The following report will address trends and analysis on the sexually transmitted infections (STIs) of chlamydia, gonorrhea, and early syphilis, followed by similar statistics on HIV beginning on page 19.

Although Santa Barbara County (SBC) has trended below California in STI rates over the years, over the last 9 years SBC's STI rates have been on the rise. Fortunately in that same time frame, the County HIV infection rate has remained relatively stable.

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

Case Count of Selected STIs by Year in SBC, 2010-2018

- The data artifact seen in 2010 case reporting is due in part to the go-live date of the California Reportable Disease Information Exchange (CalREDIE) in Santa Barbara County.
Over the last 9 years, Santa Barbara County saw the highest rates of sexually transmitted infections in chlamydia, followed by gonorrhea and early syphilis. In that time period, the number of early syphilis cases increased 30-fold (3 cases to 90) and gonorrhea cases increased over 7-fold (66 cases to 499). The chart above shows a steady chlamydia incidence rate between 2011-2014, before an increase in 2015 that has since remained high.

In the last 5 years, the sharpest rate increases were in gonorrhea and early syphilis. Since 2014, gonorrhea increased 140% to a County record of 110.2 cases per 100,000. Early syphilis rates increased 211% since 2014 to a record high of 19.9 cases per 100,000 in 2018. Although chlamydia rates increased about 29% over the last 9 years, the infection rates have decreased the last 3 years from a record high in 2015.
Chlamydia caused by the bacterium *Chlamydia trachomatis* (CT) is the most commonly reported infection in Santa Barbara County and in California. Between 2014 to 2018, there were 10,886 reported chlamydia infections in SBC residents. In SBC, the average rate of chlamydia over the past 5 years was 488 cases per 100,000. However, there was a significant drop in the count of cases between 2017 and 2018. When race/ethnicity were taken into account and documented, there were proportionally more Hispanic residents contracting chlamydia in comparison to other races. Chlamydia diagnoses disproportionately affect females, and in 2014-2018, females were 2.1 times more likely to be diagnosed. The highest rate of infection was among women between the ages of 20 and 24 years. Among the County, the city of Goleta had the highest rate of chlamydia, which was almost 2.7 times higher than the overall County rate.

North County: Santa María, Guadalupe, Orcutt, Los Alamos, New Cuyama
Central County: Lompoc, Solvang, Santa Ynez, Los Olivos, Buellton
South County: Carpinteria, Summerland, Montecito, Santa Barbara, Goleta
Unknown: Patients did not disclose an address and/or homeless
The figures above show the distribution of chlamydia by race/ethnicity and sex in Santa Barbara County when documented. It must be noted, that there were 25 American Indian residents within the 'Other' category. Of the 5326 cases reported in the 'Other' category, approximately 99.5% did not have race/ethnicity documented.

In 2018, an estimated population of 452,747 reside in SBC. Of those County residents, approximately 106,645 (23.6%) reside in the city of Santa Maria and 93,299 (20.6%) reside in Santa Barbara city. The largest racial or ethnic groups are white (54.5%), Hispanic (37.8%), and Asian (3.8%). In SBC, 51% of the population are males, however, females are 2.1 times more likely to be diagnosed with chlamydia.
In SBC, the highest rate of infection between the years of 2014 to 2018 was among females. The group of people with the highest case count were females between the ages of 20-24 years. The second group with the highest case count were females between 15-19 years of age and the third highest group were males between the ages of 20-24 years.
The 5-year average chlamydia rate for all of Santa Barbara County was approximately 487.7 per 100,000. The city with the highest chlamydia average rate was Goleta, at 1,301.0 per 100,000. The city of Santa Barbara had the second highest average rate at 701.0 per 100,000. Over half of the diagnosed CT cases resided in the Santa Barbara-Goleta area.

