



Congenital Syphilis:  
Current epidemiology and  
missed prevention opportunities in Illinois

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**Women's Health Medical Advisor**

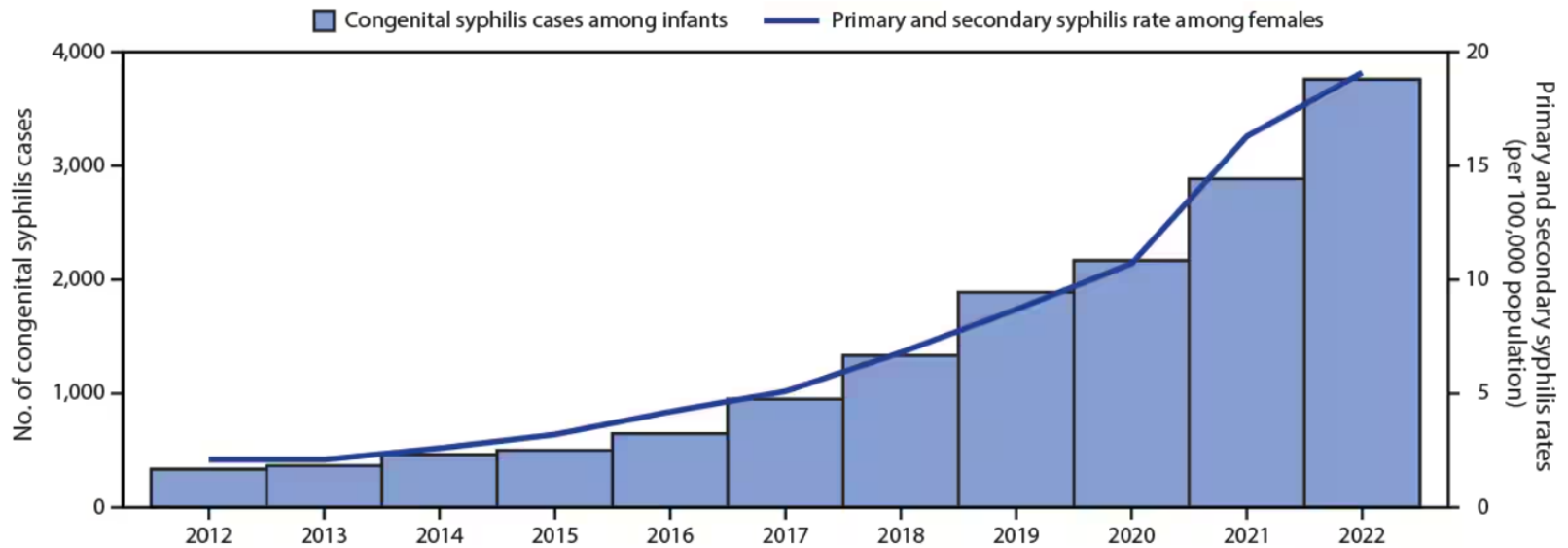
**June 27, 2024**



I have no financial interests  
to disclose

# National Syphilis Data 2012-2022

**FIGURE 1. Reported number of cases of congenital syphilis among infants, by year of birth, and rates\* of reported cases of primary and secondary syphilis† among females aged 15–44 years, by year — United States, 2012–2022**



