



Published in final edited form as:

Am J Public Health. 2025 April ; 115(4): 566–574. doi:10.2105/AJPH.2024.307951.

State Child Abuse and Mandated Reporting Policies for Prenatal Substance Use and Congenital Syphilis Case Rates: United States, 2018–2022

Anna E. Austin, PhD, MPH,

University of North Carolina at Chapel Hill; National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, Atlanta, GA.

Kevin O’Callaghan, MB BCH BAO,

Division of STD Prevention, Centers for Disease Control and Prevention. The findings and conclusions of this study are those of the authors and do not represent the official position of the Centers for Disease Control and Prevention.

Julie Rushmore, PhD, DVM,

Division of STD Prevention, Centers for Disease Control and Prevention. The findings and conclusions of this study are those of the authors and do not represent the official position of the Centers for Disease Control and Prevention.

Ryan Cramer, JD, MPH,

Division of STD Prevention, Centers for Disease Control and Prevention. The findings and conclusions of this study are those of the authors and do not represent the official position of the Centers for Disease Control and Prevention.

Robert McDonald, MD, MPH,

Division of STD Prevention, Centers for Disease Control and Prevention. The findings and conclusions of this study are those of the authors and do not represent the official position of the Centers for Disease Control and Prevention.

Emily R. Learner, PhD, MPH

Division of STD Prevention, Centers for Disease Control and Prevention. The findings and conclusions of this study are those of the authors and do not represent the official position of the Centers for Disease Control and Prevention.

Abstract

Correspondence should be sent to Anna Austin, PhD, MPH, National Center for Injury Prevention and Control, 4770 Buford Hwy, Atlanta, GA 30341 (une1@cdc.gov). Reprints can be ordered at <https://www.ajph.org> by clicking the “Reprints” link.

CONTRIBUTORS

A. E. Austin conceptualized and designed the study, conducted the data analyses, interpreted results, and drafted the initial article. K. O’Callaghan conceptualized and designed the study, acquired the data, interpreted results, and revised the article for important intellectual content. J. Rushmore, R. Cramer, R. McDonald, and E. R. Learner conceptualized and designed the study, interpreted results, and revised the article for important intellectual content.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to report.

HUMAN PARTICIPANT PROTECTION

Because all data were deidentified and aggregated at the state level, this study was not considered human participant research and thus did not require institutional review board approval.

Objectives.—To estimate the association of state policies that define prenatal substance use as child abuse and mandate that health care professionals report prenatal substance use to child protective services with congenital syphilis case rates.

Methods.—We used 2018 to 2022 US data on congenital syphilis case notifications to the National Notifiable Diseases Surveillance System. We conducted linear regression with a generalized estimating equation approach to compare congenital syphilis case rates in states with a child abuse policy only, a mandated reporting policy only, and both policies to rates in states with neither policy.

Results.—After adjustment for confounders, the rate of congenital syphilis cases was, on average, 23.5 (95% confidence interval = 2.2, 44.8) cases per 100 000 live births higher in states with both a child abuse policy and a mandated reporting policy for prenatal substance use than in states with neither policy. Rates were similar in states with a child abuse policy only and a mandated reporting policy only compared to states with neither policy.

Conclusions.—The combination of state child abuse policies and mandated reporting policies for prenatal substance use potentially contributes to higher congenital syphilis case rates.

Cases of congenital syphilis have rapidly escalated over the past decade in the United States. From 2013 to 2022, the number of cases increased more than 10 times, from 362 in 2013 to 3755 in 2022, representing an increase from 9.2 to 102.5 cases per 100 000 live births.¹ Increases in congenital syphilis cases mirror increases in syphilis infections among pregnant women,² which, if untreated, can be transmitted to the fetus during pregnancy or at birth. Congenital syphilis can cause miscarriage, stillbirth, and neonatal death and result in adverse health and developmental outcomes among surviving infants.^{3,4}

Substance use is associated with syphilis and congenital syphilis infection. Increases in substance use, particularly methamphetamine, heroin, and injection drug use, are correlated with recent increases in syphilis infections among women and heterosexual men.^{5,6} This may be attributable to associations of substance use with sexual behaviors (e.g., inconsistent condom use, transactional sex) that increase the risk for syphilis transmission.⁶ Among pregnant women with syphilis, substance use is nearly twice as high among those with a congenital syphilis pregnancy outcome (48%) than those without this outcome (25%),⁷ underscoring an important association between prenatal substance use and congenital syphilis.

Congenital syphilis is preventable. Timely testing to identify syphilis infections during pregnancy and adequate treatment of identified syphilis infections can prevent perinatal transmission.⁸ Leading medical and public health organizations recommend testing for syphilis infection in all pregnancies as early as possible or at the first prenatal visit.^{8,9}

State prenatal substance use policies, including policies that define substance use during pregnancy as child abuse (i.e., child abuse policies) and policies that require health care professionals to report substance use during pregnancy to child protective services (CPS) agencies (i.e., mandated reporting policies), can create barriers to health care services¹⁰⁻¹² and may preclude receipt of timely syphilis testing and treatment during pregnancy.

