



2023 Congenital Syphilis Report

**As Required by
Texas Health and Safety Code,
Section 81.090**



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Table of Contents

Executive Summary	1
1. Introduction	2
2. Background	3
3. Syphilis in Women and the Impact on Congenital Syphilis in Texas...	6
4. Congenital Syphilis in Texas 2020-2021 Calendar Years	10
5. Conclusion	16
List of Acronyms	17

Executive Summary

In accordance with [Texas Health and Safety Code, Section 81.090](#), the Texas Department of State Health Services (DSHS) has summarized the number of cases of congenital syphilis (CS) reported by the state in 2020 and 2021.

From January 1, 2020, to December 31, 2021, a total of 1,246 cases of CS were reported in Texas; all cases were reported as early CS. This is an increase from 895 cases reported in 2018-2019. The number of CS cases identified in Texas increased from 70 cases in 2016 to 561 cases in 2020. In 2021, Texas reported its highest number of CS cases (685 CS cases).¹ Texas saw an increase in the case rate over the 2020-2021 reporting periods. In 2020, the case rate was 149.8 cases per 100,000 births, and in 2021, the case rate was 180.2 cases per 100,000 births.

Preliminary data suggest the COVID-19 pandemic resulted in reduced access to preventive medical care impacting syphilis screening, testing, and treatment. DSHS will continue efforts to reduce CS by enhancing sexually transmitted disease (STD) surveillance, increasing the documented pregnancy status among women diagnosed with or exposed to syphilis, improving provider knowledge of maternal and congenital syphilis, and providing supplementary resources to communities with the highest rates of CS.

¹ Centers for Disease Control and Prevention, National Center for HIV, STD and TB Prevention (NCHSTP), Division of STD/HIV Prevention, "Sexually Transmitted Disease Morbidity 1984-2014" [Online] Available: <http://wonder.cdc.gov/std-sex.html>. [Accessed 12 December 2022].

1. Introduction

[Texas Health and Safety Code, Section 81.090](#) requires pregnant women in Texas to test for syphilis at their first prenatal visit, during the third trimester of their pregnancy (no sooner than 28 weeks gestation), and at delivery. The statute also requires DSHS to report the number of early and late CS cases diagnosed in Texas in the preceding two calendar years. This report is due to the Legislature no later than January 1 of each odd-numbered year.

2. Background

Syphilis is a sexually transmitted disease (STD) that can cause serious health problems when not treated. Syphilis is transmitted both sexually and from a pregnant woman to her unborn baby.² Although there are common signs and symptoms of syphilis, many people do not have symptoms or may not recognize them as syphilis. The signs and symptoms of syphilis can go away without treatment, but the disease will continue to progress.³

To determine if a person is infected with syphilis, a medical provider performs a blood test. Additional testing during the primary stage of syphilis can be done when a sore is present.

Early syphilis (primary, secondary, and early latent) in a pregnant woman requires a single dose of long-acting antibiotics for treatment. Late or unknown duration the syphilis requires three doses of long-acting antibiotics to be given one week apart. Pregnant women diagnosed with syphilis should receive treatment as early as possible to prevent transmission to the baby, complications during their pregnancy, and serious health problems once their child is delivered. Treatment, which is ideally initiated at least 30 days prior to delivery, effectively prevents the transmission of syphilis from a pregnant woman to the baby with a success rate of up to 98 percent.⁴

When women are diagnosed with syphilis before they are pregnant and treated appropriately, they are unlikely to transmit syphilis to the child when they become pregnant. However, when a woman is diagnosed with syphilis during pregnancy, the infection can cross the placenta and infect the developing baby. Women with symptomatic syphilis (primary or secondary syphilis) during their pregnancy have

² Centers for Disease Control and Prevention, "Syphilis Pocket Guide for Providers"- November 1, 2017 [Online] Available: <https://www.cdc.gov/std/syphilis/Syphilis-Pocket-Guide-FINAL-508.pdf>. [Accessed 16 November 2022]

³ Centers for Disease Control and Prevention, "Syphilis-CDC Detailed Fact Sheet", April 12, 2022 [Online]. Available: <https://www.cdc.gov/std/syphilis/stdfact-syphilis-detailed.htm>. [Accessed 16 November 2022]

⁴ Centers for Disease Control and Prevention-"Sexually Transmitted Infections Treatment Guidelines-2021", 30 March 2022 [Online]. Available: <https://www.cdc.gov/std/treatment-guidelines/syphilis.htm> [Accessed 16 November 2022]

an 80 percent chance of a negative pregnancy outcome (e.g., stillbirth, neonatal death, or signs and symptoms at birth). Women with untreated or inadequately treated non-symptomatic syphilis (early latent, late latent or latent syphilis of unknown duration) have a 23 percent chance of the same outcomes.⁵ Therefore, DSHS focuses program efforts on women of childbearing age (women 15-44 years old), pregnant women diagnosed with syphilis, and women who have delivered an infant who was exposed to syphilis.

