

Sexually Transmitted Diseases in California

2017 Executive Summary

The California Sexually Transmitted Disease (STD) Annual Report is prepared to provide the most recent data on the burden of reportable bacterial STDs among Californians. This resource is intended to inform state and local public health program STD control interventions for reducing the impact of STDs in collaboration with clinical, community, and governmental partners.

In 2017, the burden of notifiable bacterial STDs in California (chlamydia, gonorrhea, and syphilis) continued to be substantial and increasing when compared against 2016 and the prior five years.¹ In this summary, we describe differences in STD burden over time, geography, and demographic characteristics to inform the design and implementation of state and local interventions to reduce STD and HIV transmission and improve sexual and reproductive health.

Based on Centers for Disease Control and Prevention (CDC) 2017 data, California had the largest number of chlamydia, gonorrhea, syphilis, and congenital syphilis cases among all states.²

OVERALL SUMMARY

In 2017, bacterial STDs in California (chlamydia, gonorrhea, and syphilis) significantly increased. Important disparities persisted, with the highest rates found among young people, African-Americans, and gay, bisexual and other men who have sex with men (MSM). These vulnerable populations are at higher risk for related serious health outcomes such as HIV infection, infertility, ocular and neurosyphilis, and multi-drug resistant gonorrhea. Exposure to syphilis in pregnancy can lead to stillbirth and deformities from congenital syphilis.

Chlamydia (CT) remains the most common reportable disease in California and is at the highest level since mandated reporting began in 1990 with a 10% increase in cases compared with 2016. Although CT increases since 2012 were similar across California regions, the sharpest increases from 2012 to 2017 were observed for San Francisco. Across California, the highest rates were among young women who are at risk for serious reproductive health outcomes such as pelvic inflammatory disease and infertility. The ongoing increase in male rates (12%) remain higher than the increase in female rates (8%). Disproportionally higher rates among African-American adolescents and young adult women persisted statewide, and were 3 to 5 times higher compared with white adolescents and young adult women, respectively.

¹ Tables: [All STDs Summary, Data Tables, 2017:](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-All-STDs-Tables.pdf)

<https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-All-STDs-Tables.pdf>

Slides: [All STDs Summary, Slides, 2017:](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-All-STDs-Slides.pptx)

<https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-All-STDs-Slides.pptx>

² [2017 CDC STD Surveillance:](http://www.cdc.gov/std/stats/) <http://www.cdc.gov/std/stats/>

Gonorrhea (GC) cases continued to increase sharply across all regions of the state, with an overall 17% increase in cases compared with 2016. San Francisco continued to have significantly higher rates and sharper increases compared to other regions. Between 2016 and 2017, similar rate increases were observed in both males and females, at 16% and 17%, respectively. Rates were highest for both genders among those under age 30. Racial disparities persisted with rates among African-Americans nearly five times higher than among whites. Observed rates of decreased susceptibility to antibiotics used in current gonorrhea treatments remained low.

Early syphilis (ES) cases (primary, secondary, and early latent) continued to increase across all regions of California with an overall 22% increase compared with 2016 cases; San Francisco continued to have significantly higher ES rates compared to other regions. Although MSM accounted for 60% of all cases, the number of cases among females of reproductive age (ages 15-44) also continued to rise, increasing by 27% compared with 2017. Racial disparities continued as rates among African-Americans were 2.5 times higher than among whites.

The number of infants born with congenital syphilis (CS) increased for the fifth consecutive year and by 32% over 2016 cases. There were 283 CS cases including 30 stillbirths in 2017. The burden of CS cases of this magnitude was last observed in 1995-1996.