In states with child abuse and mandated reporting policies, pregnant women engaging in substance use initiate prenatal care later and are less likely to have adequate prenatal care than those in states without these policies.¹⁰ Receipt of substance use disorder treatment is also lower among pregnant women in states with these policies than among those in states without these policies.¹¹ Pregnant women using substances report delaying or avoiding prenatal care and other health care services because of the potential consequences of prenatal substance use, including CPS involvement and loss of infant custody.¹²⁻¹⁶ Thus, state child abuse and mandated reporting policies for prenatal substance use may create barriers to health care engagement and, by extension, inhibit receipt of timely syphilis testing and treatment. This may be of particular concern for pregnant women engaging in substance use, a population at increased risk for syphilis during pregnancy and congenital syphilis as a pregnancy outcome.⁷

The primary aim of this study was to estimate the association of state child abuse policies and mandated reporting policies for prenatal substance use with rates of congenital syphilis cases. Because previous research shows delays and reductions in prenatal care and other health care services during pregnancy in states with these policies and these interactions are critical to ensuring timely syphilis testing and treatment, we hypothesized that states with child abuse policies and mandated reporting policies for prenatal substance use would have higher rates of congenital syphilis cases than states without these policies. The secondary aim was to describe missed congenital syphilis prevention opportunities by state policy context to provide actionable information for public health and clinical prevention efforts.

METHODS

We examined congenital syphilis case rates and state child abuse policies and mandated reporting policies for prenatal substance use during 2018 to 2022. We selected these years because they represent a period of rapid escalation in congenital syphilis case rates.¹⁷

Data Sources and Measures

We identified the years from 2018 to 2022 in which states had a child abuse policy and a mandated reporting policy for prenatal substance use using information from the Child Welfare Information Gateway, official state policy text from the Guttmacher Institute and available online from state agencies, and published studies that have reconciled differences across sources, including through direct contact with CPS agencies.¹⁸⁻²⁰ We categorized each state and year as having a child abuse policy only, a mandated reporting policy only, both policies, or neither policy (Appendix Table A, available as a supplement to the online version of this article at <http://www.ajph.org>).

For our primary analyses, we considered states to have a child abuse policy if prenatal substance use was criminalized or defined as child abuse or neglect under civil child welfare statutes, considered to be grounds for termination of parental rights, used as evidence to substantiate reports of child abuse or neglect, or resulted in placement on a CPS registry.¹⁹ We considered states to have a mandated reporting policy if health care providers were required to report suspected or confirmed prenatal substance use to CPS agencies.¹⁰

Congenital syphilis is a reportable condition in all 50 states and the District of Columbia and is a nationally notifiable disease. All US jurisdictions voluntarily provide case notifications to the Centers for Disease Control and Prevention (CDC) through the National Notifiable Diseases Surveillance System using the Council of State and Territorial Epidemiologists case definition. We used 2018 to 2022 National Notifiable Diseases Surveillance System data on the annual number of congenital syphilis cases for all 50 states and the District of Columbia.

We created a conceptual diagram of factors likely operative in associations between these state policies and congenital syphilis case rates using existing empirical evidence and our subject matter expertise (Appendix Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>). On the basis of our conceptual diagram, we adjusted analyses for timevarying indicators of the state health policy context (state Medicaid expansion, income thresholds for Medicaid eligibility for pregnant and postpartum women, percentage of adult women 19 to 64 years of age without health insurance, number of obstetricians/gynecologists per 100 000 live births, and policies specifying priority access to substance use disorder treatment for pregnant women) and state demographics (percentage of the population unemployed, percentage of the population in poverty, and race and ethnicity).

Statistical Analysis

We examined congenital syphilis case rates per 100 000 live births by year and state policy category. We calculated rates using live birth data from the National Center for Health Statistics. We also examined the distribution (mean, median, 25th percentile, and 75th percentile) of indicators of the state health policy context and state demographics over the entire study period by state policy category.

To compare congenital syphilis case rates in states with a child abuse policy only, a mandated reporting policy only, and both policies to rates in states with neither policy, we conducted linear regression with a generalized estimating equation approach and an exchangeable correlation matrix to account for repeated measures within states over time. Generalized estimating equations are a set of equations applied to regression models to estimate model coefficients and their standard errors when the outcomes are not independent, for example when there is clustering of data (e.g., repeated measures within states over time).²¹ They are used to obtain population average estimates while accounting for the fact that outcomes within clusters (e.g., within states) are likely to be more similar than those between clusters (e.g., between states).²¹ We adjusted regression models for the confounders noted previously and a linear time trend to account for secular trends over time.

We did not use a quasi-experimental study design, such as a difference-indifferences approach, as there was no prepolicy time for most states. Forty-eight of the states and the District of Columbia first implemented child abuse or mandated reporting policies before 2018 (Appendix Table A). Prepolicy time is necessary for conducting a difference-in-differences analysis as this approach leverages policy changes both over time and between states to generate estimates.²²

The CDC uses National Notifiable Diseases Surveillance System case notification data and a stepwise analytic framework²³ to classify congenital syphilis cases by type of missed prevention opportunity. This framework classifies missed prevention opportunities as follows: (1) among all congenital syphilis cases, the number that had a nondocumented or nontimely test or late identification of seroconversion in pregnancy; (2) among cases with a timely test, the number with inadequate treatment or no or nondocumented treatment; and (3) among cases in which there was adequate treatment, the number with clinical evidence of congenital syphilis despite adequate treatment or with an unclear indication for inclusion as a reportable congenital syphilis case. We used information on missed prevention opportunities to create Sankey diagrams visualizing the number of missed prevention opportunities by state policy category and to calculate the unadjusted percentage of cases by type of missed prevention opportunity.