**COMMON CHLAMYDIA SYMPTOMS**

*Can be asymptomatic

<table>
<thead>
<tr>
<th>MEN</th>
<th>WOMEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>pelvic discharge</td>
<td>vaginal discharge</td>
</tr>
<tr>
<td>burning/painful urination</td>
<td>burning/painful urination</td>
</tr>
<tr>
<td>testicular swelling</td>
<td>bleeding between periods</td>
</tr>
<tr>
<td>pelvic inflammatory disease (PID)</td>
<td>infertility</td>
</tr>
</tbody>
</table>

*Can be asymptomatic
In all of the top 5 cities in SBC, individuals between the ages of 20 to 24 years and separately, all females regardless of age, had the highest count of chlamydia diagnoses.
Gonorrhea (sometimes referred to as GC) is a common sexually transmitted infection caused by a bacterium *Neisseria gonorrhoeae*. Gonorrhea cases in SBC increased by 31% from 380 cases in 2017 to 499 cases in 2018. Between 2014 to 2018, there were 1,730 reported gonorrhea infections in SBC residents. In 2014, the rate of gonorrhea was 45.8 cases per 100,000 residents, however the rate steadily increased to a high of 110.2 per 100,000 in 2018. When race/ethnicity was taken into account, there were proportionally more Hispanic residents contracting gonorrhea in comparison to other races. Gonorrhea diagnoses disproportionately affect males, and in 2014-2018, males were 1.4 times more likely to be diagnosed. The highest rate of infection was among young men between the ages of 20 and 29 years. Among the County, the city of Goleta had the highest rate of gonorrhea, which was 2.0 times higher than the overall County rate.
The figures above show the distribution of gonorrhea by race/ethnicity and sex in Santa Barbara County. For cases where race/ethnicity was reported, the Hispanic population had the greatest count of diagnoses. It must be noted that 98% of the 327 cases in the 'Other' race category comprised of cases where race/ethnicity was not documented.
Between the years of 2014 to 2018 in SBC, the highest rate of infection was among males. The group of people with the highest case count were males between the ages of 20-24 years, followed by males between 25-29 years of age, and in third, males between the ages of 30-34 years.
The 5-year average gonorrhea infection rate for all of Santa Barbara County was approximately 77.7 per 100,000. The city with the highest average gonorrhea rate was Goleta at 151.3 per 100,000, followed by the city of Lompoc at 131.5 per 100,000.
In four of the top 5 cities in SBC, individuals between the ages of 20 to 24 years had the highest count of gonorrhea diagnoses. Lompoc, being the exception, had the highest case count in the 25-29 age group. In the cities of Santa Barbara and Goleta, males were reported over twice as often as females.
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 2014 to 2018, there were 309 reported early syphilis infections in SBC residents. In 2014, the rate of early syphilis infection was 6.4 cases per 100,000 residents, however, the rate steadily increased to a high of 19.9 per 100,000 in 2018. Cases of early syphilis increased by 14% from 79 cases in 2017 to 90 cases in 2018. When race/ethnicity was taken into account, there were proportionally more Hispanic residents diagnosed with early syphilis in comparison to other races. Early syphilis diagnoses disproportionately affect males, and in 2014-2018, males were 6.5 times more likely to be diagnosed. The highest rate of infection was among young men between the ages of 20-29 years. Among the County, Santa Barbara city (in South County) had the highest rate of early syphilis, which was approximately 2.2 times higher than the overall County rate.
The figures above show the distribution of early syphilis infection by race/ethnicity and sex in Santa Barbara County. The Hispanic population had the greatest number of diagnosed cases.
Between 2014 to 2018 in SBC, the highest rate of infection was approximately 48 males per 100,000. The group with the highest case count of early syphilis diagnoses were in males 45 years and older, followed by males between 35-44 years, and the third highest group were males between the ages of 20-24 years.
The 5-year average early syphilis infection rate for all of Santa Barbara County was approximately 13.8 cases per 100,000. The city with the highest average early syphilis rate was Santa Barbara at 29.6 cases per 100,000, followed by Goleta with an average rate at 21.6 cases per 100,000. Over 60% of the cases were residents of the cities of Santa Barbara and Goleta (both in South County).
Early Syphilis Diagnoses by Top 5 Cities and Age, 2014-2018

* Suppression of data due to cell size less than 5; cell count was less than 5 for all age groups in Carpinteria