CS is syphilis in babies transmitted during pregnancy or at delivery by an untreated or inadequately treated woman with syphilis. CS can lead to miscarriage, stillbirth, preterm delivery, birth defects, and even perinatal death. Some infants with CS can be asymptomatic and healthy at birth but develop life-altering complications later in life.⁶ According to the Centers for Disease Control and Prevention (CDC), up to 40 percent of babies born to women with untreated syphilis may be stillborn or die as newborns.

CS is classified as early when the child exhibits symptoms from birth up to their second birthday and late when symptoms start after age two. Early CS may cause vision or hearing loss, non-viral hepatitis causing jaundice of the skin and eyes, long bone abnormalities, developmental delays, inflammation of the liver and/or spleen, snuffles (a physical symptom of CS consisting of large amounts of mucous around the eyes, nose, and mouth), rash, wart-like lesions on the genitals, and additional symptoms. Snuffles are highly contagious to those caring for the infant. Clinical manifestations of late CS include problems with bone and tooth development, hearing, and vision, as well as the central nervous and cardiovascular systems. With timely prenatal care, testing, and treatment, potentially devastating health outcomes for children can be averted.⁷

⁵ Arnold, S., Ford-Jones, E. (2000). Congenital syphilis: A guide to diagnosis and management. *Pediatrics & Child Health*, 5(8), 463-469. [Online]. Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2819963/> [Accessed 28 October 2022].

⁶ Centers for Disease Control and Prevention, "Congenital Syphilis – CDC Fact Sheet," 12 April 2022. [Online]. Available: <http://www.cdc.gov/std/syphilis/stdfact-congenital-syphilis.htm>. [Accessed 28 October 2022]

⁷ Centers for Disease Control and Prevention, "Congenital Syphilis (Treponema pallidum) 2018 Case Definition," [Online]. Available: <https://ndc.services.cdc.gov/case-definitions/syphilis-2018/>. [Accessed 28 October 2022]

Testing for CS is different and requires more steps than testing for sexually acquired syphilis. Antibiotics are the only approved treatment for infants who are exposed to syphilis.⁸

⁸ Centers for Disease Control and Prevention-“Sexually Transmitted Infections Treatment Guidelines-2021”, 30 March 2022 [Online]. Available: <https://www.cdc.gov/std/treatment-guidelines/syphilis.htm> [Accessed 16 November 2022]

3. Syphilis in Women and the Impact on Congenital Syphilis in Texas

[Title 25, Part 1, Chapter 97, Subchapter F of the Texas Administrative Code](#) requires positive syphilis test results be reported to DSHS. In 2020, the national rate of women diagnosed with primary and secondary syphilis (4.7 cases per 100,000) exceeded the rate in Texas (3.8 cases per 100,000).⁹ The preliminary rate of women in the U.S. diagnosed with primary and secondary syphilis in 2021 resulted in 7.0 cases per 100,000.¹⁰ To increase the timeliness of data dissemination, the CDC published preliminary, national 2021 STD surveillance data in September 2022. The final CDC STD Surveillance report is typically released two years after data is collected to allow time for data quality assurance and data analysis. Texas reported 6.8 cases per 100,000 women diagnosed with primary and secondary syphilis in 2021 (Figure 1).