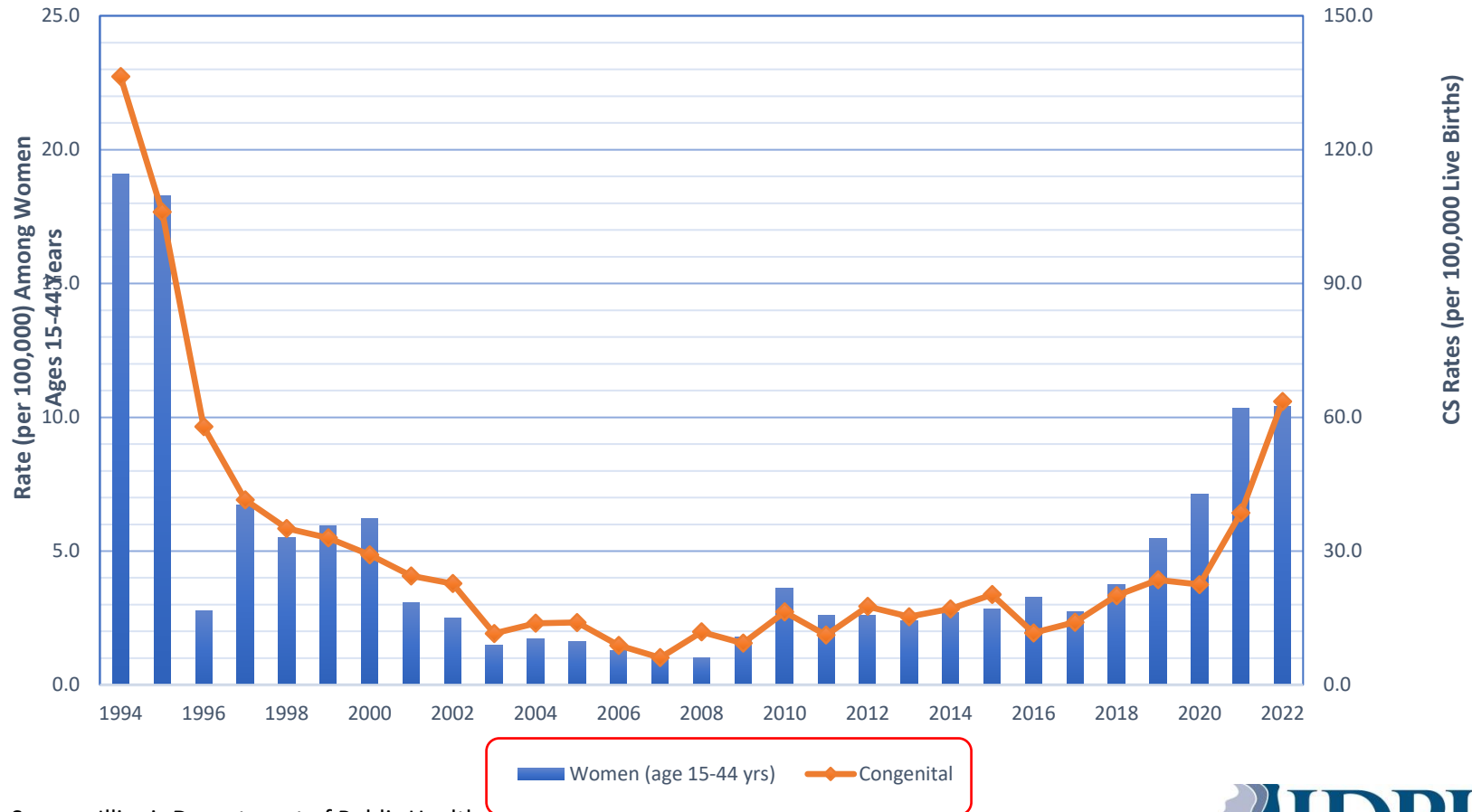
\* Cases per 100,000 population.

McDonald R, O'Callaghan K, Torrone E, et al. *Vital Signs: Missed Opportunities for Preventing Congenital Syphilis — United States, 2022*. MMWR Morb Mortal Wkly Rep 2023;72:1269–1274.



