Sexually Transmitted Diseases in California
2018 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 2018, the burden of notifiable bacterial STDs in California (chlamydia, gonorrhea, and syphilis) continued to be substantial and increasing when compared against 2017 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 U.S. Centers for Disease Control and Prevention (CDC) 2018 data, California had the largest number of reported chlamydia, gonorrhea, and adult syphilis cases and the second largest number of congenital syphilis cases among all states.[2]

OVERALL SUMMARY

In 2018, bacterial STDs in California (chlamydia, gonorrhea, and syphilis) significantly increased. Important disparities persisted, with the highest rates found among young people, Black/African Americans, and gay, bisexual and other men who have sex with men (MSM). Populations at higher risk for STDs may also be at risk for related 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 six percent increase in cases compared with 2017. Although CT increases since 2013 were similar across California regions, the sharpest increase by 2018 was 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. Similar to recent years, the one-year increase in the male rate (seven percent from 2017 to 2018) was higher than the increase in the female rate (five percent). Disproportionally higher rates among Black/African American adolescents and young adult women persisted statewide, and were three to five times higher compared with white adolescents and young adult women, respectively.

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[1] Tables: All STDs Summary, Data Tables, 2018:
https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-All-STDs-Tables.pdf
Slides: All STDs Summary, Slides, 2018:
https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%Document%Library/STD-Data-All-STDs.pptx

[2] 2018 CDC STD Surveillance: http://www.cdc.gov/std/stats/

Gonorrhea (GC) cases continued to increase across all regions of the state, with an overall five percent increase in cases compared with 2017. San Francisco continued to have significantly higher rates and sharper increases compared to other regions. Between 2017 and 2018, the GC rate among females increased seven percent, compared to four percent among males. For females, rates were highest for those under 30 years of age. For males, GC rates were highest for those 20-34 years of age. Racial disparities persisted with GC rates among Black/African Americans nearly five times higher than among whites. Among GC isolates tested in the Gonococcal Isolate Surveillance Project (GISP), the proportion with an alert value for Ceftriaxone remained low (0.3 percent). However, the proportion of isolates with an alert value for azithromycin increased from 0.1 percent in 2012 to 8.1 percent in 2018. Alert values are set by CDC and indicate that an isolate may have a decreased susceptibility to a given antibiotic.

Early syphilis (ES) cases (primary, secondary, and early non-primary non-secondary) continued to increase across all regions of California with an overall 12 percent increase compared with 2017 cases; San Francisco continued to have significantly higher ES rates compared to other regions. Although MSM accounted for 56 percent of all ES cases, the number of cases among females of reproductive age (15-44 years of age) continued to rise, increasing by 36 percent compared with 2017. Racial disparities continued, with ES rates among Black/African Americans nearly three times higher than among whites.

The number of infants born with congenital syphilis (CS) increased for the sixth consecutive year and by 14 percent compared to 2017. There were 329 CS cases including 22 stillbirths or neonatal deaths in 2018. This is the highest number of reported CS cases since 1995.

KEY FINDINGS

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

- There were 232,181 CT cases reported in 2018 (583.0 per 100,000 population), a six percent increase in cases over 2017 and 33 percent increase since 2014.
- There were 13 counties with chlamydia rates higher than the overall state rate (583.0): San Francisco (1,070.9), Alpine (1,051.7), Kern (766.6), Sacramento (758.7), Solano (714.3), Fresno (706.3), Los Angeles (661.8), San Diego (660.8), Kings (633.1), San Bernardino (614.1), Santa Barbara (596.5), Merced (585.9), and Alameda (584.5).
- Female CT rates were 1.6 times the male CT rates.
- Female CT rates have continued to increase statewide, by five percent since 2017 and 22 percent since 2014.
- Female CT rates continued to be highest among adolescents and young adults 15-24 years of age.

[3] Tables: Chlamydia Data Tables, 2018: https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Chlamydia-Tables.pdf
Slides: Chlamydia Slides, 2018: https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Chlamydia.pptx

- Adolescent Black/African American female CT rates remained high and were nearly five times the rate among white adolescent females.
- Male CT rates have continued to increase statewide, by seven percent since 2017 and 44 percent since 2014. Male rates were highest among those 20-29 years of age.
- Prevalence monitoring data from selected clinical settings indicated that juvenile detention facilities continued to have high rates of female CT infection. In 2018, reported female chlamydia positivity from juvenile detention facilities varied by county from 5.2 percent (San Mateo) to 16.4 percent (Fresno).
- 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 across all regions of the state.[5]

- There were 79,397 GC cases (199.4 per 100,000 population) reported in 2018, a five percent increase in cases over 2017 and 77 percent increase since 2014.
- In 2018, nearly one-third of counties (31 percent) reported 10 percent or greater increases in GC cases and rates. There were ten counties with gonorrhea rates higher than the overall state rate (199.4): San Francisco (664.1), Los Angeles (265.9), Lake (262.4), Kern (255.3), Sacramento (250.1), Del Norte (234.6), Solano (229.6), Alameda (227.2), Fresno (222.6), and Yuba (222.0).
- Male GC cases rose by four percent since 2017 and 82 percent since 2014. Among cases randomly sampled for enhanced interviews, men who have sex with men accounted for 64 percent of male gonorrhea cases (with known gender of sex partner). Reasons for these increases are not yet clear, and may include increased transmission as well as increased oral and rectal screening of MSM. More than half of these MSM GC cases were associated with only oral or rectal sites of infection and would have been missed with urine-based screening alone.
- Among GC cases randomly sampled for enhanced interviews, 30 percent of MSM with known HIV status were HIV-positive. Among interviewed MSM GC cases who were HIV-negative, 47 percent reported receiving HIV Pre-exposure Prophylaxis medication (PrEP). Ongoing assurance of HIV testing for GC cases can facilitate opportunities for linkage to PrEP and ultimately reduce HIV transmission in the community.

