



# **2021 Congenital Syphilis Report**

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



**TEXAS**  
Health and Human  
Services

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Texas Department of  
State Health Services

**January 2021**

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## Executive Summary

In accordance with [Texas Health and Safety Code, Section 81.090](#), the Texas Department of State Health Services (DSHS) has prepared a report summarizing the number of cases of early and late congenital syphilis that were diagnosed in the State in the 2018-2019 calendar years.

Health and Safety Code, Section 81.090, which was amended by Senate Bill 748 of the 86<sup>th</sup> Legislature (Regular Session, 2019), requires that DSHS shall report this information to the Legislature no later than January 1 of each odd-numbered year.

The report also contains information on congenital syphilis regarding:

- Definition of early and late congenital syphilis
- Causes and complications
- Treatment
- State trends
- DSHS efforts to reduce congenital syphilis

From January 1, 2018 to December 31, 2019, a total of 895 cases of congenital syphilis were reported in Texas; all cases being classified as early, none as late. Nationally, the number of congenital syphilis cases identified has increased 261 percent from 2013 to 2018 and is at the highest number of cases since 1995. Texas has also seen an increase in the case rate over the two-year reporting period, with 91.0 cases per 100,000 births in 2018 and 132.9 cases per 100,000 births in 2019. DSHS will continue its efforts to reduce congenital syphilis by enhancing sexually transmitted disease (STD) surveillance, increasing pregnancy ascertainment among women with or exposed to syphilis, improving provider knowledge of maternal and congenital syphilis, and providing supplementary resources to communities with the highest rates of congenital syphilis.

## 1. Introduction

[Texas Health and Safety Code Section 81.090](#), as amended by Senate Bill 748, 86<sup>th</sup> Legislature, Regular Session, 2019, requires all pregnant women in Texas to be tested for syphilis at their first prenatal visit, during the third trimester of their pregnancy (no sooner than 28 weeks' gestation), and again at delivery. Statute previously required pregnant women to be tested at their first prenatal visit and during the third trimester; and, in the absence of a third-trimester test, a test was to be performed at delivery.

The legislation also requires that the Department of State Health Services (DSHS) report to the Legislature no later than January 1 of each odd-numbered year the number of early and late congenital syphilis cases diagnosed in Texas in the preceding two calendar years.

## 2. Background

### Causes and Complications of Congenital Syphilis

Pregnant women with syphilis can pass the disease to their children during fetal development or at birth. The disease can cause birth defects, miscarriage, stillbirth, or death shortly after delivery. 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 a newborn.<sup>1</sup> Some infants with infection can appear healthy at birth but may later develop life-altering complications.

### Syphilis in Women

In Texas, all positive syphilis test results are required to be reported to DSHS in accordance with [Texas Administrative Code, Title 25, Part 1, Chapter 97, Subchapter F](#). In 2018, the national rate of women diagnosed with primary and secondary syphilis was 3.0 cases per 100,000, which matched Texas' rate (3.0 cases per 100,000).<sup>2</sup> National data for 2019 was not available at the time of publication of this report. Increased rates of syphilis in women are associated with increased rates of congenital syphilis regardless of pregnancy status.<sup>3</sup> Women with untreated or inadequately treated primary and secondary syphilis (symptomatic syphilis) during pregnancy are more likely to result in clinical congenital syphilis cases. Women with untreated or inadequately treated non-primary, non-secondary early syphilis or syphilis of unknown duration (previously known as early and late latent syphilis that occurs within one or more years after infection) still have a 23 percent chance of an adverse pregnancy outcome.<sup>4</sup>

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<sup>1</sup> Centers for Disease Control and Prevention, "Congenital Syphilis – CDC Fact Sheet," 01 January 2017. [Online]. Available: [www.cdc.gov/std/syphilis/stdfact-congenital-syphilis.htm](http://www.cdc.gov/std/syphilis/stdfact-congenital-syphilis.htm). [Accessed 09 July 2020].

<sup>2</sup> Centers for Disease Control and Prevention, "Sexually Transmitted Disease Surveillance 2018: Table 28. Primary and Secondary Syphilis Among Females — Reported Cases and Rates of Reported Cases by State/Territory and Region in Alphabetical Order, United States, 2014–2018," [Online]. Available [www.cdc.gov/std/stats18/tables/28.htm](http://www.cdc.gov/std/stats18/tables/28.htm). [Accessed 08 July 2020].