Sensitivity Analyses

We conducted multiple sensitivity analyses. First, given that some state child abuse policies have less severe consequences (e.g., placement on a CPS registry), we conducted analyses in which we classified only states with policies that criminalized prenatal substance use, defined it as child abuse or neglect, or considered it grounds for termination of parental rights as having a child abuse policy (Appendix Table A). Second, given that some state mandated reporting policies are less stringent and require reporting of prenatal substance use to CPS only if there is also suspicion of child abuse or neglect, we conducted analyses in which we classified states as having a mandated reporting policy if prenatal substance use alone was sufficient to require reporting (Appendix Table A).

Third, given the onset of the COVID-19 pandemic and acute disruptions to health care access in 2020, we conducted analyses excluding 2020. Fourth, we adjusted for the rate of primary and secondary syphilis infections among women 15 to 44 years of age per 100 000 population as a proxy for the incidence of syphilis in each state (Appendix Figure A).

Fifth, we adjusted for whether states required syphilis testing during the third trimester of pregnancy, overall or only for populations at increased risk, as of 2018.²⁴ Although this requirement is unlikely to affect whether states have a child abuse policy or mandated reporting policy for prenatal substance use, it is likely to affect receipt of syphilis testing and treatment during pregnancy. Finally, to assess whether our results were disproportionately influenced by states with high congenital syphilis case rates, we conducted analyses excluding California, a state with a child abuse policy only, and Florida and Texas, states with a mandated reporting policy only.

RESULTS

From 2018 to 2022, 10 states had a child abuse policy only, 8 had a mandated reporting policy only, 14 had both policies, and 16 had neither policy (Figure 1 and Appendix Table B, available as a supplement to the online version of this article at <http://www.ajph.org>). Three states initially had only one policy but switched to both policies in later years.

There were 12 009 congenital syphilis cases between 2018 and 2022. Rates of congenital syphilis cases per 100 000 live births increased steadily each year in all state policy categories (Figure 2 and Appendix Table A). In comparison to states with neither policy, rates of congenital syphilis cases were consistently higher in states with a child abuse policy only, states with a mandated reporting policy only, and states with both policies (52.8 vs 137.2, 102.1, and 109.8 cases per 100 000 live births in 2022, respectively).

Relative to other state policy categories, a higher average percentage of the population was American Indian/Alaska Native in states with a child abuse policy only, a mandated reporting policy only, or both policies; a higher average percentage of the population was Black in states with both policies; and a higher average percentage of the population was of Hispanic ethnicity in states with a child abuse policy only (Appendix Table C, available as a supplement to the online version of this article at <http://www.ajph.org>). There was higher average percentage of adult women without health insurance and a lower average number of obstetricians/gynecologists per 100 000 live births in states with a child abuse policy only than in other state policy categories. There were higher average percentages of years with state Medicaid expansion in states with a mandated reporting policy only and lower average percentages of years with an income threshold for Medicaid eligibility for pregnant and postpartum women that was above the US median in states with neither policy than in other state policy categories.

Adjusted models showed that the rate of congenital syphilis cases was, on average, 23.5 (95% confidence interval [CI] = 2.2, 44.8) cases per 100 000 live births higher in states with both a child abuse policy and a mandated reporting policy for prenatal substance use than in states with neither policy (Table 1 and Figure 3). The rate of congenital syphilis cases was similar in states with a child abuse policy only (B = -20.4; 95% CI = -15.2, 14.5) and states with a mandated reporting policy only (B = 2.0; 95% CI = -11.0, 15.0) compared to states with neither policy.

The results were similar in sensitivity analyses in which

1. narrower definitions of state child abuse policies were used (Appendix Table D, available as a supplement to the online version of this article at <http://www.ajph.org>),
2. narrower definitions of state mandated reporting policies were used (Appendix Table E, available as a supplement to the online version of this article at <http://www.ajph.org>),
3. the year 2020 was excluded (Appendix Table F, available as a supplement to the online version of this article at <http://www.ajph.org>),
4. there was adjustment for the rate of syphilis infections among women 15 to 44 years of age (Appendix Table G, available as a supplement to the online version of this article at <http://www.ajph.org>),
5. there was adjustment for whether states required third-trimester syphilis testing (Appendix Table H, available as a supplement to the online version of this article at <http://www.ajph.org>),

6. California was excluded (Appendix Table I, available as a supplement to the online version of this article at <http://www.ajph.org>), and
7. Florida and Texas were excluded (Appendix Table J, available as a supplement to the online version of this article at <http://www.ajph.org>).

