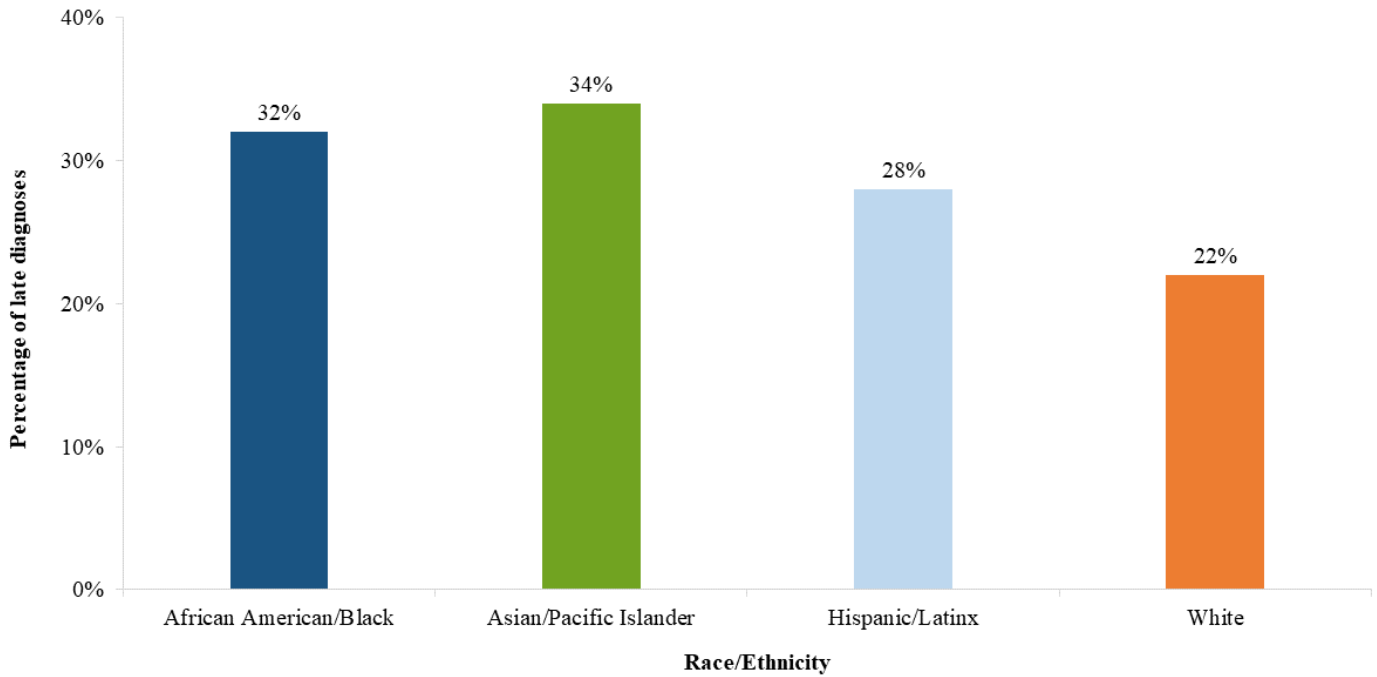
Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional; 2. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2019. HIV Surveillance Supplemental Report 2021;26(No.2). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published May 2021. July 2, 2021.

Figure 47: Percentage of late HIV diagnoses* by sex and age group, County of Santa Clara, 2010 – 2019



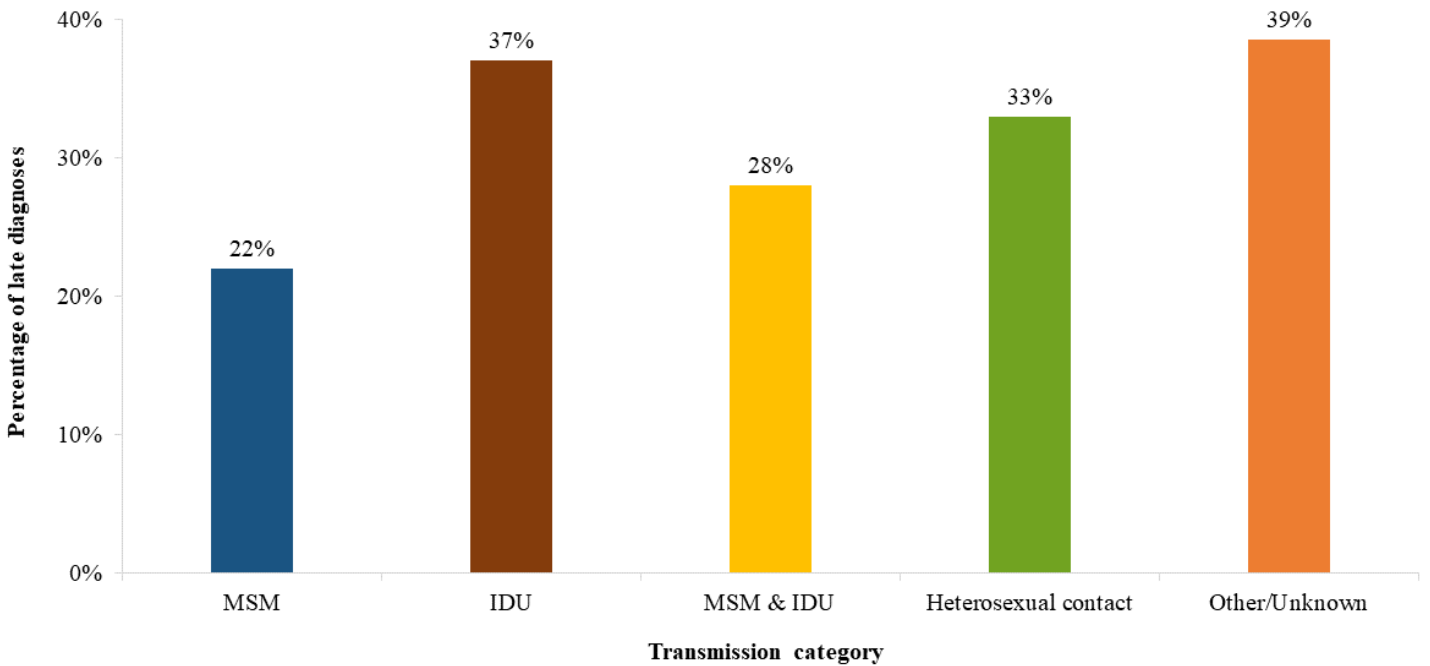
*Late diagnoses is defined as having AIDS diagnosis within 3 months of diagnosis of HIV infection. Source: County of Santa Clara Public Health Department, eHARS data as of July 2, 2021, and are provisional.

Figure 48: Percentage of late HIV diagnoses* by race/ethnicity, County of Santa Clara, 2010 – 2019



*Late diagnoses is defined as having AIDS diagnosis within 3 months of diagnosis of HIV infection. Source: County of Santa Clara Public Health Department, eHARS data as of July 2, 2021, and are provisional.

Figure 49: Percentage of late HIV diagnoses* by transmission category, County of Santa Clara, 2010 – 2019



*Late diagnoses is defined as having AIDS diagnosis within 3 months of diagnosis of HIV infection. Source: County of Santa Clara Public Health Department, eHARS data as of July 2, 2021, and are provisional.

People Living with HIV

In 2020, there were 3,588 PLWH with most recent address in the County of Santa Clara, including 2,732 (76%) first reported in the county and 856 (24%) out of jurisdiction cases. The rate of PLWH among males was nearly seven times the rate among females (312.1 vs. 46.4 per 100,000 people). People ages 45 to 64 had the highest PLWH rate of any age group (359.9), and nearly twice that of the county (182.4). When stratified by race/ethnicity, African American/Blacks had the highest rate (807.6), followed by Hispanic/Latinx (292.6), white (160.6), and Asian/Pacific Islander (68.7) (Table 3).

Table 3: Demographic and transmission characteristics of PLWH*, County of Santa Clara, 2020

| Demographic Characteristic | Group | N | % | Rate per 100,000 people |
|------------------------------|------------------------|-------------|------------|-------------------------|
| Gender | Male | 3099 | 86 | 312.1 |
| | Female | 450 | 13 | 46.4 |
| | Transgender** | 38 | 1 | - |
| Age (years) | 0-12 | 1 | <1 | 0.3 |
| | 13-24 | 68 | 2 | 23.8 |
| | 25-44 | 1272 | 35 | 235.5 |
| | 45-64 | 1824 | 51 | 359.9 |
| | 65+ | 423 | 12 | 137.9 |
| Race/ethnicity | White | 1058 | 29 | 160.6 |
| | Hispanic/Latinx | 1573 | 44 | 292.6 |
| | African American/Black | 377 | 11 | 807.6 |
| | Asian/Pacific Islander | 447 | 12 | 68.7 |
| | Other/Unknown | 133 | 4 | - |
| Transmission category | MSM | 2270 | 63 | - |
| | IDU | 158 | 4 | - |
| | MSM & IDU | 219 | 6 | - |
| | Heterosexual contact | 353 | 10 | - |
| | Other/Unknown | 588 | 17 | - |
| Overall | Total | 3588 | 100 | 182.4 |

*PLWH includes people diagnosed with HIV who were alive through 12/31/2020 and had their most recent address in the County of Santa Clara.

** Due to the small number of reported trans male cases (female-to-male), data are combined with trans female cases to protect their confidentiality. Rates among transgender population and by transmission mode are not available due to undefined population denominators.

Source: 1. The County of Santa Clara PHD, eHARS data as of July 2, 2021, and are provisional; 2. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, December 2020; 3. State of California, Dept of Finance, E-2. California County Population Estimates and Components of Change by Year — July 1, 2010–2020, March 2021.

HIV Care Continuum

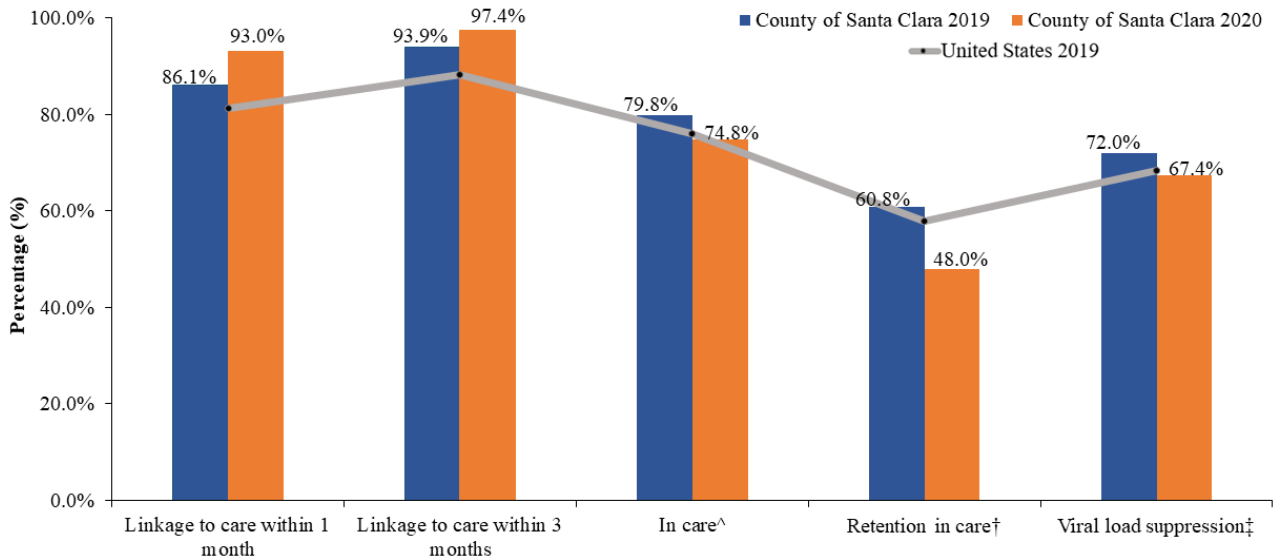
HIV Care Continuum

In 2019 and 2020 among people newly diagnosed with HIV in Santa Clara County, 86.1% and 93.0% of people were linked to care within one months of diagnosis, 93.9% and 97.4% of people were linked to care within three months of diagnosis, 79.8% and 74.8% were in care, 60.8% and 48.0% were retained in care, and 72.0% and

67.4% were virally suppressed (Figure 50). The 2019 continuum of care remained above the national average, but the 2020 continuum of care did not.

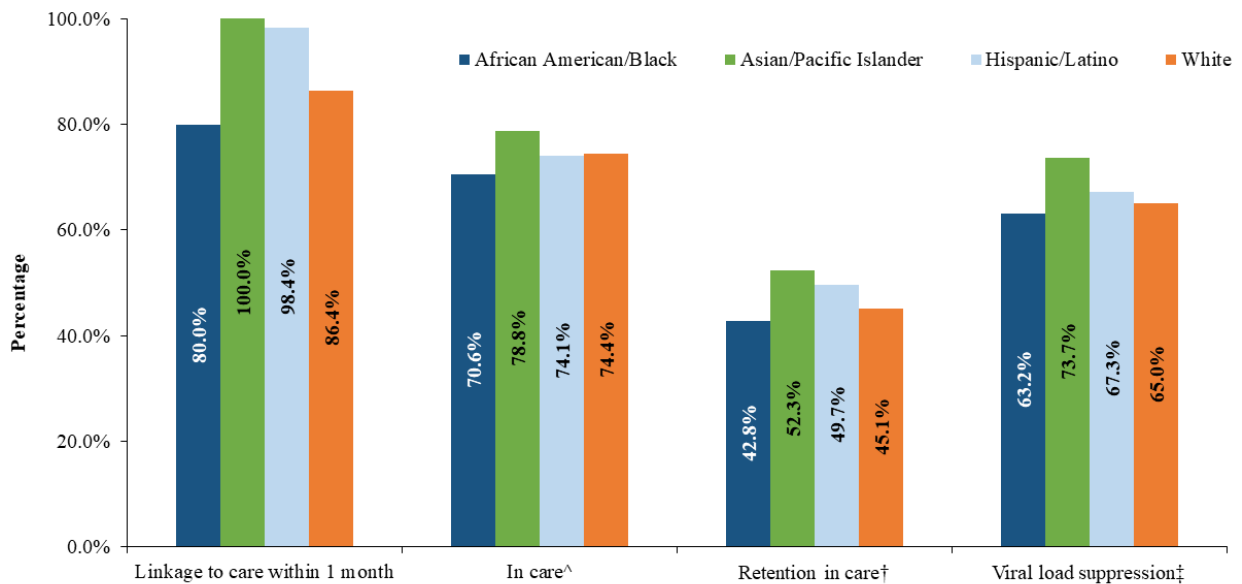
In 2020, Asian/Pacific Islanders living with HIV were slightly more likely to have been retained in care and virally suppressed. However, there were no substantial differences in the percentages of linkage to care across racial/ethnic groups (Figure 51).