<sup>3</sup> 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: [www.cdc.gov/mmwr/preview/mmwrhtml/mm6444a3.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6444a3.htm) [Accessed 09 July 2018].

<sup>4</sup>Arnold, S., Ford-Jones, E. (2000). Congenital syphilis: A guide to diagnosis and management. *Pediatrics & Child Health*, 5(8), 463-469. [Online]. Available: [www.ncbi.nlm.nih.gov/pmc/articles/PMC2819963/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2819963/) [Accessed 09 July 2020].

## Treatment

Pregnant women diagnosed with syphilis should seek treatment as early as possible to prevent serious health problems for their children. Penicillin therapy is the only approved treatment for syphilis during pregnancy to prevent passing the infection to the baby.<sup>5</sup> This therapy is extremely effective in preventing mother-to-child transmission, with a success rate of up to 98 percent.<sup>6</sup> Pregnant women who are allergic to penicillin should see a specialist for desensitization to penicillin.<sup>7</sup> Women diagnosed with syphilis of late or unknown duration require three treatments of penicillin given one week apart; failure to complete this therapy appropriately will result in a reported congenital syphilis case.<sup>8</sup> Additionally, the penicillin treatment regimen appropriate for the mother's stage of syphilis must be initiated at least 30 days prior to delivery to prevent a congenital syphilis case.<sup>9</sup>

## Early and Late Congenital Syphilis

Congenital syphilis can present with a spectrum of serious manifestations but may also be asymptomatic. Congenital syphilis is classified as "early" when the child exhibits symptoms at birth up to his or her second birthday, and "late" when symptoms start after age two. Early congenital syphilis can 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; rash; wart-like lesions on the genitals; and additional symptoms. Older children may develop clinical manifestations of late congenital syphilis, including problems with bone and teeth development, hearing, vision, and the central nervous and cardiovascular systems.<sup>10</sup>

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<sup>5</sup> Centers for Disease Control and Prevention, "2015 Sexually Transmitted Diseases Treatment Guidelines," June 2015. [Online]. Available: [www.cdc.gov/std/tg2015/default.htm](http://www.cdc.gov/std/tg2015/default.htm). [Accessed 17 July 2018].

<sup>6</sup> 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:

[www.cdc.gov/mmwr/preview/mmwrhtml/mm6444a3.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6444a3.htm) [Accessed 09 July 2018]

<sup>7</sup> Texas Department of State Health Services, "Texas STD Surveillance Annual Report, 2018," 27 November 2019. [Online]. Available: [dshs.texas.gov/hivstd/reports/STDsurveillanceReport.pdf](http://dshs.texas.gov/hivstd/reports/STDsurveillanceReport.pdf). [Accessed 09 July 2020].

<sup>8</sup> Centers for Disease Control and Prevention, "2015 Sexually Transmitted Diseases Treatment Guidelines," June 2015. [Online]. Available: [www.cdc.gov/std/tg2015/default.htm](http://www.cdc.gov/std/tg2015/default.htm). [Accessed 17 July 2018].

<sup>9</sup> Ibid.

<sup>10</sup> Centers for Disease Control and Prevention, "Congenital Syphilis (*Treponema pallidum*) 2018 Case Definition," [Online]. Available: [wwwn.cdc.gov/nndss/conditions/congenital-syphilis/case-definition/2018/](http://wwwn.cdc.gov/nndss/conditions/congenital-syphilis/case-definition/2018/). [Accessed 11 July 2018].

### 3. Congenital Syphilis in Texas, 2018-2019 Calendar Years

Historically, Texas has reported high numbers of congenital syphilis compared to other states. In recent years, Texas has reported an increasing number of congenital syphilis cases.

In 2018:

- Nationally, Texas ranked first (case rate).<sup>11</sup>
  - There were 367 cases of congenital syphilis reported to DSHS.<sup>12</sup>
    - ◊ The rate was 91.0 cases per 100,000 births.
- Texas was nearly triple the national rate (33.1 cases per 100,000 births).
- Texas accounted for 28.1 percent or slightly more than one-quarter of the total congenital syphilis cases reported in the United States (Figure 1).