Lack of timely testing and lack of adequate treatment were the most common missed congenital syphilis prevention opportunities in all state policy categories (Appendix Figures B-E and Appendix Table K, available as supplements to the online version of this article at <http://www.ajph.org>). Lack of timely testing among all congenital syphilis cases was highest in states with a mandated reporting policy only (59.0%), followed by states with neither policy (43.5%), states with both policies (38.0%), and states with a child abuse policy only (23.9%). Lack of treatment or inadequate treatment among cases with timely testing was high in all state policy categories. The percentage of cases with no or inadequate treatment was highest in states with a mandated reporting policy only (92.6%) and a child abuse policy only (91.8%), followed by states with neither policy (79.3%) and states with both policies (77.8%).

DISCUSSION

From 2018 to 2022, congenital syphilis case rates increased annually and were consistently higher in states with prenatal substance use policies (including states with a child abuse policy only, a mandated reporting policy only, and both policies) than in states with neither policies. In adjusted analyses, congenital syphilis case rates were higher in states with both a child abuse policy and a mandated reporting policy for prenatal substance use than in states with neither policy. On average, there were 23.5 more cases of congenital syphilis per 100 000 live births in states with both policies than in states with neither policy. In all state policy categories, lack of timely syphilis testing and lack of adequate treatment were key missed opportunities to prevent congenital syphilis cases.

Although states with both a child abuse policy and a mandated reporting policy for prenatal substance use had higher average congenital syphilis case rates than states with neither policy, adjusted analyses showed that case rates were similar in states with a child abuse policy only and a mandated reporting policy, compared to states with neither policy. Substance use during pregnancy is associated with syphilis and congenital syphilis infections.^{5,7} Pregnant women engaging in substance use report that they avoid interacting with health care professionals who may detect their substance use, fearing that detection will result in CPS involvement and loss of infant custody.¹²⁻¹⁶ In states with both a child abuse policy and a mandated reporting policy for prenatal substance use, there may be a clearer path to these feared outcomes than in states with only one of these policies. Specifically, in most states with both policies, not only are health care professionals required to report confirmed or suspected prenatal substance use to CPS, but prenatal substance use in and of itself can be used as grounds to substantiate abuse or neglect or to terminate parental rights.

In states with a mandated reporting policy only, health care professionals must report prenatal substance use to CPS, but this may not result in substantiated abuse or neglect or in termination of parental rights. In states with a child abuse policy only, prenatal substance use

can be grounds for substantiating abuse or neglect or terminating parental rights, but it may not necessarily be reported to CPS. The synergistic combination of the 2 policies may be more likely to result in consequences that are perceived as punitive, amplifying fears among pregnant women and discouraging health care engagement.

A Massachusetts health center recently implemented new guidelines for health care responses to prenatal substance use that include a focus on providing trauma-informed care and substance use disorder treatment and require CPS reporting only if infant safety concerns are identified.²⁵ Recent research shows that implementation of these guidelines resulted in reductions in the number of prenatal substance use cases reported to CPS without corresponding increases in adverse short-term outcomes.²⁵ These results highlight the promise of trauma- and treatment-focused policies for prenatal substance use.

Of note, our analyses included all reported congenital syphilis cases and were not restricted to cases among pregnant women engaging in substance use, the population most likely to be affected by these state policies. Our results may underestimate associations between these policies and congenital syphilis case rates among pregnant women engaging in substance use. Previous research shows stronger associations of state child abuse policies with measures of prenatal care among pregnant women reporting substance use¹⁰ than among the entire population of all live births.¹⁹ It is possible that states with a child abuse policy only or a mandated reporting policy only have higher rates of congenital syphilis cases among pregnant women engaging in substance use than states with neither policy. Data on congenital syphilis case rates among pregnant women engaging in substance use are not currently available.

Across state policy categories, one fourth to more than one half of “congenital syphilis cases” did not have timely syphilis testing during pregnancy. Among cases that did receive timely testing, most did not receive adequate syphilis treatment. Lack of timely testing and lack of adequate treatment are key missed opportunities to prevent congenital syphilis. Promoting access to and engagement in prenatal care is a critical component of efforts to ensure timely syphilis testing and treatment.²⁶ Ensuring that syphilis testing is accessible in other community and clinical care settings, such as syringe service programs and emergency departments, and through point of care testing is also critical.²⁷ Reductions and delays in prenatal care and other health care services in states with child abuse policies and mandated reporting policies for prenatal substance use^{10,19} may limit opportunities for syphilis testing and treatment.

Importantly, our results show that a higher percentage of the population was Black or American Indian/Alaska Native in states with both a child abuse policy and a mandated reporting policy for prenatal substance use than in states with neither policy. Disproportionate exposure to these policies among Black and American Indian/Alaska Native pregnant women has the potential to exacerbate existing disparities in prenatal care,²⁸ syphilis and congenital syphilis infections,²⁹ and CPS involvement.³⁰

Limitations

This study has limitations. First, this was an ecological study conducted at the state level. The results do not allow for casual inferences regarding the potential impact of living in a state with a child abuse policy or a mandated reporting policy for prenatal substance use on congenital syphilis as a pregnancy outcome at the individual level. Second, although we adjusted for a comprehensive set of potential confounders, there may be unmeasured confounding. Specifically, because we were not able to use a quasi-experimental study design such as a difference-in-differences approach, there is the potential for unmeasured confounding resulting from differences in state contexts.