Figure 50: HIV continuum of care, County of Santa Clara and United States, 2019 & 2020



[^] People who were diagnosed with HIV through the previous year and alive in the specified year and who had at least 1 documented CD4 or viral load test in specified year.
[†] People who were diagnosed with HIV through the previous year and alive in the specified year, and who had ≥ 2 documented CD4 or viral load test in specified year, at least 3 months apart.
[‡] People who were diagnosed with HIV through previous year and alive in specified year, with most recent HIV viral load in specified year less than 200 copies/ml.
 Source: Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional. 2. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2019. HIV Surveillance Supplemental Report 2021;26(No.2). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published May 2021. July 2, 2021.

Figure 51: HIV continuum of care, by race/ethnicity, County of Santa Clara, 2020

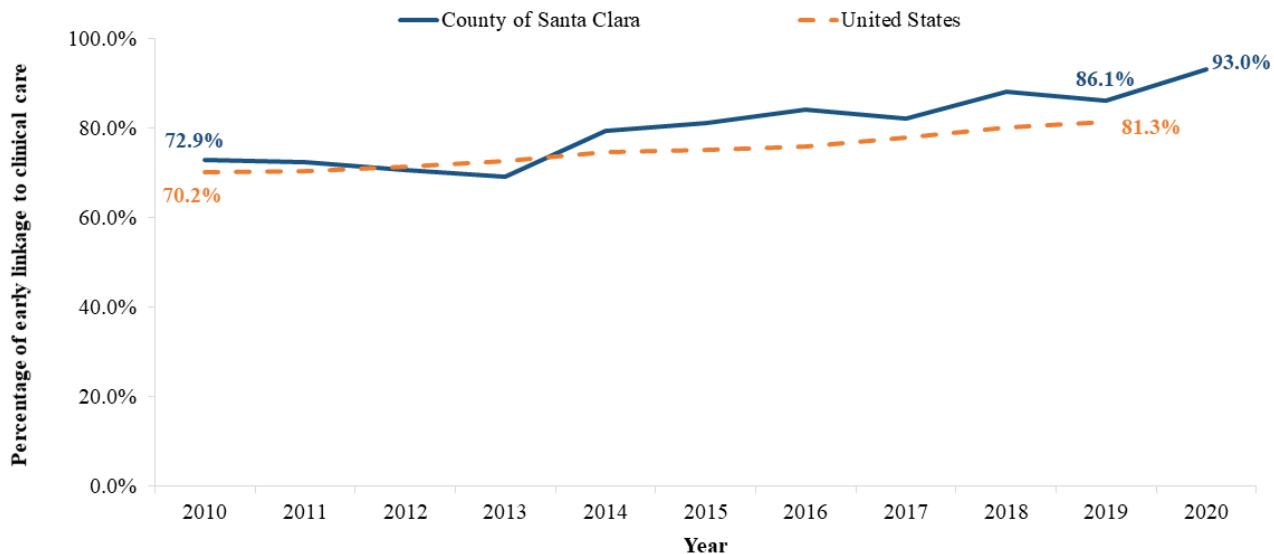


[^] People who were diagnosed with HIV through 2019 and alive in 2020 and who had at least 1 documented CD4 or viral load test in 2020.
[†] People who were diagnosed with HIV through 2019 and alive in 2020, and who had at least 2 documented CD4 or viral load test in 2020, at least 3 months apart.
[‡] People who were diagnosed with HIV through 2019 and alive in 2020, with most recent HIV viral load in 2020 less than 200 copies/ml.
 Source: Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional.

Early Linkage to HIV Care

Between 2010 and 2020, the proportion of Santa Clara County residents diagnosed with HIV who received successful early linkage to care* increased from 73% to 93%. Since 2014, the county has had a consistently higher percentage of successful early linkage to care compared to the US average, and as of 2018 had exceeded the national goal of 85% (Figure 52).

Figure 52: Percentage of early linkage to HIV care* among people ages 13+ newly diagnosed with HIV, County of Santa Clara and United States, 2010 – 2020



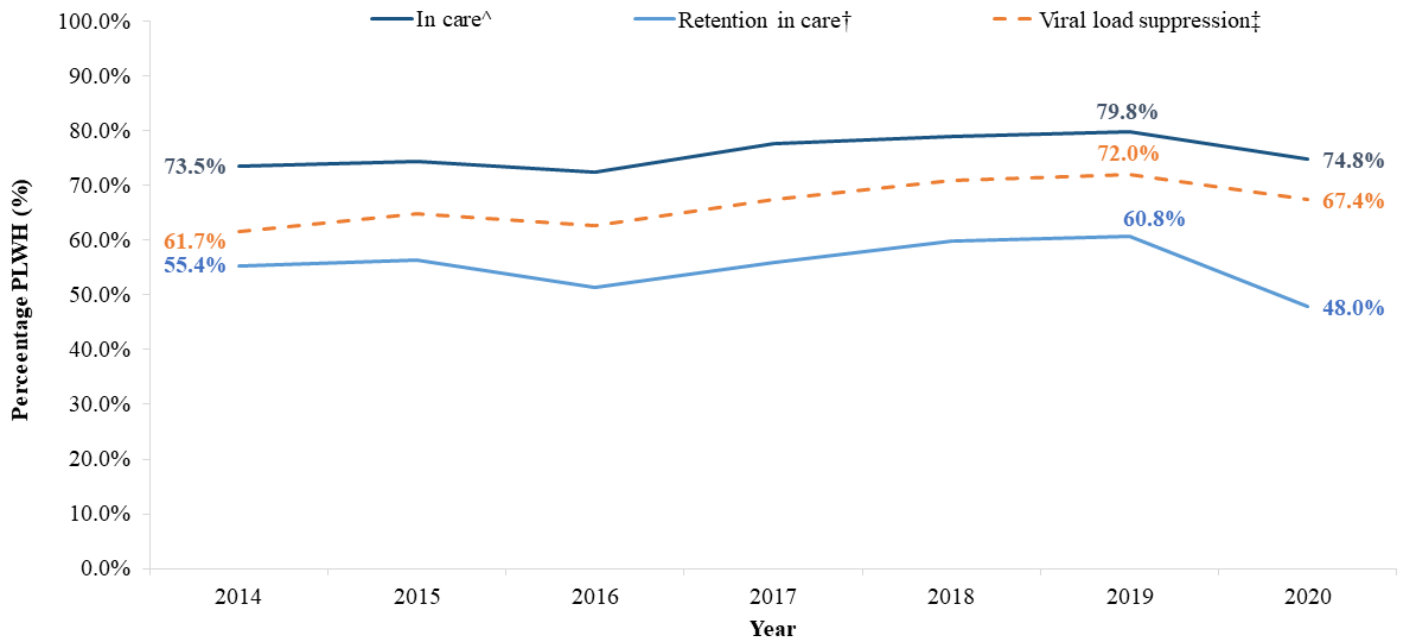
*Early Linkage to Clinical Care includes at least one CD4 or viral load test within one month of HIV diagnosis. Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional; 2. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2019. HIV Surveillance Supplemental Report 2021;26(No.2). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published May 2021. July 2, 2021.

Viral Suppression

In 2020, 67.4% of PLWH in the county were virally suppressed, with most recent HIV viral load less than 200 copies/ml. The percentage of those virally suppressed steadily increased, from 61.7% in 2014 to 72% in 2019, but then decreased to 67.4% in 2020 (Figure 53). Males and females had the same viral suppression (67%).

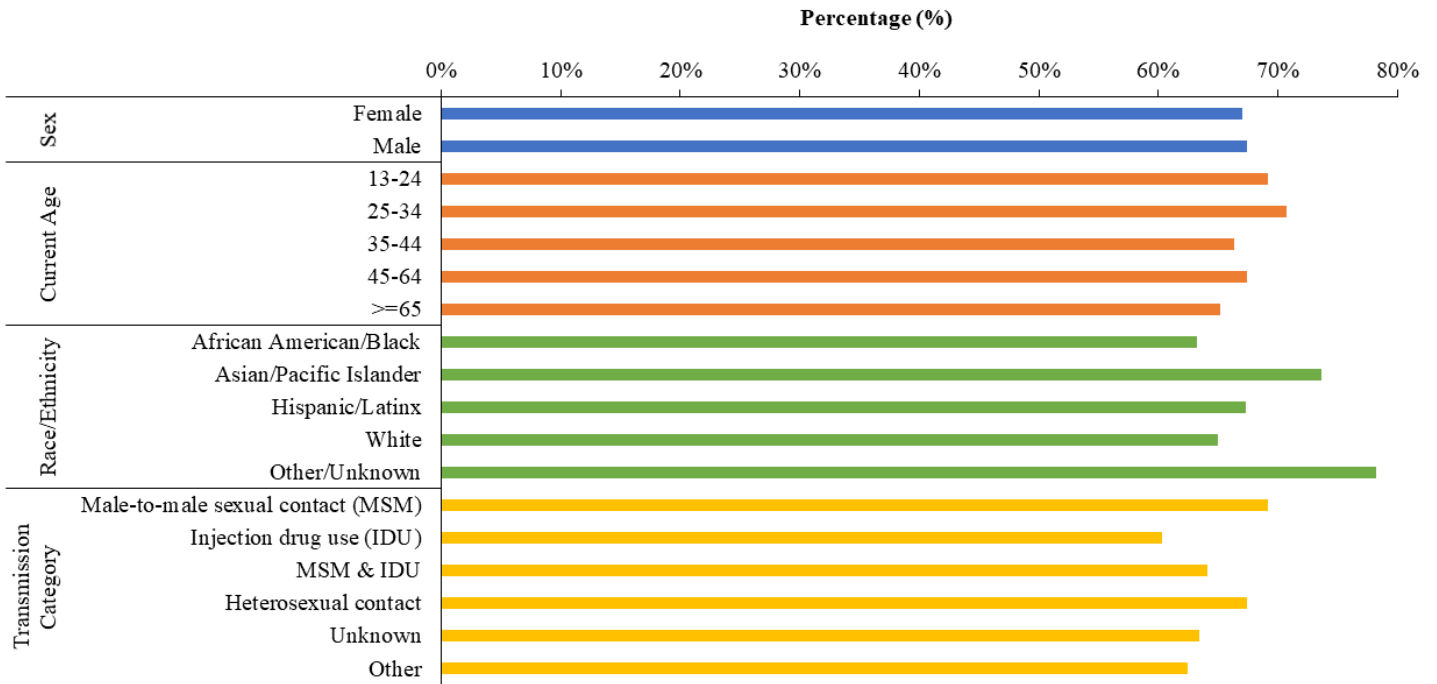
Viral suppression was most frequent among young adults ages 25 to 34 (71%), Asian/Pacific Islanders (74%), and MSM (69%). Viral suppression was least frequent among adults ages 65 and older (65%), African Americans/Black (63%), and IDU (60%) (Figure 54).

Figure 53: HIV continuum of care among PLWH ages 13+, County of Santa Clara, 2014 – 2020



[^] People who were diagnosed with HIV through previous year and alive in specified year and who had at least 1 documented CD4 or viral load test in specified year.
[†] People who were diagnosed with HIV through previous year and alive in specified year, and who had at least 2 documented CD4 or viral load test in specified year, at least 3 months apart.
[‡] People who were diagnosed with HIV through previous year and alive in specified year, with most recent HIV viral load in specified year less than 200 copies/ml.
 Source: Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional.

Figure 54: Viral suppression among PLWH* ages 13+, by demographic and transmission characteristics, County of Santa Clara, 2020

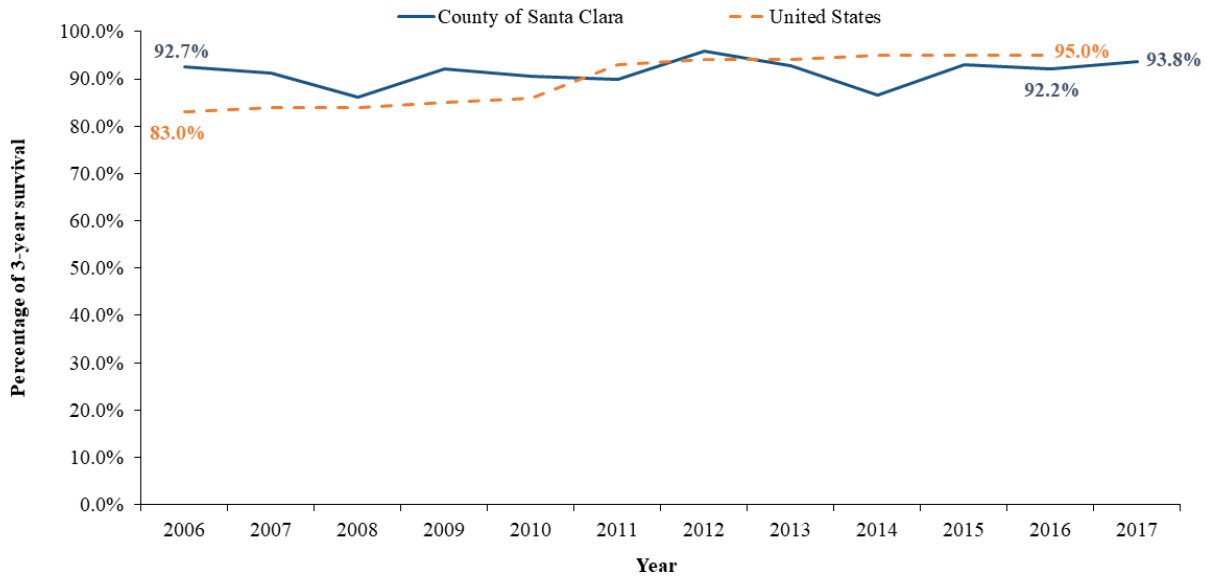


*People who were diagnosed with HIV through 2019 and alive in 2020, with most recent HIV viral load in 2020 less than 200 copies/ml. Source: Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional.

