SEXUALLY TRANSMITTED INFECTIONS ANNUAL REPORT 2018-2022





TABLE OF CONTENTS

I.	What Clinicians Need to Know	3
П.	Introduction	4
III.	Chlamydia	7
IV.	Gonorrhea	13
V.	Early Syphilis	20
VI.	Early Syphilis in Childbearing Persons	26
VII.	HIV	28
VIII.	Мрох	33
IX.	Summary	34
Х.	Call to Action	35
XI.	Technical Notes	36
XII.	References	37
XIII.	Acknowledgements	38

I. WHAT CLINICIANS NEED TO KNOW

- 1. Early Syphilis (ES) in the childbearing population:
 - a. There was a significant increase in ES in women of childbearing age in 2022.
 - b. Santa Barbara County (SBC) has exceeded the threshold of 8.4 congenital syphilis (CS) cases per 100,000 live births each year since 2019, which is equivalent to 10 CS births between 2018-2022.
- 2. Case Counts and rates:
 - a. Although, chlamydia (CT) has been on the rise since 2021, counts and rates were still below pre-pandemic levels in 2022.
 - b.Rates for gonorrhea (GC) and ES have been on the rise since 2020, and surpassed pre-pandemic rates setting County records in 2022.
 - c. HIV case counts and rates have been steady between 2018-2022.
- 3. Gender in 2018-2022:
 - a. Two out of three CT cases diagnosed were in women.
 - b. Three out of five GC cases diagnosed were in men.
 - c. The majority of ES cases have been reported in men, but in 2022 there was a significant increase in female cases.
 - d. Most HIV diagnoses were in men.
 - e. Most Mpox cases were diagnosed in men in 2022.
- 4. Age in 2022:
 - a. The majority of CT cases were reported to be under 25 years old.
 - b. Although two-fifths of GC cases were under 25 years old, almost a third of the GC cases were in the 25-34 year age group showing that the average age was older than CT cases.
 - c. ES cases generally were reported to be older than CT and GC cases.
 - d. HIV cases had similar age profiles to GC cases.
- 5. Race/Ethnicity:
 - Latinos/-as residents were the highest reported race/ethnicity for each STI between 2018-2022.
 - When population was taken into account, the rates among Black/African Americans were highest in CT & GC compared to other races/ethnicities.
 - Latinos/-as had the highest rates of ES and HIV across the same time period.

I. WHAT CLINICIANS NEED TO KNOW (CONT'D)

6. Geography:

a. In 2022, North County had the highest burden of disease of CT & ES.

- i. North County and South County had the same number of reported cases of GC in that year.
- b. South County had about half of the new HIV diagnoses in 2018-2022.
- 7. Mpox was added to surveilled STIs following cluster detection in the US in May 2022 and 19 cases were reported that year.
- 8. Visit the new Santa Barbara Sexual Health Website for more information: <u>www.sbcsexualhealth.org</u>.

II. INTRODUCTION

The following report will address trends and analyses of the sexually transmitted infections (STIs) of chlamydia, gonorrhea, early syphilis, and HIV.

Although Santa Barbara County (SBC) has trended below California (CA) in STI rates over the years, SBC's STI rates have been on the rise following the height of the COVID-19 pandemic in 2021. Fortunately, in that same time frame, the County HIV infection rate remained relatively stable.

California rates and comparisons will be presented in each disease-specific section in the report.



Over the last five years, chlamydia (CT) had the highest number of cases of sexually transmitted infections in Santa Barbara County, followed by gonorrhea (GC) and early syphilis (ES) (Figure 1). Between 2020-2022, gonorrhea cases increased by about 33% (416 cases to 572) and the number of early syphilis cases increased about 25% (90 cases to 112).



*Early Syphilis includes primary, secondary, and early latent stages of the infection.