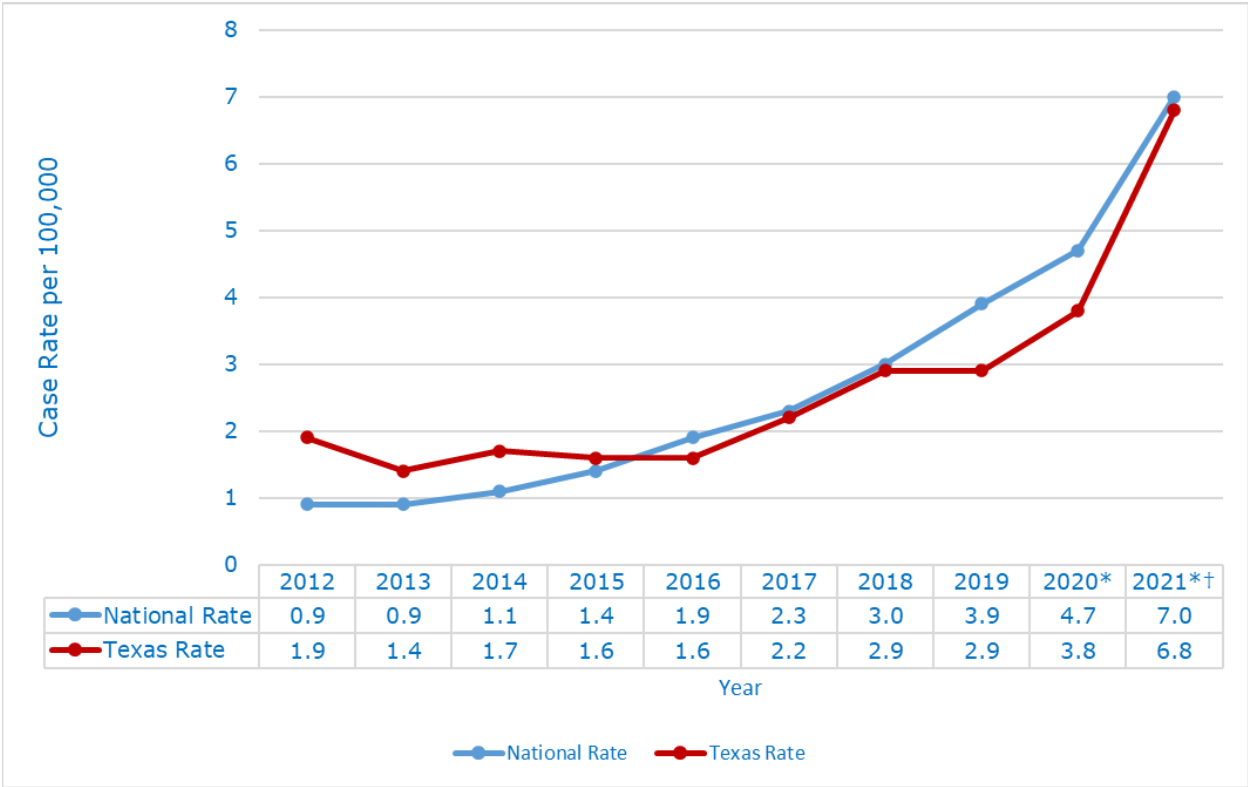
For primary and secondary syphilis among women of childbearing age, the national rate was 10.7 cases per 100,000 in 2020 and 15.6 cases per 100,000 in 2021 (Figure 2). For Texas, the rate for primary and secondary syphilis among women of childbearing age was 7.5 cases per 100,000 and 14.7 cases per 100,000 for 2020 and 2021, respectively. The increased rates of syphilis in women results in increased rates of CS, regardless of their pregnancy status at the time of their syphilis diagnosis.¹¹ Early syphilis among women of childbearing age and CS cases (Figure 3) continue to rise in Texas.

⁹ Centers for Disease Control and Prevention, "Sexually Transmitted Disease Surveillance 2020: Table 14B. Primary and Secondary Syphilis Among Females — Reported Cases and Rates of Reported Cases by State/Territory and Region in Alphabetical Order, United States, 2016–2020," [Online]. Available <https://www.cdc.gov/std/statistics/2020/tables/14b.htm> [Accessed 14 September 2022].

¹⁰ Centers for Disease Control and Prevention, "Preliminary 2021 STD Surveillance Data". 1 September 2022. [Online]. Available <https://www.cdc.gov/std/statistics/2021/default.htm> [Accessed 31 October 2022].

¹¹ Bowen, V., Su, J., Torrone, E., Kidd, S., & Weinstock, H. (2015). Increase in Incidence of Congenital Syphilis — United States, 2012–2014. *MMWR. Morbidity and Mortality Weekly Report*, 64(44), 1241-1245. doi:10.15585/mmwr.mm6444a3 [Online]. Available: <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6444a3.htm> [Accessed 2 November 2022].

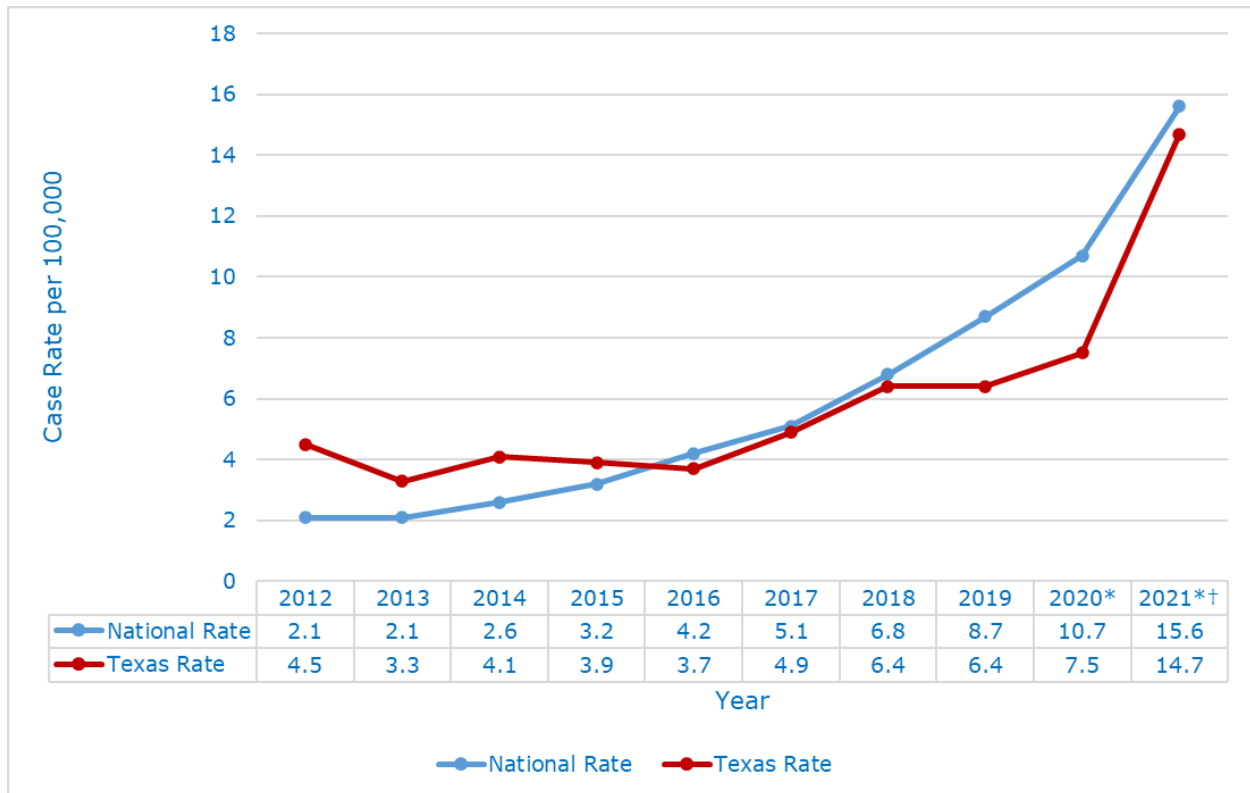
Figure 1. Primary and Secondary Syphilis Case Rates for Women in the United States and Texas, 2012-2021