HIV Survival

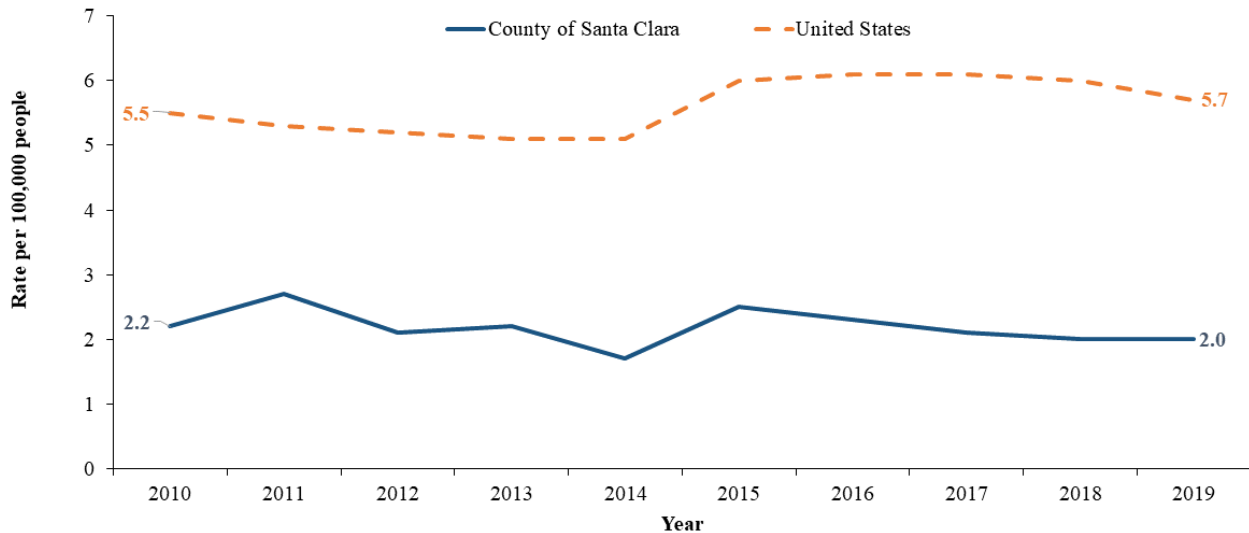
Figure 55 shows the 3-year survival rates among patients diagnosed with AIDS between 2006 and 2016 for the county in comparison with the national rate of survival. From 2006 to 2012, the 3-year AIDS survival rate in the county remained stable and was generally above the national average, but the opposite was true from 2013 to 2016. Since 2010, the HIV mortality rate in the general population in the county remained below the national rate. In 2019, the HIV mortality rate in the County of Santa Clara (2.0 per 100,000 people) was nearly a third of the national rate (5.7) (Figure 56).

Figure 55: AIDS 3-year survival rate*, County of Santa Clara and United States, 2006 – 2017



Source: Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional. 2. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2019. HIV Surveillance Supplemental Report 2021;26(No.2). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published May 2021. July 2, 2021
 *AIDS 3-year survival rate is defined as the percentage of individuals who are still living 3 years after an AIDS diagnosis.

Figure 56: HIV mortality rate, County of Santa Clara and United States, 2010 – 2019



Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010–2060, Sacramento, California, March 2021. 4. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2019. HIV Surveillance Supplemental Report 2021;26(No.2). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published May 2021. July 2, 2021

HIV and Sexually Transmitted Infection Co-infection

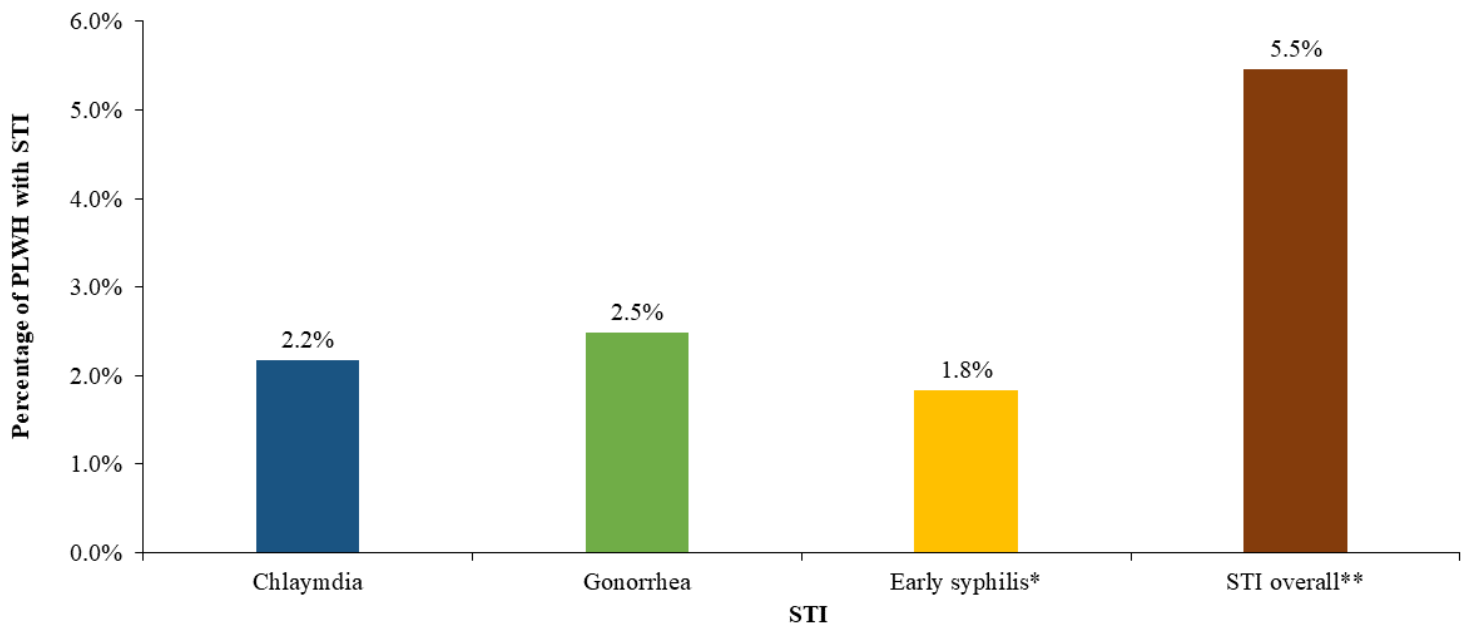
Overall, 5.5% of PLWH were diagnosed with at least one STI in 2020. Gonorrhea (2.5%) and chlamydia (2.2%) were the most frequently reported STIs among PLWH in 2020, while 1.8% were diagnosed with early syphilis (Figure 57).

With regard to gender and age, over 5% of PLWH who identified as transgender were co-infected with an STI in 2020, while 6.2% of males and 0.2% of females were infected. PLWH ages 20 to 29 were most frequently co-infected with an STI, with 20.0% among those ages 20 to 24, and 15.5% among those ages 25 to 29 experiencing an STI in 2020 (Figure 58).

With regard to race/ethnicity, 7.0% of Hispanic/Latinx PLWH were diagnosed with STI, followed by Asian/Pacific Islanders (6.9%), whites (3.5%), and African American/Blacks (3.4%) (Figure 59).

Among transmission categories, HIV/STI co-infection most disproportionately impacted MSM (7.0%), over three times greater than IDU (1.9%), and more than twenty times higher than those whose HIV was attributed to heterosexual contact (0.3%) (Figure 60). The percentage of HIV/STI co-infection among MSM was over double that of non-MSM males, and over thirty times that of females (Figure 61).

Figure 57: Percentage of people living with HIV with STI†, County of Santa Clara, 2020



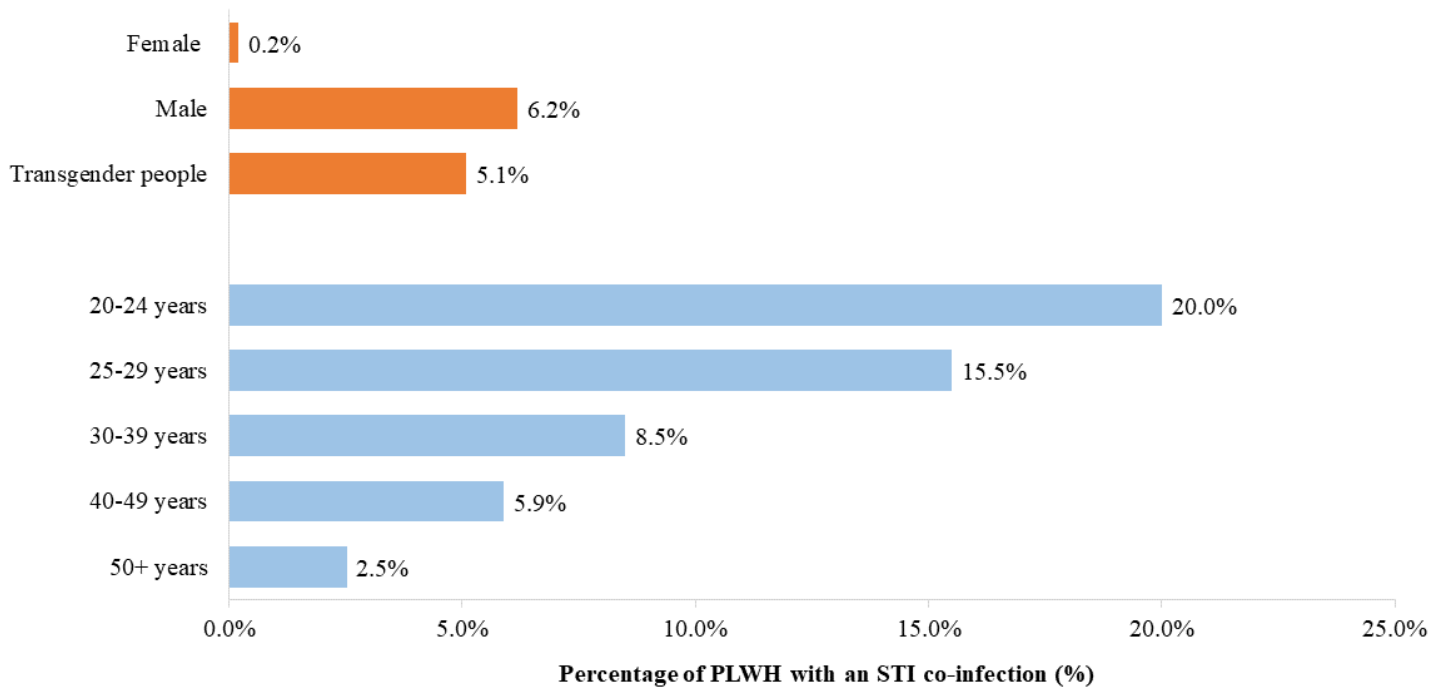
† People living with HIV ages 13 and older with chlamydia, gonorrhea, early syphilis (primary, secondary and early latent) diagnosis in 2020. A person with multiple episodes of one disease in the year will be only counted once for the disease.

* Includes primary, secondary and early latent syphilis cases.

** The percentage of overall STI diagnosis is lower than the sum of the percentages of chlamydia, gonorrhea and early syphilis because one person may be diagnosed with multiple diseases.

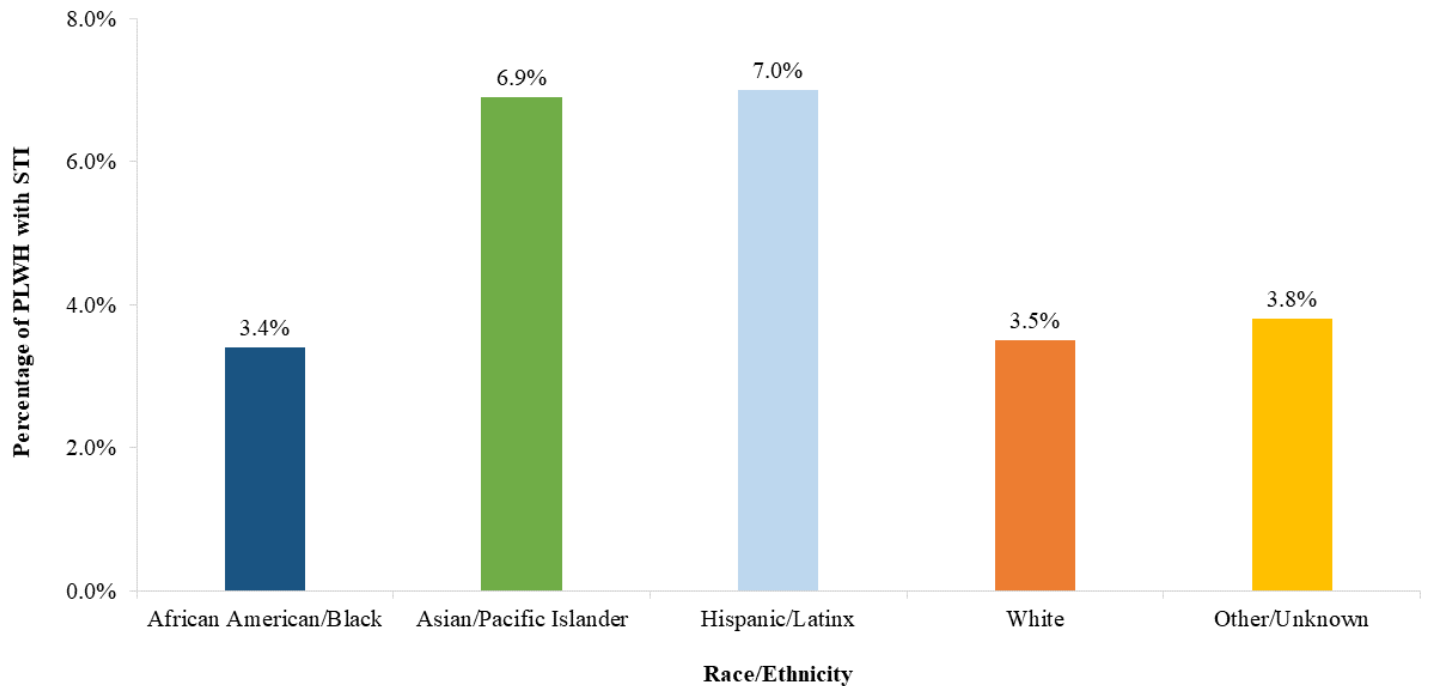
Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021; 2. Santa Clara County Public Health Department, CalREDIE (2020), data as of July 2, 2021, and are provisional.