Figure 2 shows the incidence rates of the four STIs over the last five years. Although a significant increase of the CT rate was seen in 2022, the record-setting pre-pandemic CT rates have not been exceeded. By 2022, an SBC record of 129 GC cases per 100,000 was reported, marking an increase just over 15% from the five-year average GC rate of 110 cases per 100,000. While ES and HIV rates remained relatively stable over the last five years, the most recent record-breaking 2022 ES case rate of 25 cases per 100,000 is almost 20% higher than the 5-year average ES rate of 21.5.



*Early Syphilis includes primary, secondary, and early latent stages of the infection.

III. SANTA BARBARA COUNTY CHLAMYDIA RATES

Chlamydia (CT), caused by the bacterium *Chlamydia trachomatis*, is the most commonly reported infection in Santa Barbara County and California. Between 2018 to 2022, there were 9,970 reported CT infections among SBC residents. In SBC, a significant drop of reported cases in 2020 was in part due to the COVID-19 pandemic. Between 2020-2022, the SBC rate was significantly lower than CA (Figure 3). CT diagnoses disproportionately affect females, and in 2018-2022, females were two times more likely to be diagnosed (Figures 4 & 5). Individuals under 25 years of age were the age group with highest incidence (Figure 6). When race/ethnicity were considered and documented, there were proportionally more Latino/-a residents contracting CT in comparison to other races (Appendix, Table A). In 2022, nearly 50% of all cases were reported out of North County (Figure 9); the North County city of Santa Maria reported the highest city infection rate (Figure 10).



Of the 1,749 cases reported in 2022, approximately 63% did not have race/ethnicity documented highlighting a need for laboratory education. Refer to Appendix, Table A for the distribution of 2022 CT cases by race/ethnicity and gender in Santa Barbara County, when documented.

In 2022, an estimated 443,121 individuals resided in SBC per the California Department of Finance. Of those County residents, according to the U.S. Census, approximately 22.2% resided in the City of Santa Maria and 26.6% resided in Santa Barbara city. The largest racial or ethnic groups were Latino/-a (47.2%), White (42.7%), and Asian (5.9%). In SBC, 51.2% of the population were males, however, females were two times more likely to be diagnosed with CT.

In SBC, over the last five years, two out of three CT cases were women and the highest rate of CT infection between the years of 2018 to 2022 were among females. Between 2021 and 2022, the significantly higher female infection rate increased nearly 30% while the male rate increased 15% in that same time period (Figure 4 & 5).





Looking at 2022 data, over half of reported CT cases were under 25 years of age. The next age group comprising over a quarter of all cases were in the 25-34 year age group (Figure 6). Reported chlamydia cases tend to be seen in younger age groups. (Refer to Appendix for CT age rates over time.)



In the last five years, race/ethnicity was not reported in almost half of the CT cases (the Other/Multi-race/Missing category primarily consisted of undocumented cases). Of those cases with documented race/ethnicity, the majority of those cases were Latino/-a residents (figure 7). Since 2019, the CT rate among Black/African American residents has been on the decline and converged with the relatively stable rates of Latino/-a, White, and Asian residents in 2022. Additional races not shown had small values and unstable CT rates (Figure 8).







In 2022, North County saw the majority of CT cases at nearly 50% (Figure 9). Since 2018, the CT rates of the largest cities in SBC were generally higher across the South County cities of Goleta and Santa Barbara, although in 2022, Santa Maria increased and had a significantly higher rate of infection compared to the other four cities which had very similar city rates that year (Figure 10).



In 2022, when comparing gender and age groups across the five top cities in SBC, females in Santa Maria had the highest CT rate followed by females in Goleta. Although lower than all female city rates, males in Santa Barbara had a higher rate than males in Santa Maria (Figure 11). The 25-34 year age group had the highest rates across the five cities. Santa Maria had higher rates for each age group (Figure 12).



* 2021 city estimates from the US Census were used as denominators for the 2022 estimates as the US Census has not released 2022 numbers at the time of this report.