# Illinois Syphilis Data 1994-2022

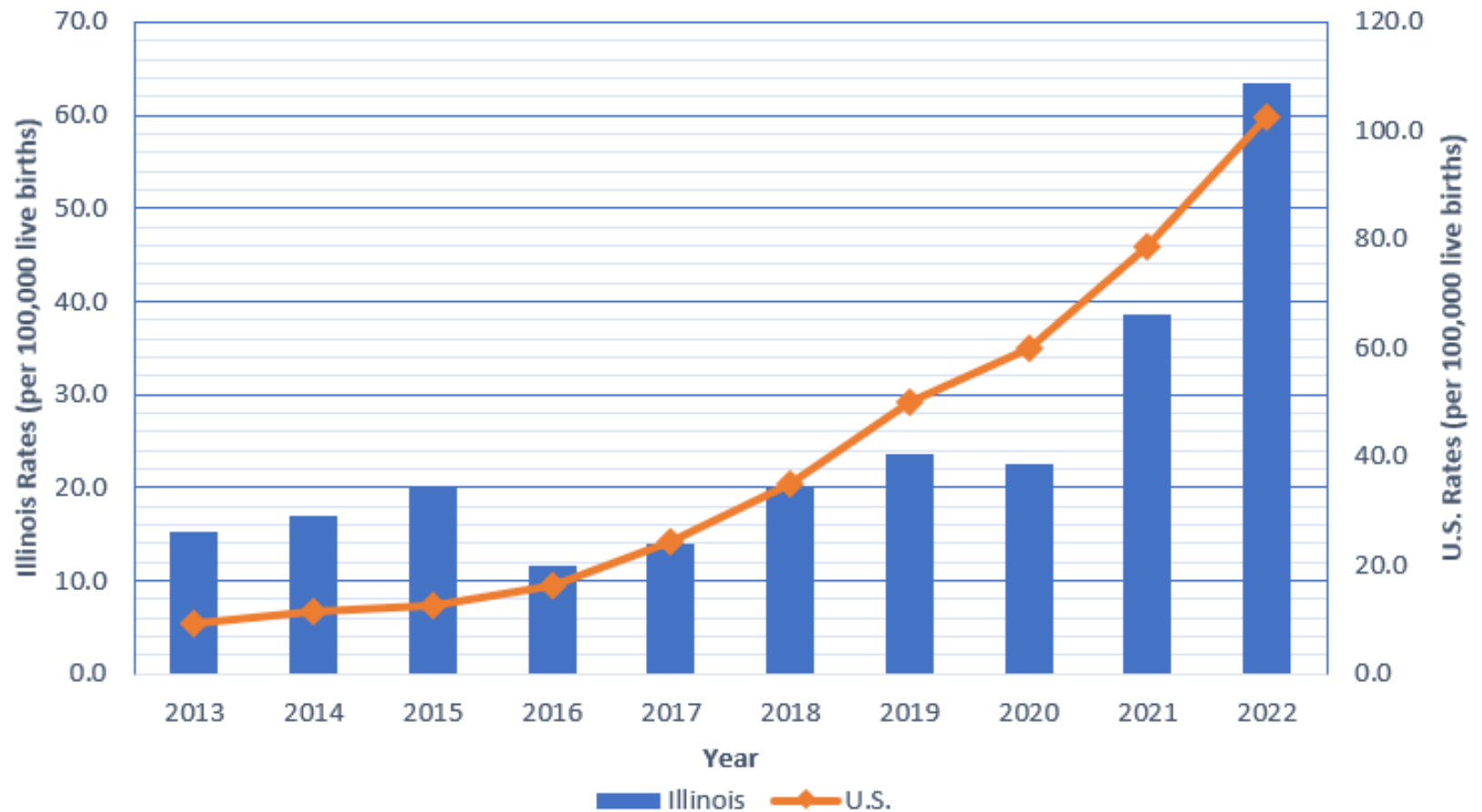
Illinois Reported **Primary and Secondary Syphilis Rates** Among Women  
Ages 15-44 Years and **Congenital Syphilis (CS) Rates**, 1994 - 2022