Third, there is some variation across states in the specifics of their child abuse policies and mandated reporting policies. However, our results were robust to sensitivity analyses incorporating narrower definitions of these policies. Fourth, how states implement child abuse policies and mandated reporting policies likely varies. Future research can further our understanding of differences in policy implementation across states and the potential implications of these differences for behaviors and receipt of health care services among pregnant women.

Finally, pregnant women may not necessarily be aware of specific state policies. However, pregnant women using substances report that they avoid health care interactions because they are afraid of detection and punishment, including CPS involvement and loss of infant custody.¹²⁻¹⁶ They often note that these fears are based on their own experiences during previous pregnancies and knowledge of their family's and friends' experiences,¹²⁻¹⁶ suggesting an overall awareness of the context and consequences created by child abuse policies and mandated reporting policies for prenatal substance use. Existing evidence aligns with these fears, showing higher rates of CPS reports¹⁸ and foster care entries³¹ among infants in states with these policies than in states without them.

Public Health Implications

Congenital syphilis is a serious condition that is preventable through timely syphilis testing and adequate treatment of infection during pregnancy. Rapidly increasing congenital syphilis case rates indicate an urgent need to reduce barriers to prenatal care, a critical opportunity for testing and treatment. Leading medical and public health organizations have issued statements recommending against child abuse policies and mandated reporting policies for prenatal substance use, noting that these policies can create barriers to care and subsequent harms to maternal and infant health.³²⁻³⁴ Our results align with these statements, demonstrating elevated congenital syphilis case rates in states with both a child abuse policy and a mandated reporting policy for prenatal substance use.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

REFERENCES

1. Centers for Disease Control and Prevention. Sexually transmitted infection surveillance, 2022. Available at: <https://www.cdc.gov/std/statistics/2022/default.htm>. Accessed May 29, 2024.
2. Gregory ECW, Ely DM. Trends and characteristics in maternal syphilis rates during pregnancy: United States, 2016–2022. Available at: <https://www.cdc.gov/nchs/products/databriefs/db496.htm#:~:text=nativity%20data%20file.-,Summary,and%20nearly%20all%20reporting%20areas>. Accessed May 29, 2024.
3. Centers for Disease Control and Prevention. About congenital syphilis. Available at: <https://www.cdc.gov/syphilis/about/about-congenital-syphilis.html>. Accessed May 29, 2024.
4. David M, Hcini N, Mandelbrot L, Sibiude J, Picone O. Fetal and neonatal abnormalities due to congenital syphilis: a literature review. *Prenat Diagn*. 2022; 42(5):643–655. 10.1002/pd.6135 [PubMed: 35352829]
5. Kidd SE. Increased methamphetamine, injection drug, and heroin use among women and heterosexual men with primary and secondary syphilis—United States, 2013–2017. *MMWR Morb Mortal Wkly Rep*. 2019;68(6):144–148. 10.15585/mmwr.mm6806a4 [PubMed: 30763294]
6. Copen CE, Brookmeyer KA, Haderxhanaj LT, Hogben M, Torrone EA. Sexual risk behaviors among persons diagnosed with primary and secondary syphilis who reported high-risk substance use: data from the National Notifiable Diseases Surveillance System, 2018. *Sex Transm Dis*. 2022; 49(2):99–104. 10.1097/OLQ.0000000000001546 [PubMed: 34475356]
7. Carlson JM. Substance use among persons with syphilis during pregnancy—Arizona and Georgia, 2018–2021. *MMWR Morb Mortal Wkly Rep*. 2023; 72(3):63–67. 10.15585/mmwr.mm7203a3 [PubMed: 36656787]
8. Curry SJ, Krist AH, Owens DK, et al. Screening for syphilis infection in pregnant women: US Preventive Services Task Force reaffirmation recommendation statement. *JAMA*. 2018;320(9):911–917. 10.1001/jama.2018.11785 [PubMed: 30193283]
9. Workowski KA. Centers for Disease Control and Prevention sexually transmitted diseases treatment guidelines. *Clin Infect Dis*. 2015;61(suppl 8): S759–S762. 10.1093/cid/civ771 [PubMed: 26602614]
10. Austin AE, Naumann RB, Simmons E. Association of state child abuse policies and mandated reporting policies with prenatal and postpartum care among women who engaged in substance use during pregnancy. *JAMA Pediatr*. 2022;176(11): 1123–1130. 10.1001/jamapediatrics.2022.3396 [PubMed: 36121649]
11. Atkins DN, Durrance CP. State policies that treat prenatal substance use as child abuse or neglect fail to achieve their intended goals: study examines the effect of state policies that treat prenatal substance use as child abuse or neglect on the incidence of neonatal abstinence syndrome and other factors. *Health Aff (Millwood)*. 2020; 39(5):756–763. 10.1377/hlthaff.2019.00785 [PubMed: 32364867]
12. Stone R. Pregnant women and substance use: fear, stigma, and barriers to care. *Health Justice*. 2015;3(1):2. 10.1186/s40352-015-0015-5
13. Syvertsen JL, Toneff H, Howard H, Spadola C, Madden D, Clapp J. Conceptualizing stigma in contexts of pregnancy and opioid misuse: a qualitative study with women and healthcare providers in Ohio. *Drug Alcohol Depend*. 2021;222: 108677. 10.1016/j.drugalcdep.2021.108677 [PubMed: 33775446]
14. Park E, Yip J, Harville E, et al. Gaps in the congenital syphilis prevention cascade: qualitative findings from Kern County, California. *BMC Infect Dis*. 2022;22(1):129. 10.1186/s12879-022-07100-3 [PubMed: 35123425]
15. Leiner C, Cody T, Mullins N, Ramage M, Ostrach BMM. “The elephant in the room;” a qualitative study of perinatal fears in opioid use disorder treatment in Southern Appalachia. *BMC Pregnancy Childbirth*. 2021;21(1):143. 10.1186/s12884-021-03596-w [PubMed: 33596843]
16. Roberts S, Pies C. Complex calculations: how drug use during pregnancy becomes a barrier to prenatal care. *Matern Child Health J*. 2011;15(3):333–341. 10.1007/s10995-010-0594-7 [PubMed: 20232126]