* 2021 city estimates from the US Census were used as denominators for the 2022 estimates as the US Census has not released 2022 numbers at the time of this report.

IV. SANTA BARBARA COUNTY GONORRHEA RATES

Gonorrhea (GC), is a common sexually transmitted infection caused by the bacterium Neisseria gonorrhoeae. Between 2018 to 2022, there were 2,470 reported GC infections in SBC residents. In SBC, a drop of reported cases in 2020 was in part due to the COVID-19 pandemic. Throughout 2018-2022, the SBC rate was significantly lower than CA (Figure 13). GC diagnoses disproportionately affect males, and in 2022, three out of five GC cases were likely to be male (Figures 14 & 15). Individuals under 25 years of age were the age group of highest incidence (Figure 16). When race/ethnicity were considered and documented, there were proportionally more Latino/-a residents contracting GC in comparison to other races (Appendix, Table B), but the incidence rate was highest amongst Black/African American residents (Figure 18). In 2022, North and South County had an equal number of reported cases (Figure 19). Over the last five years, Santa Barbara city had a higher rate than Santa Maria, but in recent years, the infection rates of both cities were hovering around 160 cases per 100,000 population (Figure 20). Additionally, although uncommon, disseminated gonorrhea infection (DGI) has continued to be reported over the years (15 cases between 2019-2022 or about 4 cases a year). Visit the California Department of Public Health to learn more about DGI.



The following figures (14 and 15) show the distribution and rates of GC by gender in SBC. Over the last five years, three out of five GC cases were likely to be male. Both the male and female infection rate have been on an incline since 2020. While the female rate began to plateau in 2022, the male rate continued to increase to a record high of 165 cases per 100,000 population; an increase of about 20% from the previous year.





Looking at 2022 GC cases by age, about three-fourths of cases were under 35 years of age (Figure 16). When comparing to age breakdowns of CT cases in that same time period (Figure 6), GC cases tended to be slightly older; 16% of GC cases were reported in 35-44 year olds while about 9% of CT cases were in that age group. (Additional age rates are available in the Appendix.)



When looking at race/ethnicity over the last five years (Figure 18 on the following page), Black/African American residents had a higher infection rate compared to the Latino/-a and White SBC populations. There were significant differences in rates across these three race/ethnicity populations all five years. Due to small counts, American Indian/Alaskan Native, Asian, and Pacific Islander rates were not displayed. The Multi-race/Other category was not depicted due to large overlapping CI, signifying insignificant differences in rates with Black/African American and Latino/-a rates.

Figure 17 shows that the majority of GC cases were reported in Latinos/-as, but when taking into account the population of each race/ethnicity, GC rates were higher for Blacks/African Americans compared to the rates within other races/ethnicities (Figure 18). Additionally, the category of Other race, multiple races, and Unknown (missing) comprised about a fifth of the reported cases potentially impacting the accuracy of the reported rates in Figure 18.







Gonorrhea cases were more evenly dispersed across Santa Barbara County in 2022 compared to CT case counts. The North and South regions saw the same number of cases (Figure 19).

On the following page, comparing city rates, there were only significant differences seen between Santa Maria and Santa Barbara cities (Figure 20). Although Santa Barbara had previously significantly higher rates compared to Santa Maria, since 2020, Santa Maria rates began to increase as Santa Barbara rates stabilized. This resulted in similar infection rates in 2021 and 2022.





When reviewing rates across gender and city residency in 2022 (Figure 21), significant differences between males and females were seen in three of the five cities: Santa Maria, Goleta, and Santa Barbara. There was no significant difference between male rates across the cities or female rates across the cities due to overlapping CIs.

When reviewing rates across age groups and city residency in 2022 (Figure 22), Santa Maria, Orcutt, Lompoc, and Goleta saw higher rates in the 25-29 age group, followed by the 20-24 age group. Although Santa Barbara city rates skewed younger when compared to the other cities, due to the overlapping CIs, there were no significant differences in rates between the five age groups spanning the ages of 15-44. Enhanced STI education and screening of 15-29 year-olds may have a positive impact on lower STI rates.