KEY FINDINGS

Chlamydia (CT) remains the most frequently reported disease in California.³

- There were 218,728 CT cases reported in 2017 (552.2 per 100,000 population), a 10% increase in cases over 2016 and 30% increase since 2013.
- There were 11 counties with chlamydia rates higher than the overall state rate (552.2): San Francisco (1,038.1), Alpine (788.8), Kern (763.1), Fresno (718.1), Kings (658.8), Sacramento (645.2), San Diego (626.8), Los Angeles (626.2), San Bernardino (607.9), Solano (598.7), and Alameda (556.9).
- Female CT rates were 1.6 times the male CT rates.
- Although there was a one-year decline in 2013, female CT rates have been increasing since then, with an 8% increase between 2016 and 2017.
- Female CT rates continued to be highest among adolescent and young adults ages 15-24 years.
- The CT rate among adolescent and young adult females (ages 15-24 years) continued to increase in 2017 by 8% compared with 2016.
- Adolescent African-American female CT rates remained high and were over four times the rate among white adolescents females. Although rates for adolescent African-American

³ Tables: [Chlamydia Data Tables, 2017:](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Chlamydia-Tables.pdf)

<https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Chlamydia-Tables.pdf>

Slides: [Chlamydia Slides, 2017:](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Chlamydia-Slides.pptx)

<https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Chlamydia-Slides.pptx>

females had declined each year from 2012 through 2016, there was a 13% increase between 2016 and 2017.

- Male CT rates have continued to increase statewide, by 12% since 2016 and 47% since 2013. Male rates were highest among those 20-29 years of age. Regionally, San Francisco reported the highest male CT rates in 2017, with increases of 12% since 2016. Rates in San Francisco have doubled since 2013.
- Prevalence monitoring data from selected clinical settings indicated that juvenile detention facilities continued to have the highest rates of female CT infection as compared with family planning and managed care clinical settings. In 2017, reported female chlamydia positivity from juvenile detention facilities varied by county from 4.8% (San Mateo) to 17.3% (Riverside). Stable prevalence trends while case rates simultaneously increase may reflect the impact of increased screening among priority populations at risk for chlamydia.
- Observed differences by gender may reflect more frequent use of reproductive healthcare services by females. Increases in chlamydia among males may reflect either increases in transmission or screening, particularly rectal screening among MSM.
- **Programmatic priorities for chlamydia prevention based on the trends in chlamydia include increasing screening of young females to prevent reproductive health complications, and screening of MSM for rectal infections that may increase the risk of HIV transmission.**⁴

Gonorrhea (GC) rates continued to increase sharply across all regions of the state.⁵

- There were 75,372 GC cases (190.3 per 100,000 population) reported in 2017, a 17% increase in cases over 2016 and a doubling since 2013.
- In 2017, over half of counties (65%) reported 10% or greater increases in GC cases and rates. There were nine counties with gonorrhea rates higher than the overall state rate (190.3): San Francisco (656.4), Lake (286.2), Los Angeles (254.2), Kern (251.6), Del Norte (249.5), Yuba (228.2), Fresno (225.2), Sacramento (220.1), and Alameda (217.6).
- GC male cases rose significantly by 17% since 2016 and more than doubled since 2012. Men who have sex with men accounted for 64% of the state's male gonorrhea cases (with known gender of sex partner). Reasons for these increases are complex and multifactorial, and may include increased transmission as well as increased oral and rectal screening of MSM. Over half of MSM GC cases were associated with only oral or rectal sites of infection and would have been missed with urine-based screening alone.
- Among MSM GC cases whose HIV status was known, 28% were HIV-positive. Among interviewed MSM GC cases who were HIV-negative, 40% reported receiving HIV Pre-exposure Prophylaxis medication (PrEP); the remaining 60% of HIV-negative MSM GC cases would benefit from referral for PrEP. Ongoing assurance of HIV testing for GC

⁴ Programmatic priorities are in-line with national recommendations and standard STD prevention strategies.