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

[5] Tables: Gonorrhea Data Tables, 2018:
https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Gonorrhea-Tables.pdf
Slides: Gonorrhea Slides, 2018:
https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Gonorrhea.pptx

- Female GC cases rose by eight percent since 2017 and 67 percent since 2014. The highest GC rates for females were among 20-29 years of age.
- Disparities in GC rates by race/ethnicity persisted, with Black/African American GC rates nearly five times those of white rates.
- Adherence to CDC-recommended dual therapy for gonorrhea treatment (ceftriaxone and azithromycin) was 86 percent among GC cases with documented treatment in 2018.
- Gonococcal Isolate Surveillance Project (GISP) monitoring of trends in antibiotic susceptibility indicated that there was a decline from 2010 to 2018 in the proportion of gonococcal isolates with an alert value for recommended cephalosporin therapy. In 2018, of the 716 isolates tested, two (0.3 percent) isolates had an alert value to ceftriaxone and 58 (8.1 percent) had an alert value to azithromycin. The proportion of GISP isolates with an alert value for azithromycin has been rising since 2012.
- **Programmatic priorities for gonorrhea prevention include screening of young females to prevent reproductive health complications, and screening of MSM for rectal and throat infections that may increase 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), which includes primary, secondary, and early non-primary non-secondary stages, continued to increase in 2018 in all regions of the state.[7]

- There were 15,368 ES cases (38.6 per 100,000) reported in 2018, a 12 percent increase in cases over 2017, and 112 percent increase since 2014.
- There were 12 counties with early syphilis rates higher than the overall state rate (38.6): San Francisco (158.9), San Joaquin (80.1), Los Angeles (54.7), Kern (53.0), Stanislaus (45.2), Kings (44.3), Butte (43.9), Shasta (42.6), Sacramento (41.2), Madera (39.8), Merced (39.5), and Sonoma (39.5).
- Men who have sex with men accounted for 56 percent of all early syphilis cases.
- Among MSM ES cases with known HIV status, 50 percent were HIV-positive. The proportion of HIV-negative MSM ES cases reporting HIV PrEP increased from 32 percent in 2017 to 41 percent in 2018 in the California Project Area (excludes Los Angeles and San Francisco).

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

[7] Tables: Syphilis Data Tables, 2018: https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Syphilis-AllStages-Tables.pdf

Slides: Syphilis Slides, 2018: https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Syphilis-AllStages.pptx

- In 2018, the early syphilis rate among MSM living with HIV (4,022 per 100,000) was estimated to be 9 times higher than HIV-negative MSM (447), and higher than heterosexual males (24) and females (12).
- For males and females, early syphilis rates were highest among those 25-34 years of age.
- There were 2,004 ES cases among females of reproductive age reported in 2018, a 36 percent increase over 2017 (1,473 cases) and 283 percent increase since 2014 (523 cases).
- Disparities in ES rates by race/ethnicity persist: ES rates were roughly three times higher among Black/African American males (147.2 per 100,000) and females (30.2) compared to the respective rates for white males (50.8) and females (9.9).
- Potential increases in ocular syphilis, a serious manifestation of syphilis, were noted nationally and in California in early 2015.[8] Since then, analysis of California case data indicates that less than one percent of all syphilis cases had symptoms associated with ocular syphilis in recent years.[9] Additionally, the proportion of all syphilis cases that were associated with neurosyphilis from 2014-2018 remained about 2-3 percent.
- **Programmatic priorities for syphilis prevention include 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.**[10]

Congenital syphilis (CS) increased for the sixth consecutive year.[11]

- In 2018, there were 329 cases (68.2 per 100,000 live births), a 14 percent increase in cases since 2017 and 216 percent increase since 2014. This is the highest number of cases since 1995, more than 20 years ago. After rising from one syphilitic stillbirth or neonatal death in 2012 to 38 in 2017, the number of reported syphilitic stillbirths/neonatal deaths decreased to 22 in 2018.
- According to the Centers for Disease Control and Prevention, the congenital syphilis incidence rate in California in 2018 was the fifth highest incidence rate in the United States. Thirty (of 61) local health jurisdictions reported at least one case of congenital

[8] 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

[9] 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.

[10] Programmatic priorities are in line with national recommendations and standard STD prevention strategies.

[11] Tables: Congenital Syphilis Data Tables, 2018:
https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/STD-Data-Syphilis-Congenital-Tables.pdf
Slides: Congenital Syphilis Slides, 2018:
https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH Document Library/STD-Data-Syphilis-Congenital.pptx

syphilis in 2018. Counties with the highest number of cases include Los Angeles, Kern, Fresno, San Bernardino, and San Joaquin.

- CS cases were predominantly Hispanic (155) and reflected the demographic profile of California births; however, the highest CS rate was among Black/African Americans (286.0 per 100,000 live births) which was more than four times the rate for Hispanics (68.9) and Whites (64.5).
- Factors associated with recent CS cases included lack of or late prenatal care, inadequate treatment, poverty, and substance use.
- **Effective CS prevention strategies focus on syphilis screening and adequate/timely treatment of people who can become pregnant, and on ensuring timely access to prenatal care for people who are pregnant and who are at high risk for syphilis.**[12]

The 2018 STD Annual Report is designed to enable access to data in a variety of formats. The 2018 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). The Annual Report includes 2018 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 2018 STD Annual report supersede previously published data and 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.

[12] Programmatic priorities are in line with national recommendations and standard STD prevention strategies.