* 2021 city estimates from the US Census were used as denominators for the 2022 estimates as the US Census has not released 2022 numbers at the time of this report.

V. SANTA BARBARA COUNTY SYPHILIS RATES

Syphilis is a sexually transmitted infection caused by the bacterium Treponema pallidum. Early syphilis (ES) cases are designated by the following staging: primary, secondary, and early latent stages. Between 2018 to 2022, there were 482 reported ES infections in SBC residents. In SBC, a drop of reported cases in 2020 was in part due to the COVID-19 pandemic. Throughout 2018-2022, the SBC rate was significantly lower than CA rate, and lower than the US rate since 2020 (Figure 23). ES diagnoses disproportionately affect males, but in 2022, a substantial increase in female cases was reported (Figures 24 & 25). Individuals under 25 years of age followed by 25-34 years of age were the age groups of highest incidence (Figure 26). When race/ethnicity were considered and documented, there were proportionally more Latino/-a residents contracting ES in comparison to other races (Appendix, Table C), and the incidence rate was also highest amongst Latino/-a residents (Figure 27). In 2022, three out of five cases resided in North County (Figure 29). Over the last five years, Santa Barbara city had a higher incidence rate than Santa Maria, but in 2022 the infection rate of Santa Maria (56 cases per 100,000 population) surpassed Santa Barbara (Figure 30).



Figures 24 and 25 show the distribution of ES infection by gender in Santa Barbara County. Over the last five years, four out of five cases were male. Of concern, in 2022, the female infection rate significantly increased by about two-and-a-half times compared to the 2021 rate, while the male rate remained stable.





Early syphilis cases were reported across all ages in 2022. In contrast to CT and GC, where over three-fourths of cases were in residents under 35 years of age, only half of all ES cases were in those younger age groups. A quarter of ES cases were reported in each of the two older age groups of 35-44 and 45 and older (Figure 26). Rates by age group over the last 5 years are available in the Appendix.



On the following page, when looking at race/ethnicity, case counts were only large enough in Latino/-a and White residents to display counts annually and about 20% of cases each year had undocumented race/ethnicity (Figure 27). Latinos/-as incidence rates were overall higher compared to White rates, but only significantly higher in 2020 and 2022. In 2022, the Latino/-a rate was about three times higher than the rate of White residents (Figure 28).





In 2022, the year with the highest number of ES cases reported in SBC (N=112), almost two of every three cases were residents of North County (Figure 29).



Santa Maria and Santa Barbara cities were the only cities with large enough case counts available to report annually (Figure 30). Over the last five years, Santa Barbara initially had higher infection rates than Santa Maria, but in 2020 and 2021 the city rates were similar and steady. Then in 2022, Santa Maria surpassed the Santa Barbara rate by nearly three-fold (56 cases per 100,000 vs 20 cases per 100,000), highlighting a need for more STI resources and interventions in North County.





VI. Early Syphilis Rates in Childbearing Persons

It is vitally important to screen all pregnant and childbearing-age persons (PCP; person 15-44 years old) for syphilis to prevent the detrimental disease effects on PCP and infants. Congenital syphilis (CS) can have a major health impact on a baby, but how it affects the baby's health depends on when syphilis was acquired in pregnancy and if — or when — the pregnant parent received treatment for the infection. Untreated syphilis in pregnant persons (PP) can cause miscarriage, stillbirth, or the baby's death shortly after birth. Approximately 40% of infants born to a PP with untreated syphilis can be stillborn or die from the infection as a newborn.