Figure 58: Percentage of people living with HIV with an STI†, by gender and age group, County of Santa Clara, 2020



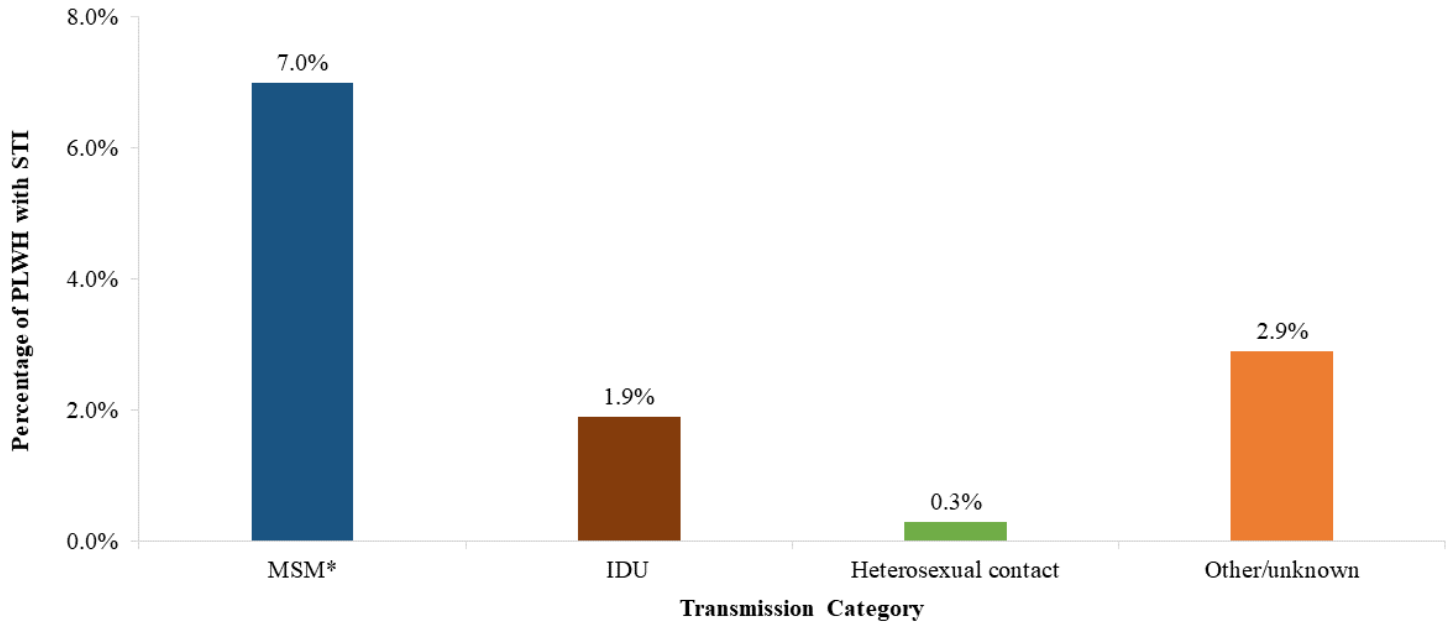
† People living with HIV ages 13 and older with chlamydia, gonorrhea, early syphilis (primary, secondary and early latent) diagnosis in 2020. A person with multiple episodes of one disease in the year will be only counted once for the disease. Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021; 2. Santa Clara County Public Health Department, CalREDIE (2020), data as of July 2, 2021, and are provisional.

Figure 59: Percentage of people living with HIV with STI†, by race/ethnicity, County of Santa Clara, 2020



† People living with HIV ages 13 and older with chlamydia, gonorrhea, early syphilis (primary, secondary and early latent) diagnosis in 2018. A person with multiple episodes of one disease in the year will be only counted once for the disease. Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021; 2. Santa Clara County Public Health Department, CalREDIE (2020), data as of July 2, 2021, and are provisional.

Figure 60: Percentage of people living with HIV with STI†, by transmission category, County of Santa Clara, 2020

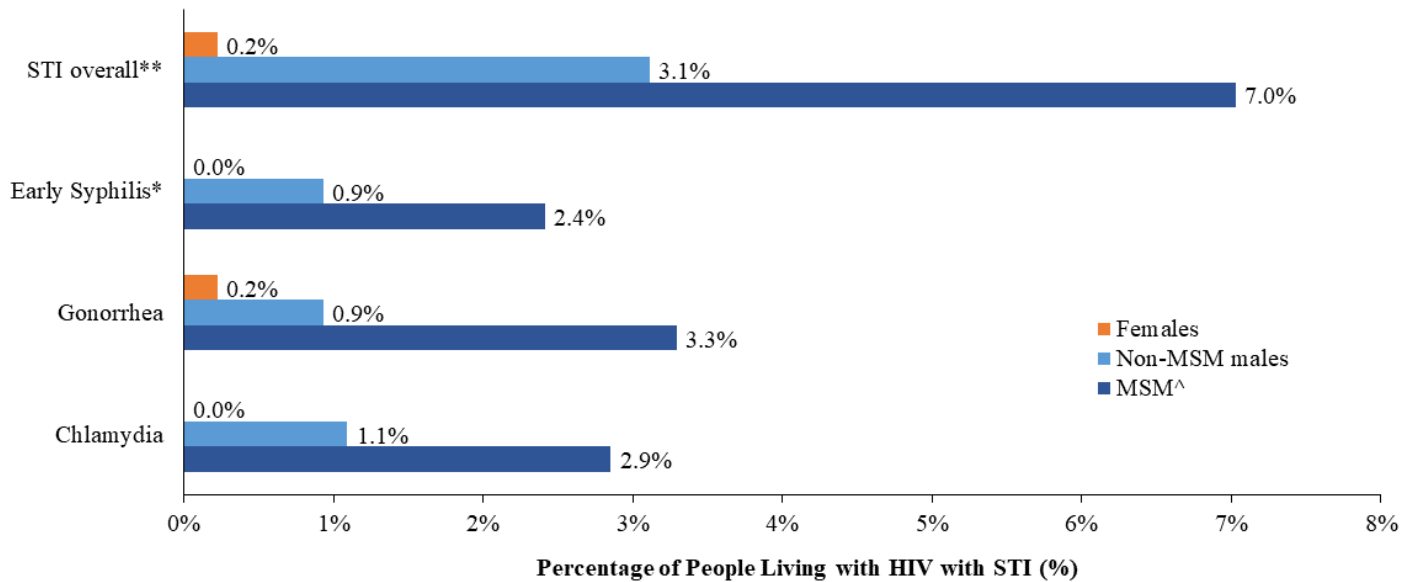


† People living with HIV ages 13 and older with chlamydia, gonorrhea, early syphilis (primary, secondary and early latent) diagnosis in 2020. A person with multiple episodes of one disease in the year will be only counted once for the disease.

*Includes MSM and MSM & IDU.

Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021; 2. Santa Clara County Public Health Department, CalREDIE (2020), data as of July 2, 2021, and are provisional.

Figure 61: Percentage of people living with HIV with STI† by disease, County of Santa Clara, 2020



† People living with HIV ages 13 and older with chlamydia, gonorrhea, early syphilis (primary, secondary and early latent) diagnosis in 2020. A person with multiple episodes of one disease in the year will be only counted once for the disease.

* Includes primary, secondary and early latent syphilis cases.

** The percentage of overall STI diagnosis is lower than the sum of the percentages of chlamydia, gonorrhea and early syphilis because one person may be diagnosed with multiple diseases.

^ Includes MSM and MSM & IDU.

Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021; 2. Santa Clara County Public Health Department, CalREDIE (2020), data as of July 2, 2021, and are provisional.

A. HIV among Priority Populations in the County of Santa Clara

The HIV epidemic has stabilized in the county since the mid-2000s, with 3,588 people known to be diagnosed and living with HIV as of December 31, 2020. African American/Black and Hispanic/Latinx residents are disproportionately impacted by the disease, with rates of HIV among African American/Blacks more than five times higher than rates among whites. MSM have been disproportionately impacted as well since the beginning of the epidemic. These disparities likely relate to social determinants, which are driven by structural factors impacting population health beyond the extent of individual characteristics¹⁰. CDC defines *social determinants of health* (SDH) as “overlapping social structures and economic systems (e.g., social environment, physical environment, health services, and structural and societal factors) that are responsible for most health inequities.”¹¹ To address these health disparities and promote equity, CDC has adopted a holistic framework that emphasizes community-based prevention approaches for HIV.¹²

Health inequities persist in the County of Santa Clara as they do across the State of California and the United States. However, several factors uniquely shape health inequities in the county, such as a growing immigrant population, the rise of the technology industry, and the increase in income inequality. In this report, we highlight populations disproportionately impacted by HIV and other health disparities to illustrate the needs guiding our priorities regarding HIV surveillance and prevention in the County of Santa Clara.

HIV among Men Who have Sex with Men (MSM)

In 2020, the majority of MSM who were newly diagnosed with HIV were less than 40 years old (Figure 62). From 2010 to 2019, HIV diagnoses among MSM between the ages 20 and 29 years increased 63%, from 30 cases to 49, whereas a 15% increase was observed among MSM ages 30 to 39. However, a 53% decrease was observed among MSM ages 40 to 49, and a 27% decrease was observed among MSM ages 50 to 59 (Figure 62).

In 2020, the majority of new diagnoses in MSM were Hispanic/Latinx (64%), followed by whites (19%), African American/Blacks (9%), and Asian/Pacific Islanders (7%). From 2010 to 2019, the number of new diagnoses increased among Hispanic/Latinx by 31%, Asian/Pacific Islanders by 78%, and African American/Blacks by 167%. Conversely, the number of new diagnoses decreased among whites by 46%. From 2019 to 2020, the number of new diagnoses decreased among all race/ethnicities: Hispanic/Latinx by 32%, whites by 38%, Asia/Pacific Islanders by 69%, and African American/Blacks by 25%. (Figure 63).

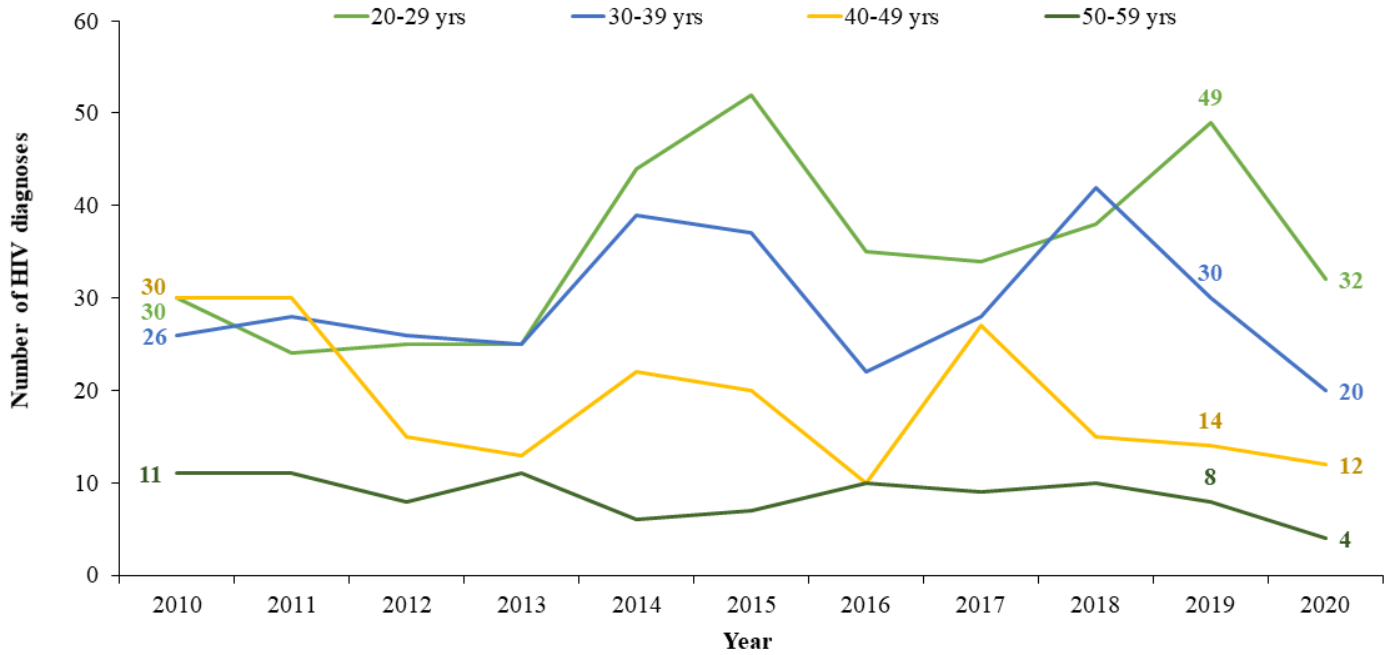
Finally, in 2020, the majority of MSM across all races/ethnicities achieved viral suppression; 75.8% of Asian/Pacific Islander MSM living with HIV were virally suppressed, 69.6% of Hispanic/Latinx, and 67% of whites, while only 60.5% of African American/Black MSM cases had met the clinical criteria for viral suppression (Figure 64).

¹⁰ CDC. Social determinants of health among adults with diagnosed HIV infection in 13 states, the District of Columbia, and Puerto Rico, 2015. HIV Surveillance Supplemental Report 2017; 22 (No. 3). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published August 2017. Accessed [Sep 19th, 2019].

¹¹ CDC. Establishing a Holistic Framework to Reduce Inequities in HIV, Viral Hepatitis, STDs, and Tuberculosis in the United States. Atlanta (GA): U.S. Department of Health and Human Services, CDC; October 2010. Accessed [Sep 19th, 2019].

¹² Centers for Disease Control and Prevention. Establishing a Holistic Framework to Reduce Inequities in HIV, Viral Hepatitis, STDs, and Tuberculosis in the United States. Atlanta (GA): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; October 2010. Accessed [Sep 19th, 2019].

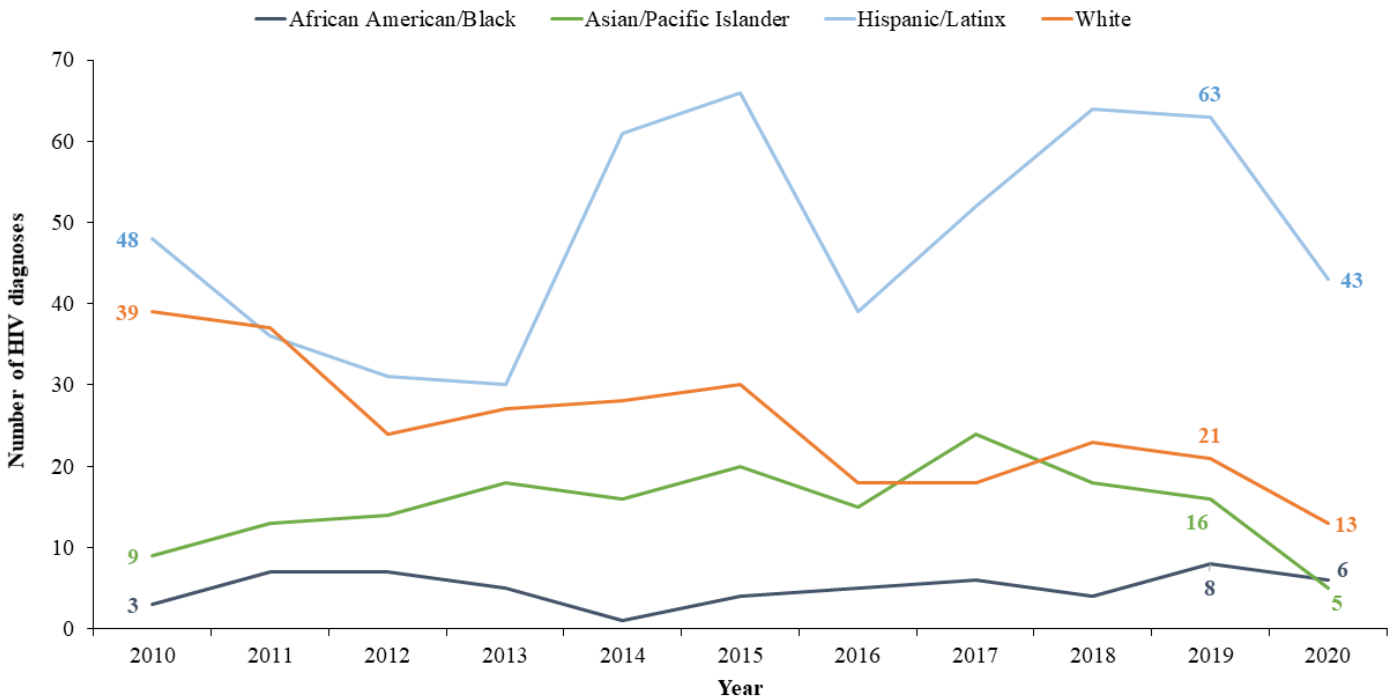
Figure 62: Number of MSM* newly diagnosed with HIV by selected age group, County of Santa Clara, 2010 – 2020



*Includes MSM and MSM & IDU.