In 2019:

- National data is unavailable at the time of publication of this report.
  - There were 528 cases of congenital syphilis reported to DSHS.
    - ◊ The rate was 132.9 cases per 100,000 births.

Texas saw a 218.1 percent increase in reported congenital syphilis cases from 2017 to 2019. The state is experiencing true increases in both syphilis and congenital syphilis cases. The Department of State Health Services (DSHS) has used Centers for Disease Control and Prevention (CDC) funding to support supplemental efforts in high-morbidity areas to improve disease identification and reporting, to increase referrals for women who have a syphilis diagnosis, and to identify possible barriers to care and missed opportunities for disease intervention. These efforts have offered an opportunity for improved identification of congenital syphilis cases in recent years.

CDC funding also supports additional DSHS staff specializing in congenital syphilis to conduct enhanced surveillance by reviewing reports and case materials. This

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<sup>11</sup> Centers for Disease Control and Prevention, "Sexually Transmitted Disease Surveillance 2018: Table 40. Congenital Syphilis – Reported Cases and Rate of Reported Cases by State, Ranked by Rates, United States, 2018," [Online]. Available [www.cdc.gov/std/stats18/tables/40.htm](http://www.cdc.gov/std/stats18/tables/40.htm) [Accessed 09 July 2020].

<sup>12</sup> Texas Department of State Health Services, "Texas STD Surveillance Annual Report, 2018," 27 November 2019. [Online]. Available: [dshs.texas.gov/hivstd/reports/STDsurveillanceReport.pdf](https://dshs.texas.gov/hivstd/reports/STDsurveillanceReport.pdf). [Accessed 09 July 2020].

effort has allowed DSHS to identify more congenital syphilis cases by correcting probable cases that may have initially been incorrectly reported, identifying additional cases through matching maternal syphilis cases with birth and fetal death certificates, and performing technical assistance with field staff to improve overall reporting.

Future iterations of congenital syphilis data may change due to 2019 changes to state requirements for congenital syphilis testing. Texas law now requires that women be tested for syphilis at their first prenatal visit, in the third trimester (no sooner than 28 weeks), and again at delivery. Third-trimester testing is critical so that treatment can be provided to the mother early enough to reduce the chance of transmission to the baby. Delivery testing is important to detect undiagnosed syphilis in both mother and baby and ensure adequate infant evaluation and treatment to prevent future childhood complications.

At the time of this report, it is too early to determine what effects the new requirements will have on the number or rate of reported cases. Because congenital syphilis can manifest at different ages, it may take up to five years to clinically identify any true increases or decreases in the number of late cases of congenital syphilis. DSHS is closely monitoring the available data to identify any impact caused by the change in testing requirements.

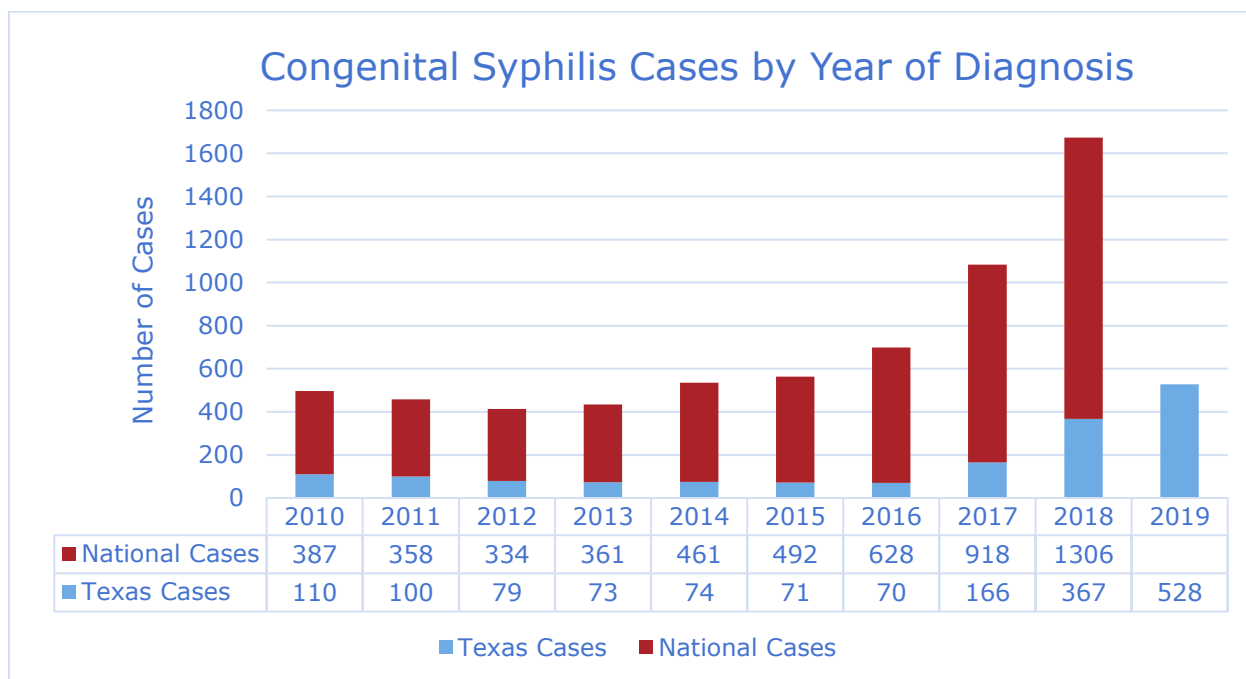
Sustained rates of primary and secondary syphilis among Texas women match or exceed the national average, exemplifying that Texas has an ongoing challenge with increased incidence of both syphilis and congenital syphilis.<sup>13</sup> Figures 1 and 2 below show how Texas compares to rising national patterns.