*2020 and 2021 case rates are based on provisional 2020 and 2021 STD surveillance data.

†National data is based on 2021 Centers for Disease Control and Prevention Preliminary STD Surveillance data.

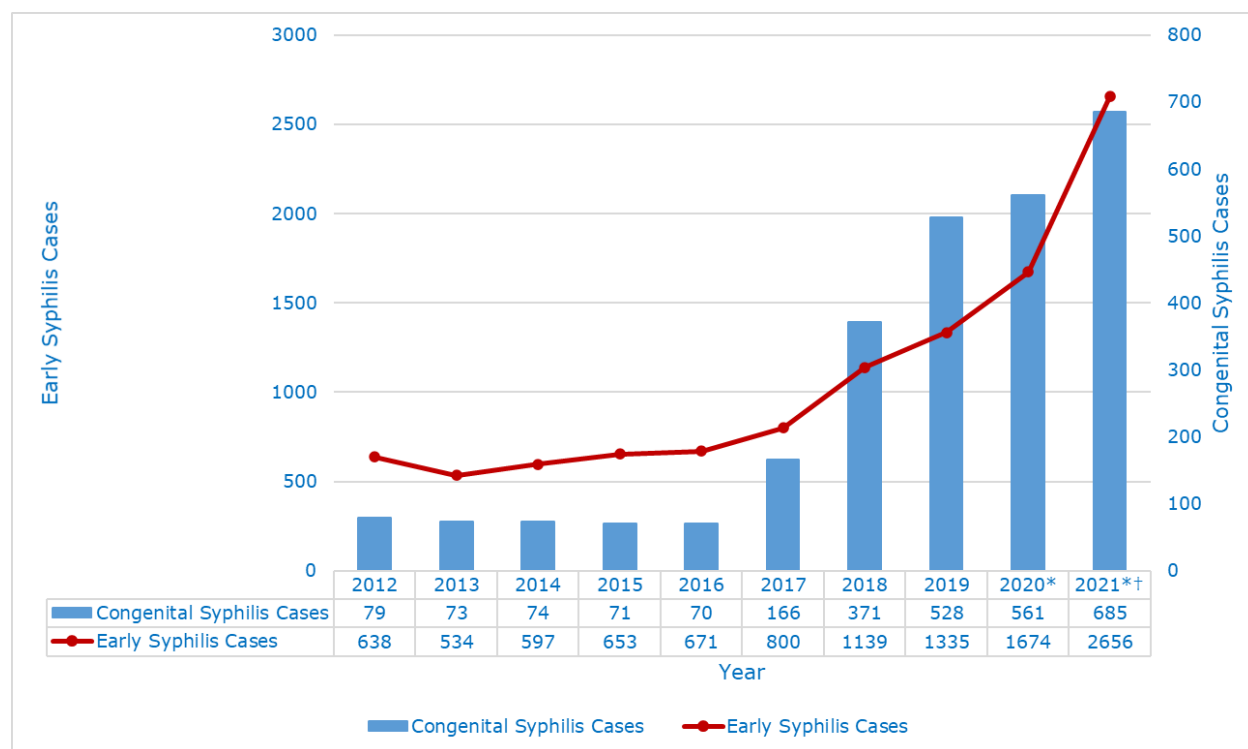
Figure 2. Primary and Secondary Syphilis Case Rates Among Women of Childbearing Age (15-44 Years) in the United States and Texas, 2012-2021



*2020 and 2021 case rates are based on provisional 2020 and 2021 STD surveillance data.

†National data is based on 2021 Centers for Disease Control and Prevention Preliminary STD Surveillance data.