⁵ Tables: [Gonorrhea Data Tables, 2017](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Gonorrhea-Tables.pdf):

<https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Gonorrhea-Tables.pdf>

Slides: [Gonorrhea Slides, 2017](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Gonorrhea-Slides.pptx):

<https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Gonorrhea-Slides.pptx>

cases can facilitate opportunities for PrEP and ultimately reduce HIV transmission in the community.

- There were increases in female GC cases of 17% since 2016. The highest GC rates for females were among ages 20-24 years and for males were among ages 25-29 years.
- Disparities in GC rates by race/ethnicity persisted, with African-American GC rates nearly five times those of white rates. Ongoing increases were observed in African-American male GC rates (11% increase since 2016 and 76% increase since 2013).
- Adherence to CDC-recommended dual therapy for gonorrhea treatment (ceftriaxone and azithromycin) was 88% among GC cases with documented treatment in 2017.
- Gonococcal Isolate Surveillance Project monitoring of trends in antibiotic susceptibility indicated that there was a consistent decline from 2010 to 2017 in the proportion of gonococcal isolates with decreased susceptibility to recommended cephalosporin therapy. In 2017, of the 866 isolates, none exhibited decreased susceptibility to ceftriaxone, 29 isolates (3.3%) exhibited decreased susceptibility to azithromycin (which is part of recommended gonorrhea dual therapy with ceftriaxone), compared to 3.7% of isolates with decreased susceptibility to azithromycin in 2016 and 1.1% in 2015.
- **Programmatic priorities for gonorrhea prevention include screening of young females to prevent reproductive health complications, and screening of MSM for asymptomatic rectal and throat infections that may increase ongoing GC transmission as well as the risk of HIV transmission. High rates of gonorrhea among MSM provide opportunities for linkage to HIV care for HIV co-infected cases and linkage to HIV PrEP for HIV-negative cases. Healthcare provider adherence to recommended dual treatment regimens is essential to prevent the emergence of gonococcal antimicrobial resistance.**⁶

Early syphilis (ES) continued to increase in 2017 in all regions of the state.^{7,8}

- There were 13,719 ES cases reported in 2017 (34.6 per 100,000 population). This represents a 22% increase in cases over 2016 and a two-fold increase since 2013.
- There were six counties with early syphilis rates higher than the overall state rate (34.6): San Francisco (161.5), San Joaquin (91.7), Fresno (53.2), Kern (48.5), Kings (47.1), and Los Angeles (46.8).
- Men who have sex with men accounted for 60% of all early syphilis cases.
- Among MSM ES cases with known HIV status, 51% were HIV-positive. The proportion of HIV-negative MSM ES cases reporting HIV PrEP increased from 26% in 2016 to 32% in 2017 in California local health jurisdictions (excluding Los Angeles and San Francisco).

⁶ Programmatic priorities are in-line with national recommendations and standard STD prevention strategies.

⁷ Early syphilis includes primary, secondary, and early latent stages.

⁸ Tables: [Syphilis Data Tables, 2017](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Syphilis-AllStages-Tables.pdf):

<https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Syphilis-AllStages-Tables.pdf>

Slides: [Syphilis Slides, 2017](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Syphilis-AllStages-Slides.pptx):

<https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Syphilis-AllStages-Slides.pptx>

- Early syphilis rates among HIV-positive MSM were ten-fold higher (4.177.3 per 100,000) than HIV-negative MSM (420.9), and higher than heterosexual males (20.2) and females (8.6).
- Early syphilis rates were highest among those 25-34 years of age.
- The number of early syphilis cases among females of reproductive age increased by 27% compared with 2016. From 2013 to 2017, the annual number of reported early syphilis cases among females of reproductive age increased more than four-fold from 330 cases to 1,462, continuing a rise from the historic low in 2002.
- Disparities in ES rates by race/ethnicity persist: ES male rates were twice as high among African-American males (125.4 per 100,000) compared with white males (50.4). Disparities by race were highest for ages 20-24 years with African American male ES rates nearly four times higher than for white male ES rates.
- Potential increases in ocular syphilis, a serious manifestation of syphilis, were noted nationally and in California in early 2015.⁹ Since then, analysis of California case data from 2014-2017 indicated that less than 1% of all syphilis cases had symptoms associated with ocular syphilis.¹⁰ Additionally, the proportion of all syphilis cases that were associated with neurosyphilis during 2012-2017 remained about 2-3%.
- **Programmatic priorities for syphilis prevention include strengthening local health department prevention strategies including appropriate case management, increasing screening for MSM, improving linkage to HIV care for HIV co-infected cases and linkage to HIV PrEP for HIV-negative cases, and ensuring timely treatment and partner services are provided especially to females of reproductive age.**¹¹