Source: County of Santa Clara Public Health Department, eHARS data as of July 2, 2021, and are provisional.

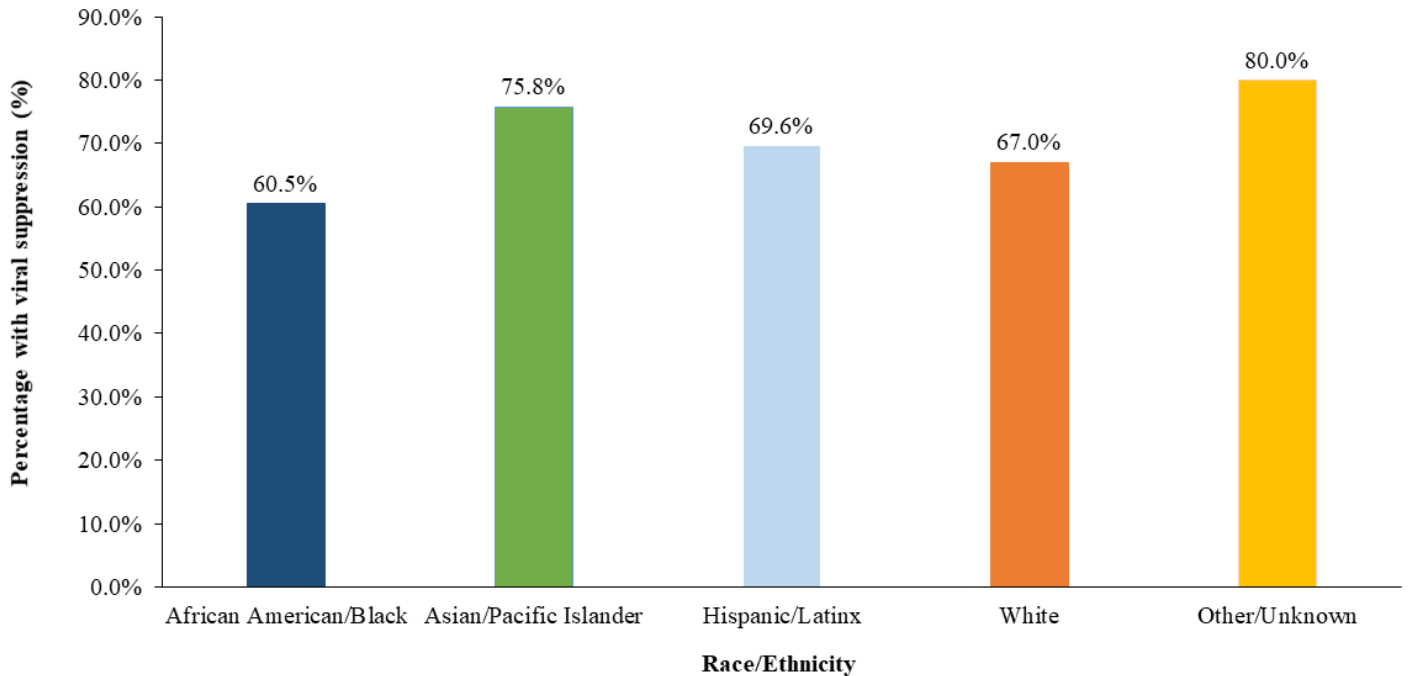
Figure 63: Number of MSM* newly diagnosed with HIV by race/ethnicity, County of Santa Clara, 2010 – 2020



*Includes MSM and MSM & IDU.

Source: County of Santa Clara Public Health Department, eHARS data as of July 2, 2021, and are provisional.

Figure 64: Viral suppression among MSM* living with HIV, by race/ethnicity, County of Santa Clara, 2020



*Includes MSM and MSM & IDU.

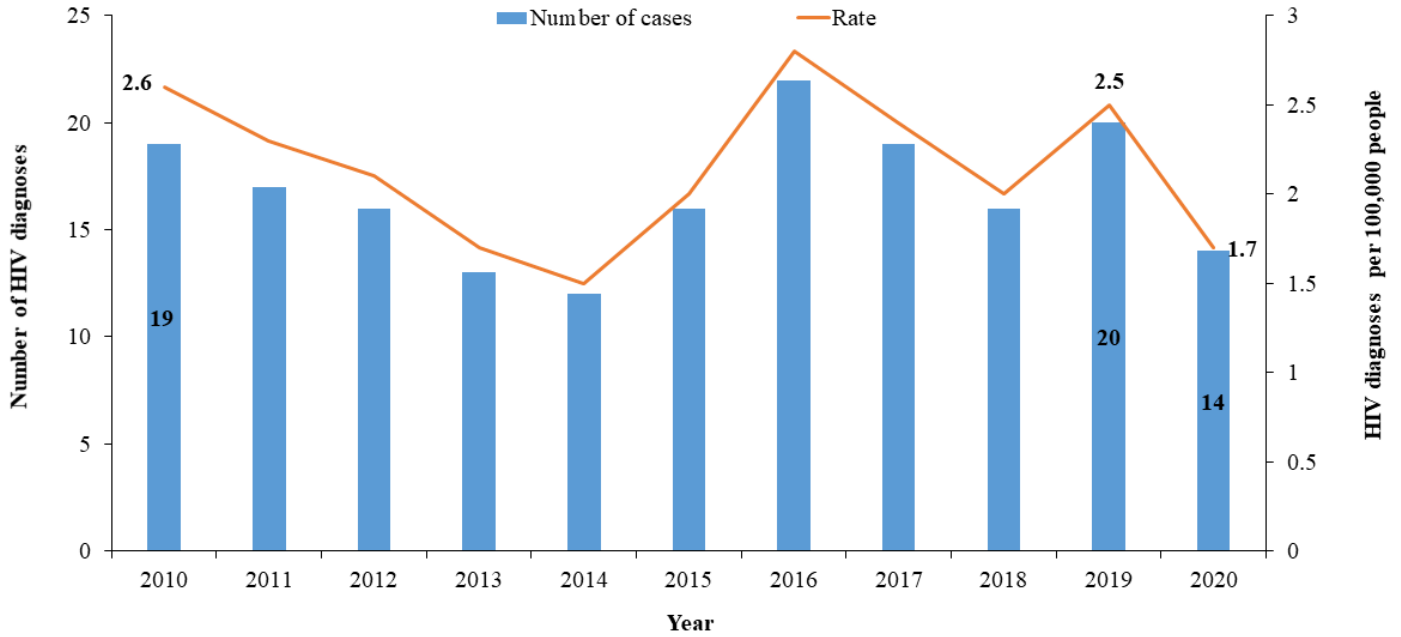
Source: Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional.

HIV among Women

In 2019 and 2020, 20 and 14 women, respectively, ages 13 and older were newly diagnosed with HIV in the County of Santa Clara. The rate of HIV diagnoses among women aged 13 and older declined from 2010 to 2014, then rebounded in 2015 and 2016 before again declining to 2.0 in 2018. The rate then increased to 2.5 in 2019 and decreased again in 2020 to 1.7 (Figure 65).

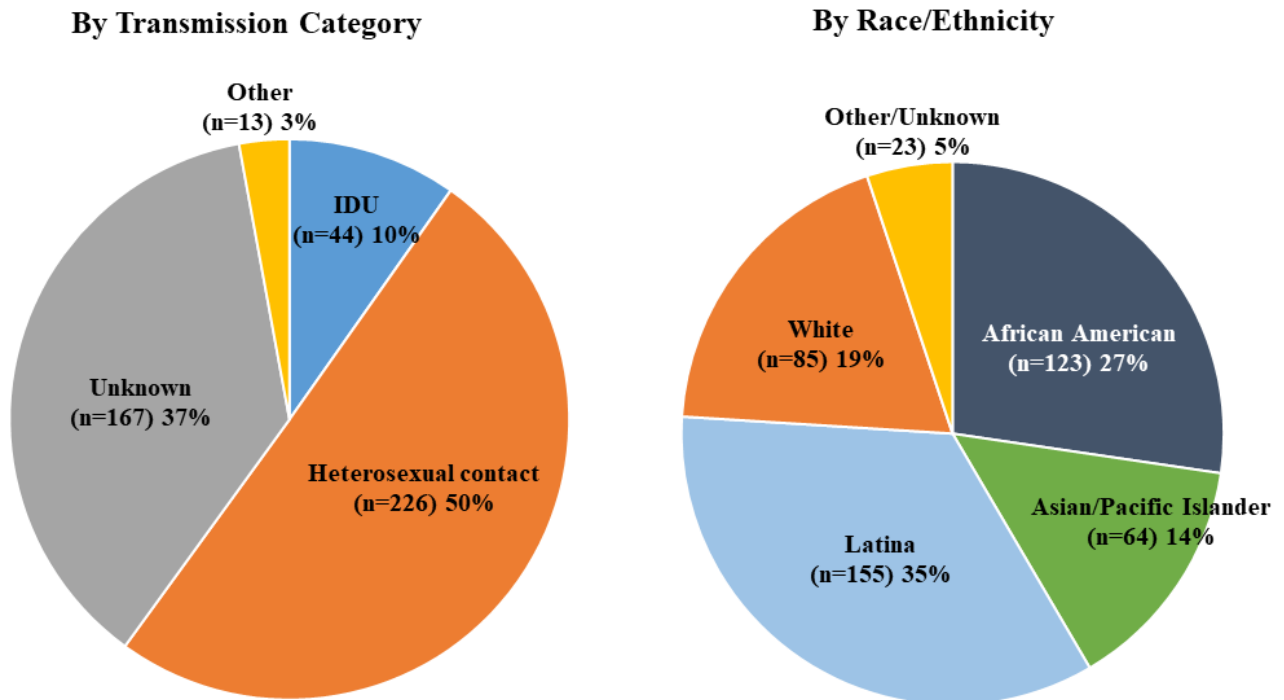
Among all 450 women living with HIV in 2020, 35% were Hispanic/Latinx, 27% were African American/Black, 19% were white, and 14% were Asian/Pacific Islander. Half (50%) of women living with HIV in the county were associated with transmission through heterosexual contact compared to 10% through injection drug use. Over a third (37%) of women living with HIV had no known source of HIV acquisition (Figure 66).

Figure 65: Number and rate of women ages 13+ newly diagnosed HIV, County of Santa Clara, 2010 – 2020



Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 66: Women living with HIV by transmission category and race/ethnicity, County of Santa Clara, 2020



Source: Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional.

HIV among Adolescents and Young Adults

In 2020, there were 15 new HIV diagnoses among adolescents and young adults ages 13 to 24 years. Among all 241 adolescents and young adults diagnosed with HIV between 2010 and 2020, the majority were male (92%), Hispanic/Latinx (54%) and MSM (82%), including MSM who used injection drugs (3%). Adolescents and young adults diagnosed with HIV were less frequently associated with transmission through heterosexual contact (2%) and injection drugs, including MSM who used injection drugs (5%) (Table 4).

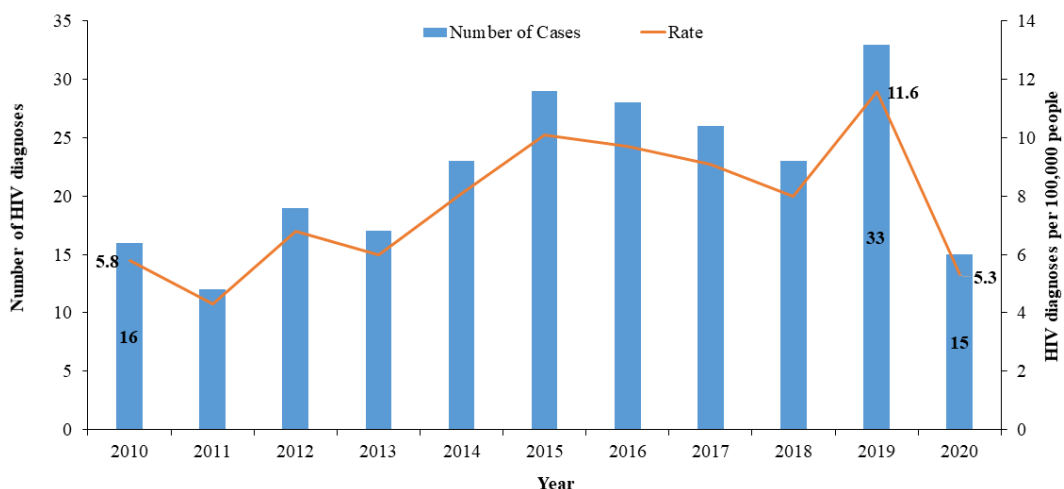
The rates of HIV among those ages 13 to 24 steadily increased from 5.8 per 100,000 people in 2010 to 11.6 in 2019, then decreasing by over 50% to 5.3 in 2020 (Figure 67). The number of new HIV diagnoses more than doubled from 2010 (16) to 2019 (33), before decreasing by over 50% in 2020 (15) (Figure 67).

Table 4: Adolescents and young adults ages 13-24 with new HIV diagnosis by demographic and transmission characteristics, County of Santa Clara, 2010–2020

| Demographic Characteristic | Group | N | Percent (%) |
|------------------------------|------------------------|------------|-------------|
| Gender | Female | 15 | 6 |
| | Male | 221 | 92 |
| Race/Ethnicity | African American/Black | 22 | 9 |
| | Asian/Pacific Islander | 33 | 14 |
| | Hispanic/Latinx | 129 | 54 |
| | White | 47 | 20 |
| | Other/Unknown | 10 | 4 |
| Transmission Category | MSM | 190 | 79 |
| | IDU | 4 | 2 |
| | MSM & IDU | 7 | 3 |
| | Heterosexual contact | 5 | 2 |
| | Other/Unknown | 35 | 0 |
| Overall | Total | 241 | 100 |

Source: The County of Santa Clara Public Health Department, eHARS data as of July 2, 2021, and are provisional.