Early syphilis (ES) among childbearing-age persons (CP) has been on the rise in recent years. From available State data, between 2016-2020, California experienced a steep increase in ES among CP that more than doubled. Additionally, the CS rate increased over 160%, from 44 cases per 100,000 (214 cases) in 2016 to 115 cases per 100,000 (483 cases) in 2020. This was the highest number of reported CS cases since 1993.²

Table 1: Early Syphilis in Childbearing Persons (15-44 years of age)	2018	2019	2020	2021	2022
SBC Counts	10	10	14	12	34
CA Counts^	2141	2482	2457	NA	NA
SBC Rates	10.7	10.2	14.3	13.2	37.4
CA Rates^	26.6	30.9	30.6	NA	NA

<u>https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/STD-Data.aspx;</u> Table TES-8. Rates are per 100,000 population of childbearing persons 15-44 years of age.

ES Rates in Childbearing Persons (continued)

SBC saw relatively low stable rates of ES in CP between 2018 and 2021, however, in 2022 there was a near tripling of the rate from 13 to 37 cases per 100,000 residents (Table 1, on the previous page). The SBC 2022 rate of ES among CP was similar to rates seen across California in previous years (Figure 31). Of utmost concern is the impact the rising ES rates are having on the increase of reported CS. Since 2019, SBC has exceeded the threshold of 8.4 CS cases per 100,000 live births each year (a morbidity threshold set by California Department of Public Health). This equates to 10 CS births between 2018-2022. Although the rate of early syphilis (ES) in CP in Santa Barbara County is substantially lower than the State rate, where data is available, there is still work to be done.



* Early syphilis includes primary, secondary and early latent staging of syphilis; Childbearing age is defined as 15-44 years of age at time of diagnosis; CA 2021 and 2022 was unavailable as of 5/26/23.

VII. SANTA BARBARA COUNTY HIV RATES

The average rate of HIV infection in SBC is seven cases per 100,000 residents over the past five years (Appendix, Table D) and was significantly lower than the state and national rate (Figure 32). Between 2018 to 2022, there were 150 reported HIV infections in SBC residents (Figure 33). HIV diagnoses disproportionately affect males; 91% of new cases in 2018-2022 were male (Figures 34 and 35). Aggregating the data for 2018-2022, the highest rate of infection was among the 30-34 year old age group, followed by 25-29 and 35-44 year groups (Figure 36). When race/ethnicity was considered, there were proportionally more Latino/-a residents diagnosed with HIV in comparison to other races (Figure 37); Latinos/-as also had the highest incidence rate with 9 cases per 100,000 (Figure 38). Geographically, the South County region had nearly half of all newly diagnosed cases and the city of Santa Barbara had the highest rate of HIV diagnoses (13 cases per 100,000), which was about double of the overall County rate (Figures 39 and 40).



Of the 150 newly diagnosed cases between 2018-2022, over 90% were male (Figure 34). The five-year average incidence rate amongst males was over six times greater than the female incidence rate (Figure 35).

Technical Note: In order to analyze HIV demographic data, five-years' worth of data was aggregated to abide by HIPAA.





| ANNUAL REPORT 2018-2022

Unlike chlamydia and gonorrhea, the age groups with higher five-year average HIV infection rates were older; in order, 30-34, 25-29, and 35-44 year age groups were the top three groups (Figure 36). This data could signify late diagnoses and missed opportunities for screenings, as well as the need for more targeted HIV prevention education for older age groups.



Between 2018-2022, almost two out of three newly diagnosed residents were Latino/-a (Figure 37 on the following page). When evaluating five-year average incidence rates of each race/ethnicity, the highest rates were observed amongst Multi-race/other residents (14 cases per 100,000) and Black/African American residents (13 cases per 100,000). These rates were significantly higher than the Latino/-a incidence rate of nine cases per 100,000 (Figure 38). Of note, given the small counts within the Multi-race/other and Black/African American categories and the small population estimates, the rates are not as stable as other race/ethnicities with smaller CIs and subject to change with updated population estimates.