Source: Illinois Department of Public Health

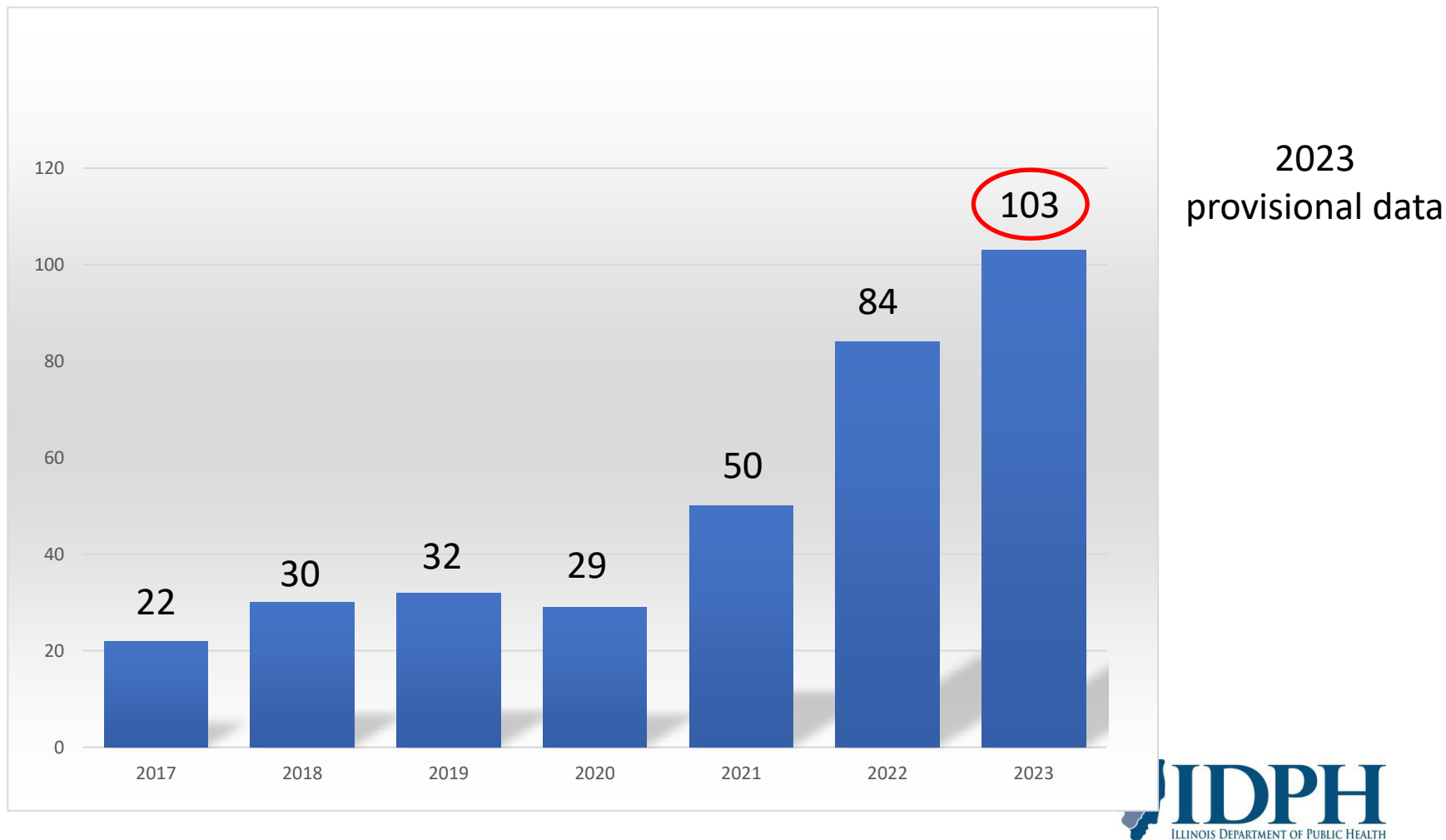
# Illinois and US Congenital Syphilis Data 2013 - 2022