Figure 3. Congenital Syphilis Cases and Early Syphilis Cases Among Women of Childbearing Age in Texas by Diagnosis Year, 2012-2021



*2020 and 2021 case rates are based on provisional 2020 and 2021 birth data.
 †National data is based on 2021 Centers for Disease Control and Prevention Preliminary STD Surveillance data.

Current data suggest an association between increased reporting of CS cases and increased reporting of early syphilis in women of childbearing age, enhanced surveillance activities including vital statistics matching, and increased screenings of pregnant women. During this reporting period, the COVID-19 pandemic resulted in reduced access to preventive medical care including routine screenings for syphilis. Reduced access to medical care for women of childbearing age may have impacted the ability to get tested and treated.¹²

¹² Centers for Disease Control and Prevention, "Impact of COVID-19 on STDs," [Online]. Available <https://www.cdc.gov/std/statistics/2020/impact.htm> [Accessed 08 December 2022].

4. Congenital Syphilis in Texas 2020-2021 Calendar Years

Texas reported a higher number of CS cases compared to other states in 2020 and 2021. From January 1, 2020, to December 31, 2021, a total of 1,246 cases of CS were reported in Texas; all cases were reported as early CS.

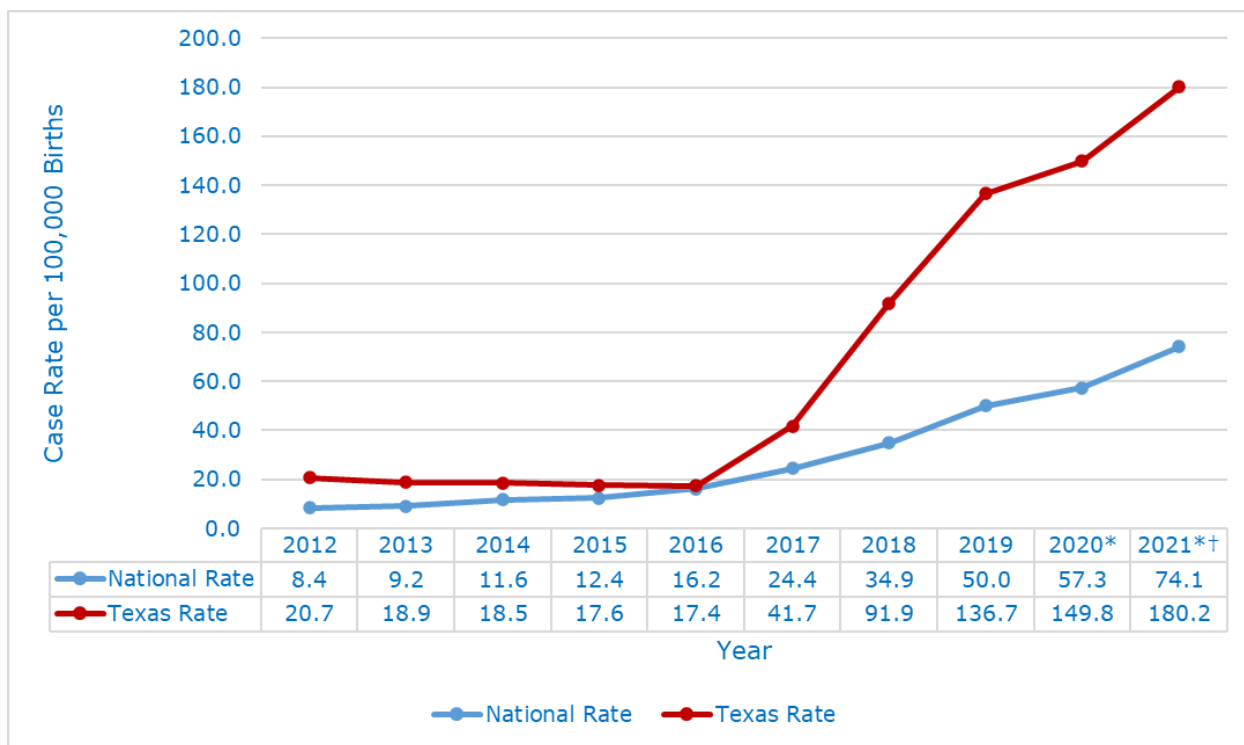
In 2020, Texas reported 561 cases of CS at a case rate of 149.8 cases per 100,000 births. Texas ranked third in case rate within the U.S. that year.¹³ The Texas case rate was more than double the national rate of 57.3 cases per 100,000 births (Figure 4). Texas accounted for 26.1 percent, slightly more than one-quarter, of the total CS cases reported in the U.S. (Figure 5). The number of CS cases identified in Texas increased from 70 cases in 2016 to 561 cases in 2020.

Preliminary national data for 2021 reports 2,677 cases of CS at a rate of 74.1 cases per 100,000 births.¹⁴ In 2021, Texas reported 685 cases of CS at a rate of 180.2 cases per 100,000 births (Figure 4). In 2021, 78 Texas counties reported at least one CS case, compared to 2019 when only 66 Texas counties reported at least one CS case (Figure 6). The number of reported CS cases in Texas increased from 166 cases in 2017 to 685 cases in 2021, an increase of 313 percent.