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<sup>13</sup> Ibid.



**Figure 1** <sup>14,15</sup>

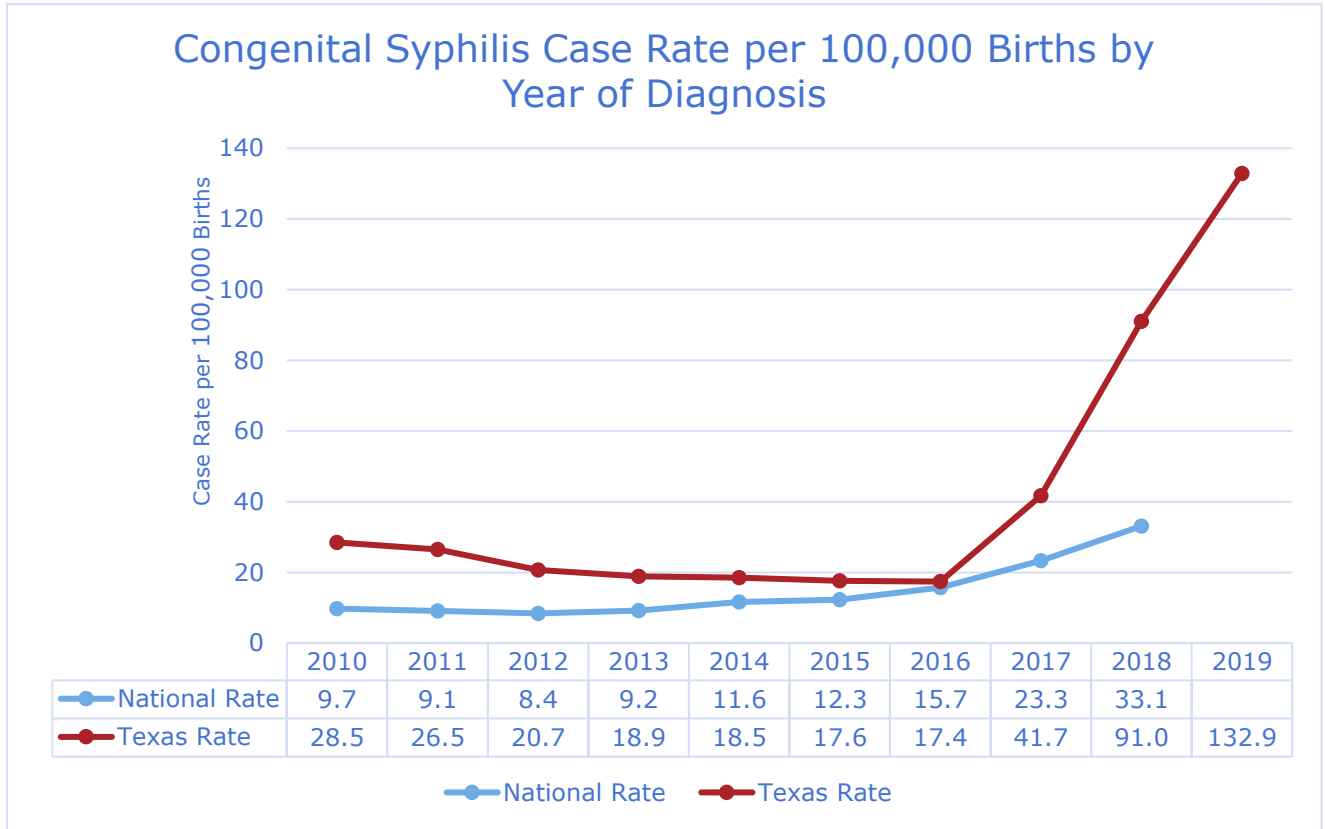


\*NOTE: National data for 2019 is unavailable at the time of this report.

<sup>14</sup> Texas Department of State Health Services, "Texas STD Surveillance Annual Report, 2018," 27 November 2019. [Online]. Available: [dshs.texas.gov/hivstd/reports/STDsurveillanceReport.pdf](https://dshs.texas.gov/hivstd/reports/STDsurveillanceReport.pdf). [Accessed 09 July 2020].

<sup>15</sup> Centers for Disease Control and Prevention, "Sexually Transmitted Disease Surveillance 2018: Table 40. Congenital Syphilis – Reported Cases and Rate of Reported Cases by State, Ranked by Rates, United States, 2018," [Online]. Available [www.cdc.gov/std/stats18/tables/40.htm](https://www.cdc.gov/std/stats18/tables/40.htm) [Accessed 09 July 2020].

**Figure 2** <sup>16,17</sup>



\*NOTE: National data for 2019 is unavailable at the time of this report.

<sup>16</sup> Texas Department of State Health Services, "Texas STD Surveillance Annual Report, 2018," 27 November 2019. [Online]. Available: [dshs.texas.gov/hivstd/reports/STDsurveillanceReport.pdf](https://dshs.texas.gov/hivstd/reports/STDsurveillanceReport.pdf). [Accessed 09 July 2020].

<sup>17</sup> Centers for Disease Control and Prevention, "Sexually Transmitted Disease Surveillance 2017: Table 40. Congenital Syphilis – Reported Cases and Rate of Reported Cases by State, Ranked by Rates, United States, 2018," [Online]. Available [www.cdc.gov/std/stats18/tables/40.htm](https://www.cdc.gov/std/stats18/tables/40.htm) [Accessed 09 July 2020].