17. McDonald R. Vital signs: missed opportunities for preventing congenital syphilis—United States, 2022. *MMWR Morb Mortal Wkly Rep.* 2023;72(46): 1269–1274. 10.15585/mmwr.mm7246e1 [PubMed: 37971936]
18. Maclean JC, Witman A, Durrance CP, Atkins DN, Meinhofer A. prenatal substance use policies and infant maltreatment reports: study examines prenatal substance use policies and infant maltreatment reports. *Health Aff (Millwood).* 2022; 41(5):703–712. 10.1377/hlthaff.2021.01755 [PubMed: 35500191]
19. Meinhofer A, Witman A, Maclean JC, Bao Y. Prenatal substance use policies and newborn health. *Health Econ.* 2022;31(7):1452–1467. 10.1002/hec.4518 [PubMed: 35445500]
20. Tabatabaepour N, Morgan JR, Jalali A, Kapadia SN, Meinhofer A. Impact of prenatal substance use policies on commercially insured pregnant females with opioid use disorder. *J Subst Abuse Treat.* 2022;140:108800. 10.1016/j.jsat.2022.108800 [PubMed: 35577664]
21. Gardiner JC, Luo Z, Roman LA. Fixed effects, random effects and GEE: what are the differences? *Stat Med.* 2009;28(2):221–239. 10.1002/sim.3478 [PubMed: 19012297]
22. French B, Stuart EA. Study designs and statistical methods for studies of child and adolescent health policies. *JAMA Pediatr.* 2020;174(10):925–927. 10.1001/jamapediatrics.2020.3408 [PubMed: 32897312]
23. O’Callaghan KP, Jones MLJ, McDonald R, et al. The congenital syphilis prevention cascade: reimagining a missed prevention opportunities framework for effective intervention. *Sex Transm Dis.* 2024;51(1):8–10. [PubMed: 37921849]
24. Centers for Disease Control and Prevention. State statutory and regulatory language regarding prenatal syphilis screenings in the United States, 2018. Available at: <https://www.cdc.gov/syphilis/media/pdfs/2024/07/Prenatal-Syphilis-Screening-Laws-Web-Documents-25-July-2024-final.pdf>. Accessed November 5, 2024.
25. Khazanchi R, Wachman EM, Schiff DM, Modest A, Saia KA, Hsu HE. Mandatory child protective services reporting for substance-exposed newborns and peripartum outcomes: a difference-indifferences analysis. *JAMA Pediatr.* 2024;178(7):719–722. 10.1001/jamapediatrics.2024.0903 [PubMed: 38709513]
26. Plotzker RE, Murphy RD, Stoltey JE. Congenital syphilis prevention: strategies, evidence, and future directions. *Sex Transm Dis.* 2018;45(suppl 9):S29–S37. 10.1097/OLQ.0000000000000846 [PubMed: 29624562]
27. National Syphilis and Congenital Syphilis Syndemic Federal Task Force. Considerations for the implementation of point of care tests for syphilis. Available at: <https://www.hhs.gov/sites/default/files/nscss-considerations-for-the-implementation-of-syphilis-poc-tests.pdf>. Accessed November 5, 2024.
28. Gadson A, Akpovi E, Mehta PK. Exploring the social determinants of racial/ethnic disparities in prenatal care utilization and maternal outcome. *Semin Perinatol.* 2017;41(5):308–317. 10.1053/j.semperi.2017.04.008 [PubMed: 28625554]
29. Martin EG, Ansari B, Rosenberg ES, et al. Variation in patterns of racial and ethnic disparities in primary and secondary syphilis diagnosis rates among heterosexually active women by region and age group in the United States. *Sex Transm Dis.* 2022;49(5):330–337. 10.1097/OLQ.0000000000001607 [PubMed: 35121717]
30. Kim H, Wildeman C, Jonson-Reid M, Drake B. Lifetime prevalence of investigating child maltreatment among US children. *Am J Public Health.* 2017; 107(2):274–280. 10.2105/AJPH.2016.303545 [PubMed: 27997240]
31. Atkins DN, Durrance CP. The impact of statelevel prenatal substance use policies on infant foster care entry in the United States. *Child Youth Serv Rev.* 2021;130:106194. 10.1016/j.chilyouth.2021.106194
32. Patrick SW, Schiff DM. A public health response to opioid use in pregnancy. *Pediatrics.* 2017;139(3):e20164070. 10.1542/peds.2016-4070 [PubMed: 28219965]
33. American College of Obstetricians and Gynecologists Committee on Health Care for Underserved Women. Substance abuse reporting and pregnancy: the role of the obstetrician-gynecologist. Available at: <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2011/01/>