Figure 67: Number and rate of newly diagnosed HIV among adolescents and young adults ages 13–24, County of Santa Clara, 2010 – 2020



Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

HIV among People Ages 50 and Older

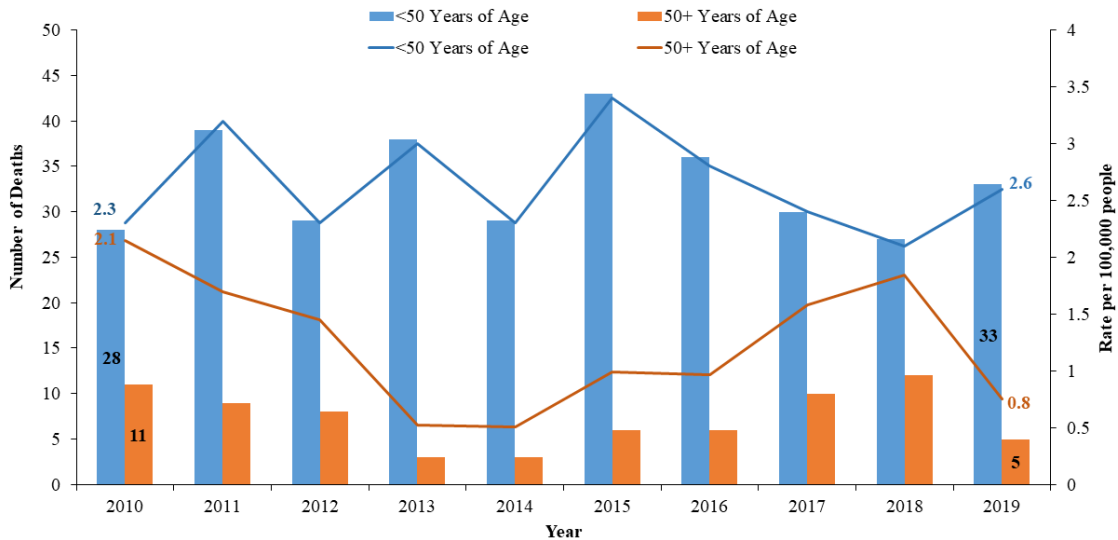
In 2020, there were 16 people ages 50 years and older who were newly diagnosed with HIV. In 2020, among people newly diagnosed with HIV in Santa Clara County, 93.9% of people less than 50 years of age were linked to care within one month, compared to 87.5% of people ages 50 or older. The rest of the care continuum was very similar between those less than 50 years of age and those 50 years of age or older: the percent of people in care (75% vs. 74.6%), the percent of people retained in care (47.7% vs. 48.4%), and the percent virally suppressed (67.8% vs. 67.0%).

Since 2010, the HIV mortality rate has increased from 2.3 deaths to 2.6 deaths per 100,000 people among those less than 50 years of age and has decreased from 2.1 to 0.8 deaths per 100,000 people among those ages 50 and older. In 2019, there were 33 deaths among those less than 50 years of age, and 5 deaths among those 50 years of age or older. Additionally, the HIV mortality rate among those less than 50 years of age was nearly triple that of those 50 years of age or older (Figure 69).

Figure 68: HIV continuum of care, by age group, County of Santa Clara, 2020



Figure 69: HIV mortality rate, by age group, County of Santa Clara and United States, 2010 – 2019



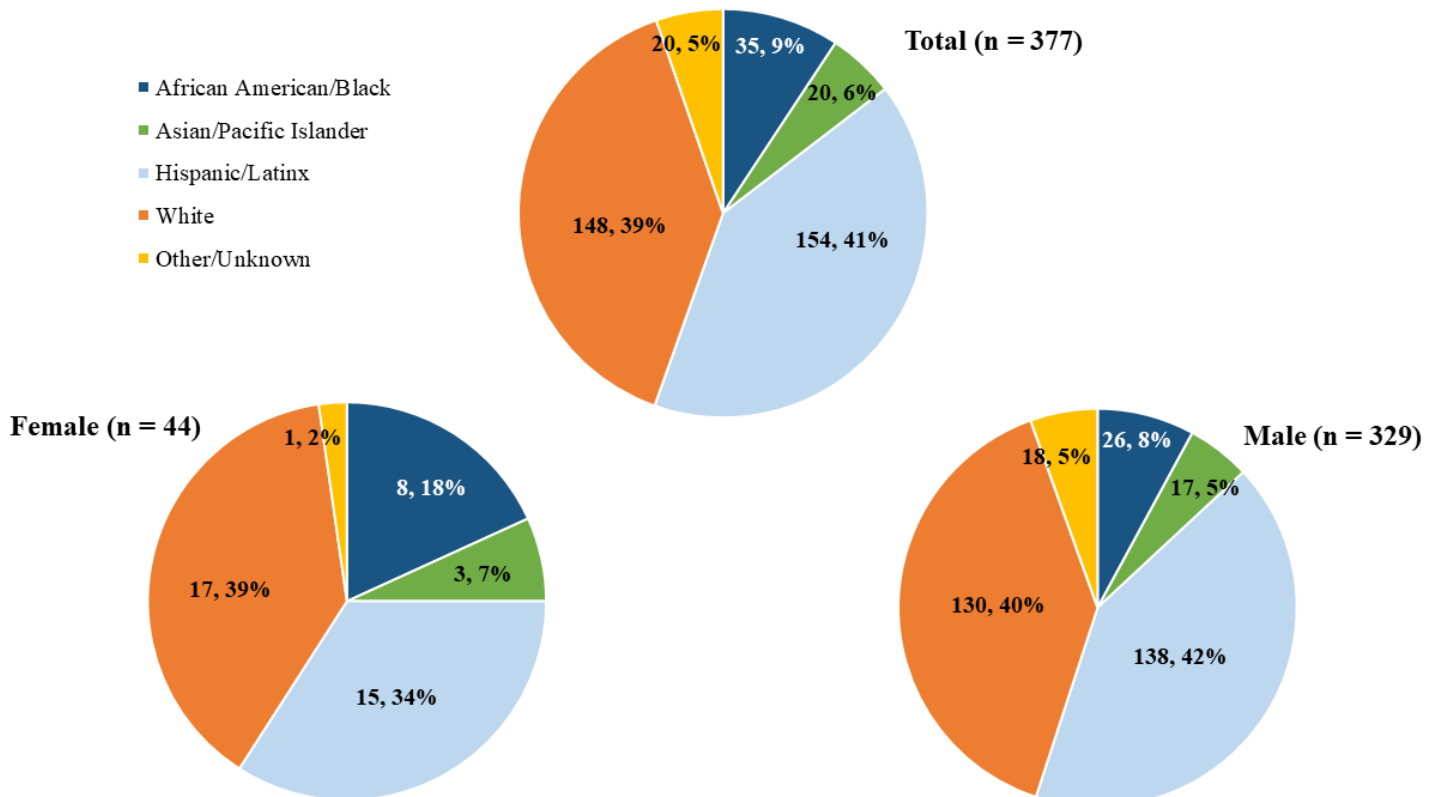
Source: 1. Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

HIV among People Who Inject Drugs

Among all PLWH in the County of Santa Clara County in 2020, 377 had a history of IDU. More than half (58%, 219) also identified as MSM (Table 3). 87% of PLWH reporting IDU were males. Overall, the majority of IDU cases were white (38%) and Hispanic/Latinx (38%); African American/Blacks and Asian/Pacific Islanders accounted for 13% and 6%, respectively. Hispanic/Latinx male (42%) and white female (39%) cases most frequently reported having a history of IDU (Figure 72). Viral load suppression among PLWH who reported IDU varied by race/ethnicity and sex (Figure 73).

A time trend analysis was conducted to track changes in the number and proportion of HIV cases associated with injection drug use (both IDU only and MSM & IDU) in the County of Santa Clara (Figure 74). Before 1995, 18% of HIV cases were among people who injected drugs, which significantly decreased to 14% for the period from 1995-2005 and to 11% for period after 2005 until 2020 ($p < 0.0001$). The county established the Needle Exchange Program (NEX) in 1994, which was the state's fourth such program at the time. In fiscal year 2018, approximately 8% (55 clients) of NEX Program participants reported having an HIV diagnosis¹³. The significant reduction in the percentage of HIV cases associated with injection drug use in the County of Santa Clara may demonstrate the effectiveness of the NEX program over the past 25 years in successful reduction of HIV transmission via sharing of needles and other injection equipment.

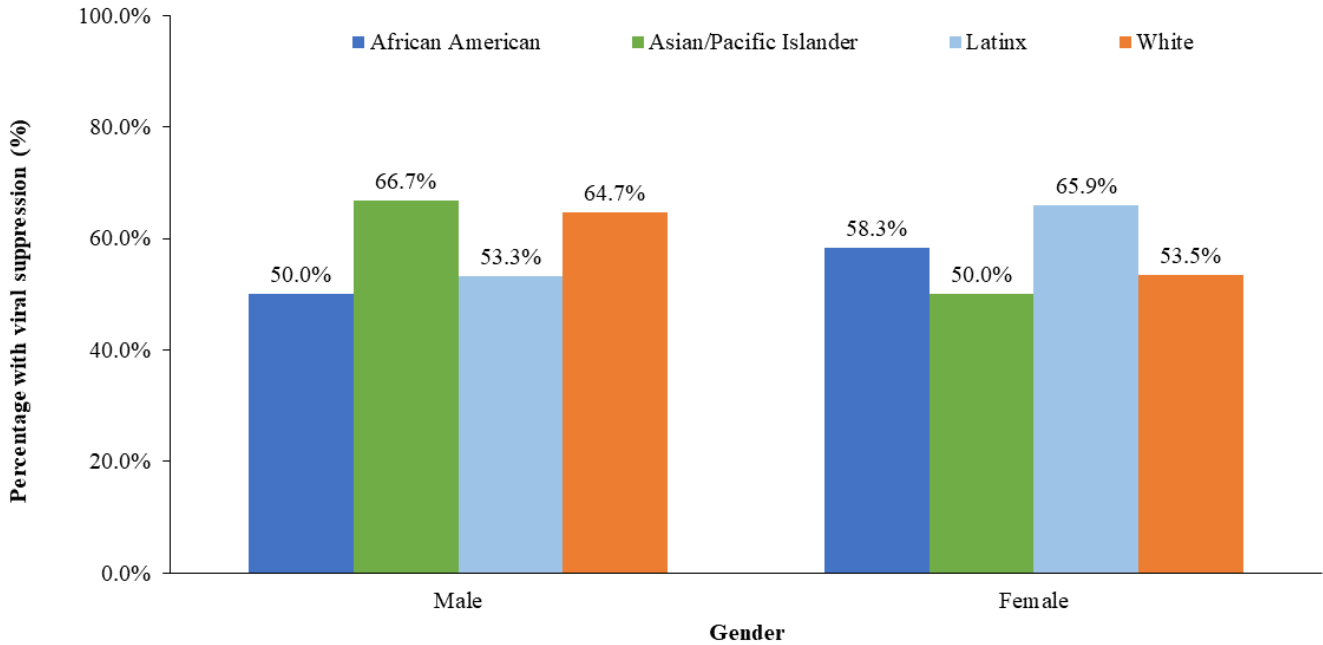
Figure 70: Injection drug use among people living with HIV, by gender* and race/ethnicity, County of Santa Clara, 2020



Source: Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional. Gender Variable name and categories are limited by how the California Department of Public Health is able to collect sexual orientation and gender identity (SOGI) data.

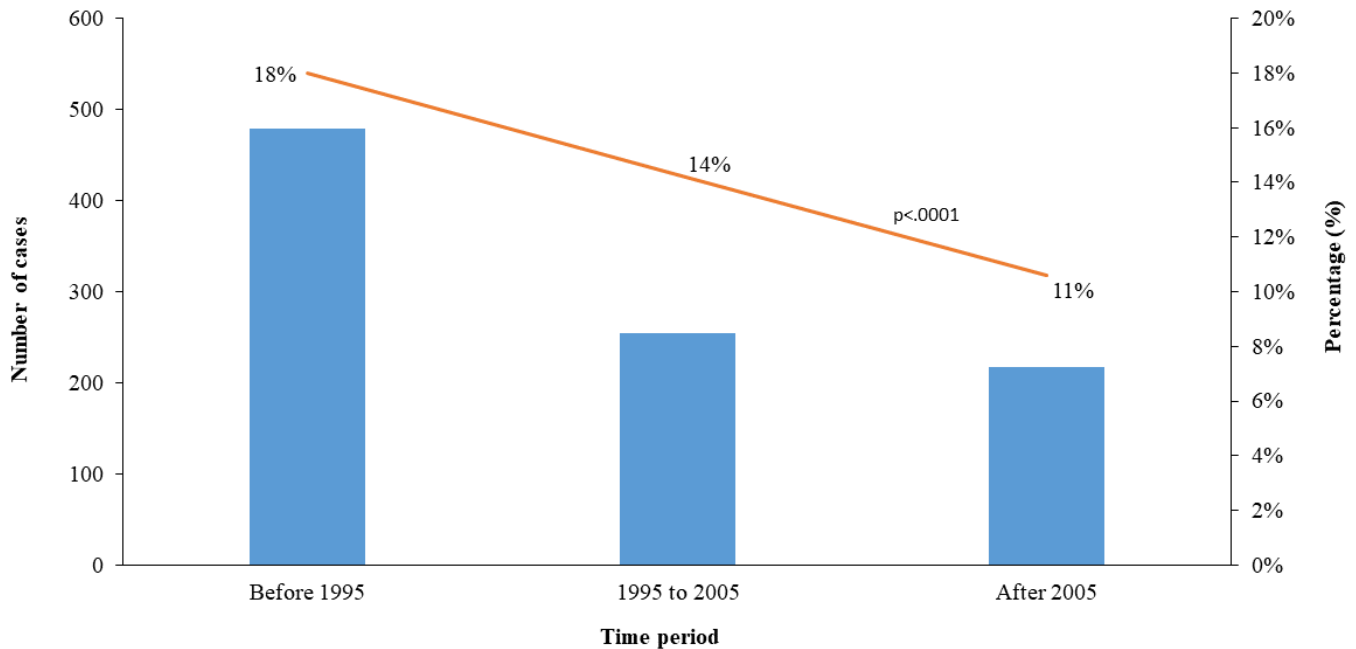
¹³ County of Santa Clara Public Health Department, Needle Exchange Program Annual Report 2018.

Figure 71: Viral suppression among people living with HIV* who reported IDU, by sex and race/ethnicity, County of Santa Clara, 2020



*People who were diagnosed with HIV through 2019 and alive in 2020, with most recent HIV viral load in 2020 less than 200 copies/ml. Source: Santa Clara County Public Health Department, eHARS data as of July 02, 2021, and are provisional.