¹³ Centers for Disease Control and Prevention, "Sexually Transmitted Disease Surveillance 2020: Table 20. Congenital Syphilis-Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States 2020," [Online]. Available <https://www.cdc.gov/std/statistics/2020/tables/20.htm> [Accessed 14 September 2022].

¹⁴ Centers for Disease Control and Prevention, "Syphilis Pocket Guide for Providers"—November 1, 2017 [Online] Available: <https://www.cdc.gov/std/syphilis/Syphilis-Pocket-Guide-FINAL-508.pdf>. [Accessed 16 November 2022]

Figure 4. Congenital Syphilis Case Rates in the United States and Texas by Birth Year, 2012-2021 ^{15, 16}



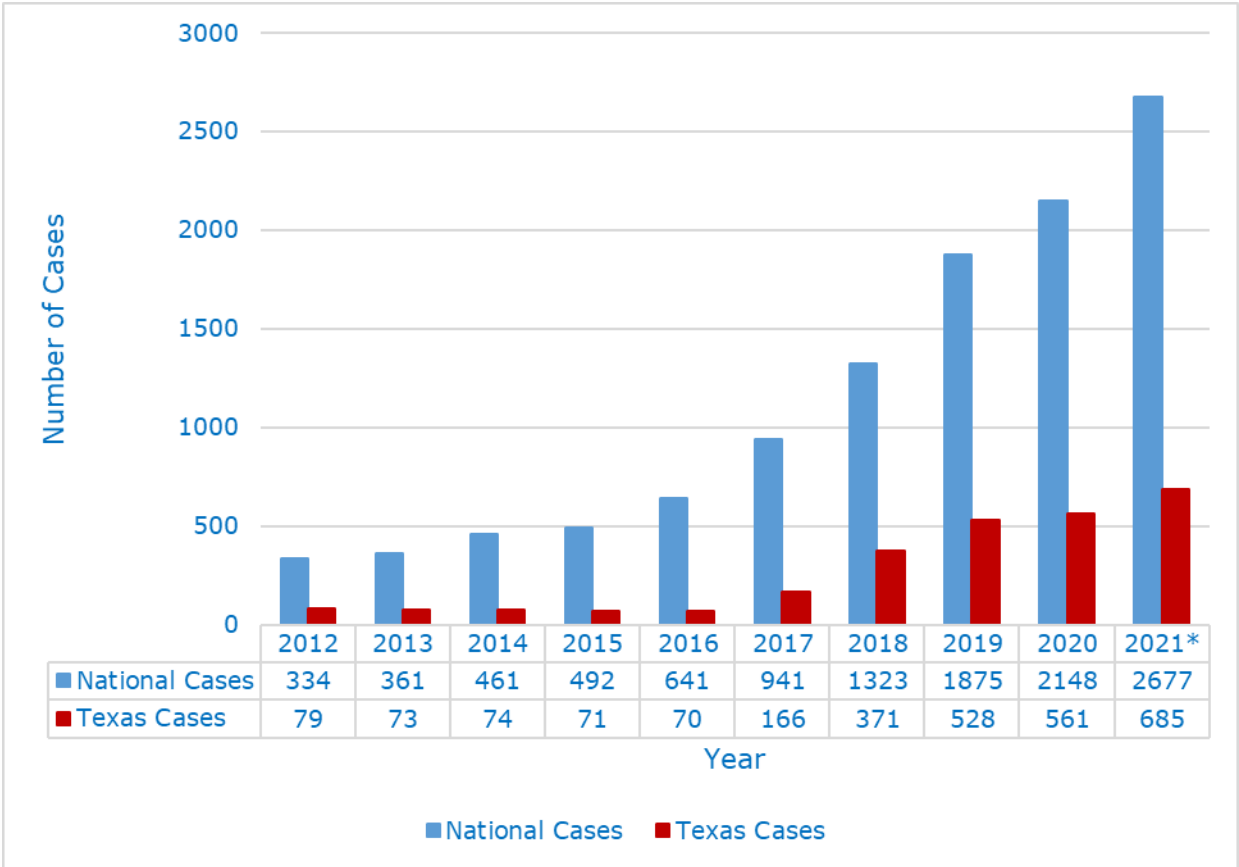
*2020 and 2021 case rates are based on provisional 2020 and 2021 birth data.

†National data is based on 2021 Centers for Disease Control and Prevention Preliminary STD Surveillance data.

¹⁵ Centers for Disease Control and Prevention, "Sexually Transmitted Disease Surveillance 2020: Table 20. Congenital Syphilis-Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States 2020," [Online]. Available <https://www.cdc.gov/std/statistics/2020/tables/20.htm> Accessed 14 September 2022].