Congenital syphilis (CS) increased for the fifth consecutive year.¹²

- In 2017, there were 283 cases (58.2 per 100,000 live births), a 32% increase in cases since 2016 and nearly five-fold higher when compared with the 58 CS cases in 2013. This is the highest number of cases since 1996, over 20 years ago. Syphilitic stillbirths also increased, from 7 cases in 2013 to 30 cases in 2017.
- According to the Centers for Disease Control and Prevention, the congenital syphilis incidence rate in California in 2017 was the third highest incidence rate in the United States. Twenty-eight (of 61) local health jurisdictions reported at least one case of

⁹ Woolston S, Cohen SE, Fanfair RN et al. [A Cluster of Ocular Syphilis Cases — Seattle, Washington, and San Francisco, California, 2014–2015. Morbid Mortal Wkly Rpt 2015; 64\(40\);1150-1.](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6440a6.htm)

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6440a6.htm>

¹⁰ Oliver SE, Aubin M, Atwell L, Matthias J, Cope A, Mobley V, Goode A, Minnerly S, Stoltey J, Bauer HM, Hennessy RR, DiOrio D, Fanfair RN, Peterman TA, Markowitz L. Ocular Syphilis - Eight Jurisdictions, United States, 2014-2015. MMWR Morb Mortal Wkly Rep. 2016 Nov 4;65(43):1185-1188.

¹¹ Programmatic priorities are in-line with national recommendations and standard STD prevention strategies.

¹² Tables: [Congenital Syphilis Data Tables, 2017:](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Syphilis-Congenital-Tables.pdf)

<https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Syphilis-Congenital-Tables.pdf>

Slides: [Congenital Syphilis Slides, 2017:](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Syphilis-Congenital-Slides.pptx)

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congenital syphilis in 2017. Counties with the highest number of cases include Fresno, Kern, and Los Angeles.

- CS cases were predominantly Hispanic (144) and reflected the demographic profile of California births; however, the highest CS rate was among African-Americans (173.6 per 100,000 births) which was approximately three times the rate for Hispanics (63.3) and Whites (54.7).
- Factors associated with recent CS cases included lack of or late prenatal care, inadequate treatment, poverty, and substance abuse.
- **Effective CS prevention strategies focus on syphilis screening and adequate/timely treatment of women at risk for pregnancy.**¹³

GUIDANCE FOR NAVIGATING THE 2017 STD ANNUAL REPORT

The 2017 STD Annual Report is designed to enable access to data in a variety of formats. The 2017 Annual Report is comprised of the Executive Summary, Technical Notes, STD tables, and graph slides, and is organized by “All STDs” and “specific STDs” on the [STD Data page](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/STD-Data.aspx) (<https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/STD-Data.aspx>). The Annual Report includes 2017 and trend data on STDs and related services collected through case-based reporting as well as enhanced surveillance, prevalence monitoring, health care programs, and laboratory surveys. All data released in the 2017 STD Annual report comply with [data de-identification criteria](#) as set forth in the California Department of Health and Human Services document <https://www.dhcs.ca.gov/dataandstats/Documents/DHCS-DDG-V2.0-120116.pdf>.

¹³ Programmatic priorities are in-line with national recommendations and standard STD prevention strategies.