Figure 72: HIV diagnoses associated with Injection Drug Use (IDU only and MSM & IDU) before 1995, 1995 –2005, and after 2005, County of Santa Clara

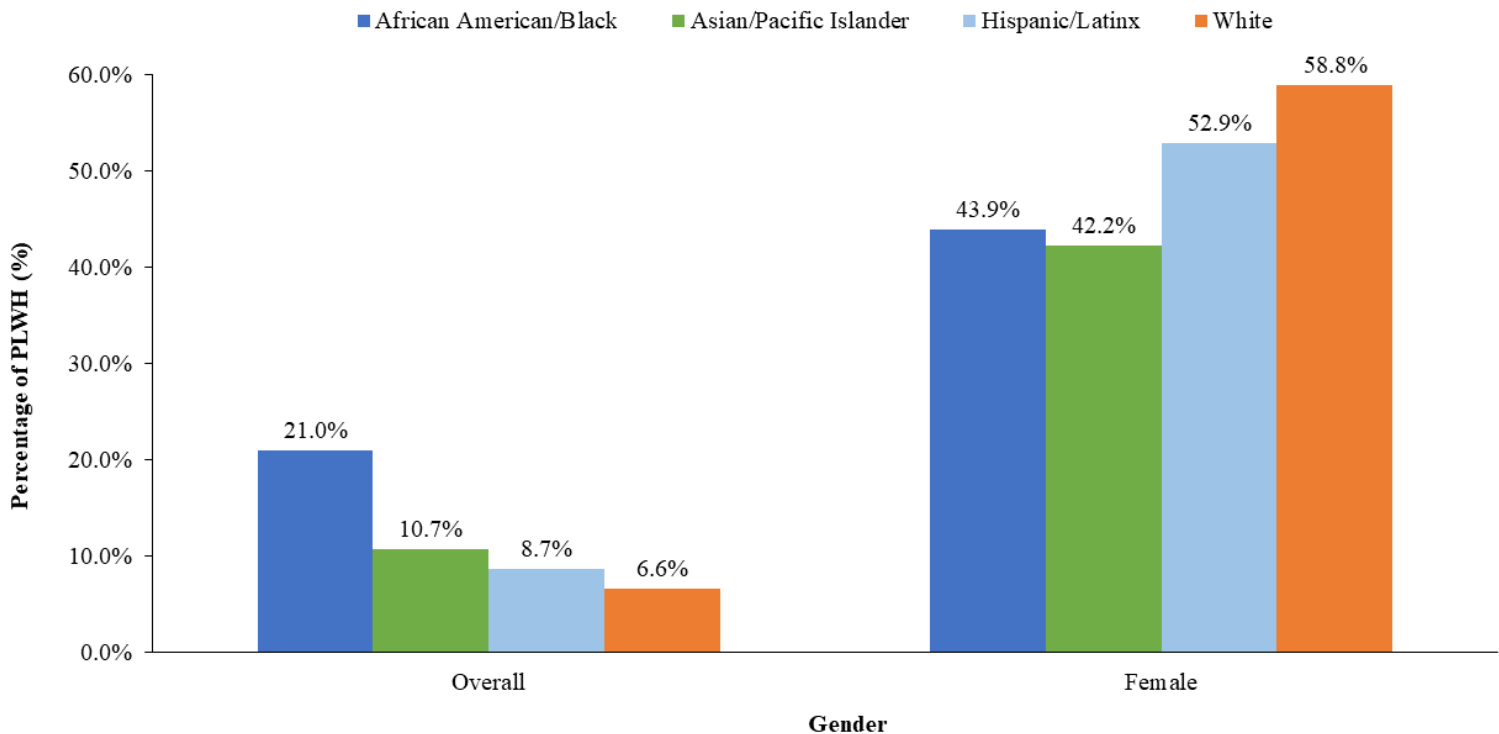


Source: Santa Clara County Public Health Department, eHARSdata as of July 2, 2021.

HIV among Heterosexuals

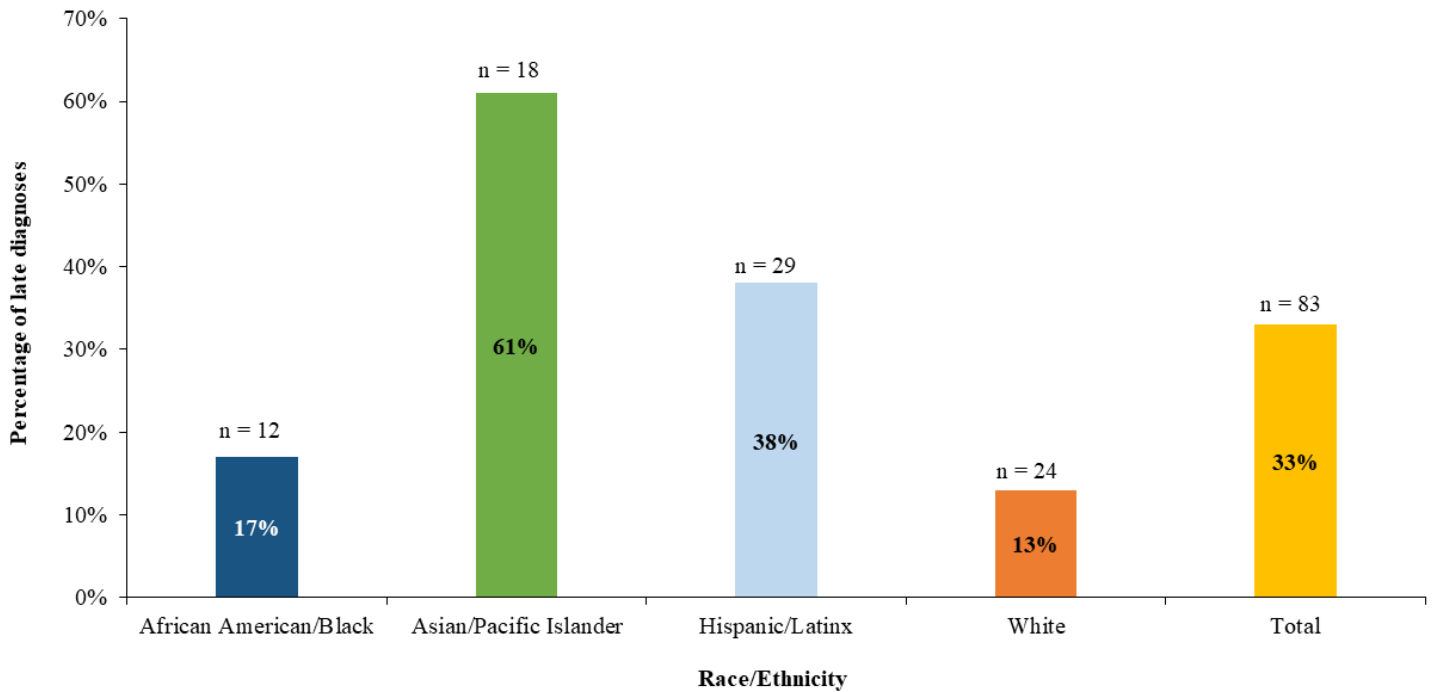
In 2020, 10% of PLWH in the County of Santa Clara reported having acquired HIV through heterosexual contact (Table 3). Overall, African American/Blacks living with HIV were more likely to report transmission through heterosexual contact (21.0%), followed by Asian/Pacific Islanders (10.7%), Hispanic/Latinx (8.7%) and whites (6.6%). Fewer African American/Black females (43.9%) and Asian/Pacific Islander females (42.2%) living with HIV were associated with heterosexual contact compared to Hispanic/Latinx (52.9%) and white females (58.8%) (Figure 75). However, these figures are likely underestimates for African American/Black and Asian/Pacific Islander females who had the highest percentage of cases with unknown mode of transmission. Among HIV cases associated with heterosexual transmission, the percentage of people with late diagnoses were highest among Asian/Pacific Islanders (61%) and Hispanic/Latinx (38%) (Figure 76).

Figure 73: Percentage of people living with HIV associated with heterosexual transmission, by race/ethnicity and sex, County of Santa Clara, 2020



Source: Santa Clara County Public Health Department, eHARS data as of July 2, 2021, and are provisional.

Figure 74: Percentage of people with late diagnoses* among HIV cases associated with heterosexual transmission, by race/ethnicity, County of Santa Clara, 2020



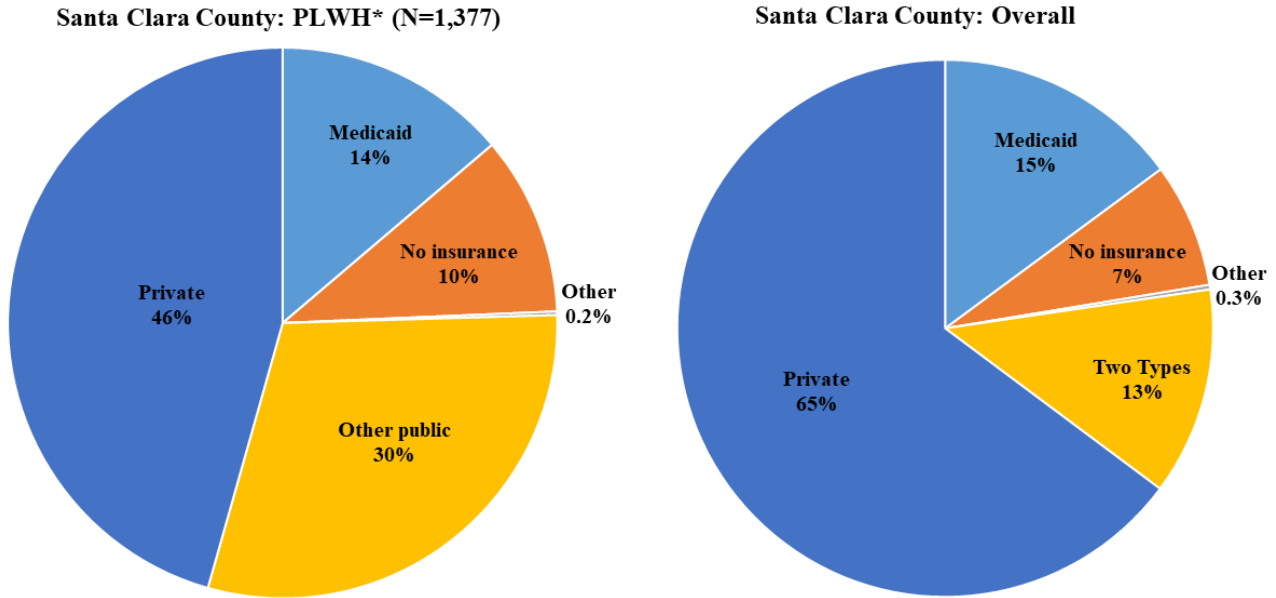
*Late diagnoses is defined as having AIDS diagnosis within 3 months of diagnosis of HIV infection.
 Source: County of Santa Clara Public Health Department, eHARS data as of July 2, 2021, and are provisional.

Health Insurance Status at HIV Diagnosis

Among 1,625 people who were diagnosed with HIV between 2010 and 2020 in Santa Clara County, 1,377 (85%) provided information regarding their health insurance status at the time of HIV diagnosis. Nearly half (46%) of those reported having private insurance, Medicaid accounted for 14% of insurance coverage, and another 30% of cases reported having other types of public insurance. No Medicare coverage was reported. About 10% of people did not have any type of insurance coverage at the time of their HIV diagnosis (Figure 77). In the county as a whole, 65% of individuals reported having private insurance, 15% having Medicaid, and 7% without any type of insurance.

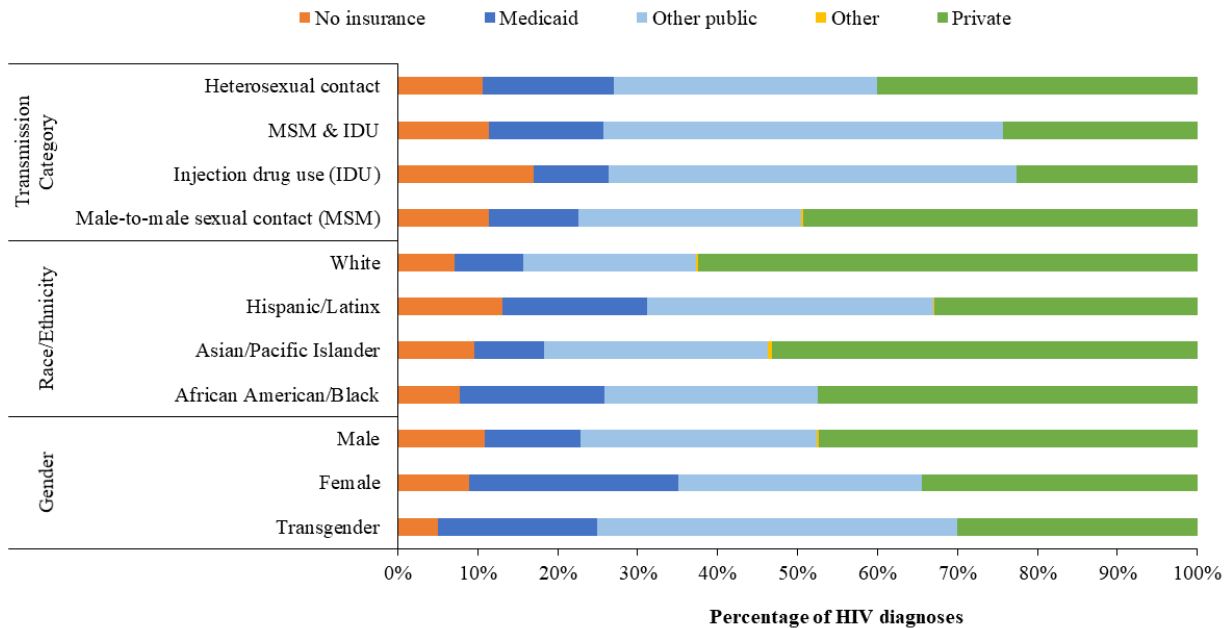
Figure 78 shows people who use injection drugs (17%), male (11%), and Hispanic/Latinx (13%) were three subgroups most likely to lack insurance coverage at the time of HIV diagnosis. Females (26%), African Americans/Blacks (18%), and heterosexual (16%) reported the highest percentage of Medicaid. Males (47%), white (62%), and MSM (49%) groups reported the highest percentages of private insurance coverage, whereas transgender (30%), injection drug users (23%), and Hispanic/Latinx (33%) groups reported the lowest percentages.

Figure 75: Health insurance status among PLWH* at the time of HIV diagnosis and among the overall population, County of Santa Clara, 2010 – 2020



*People Living with HIV; Source: 1.) Santa Clara County Public Health Department, eHARSdata as of July 02, 2021. 2.) State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year - July 1, 2010–2020, December 2020; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, March 2021.

Figure 76: Health insurance at the time of HIV diagnosis, by demographic and transmission characteristics, County of Santa Clara, 2010 – 2020



Source: County of Santa Clara Public Health Department, eHARS data as of July 2, 2021.