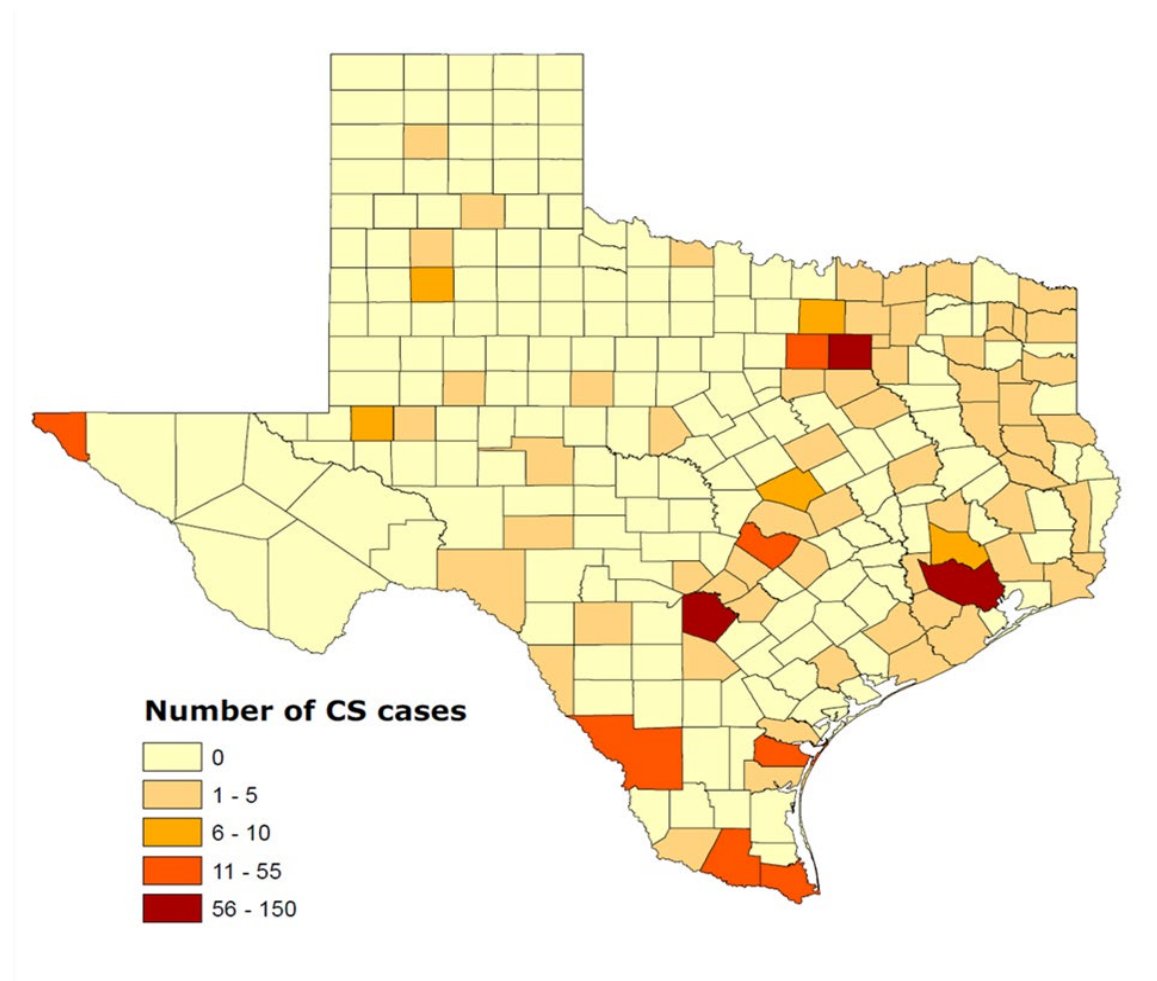
¹⁶ Centers for Disease Control and Prevention, "Preliminary 2021 STD Surveillance Data". 1 September 2022. [Online]. Available <https://www.cdc.gov/std/statistics/2021/default.htm> [Accessed 31 October 2022].

Figure 5. Congenital Syphilis Cases in the United States and Texas by Birth Year, 2012-2021



*National data is based on 2021 Centers for Disease Control and Prevention Preliminary STD Surveillance data.

Figure 6. Congenital Syphilis Case Counts by County, Texas, 2021



DSHS Efforts to Identify and Eliminate Congenital Syphilis

While Texas is in line with national trends and the rise in CS, DSHS began enhanced surveillance in 2017 with vital statistics matching (the matching of lab reports with birth records). The enhanced surveillance activity contributed to the initial increase in CS cases. The state continues to experience increases in both syphilis and CS cases. Texas uses CDC funding to support supplemental efforts in targeted areas to improve disease identification and reporting, increase referrals for women who have a syphilis diagnosis, and identify possible barriers to care and missed opportunities for disease intervention. These efforts have offered an opportunity for improved identification of CS cases in recent years.

CDC funding also supports additional DSHS staff specializing in CS to conduct enhanced surveillance by reviewing reports and case materials. This effort allows Texas to identify more CS cases by correcting probable CS cases which may have initially been incorrectly reported, identifying additional CS cases through matching maternal syphilis cases with birth and fetal death certificates, and performing technical assistance with field staff to improve overall reporting.