[substance-abuse-reporting-and-pregnancy-the-role-of-the-obstetrician-gynecologist](#). Accessed May 29, 2024.

34. Faherty LJ, Stein BD, Terplan M. Consensus guidelines and state policies: the gap between principle and practice at the intersection of substance use and pregnancy. *Am J Obstet Gynecol MFM*. 2020;2(3):100137. 10.1016/j.ajogmf.2020.100137 [PubMed: 33089133]

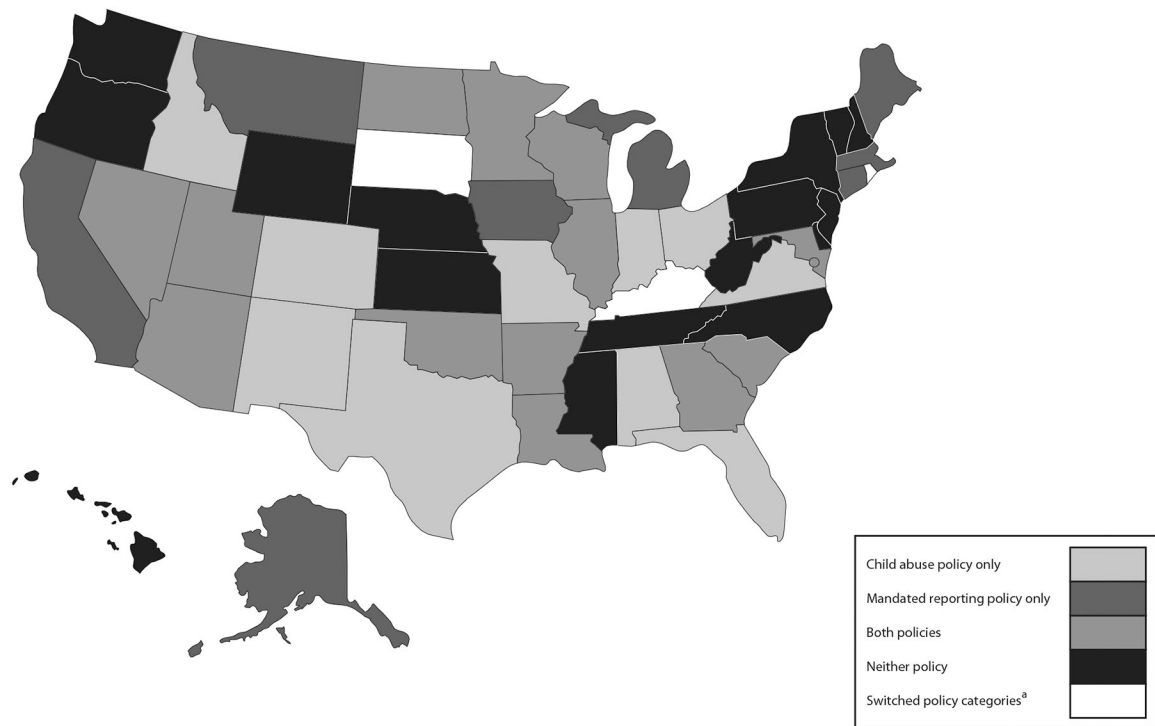


FIGURE 1—. State Child Abuse and Mandated Reporting Policies for Prenatal Substance Use: United States, 2018–2022

^aThree states initially had only one policy but then switched to both policies in later years.