Between 2018-2022, almost half of all newly diagnosed cases were residents of South County (Figure 39). The five-year average HIV infection rate for SBC was approximately seven cases per 100,000 population (Appendix, Table D). The highest five-year average HIV rates by city were seen in Santa Barbara at 13 cases per 100,000 (almost double the SBC rate), followed by Lompoc at 11 per 100,000 (Figure 40).





VIII. SANTA BARBARA COUNTY MPOX RATES

Mpox is a rare disease that is caused by the mpox virus. The mpox virus belongs to the *Orthopoxvirus* genus, which includes the variola (smallpox) virus as well as the vaccinia virus, which is used in the smallpox vaccine. Mpox is a public health concern because it can be transmitted person-to-person and can cause severe illness and even fatalities in humans. The smallpox vaccine has been an effective intervention to minimize the transmissibility of mpox (https://www.cdc.gov/poxvirus/mpox/interim-considerations/jynneos-vaccine.html).

In 2022 there was an increase of reported mpox cases in Europe and the United States. In May of 2022, the first case of mpox was reported locally. By the end of the year a total of 19 cases were reported in SBC (4 cases per 100,000 residents) (Appendix, Table E).

The SBC Disease Control Program continues to monitor for mpox cases and provide guidance to medical providers. For additional information, visit the CDPH Mpox website: <u>https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Mpox.aspx#</u>.



IX. SUMMARY

In Santa Barbara County, between the years of 2018 and 2019, the rate of CT infection was steady hovering near 600 cases per 100,000 residents, until a sharp decrease of more than 50% in 2020. GC, ES, and HIV rates also decreased in 2020, were far below the California and U.S. rates in that time period, and since 2020, have been on the incline. From 2020 to 2022, CT infection rates increased almost 20%, GC infection rates increased approximately 40%, and ES rates increased nearly 25%. Although a slight rise was seen in HIV incidence, given overlapping confidence intervals, the rate remained relatively stable at approximately seven cases per 100,000. Mpox continues to be monitored locally, but at the time of this report, no cases had been reported in SBC in 2023. The COVID-19 pandemic was declared in early 2020, impacting access to care and human social interaction which may partially explain the decrease in cases seen across all local 2020 STI data.

California STD Screening Recommendations

- All sexually active women younger than 25 years should get screened for CT and GC every year.
 - Consider screening more frequently for those at increased risk.
- At the first prenatal visit, all pregnant persons should be screened for CT, GC, hepatitis B, HIV, and syphilis.
 - Additional screening for syphilis is now recommended in the 3rd trimester.
 - If at increased risk, screening is recommended for CT, GC, Hep B and HIV in the 3rd trimester.
- All men who have sex with men (MSM) should be screened annually for CT, GC, HIV, and syphilis.
 - Screen for rectal and pharyngeal CT and GC, if exposed.
 - Repeat screening for CT, GC, HIV, and syphilis every 3-6 months, as indicated by risk.
- All adults and adolescents from ages 13-64 years should be screened at least once for HIV.
- For more information, including details on risk factors see link below: <u>https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CA</u> <u>STD-Screening-Recs.pdf</u>

X. CALL TO ACTION

A call to action from the Santa Barbara County Public Health Department physicians to our local providers:

- Considering the increasing rates of STIs, we (local STI providers) recommend aggressive and routine screening for all STIs in the general public.
- We need to promote awareness of STIs whenever possible.
- Test any adult patient with a bacterial STI for HIV as well.
 Consider annual testing for STIs if there is a history of bacterial STI.
- Strongly consider doing gonorrhea and chlamydia testing at oral and rectal sites in addition to urine. Up to 70% of gonorrhea and chlamydia can be missed by only doing urine testing.
- Sexually active patients with symptoms consistent with Disseminated Gonococcal Infection (DGI) such as swelling and pain at a single joint, polyarthralgia, migratory arthralgias or rash consistent with DGI, consider testing for gonorrhea at the sites of potential exposure, as well as performing culture of blood and/or other sites of localized infection.
- Consider supplying your clinic with ceftriaxone and penicillin or Doxycycline for STI treatment in order to minimize access barriers to treatment.
- Given our current Bicillin LA shortage, please reserve Bicillin LA for pregnant patients and babies who cannot take Doxycycline.
- In order for us to truly get on top of diagnosis and treating STIs, we must start addressing the stigma that surrounds STIs. It is important to approach testing for and diagnosing STIs with an open-minded, non-judgmental approach.