Though it is still too early to see the impact, DSHS deployed multiple strategies to help decrease the number of cases. These include:

- Increased training for DSHS staff to provide necessary tools and information to obtain pregnancy status and verify adequate and timely treatment.
- Education for medical providers to increase early diagnosis of syphilis and efforts to raise awareness of the need for testing pregnant women.

During the 2020-2021 biennium, DSHS continued enhanced surveillance activities to address the rates of CS across the state. In 2018, DSHS began matching syphilis surveillance data with live birth and fetal death records to ensure detection of infants and stillbirths born to a parent diagnosed with syphilis during pregnancy or delivery. DSHS regularly conducts vital statistics matches for regional and local health departments. DSHS identifies and investigates CS cases that may not have been reported.

Since 2015, DSHS has supported Fetal Infant Morbidity Review (FIMR) activities in the highest morbidity areas of the state. FIMR case boards currently exist in Houston, San Antonio, and Dallas-Fort Worth areas. These three areas account for most of the CS cases reported in Texas. FIMR boards in San Antonio and Dallas review CS cases that result in a stillbirth, perinatal death, infants with physical signs and symptoms, or meet the criteria to be reported as a probable case. In Houston the review board is known as the Fetal Infant Morbidity Review Board on Congenital Syphilis and Perinatal Human Immunodeficiency Virus (FIMRSH) and reviews perinatal HIV transmissions or high-risk exposures during pregnancy in addition to CS cases.

These review boards work to identify and address barriers to medical care that contribute to CS cases by conducting maternal interviews and enhanced medical chart abstractions. Medical providers, clinicians, and community members use information from both sources to develop appropriate interventions and action items for implementation at the local level. The three review boards meet quarterly.

During Houston's quarterly meeting they review two CS cases and one perinatal HIV transmission or high-risk exposure. The San Antonio and Dallas FIMRs review three CS cases per quarter and will review perinatal HIV cases when there is a dual diagnosis of HIV and syphilis at delivery. FIMR and the FIMRSH reviewed 58 congenital syphilis cases over the last two years.

During the 2020-2021 biennium, DSHS provided various opportunities for local and regional health departments and partners to receive training and education to address CS:

- Provided education and training to local and regional health department staff to identify and prioritize women of childbearing age who tested positive for syphilis. Disease Intervention Specialists inform the individual of their test results, properly classify the person's infection, and refer them to medical providers for adequate treatment.
- Implemented new follow-up investigations specifically for pregnant women who have a history of inadequately treated syphilis at all local and regional sites. These investigations are designed to allow public health follow-up staff an opportunity to inform the provider of a pregnant woman's syphilis testing and treatment history and recommend retreatment based on the 2021 CDC Sexually Transmitted Infections Treatment Guidelines. These investigations also create an opportunity for public health follow-up staff to link a pregnant woman with treatment as well as prenatal care services, as needed.
- Contracted with the University of Texas Rio Grande Valley School of Medicine to conduct provider education, improve syphilis testing of pregnant women, and enhance referrals for pregnant women, women of childbearing age, and their partners in DSHS Public Health Region 11.
- Hosted a virtual CS provider symposium for physicians, advanced practice nurses, and physician assistants. Sessions and presentations provided content to improve congenital syphilis awareness among Texas providers and increase the knowledge base regarding the treatment of women and infants affected by syphilis.
- Produced a podcast titled *Exploring an Epidemic: CS in Texas* as an innovative way to reach wider audiences, including medical providers and the community, to increase awareness of CS. Six episodes have been released, and an additional six are in development.

5. Conclusion

Between 2020 and 2021, the rate of CS in Texas increased in alignment with national trends. Analysis indicates this is due to an increase in cases and the increased effectiveness of DSHS efforts to identify additional cases through enhanced surveillance. In future years, data analysis will reveal the impact of changes to CS testing requirements.

DSHS will continue to improve reporting and implement the following activities to address the continued rise in CS births:

- Standardize training for staff working on CS cases for proper case classification and entry into database management systems.
- Update the DSHS strategy to address the increase in CS and syphilis among women of childbearing age.
- Update the CS epidemiological profile for public data sharing.
- Continue efforts to improve CS data by matching maternal syphilis cases to Medicaid services data and CS to birth defects data for more timely case identification.
- Continue DSHS efforts to raise awareness of available services to pregnant women and women of childbearing age such as the Healthy Texas Women Program.
- Continue the partnership with the University of Texas-Rio Grande Valley to improve community knowledge and conduct provider education in the high morbidity area of DSHS Public Health Region 11.

DSHS will further efforts to reduce CS by enhancing STD surveillance, increasing documented pregnancy status among women with or exposed to syphilis, and providing supplementary resources to communities with the highest rates of CS.

List of Acronyms

Acronym	Full Name
CDC	Centers for Disease Control and Prevention
CS	Congenital syphilis
DSHS	Department of State Health Services
FIMR	Fetal Infant Morbidity Review Board
FIMRSH	Fetal Infant Morbidity Review Board for Congenital Syphilis and HIV
HIV	Human Immunodeficiency Virus
STD	Sexually Transmitted Disease(s)