Early Syphilis by Top 5 Cities and Sex, 2014-2018

Male | Female
---|---
Santa Maria | 53 | 16
Santa Barbara | 129 | 7
Goleta | 34 | 0
Lompoc | 20 | 14
Carpinteria | 9 | 0
The average rate of HIV infection in SBC is 6.2 cases per 100,000 residents over the past 5 years. Between 2014 to 2018, there were 138 reported HIV infections in SBC residents. When race/ethnicity was taken into account there were proportionally more Hispanic residents diagnosed with HIV in comparison to other races. HIV diagnoses disproportionately affect males, and in 2018, all cases affected male residents. The highest rate of infection was among young men between the ages of 25 and 34. Within the County, the city of Santa Barbara had the highest rate of HIV, which was approximately 1.9 times higher than the overall County rate.
The figures above show the distribution of HIV diagnoses by ethnicity and sex in Santa Barbara County residents. The Hispanic population had the greatest count of diagnoses. Males were also diagnosed more often than females.
Males 45 years and older had the highest HIV diagnoses by count, but the highest infection rate was seen in males in the 30-34 age group at approximately 27 cases per 100,000 residents.
Between 2014-2018, the 5-year average HIV infection rate for Santa Barbara County was approximately 6.2 per 100,000. The highest 5-year average HIV rates by city were seen in South County: Santa Barbara city at 11.9 per 100,000, followed by Goleta with an average rate of 9.5 per 100,000.
HIV Diagnoses by Top 5 Cities and Age, 2014-2018

* Suppression of data due to cell size less than 5

HIV Incidence by Top 5 Cities and Sex, 2014-2018

* Suppression of female data due to cell size less than 5
In Santa Barbara County, between the years of 2014 and 2018, the rate of chlamydia infection remained steady hovering around 484 cases per 100,000 residents, although the case count decreased by 8.0% between 2017 and 2018. Unlike chlamydia, over the last five years, gonorrhea and early syphilis infection rates followed an upward linear trend. The overall infection rate increased in gonorrhea by approximately 14 cases per year and in early syphilis by an estimated 3 cases per year. The gonorrhea rate increased approximately 139% from a 2014 rate of 46 cases per 100,000 to 110 cases per 100,000 in 2018. Early syphilis rate increased 233% from 6 cases per 100,000 in 2014 to 20 cases per 100,000 in 2018. Overall, the HIV incidence rate has remained relatively constant at approximately 6 cases per 100,000.

California STD Screening Recommendations (2015)

- All women younger than 25 years should get screened for chlamydia and gonorrhea every year.
  - Consider screening more frequently for those at increased risk.
- All pregnant women should be screened for chlamydia, gonorrhea, hepatitis B, HIV, and syphilis in the first trimester.
  - Repeat screening for chlamydia, gonorrhea, HIV, and syphilis in third trimester if at increased risk.
- All men who have sex with men (MSM) should be screened annually for chlamydia, gonorrhea, HIV, and syphilis.
  - Screen for rectal and pharyngeal chlamydia and gonorrhea, if exposed.
  - Repeat screening for chlamydia, gonorrhea, 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:
  https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CA_STD-Screening-Recs.pdf
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:

<table>
<thead>
<tr>
<th>County</th>
<th>Case Count</th>
<th>Population</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>2000</td>
<td>100,000</td>
<td>2000</td>
</tr>
<tr>
<td>Y</td>
<td>2000</td>
<td>250,000</td>
<td>800</td>
</tr>
</tbody>
</table>

- 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

Hispanic origin includes any race group. All other groups are Non-Hispanic (NH). Two or More Races group are not reported in single race groups. Race/ethnicity results were tabulated using the following race/ethnic groups: NH American Indian, NH Asian, NH Black, Hispanic, NH Pacific Islander/Native Hawaiian, NH White, and NH Two or More Races.

Suppression Rule

When the numbers for cases used to compute rates are small (less than 5), those rates tend to have poor reliability (Brillinger). 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.
REFERENCES

- STI data: SBCPHD Disease Control Program, CalREDIE.
- 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: California Office of AIDS 2017 HIV Surveillance Report.
- Visit the Centers for Disease Control and Prevention (CDC) for the national-level HIV surveillance reports.

ACKNOWLEDGEMENTS

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