Country of Origin

Overall, 94% of 6,778 people who were diagnosed with HIV provided valid information regarding their country of origin: including 4,676 US–born cases and 1,699 foreign–born cases. Compared to foreign–born cases, US–born HIV patients were more likely to be males (91% vs. 81%), white (59% vs. 7%), MSM (68% vs 57%), IDU (9% vs. 2%), and MSM & IDU (9% vs. 3%) cases. Meanwhile, compared to US-born cases, foreign born cases had higher proportions of females and transgenders, as well as reported heterosexual transmission. (Table 5).

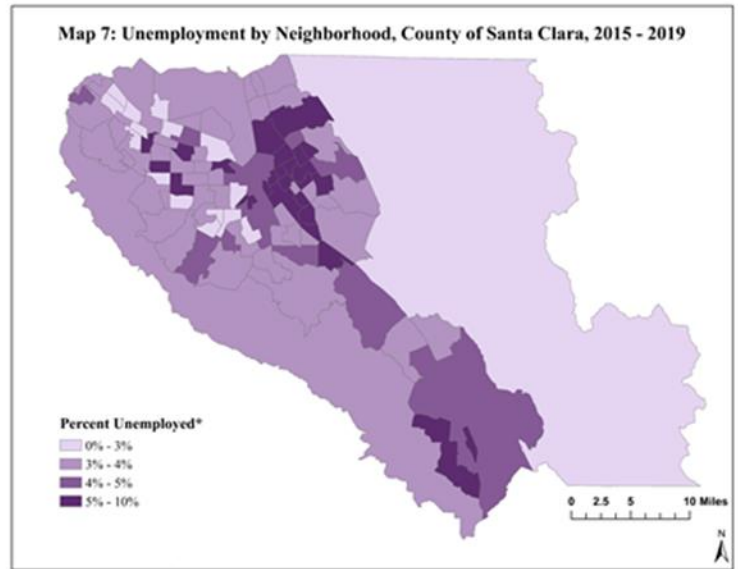
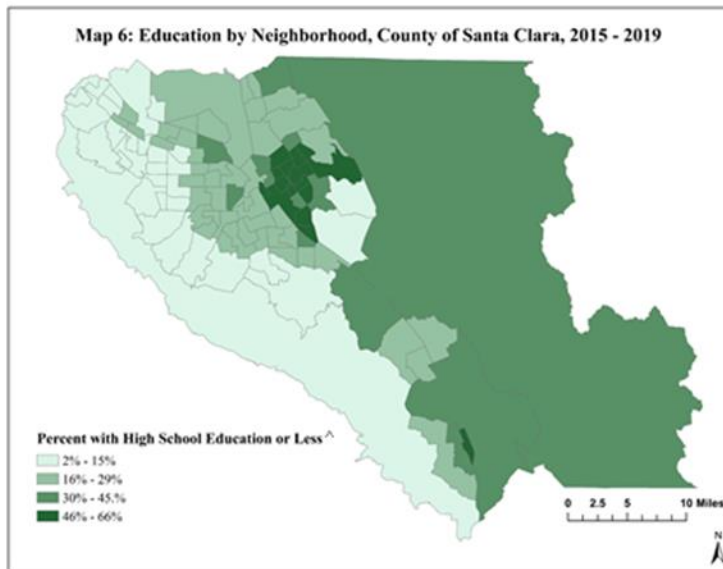
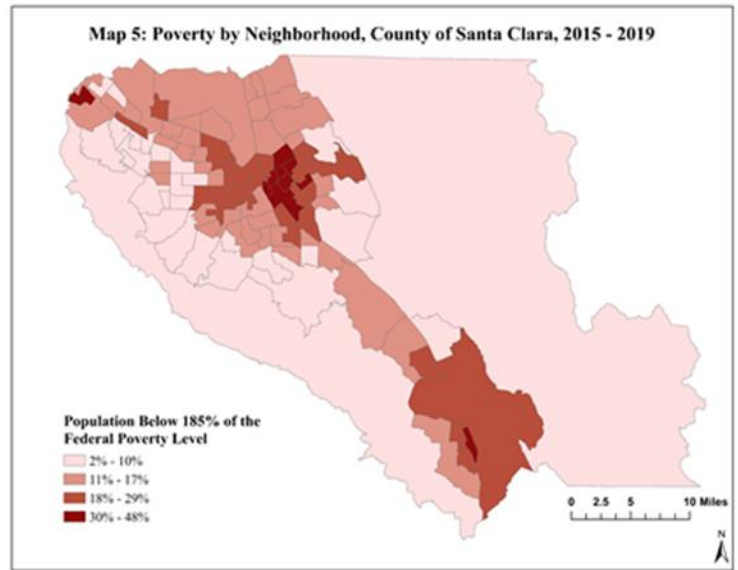
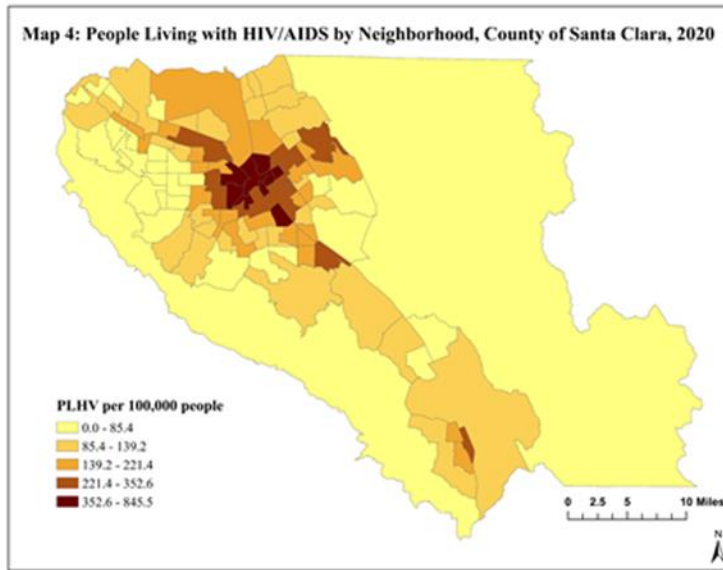
Table 5: People diagnosed with HIV, by country of origin, gender, and transmission category, County of Santa Clara, 1983-2020

| | | U.S. Born | Foreign Born |
|-----------------------------------|------------------------|---------------------|---------------------|
| Demographic Characteristic | Group | N (Column %) | N (Column %) |
| Gender | Female | 411 (8.8) | 292 (17.2) |
| | Male | 4240 (90.7) | 1380 (81.2) |
| | Transgender | 25 (0.5) | 27 (1.6) |
| Race/Ethnicity | African American/Black | 474 (10.1) | 177 (10.4) |
| | Asian/Pacific Islander | 116 (2.5) | 393 (23.1) |
| | Hispanic/Latinx | 1197 (25.6) | 972 (57.2) |
| | White | 2760 (59.0) | 120 (7.1) |
| | Other/Unknown | 129 (2.8) | 37 (2.2) |
| Transmission Category | MSM | 3189 (68.2) | 970 (57.1) |
| | IDU | 435 (9.3) | 39 (2.3) |
| | MSM & IDU | 412 (8.8) | 48 (2.8) |
| | Heterosexual contact | 290 (6.2) | 263 (15.5) |
| | Other/Unknown | 350 (7.5) | 379 (22.3) |
| Overall | Total | 4,676 (100) | 1,699 (100) |

Source: The County of Santa Clara Public Health Department, eHARS data as of July 2, 2021, and are provisional.

B. Geographic Distribution of HIV and Social Determinants

Geographic areas with high rates of people living with HIV/AIDS were concentrated in the north central part of the county, as well as in the more rural southern region (Map 4). Many of these areas of high HIV prevalence have been associated with higher poverty levels (Map 5), lower education attainment (Map 6), and higher rates of unemployment (Map 7).



Source: American Community Survey (ACS) 2015-2019; Santa Clara Public Health Department, eHARS, data as of July 2, 2021

[^]Among those ages 25 years or older

^{*}Among those ages 16 years or older

V. Technical Notes

Overall

SCCPHD collects information on gender identity for HIV and STI cases when it is available. The majority of transgender cases reported in the County are trans female (male-to-female). Due to the small number of reported trans male cases (female-to-male), data are combined with trans female cases to protect their confidentiality. Our report likely underestimates the number of transgender persons affected by HIV or STIs because data on gender identity collected for case reporting is limited.

Data for the County of Santa Clara prior to 2017 lacks information distinguishing sex assigned at birth (based on genetics, hormones, and/or physical features) from gender identity. In this report, cases are classified as male, female, or transgender. However, this classification conflates the concepts of sex and gender while limiting the inclusion of the full spectrum of gender identity and sexual orientation. Therefore, data presented elsewhere in this report that describe a person by gender or sex (including the transmission category MSM) prior to 2017 overlooks the significant impact of HIV or STIs on transgender and non-binary populations.

Chlamydia, Gonorrhea, and Early Syphilis

This report includes cases reported to the statewide infectious disease surveillance systems, Automated Vital Statistics System (January 1, 2010 to June 30, 2011) and California Reportable Disease Information Exchange (CalREDIE, July 1, 2011 to December 31, 2020), reported as of July 2, 2021. Chlamydia and gonorrhea cases include those diagnosed with pelvic inflammatory disease (PID). Early syphilis refers to cases of primary, secondary, and early non-primary non-secondary syphilis, the most infectious forms of syphilis. Other forms of syphilis cases were excluded for the purposes of this report except for syphilis cases among pregnant women. The data are provisional and subject to change.

Rates per 100,000 people were calculated for the numbers of reported chlamydia, gonorrhea, and early syphilis cases with rates specific to age, sex, and race/ethnicity. The population denominators used to compute these rates were based on the State and County population projections files for 2010 to 2060 developed by State of California, Department of Finance in March 2021. Rates of early syphilis cases among MSM were not provided due to lack of reliable population estimates of these two groups.

Due to large proportions of missing race/ethnicity information for chlamydia and gonorrhea cases, cases with missing information were redistributed for these two diseases based on the proportions of the known race/ethnicity cases with consideration of age. This imputation was done using an existing algorithm from the California Department of Public Health STI Prevention and Control Branch. This algorithm is built upon a strong assumption that cases without race/ethnicity information have the same racial/ethnic distribution as the cases with complete information. Given that the accuracy of this assumption is hard to test, the data on case counts and rates of chlamydia and gonorrhea for racial/ethnic groups and associated sex and age groups must be interpreted with caution. They may not reflect the true disease distribution by race/ethnicity and may only be used for comparisons with the State and other jurisdictions within California that use the same adjustment technique.

Data on sex and sexual behavior was collected from early syphilis cases during disease investigation and partner services interviews, and case patients were grouped into four categories: females, men who have sex with men

(MSM) including those who have sex with men and partners of other genders, men who have sex exclusively with ciswomen (MSW), and men whose partners' gender is unknown or not reported (MSUnknown).

Geocoding was performed for chlamydia and gonorrhea cases in 2020 and early syphilis cases from 2016 to 2020. Cases with missing address or no residential address such as homeless individuals, people incarcerated or in health centers/clinics were excluded. Overall, 4,013 (92%) chlamydia cases, 2,122 (95%) gonorrhea cases, and 2,268 (92%) early syphilis cases were successfully geocoded. The denominators used for calculating the rates by geographic area were 2015-2019 American Community Survey (ACS) data. The resulting rates were broken up into quantiles. Neighborhood boundaries and names were defined using the same methodology as the Santa Clara County Public Health Department Neighborhood Profiles.

HIV

This report presents information extracted from the national enhanced HIV/AIDS reporting system (eHARS), which includes HIV cases reported to the County of Santa Clara Public Health Department (SCCPHD) through July 2, 2021. As such, the data may not represent HIV-infected residents who have not been tested or who were tested at a time when the infection could not be detected. Consistent with national reporting standards, individuals diagnosed with HIV infection include persons classified as stage 3 (AIDS).

Given the small number of HIV diagnoses among children under 13, most data presented in this report are for adults and adolescents ages 13 and older.

Rates per 100,000 people were calculated for (1) the numbers of HIV diagnoses, (2) the numbers of deaths of persons diagnosed with HIV, and (3) the numbers of PLWH. Due to instability, rates that are based on numbers less than 12 should be interpreted with caution. Population denominators for calculating rates were based on California County Population Estimates and Components of Change by Year — July 1, 2010–2020 and State and County Population Projections by Race/Ethnicity and Age, 2010-2060 from the California Department of Finance.

The analysis on HIV infection among MSM includes all cases of men who report sexual contact with male partners, including men who have sex with both men and people of other genders, as well as men who report both sex with male partners and injection drug use as risk factors for HIV acquisition (MSM & IDU).

Data for recent years should be interpreted with caution due to reporting delay, particularly for 2020. Reporting delay occurs when HIV diagnoses or deaths are not reported to SCCPHD in a timely manner. Analysis of HIV deaths was restricted to those diagnosed through 2017 to allow at least 12 months for deaths to be reported to SCCPHD. For 3-year survival of AIDS cases, the analysis was limited to persons diagnosed with AIDS through 2017.

STI co-infections among PLWH were identified by matching the list of PLWH who were known to be residents of the County of Santa Clara based on their current address and the list of newly reported STI cases in the County of Santa Clara in 2020. Only chlamydia, gonorrhea, and syphilis were included as STIs in this report. For our analysis, early syphilis cases include primary, secondary, and early non-primary non-secondary cases. Similarly, other syphilis cases include late syphilis or cases of unknown duration.

Additionally, data stratified by demographic and transmission characteristics for transgender population should be interpreted with caution due to small sample sizes. For our analysis of transmission risks among transgender HIV diagnoses, we combined transmission categories of MSM and heterosexual contact into a single category

“sexual contact”, and MSM & IDU into “sexual contact & IDU.” Further analyses as well as improved surveillance efforts are needed to generate reliable estimates that can more accurately describe the disproportionate burden of HIV on transgender and non-binary people.

VI. Abbreviations

AIDS: Acquired Immune Deficiency Syndrome

AVSS: Automated Vital Statistics System

CalREDIE: California Reportable Disease Information Exchange

CDC: Centers for Disease Control and Prevention

CHKS: California Healthy Kids Survey

eHARS: Enhanced HIV/AIDS Reporting System

GTZ: Getting to Zero

HIV: Human Immunodeficiency Virus

HSHC: California Healthy Store for a Healthy Community

IDU: Injection Drug Use

LGBTQ: Lesbian, Gay, Bisexual, Transgender, and Queer

MSM: Men Who Have Sex with Men

MSM & IDU: Men Who Have Sex with Men Who Also Use Injection Drugs

MSW: Men who Have Sex Exclusively with Women

MSUnknown: Men Whose Partners’ Sex is Unknown or Not Reported

PID: Pelvic Inflammatory Disease

PLWH: People Living With HIV

PrEP: Pre-Exposure Prophylaxis

PEP: Post-Exposure Prophylaxis

SCCPHD: County of Santa Clara Public Health Department

STI: Sexually Transmitted Infections