- Dr. Henning Ansorg, MD FACP

Santa Barbara County Public Health Officer

- Dr. Chelsea Dean, MD

Santa Barbara County Health Care Center Staff Physician

XI. TECHNICAL NOTES

Defining Case Counts and Rates

The STI report contains cases, counts, and rates of reportable STIs in SBC. Rates are utilized in order to measure the frequency of which an event/disease occurs in a defined population and time. This is useful in distinguishing between disease impacts in groups over time. Rates are expressed as the number of cases per 100,000 persons in a population.

Example:	County	Case Count	Population	Rate per 100,000 <u>Case Count + 100,000</u> <u>Population</u>
	Х	2000	100,000	2000
	Y	2000	250,000	800

• While both counties have the same number of affected individuals, county X has a higher rate because there are fewer residents within that county. Adjusting for population size allows for more accurate comparisons across regions.

Race/Ethnicity

Latino/-a origin includes any race group. All other groups are Non-Latino/-a (NL) or undocumented (U) ethnicity. Multi-races are not reported in single race groups. Race/ethnicity results were tabulated using the following race/ethnic groups: NL or U American Indian, NL or U Asian/Pacific Islander/Native Hawaiian, NL or U Black, Latino/-a, NL or U White, and NL or U Multi-race/Other race/Missing race.

Suppression Rule

When the numbers for cases used to compute rates are small (less than 5), those rates tend to have poor reliability (Brillinger).³ In addition, small cell counts can also violate patient HIPAA laws. Therefore, to discourage misinterpretation or misuse of rates or counts and protect patient data, the charts in this report display asterisks in lieu of the unstable statistics.



CONTACT INFORMATION

Santa Barbara Public Health Epidemiology Unit https://www.countyofsb.org/phd/epi

XII. REFERENCES

DATA RESOURCES

- State of California, Department of Finance, *E-4 Population Estimates for Cities, Counties and the State, 2011-2021, with 2010 Census Benchmark.* Sacramento, CA, May 2021.
- U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates.
- State of California, Department of Finance, *P-3: Population Projections by Race/Ethnicity and Sex by Age for California and Counties, 2010-2060.* Sacramento, California, April 2021.
- HIV data: Santa Barbara County Public Health Department HIV Surveillance Office.
- Readers interested in HIV surveillance data at the state-level are directed to the: <u>California Office of AIDS 2021 HIV Surveillance Report</u>.
- Visit the <u>Centers for Disease Control and Prevention (CDC)</u> for the national-level HIV surveillance reports.
- STI data: SBCPHD Disease Control Program, CalREDIE. Retrieved March 2023.
- Disease Infographics, Verywell Health, 2018. <u>https://www.verywellhealth.com/std-overview-4581893</u>.
- Santa Barbara Sexual Health Website: <u>www.sbcsexualhealth.org</u>.

ARTICLES

- 1. https://www.cdc.gov/nchhstp/pregnancy/effects/syphilis.html
- 2. <u>https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/CongenitalSyphilis.aspx</u>
- 3. Brillinger DR. <u>The natural variability of vital rates and associated statistics</u>. *Biometrics* 1986;42(4):693–734.

XIII. ACKNOWLEDGEMENTS

- CDPH STD Branch and CDPH Office of AIDS staff for State-wide data and definition guidance
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