## **DSHS Efforts to Reduce Congenital Syphilis**

In January 2015, DSHS initiated a project in Public Health Region (PHR) 6/5 South (Houston) modeled after the Fetal Infant Morbidity Review Board (FIMR), a national effort to reduce perinatal HIV<sup>18</sup>, and added congenital syphilis to its pilot. FIMR involves performing extensive medical chart reviews and maternal interviews to identify barriers women may face in receiving adequate prenatal care and community-based systemic opportunities for disease intervention, which impact the rising rates of congenital syphilis. DSHS received additional CDC funding in 2017 focused solely on congenital syphilis and established a FIMR in Bexar County in 2018. This funding was also used to increase the number of cases reviewed by the PHR 6/5 South FIMR. Finally, the additional funding also provided support for two DSHS staff: a Congenital Syphilis Coordinator and a Congenital Syphilis Epidemiologist.

With the addition of these funds and the two additional congenital syphilis staff, DSHS has:

- Implemented a new STD surveillance system that has prompted investigation activities to ensure more complete reporting;
- Increased referrals to prenatal care among women who are diagnosed with syphilis during pregnancy;
- Improved pregnancy ascertainment in women who are diagnosed with syphilis or exposed to syphilis by adding the ability to receive pregnancy status in the state's electronic laboratory reporting system;
- Adopted a new field activity which promotes completing adequate treatment for pregnant women who were previously inadequately treated;
- Matched maternal syphilis cases to birth certificates and fetal death certificates to find previously unreported congenital syphilis cases;
- Assessed hospital practices of prenatal and delivery syphilis testing through annual hospital surveys performed by DSHS;

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<sup>18</sup> The National Organization for Maternal and Child Health-CityMatCH, "FIMR/HIV Prevention Methodology," [Online]. Available: [www.fimrhiv.org/methodology.php](http://www.fimrhiv.org/methodology.php). [Accessed 16 July 2018].