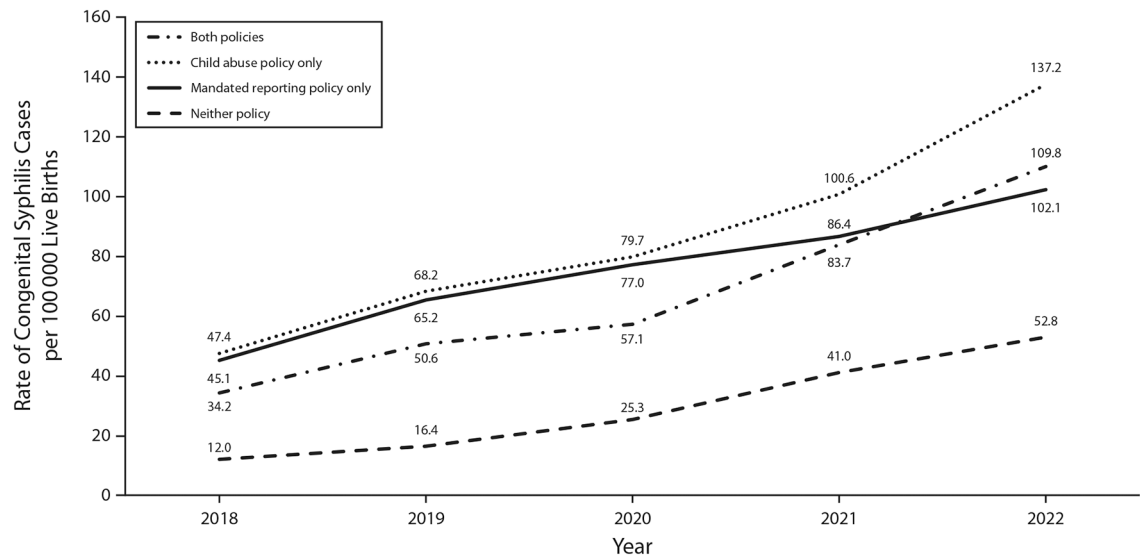


FIGURE 2—. Rates of Congenital Syphilis Cases per 100 000 Live Births by State Prenatal Substance Use Policy Category: United States, 2018–2022

Note. Rates were calculated by summing numerators (number of congenital syphilis cases) and denominators (number of live births) across states in each category.

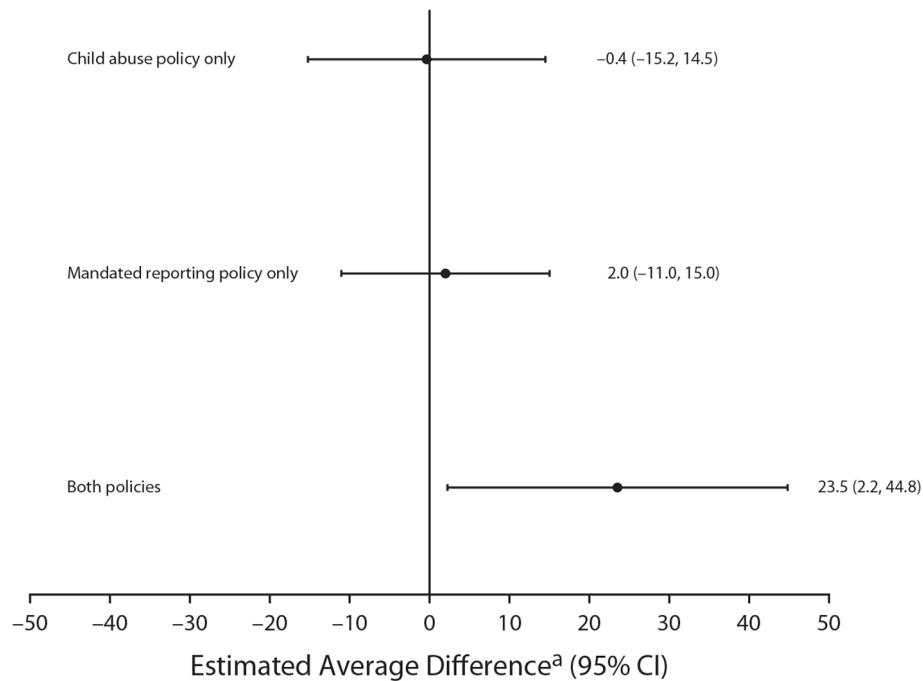


FIGURE 3—. Average Difference in Rates of Congenital Syphilis Cases per 100 000 Live Births by State Prenatal Substance Use Policy Category: United States, 2018–2022

Note. CI = confidence interval.

^aAdjusted for a linear time trend and state Medicaid expansion, threshold for Medicaid eligibility for pregnant and postpartum women percentage of women 19 to 64 years of age who are uninsured, number of obstetricians/gynecologists per 100 000 live births, policies specifying priority access to substance use disorder treatment for pregnant women percentage of the population that is unemployed, percentage of the population in poverty, and percentage of the population by race and ethnicity.

TABLE 1—

Mean Difference in Rates of Congenital Syphilis Cases per 100 000 Live Births by State Prenatal Substance Use Policy Category: United States, 2018–2022

State Policy Category	Unadjusted B (95% CI)	Adjusted B ^a (95% CI)
Neither policy (Ref)	0	0
Mandated reporting policy only	3.2 (−21.6, 28.1)	2.0 (−11.0, 15.0)
Child abuse policy only	18.6 (−16.6, 53.7)	−0.4 (−15.2, 14.5)
Both policies	41.7 (12.9, 70.5)	23.5 (2.2, 44.8)

Note. CI = confidence interval.

^a Adjusted for a linear time trend and state Medicaid expansion, threshold for Medicaid eligibility for pregnant and postpartum people, percentage of women aged 19 to 64 years who were uninsured, number of obstetricians/gynecologists per 100 000 live births, policies specifying priority access to substance use disorder treatment for pregnant women, percentage of the population that was unemployed, percentage of the population in poverty, and percentage of the population by race and ethnicity.