## Congenital Syphilis Rates, IL vs US, 2013-2022



Source: Illinois Department of Public Health

# Illinois Congenital Syphilis Cases 2017 - 2023



# Congenital Syphilis State Ranking 2022

**Table 31. Congenital Syphilis — Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States, 2022**

Rank*	State†	Cases	Rate per 100,000 Live Births
1	New Mexico	76	355.3
2	South Dakota	40	351.8
3	Arizona	219	281.1
4	Texas	922	246.8
5	Oklahoma	110	227.2
6	Mississippi	73	207.6
7	Louisiana	115	200.2
8	Nevada	65	193.0
9	Arkansas	69	191.9
10	Hawaii	27	172.9
11	California	616	146.5
12	Montana	15	133.6
13	Alaska	12	128.1
14	Florida	276	127.6
15	Missouri	82	118.1
	<b>US TOTAL‡</b>	<b>3,755</b>	<b>102.5</b>
16	Oregon	37	90.4
17	Georgia	101	81.4
18	West Virginia	13	75.6
19	Tennessee	61	74.6
20	Alabama	43	74.1
21	Ohio	90	69.3
22	Kentucky	35	67.0
23	Maryland	45	65.9
24	Illinois	85	64.3
25	Washington	52	62.0
26	Colorado	31	49.2
27	Rhode Island	5	47.8
28	Indiana	38	47.5
29	North Carolina	57	47.3
30	New Jersey	48	47.3
31	Nebraska	11	44.7
32	South Carolina	25	43.7
33	Wisconsin	26	42.1
34	Delaware	4	38.2
35	Kansas	13	37.5
36	Michigan	36	34.3
37	Minnesota	20	31.0
38	Pennsylvania	39	29.4
39	Maine	3	25.0
40	New Hampshire	3	23.8
41	New York	50	23.7
42	Iowa	8	21.7
43	Virginia	20	20.9
44	North Dakota	2	19.8
45	Connecticut	7	19.6
46	Massachusetts	11	15.9
47	Utah	7	15.0
	Idaho	0	0.0
	Vermont	0	0.0
	Wyoming	0	0.0



# MMWR 11/2023

Morbidity and Mortality Weekly Report (*MMWR*)

## *Vital Signs:* Missed Opportunities for Preventing Congenital Syphilis — United States, 2022

Early Release / November 7, 2023 / 72



[Print](#)

Robert McDonald, MD<sup>1</sup>; Kevin O'Callaghan, MBBCh<sup>1</sup>; Elizabeth Torrone, PhD<sup>1</sup>; Lindley Barbee, MD<sup>1</sup>; Jeremy Grey, PhD<sup>1</sup>; David Jackson, MD<sup>1</sup>; Kate Woodworth, MD<sup>2</sup>; Emily Olsen, PhD<sup>2</sup>; Jennifer Ludovic, DrPH<sup>1</sup>; Nikki Mayes<sup>1</sup>; Sherry Chen, MPH<sup>1</sup>; Rachel Wingard<sup>3</sup>; Michelle Johnson Jones, MPH<sup>1</sup>; Fanta Drame, MPH<sup>1</sup>; Laura Bachmann, MD<sup>1</sup>; Raul Romaguera, DMD<sup>1</sup>; Leandro Mena, MD<sup>1</sup> ([VIEW AUTHOR AFFILIATIONS](#))

[View suggested citation](#)

### Summary

#### What is already known about this topic?

Since 2012, U.S. congenital syphilis cases increased substantially. Syphilis during pregnancy can lead to stillbirth, miscarriage, infant death, and maternal and infant morbidity, which are preventable through appropriate screening and treatment.

#### What is added by this report?

In 2022, lack of timely testing and adequate treatment contributed to almost 90% of congenital syphilis cases in the United States, including substantial proportions of congenital syphilis cases in all U.S. Census Bureau regions and among all racial and ethnic groups.

### Article Metrics

Altmetric:



Citations:

Views:

*Views equals page views plus PDF downloads*



## Syphilis in Babies Reflects Health System Failures

Tailored strategies can address missed prevention opportunities during pregnancy

View All T

Updated Nov. 7, 2023 | [Print](#)

10x

Over 10 times as many babies were born with syphilis in 2022 than in 2012.

9 in 10

Timely testing and treatment during pregnancy might have prevented almost 9 in 10 (88%) cases in 2022.

2 in 5

Two in 5 (40%) people who had a baby with syphilis did not get prenatal care.