- Presented nationally on Texas' efforts to reduce congenital syphilis; and
- Provided educational resources for public, provider, and stakeholder audiences, as follows:
  - ▶ Held web-based and in-person trainings for field staff to enhance congenital syphilis reporting with new field tools to improve understanding of congenital syphilis case definitions;
  - ▶ Released a Health Advisory for medical providers about the diagnostic and treatment guidelines for pregnant women and at-risk infants;
  - ▶ Generated a [congenital syphilis infant evaluation and treatment cascade flowchart](#) for medical providers;
  - ▶ Updated and published the "[Congenital Syphilis in Texas](#)" fact sheet;
  - ▶ Created the [DSHS Congenital Syphilis webpage](#);
  - ▶ Updated the [DSHS Syphilis webpage](#) with additional information on syphilis during pregnancy;
  - ▶ Published a [DSHS FIMR fact sheet](#); and
  - ▶ Published the [Texas STD Surveillance Report](#).

During the 2020-2021 biennium, DSHS will continue improving reporting and implementing specific activities to identify congenital syphilis and improve treatment adequacy. The following activities were performed in 2020:

- Created and published a Congenital Syphilis Epidemiological Profile, with detailed insight into maternal and congenital syphilis;
- Installed a third Fetal Infant Morbidity Review Board on Congenital Syphilis in Dallas County due to high congenital syphilis morbidity in Public Health Region 2/3;
- Hosted a statewide summit for medical providers on maternal and congenital syphilis;
- Developed and published a congenital syphilis logic model and workplan;

- Improved congenital syphilis data by matching congenital syphilis cases to birth defects data;
- Collaborated with DSHS’s Maternal Child Health Section to raise awareness of available services to pregnant women and women of childbearing age, such as the Healthy Texas Women Program; and
- Partnered with the University of Texas-Rio Grande Valley to improve community knowledge and conduct provider education in the high-morbidity area of Public Health Region 11.

The following activities will be implemented or ongoing in 2021:

- Modify syphilis and pregnancy reporting guidelines to require providers to report congenital syphilis and pregnancy status for positive syphilis test results;
- Launch a statewide Fetal Infant Morbidity Review Board on congenital syphilis based out of the DSHS Central Office to address rising congenital syphilis numbers statewide;
- Standardize training and enhance the capacity of field staff working on congenital syphilis cases through virtual trainings and web-based learning modules for proper case classification and entry into database management systems;
- Host a follow-up statewide summit for medical providers on maternal and congenital syphilis;
- Update the congenital syphilis logic model and workplan;
- Update the Congenital Syphilis Epidemiological Profile;
- Continue efforts to improve congenital syphilis data by matching:
  - Maternal syphilis cases to Medicaid services data; and
  - Congenital syphilis cases to birth defects data;
- Continue the collaboration with DSHS’s Maternal Child Health Section to raise awareness of available services to pregnant women and women of childbearing age, such as the Healthy Texas Women Program; and

- Continue to partner with the University of Texas-Rio Grande Valley to improve community knowledge and conduct provider education in the high-morbidity area of Public Health Region 11.

## 4. Conclusion

Between 2018 and 2019, the rate of congenital syphilis in Texas increased, which was a sustained increase from previous years and in line with national trends. Analysis indicates that this is due to both an actual increase in cases and the success of Department of State Health Services (DSHS) efforts to identify additional cases through enhanced surveillance. In future years, data will better reveal the impact of changes to congenital syphilis testing requirements. DSHS will further its efforts to reduce congenital syphilis by enhancing sexually transmitted disease surveillance, increasing pregnancy ascertainment among women with or exposed to syphilis, and providing supplementary resources to communities with the highest rates of congenital syphilis.

## List of Acronyms

<b>Acronym</b>	<b>Full Name</b>
CDC	Centers for Disease Control and Prevention
DSHS	Department of State Health Services
FIMR	Fetal Infant Morbidity Review
HIV	Human Immunodeficiency Virus
PHR	Public Health Region
STD	Sexually Transmitted Disease(s)