TABLE 1. Prenatal syphilis testing and treatment among birth parents of infants with congenital syphilis, by U.S. Census Bureau region, and by race and ethnicity — United States, 2022



Characteristic	Missed opportunities to prevent CS, no. (%)						
	Testing		Treatment		Outcome		Total
	None or nontimely*	Late identification of seroconversion†	Inadequate	None or nondocumented	Clinical evidence of CS despite adequate <sup>§</sup> prenatal treatment	Insufficient data to identify the missed opportunity	
All cases	1,385 (36.8)	197 (5.2)	1,494 (39.7)	423 (11.2)	130 (3.5)	132 (3.5)	3,761
U.S. Census Bureau region¶							
Northeast	83 (50.0)	25 (15.1)	26 (15.7)	14 (8.4)	11 (6.6)	7 (4.2)	166
Midwest	182 (40.4)	25 (5.5)	140 (31.0)	58 (12.9)	19 (4.2)	27 (6.0)	451

# Missed Opportunities in *Chicago* 2015-2022



Morbidity and Mortality Weekly Report (*MMWR*)

## *Notes from the Field*: Diagnosis of Congenital Syphilis and Syphilis Among Females of Reproductive Age Before and During the COVID-19 Pandemic — Chicago, 2015–2022

Weekly, November 24, 2023 / 72(47);1288–1289

[Print](#)

Helen E. Cejtin, MD<sup>1,2</sup>; Eric F. Warren, MPH<sup>3</sup>; Taylor Guidry, MSPH<sup>4</sup>; Katherine Boss, MPH<sup>4</sup>; Ashley Becht, MPH<sup>4</sup>; Irina Tabidze, MD<sup>4</sup> ([VIEW AUTHOR AFFILIATIONS](#))

TABLE. Changes in syphilis prevalence and missed opportunities for congenital syphilis prevention — Chicago, 2015–2022



Syphilis and CS characteristic	Year, no.									
	Prepandemic, 2015–2019					Pandemic, 2020–2022				
	2015	2016	2017	2018	2019	Total 2015–2019	2020	2021	2022	Total 2020–2022
<b>Total CS cases</b>	24 [NA]	12 [-50.0]	11 [-8.3]	11 [—]	9 [-18.2]	67	19 [111.1]	25 [31.2]	45 [80.0]	89 <sup>§</sup>
<b>Missed CS prevention opportunities (% of total)</b>										
No adequate maternal treatment despite receipt of timely syphilis diagnosis	6 (25.0)	1 (8.2)	4 (36.4)	3 (23.1)	4 (44.4)	18 (26.9)	6 (31.6)	10 (40.0)	27 (60.0)	43 (48.3)
No timely prenatal care and no timely syphilis testing	10 (41.7)	5 (41.7)	4 (36.4)	5 (38.5)	3 (33.3)	27 (40.3)	3 (15.8)	13 (52.0)	10 (22.2)	26 (29.2)
Late identification of seroconversion during pregnancy	5 (20.8)	2 (16.7)	2 (18.2)	3 (23.1)	2 (22.2)	14 (20.9)	10 (52.6)	2 (8.0)	8 (17.8)	20 (22.5)
No timely syphilis testing despite receipt of timely prenatal care	0	0	0	0	0	0 (—)	0	0	0	0 (—)
Clinical evidence of syphilis despite maternal treatment completion	3 (12.5)	4 (33.3)	1 (9.1)	0	0	8 (11.9)	0	0	0	8 (9.0)

**Abbreviations:** CS = congenital syphilis; NA = not applicable.

\* Females of reproductive age are persons aged 15–44 years and assigned female sex at birth.

† During 2020–2022, reported syphilis cases in females of reproductive age in Chicago increased an average of 22.1% per year.

§ During 2020–2022, reported congenital syphilis cases in Chicago increased an average of 74.1% per year.

# Missed Opportunities Statewide 2022

	Chicago	Cook Co (Excluding Chicago)	Downstate
Category	N (%)	N (%)	N (%)
A	27 (60)	5 (50)	12 (41)
B	10 (22)	4 (40)	13 (45)
C	8 (18)	0	4 (14)
D	0	0	0
E	0	1 (10)	0

A) No adequate maternal treatment despite receipt of timely syphilis diagnosis

B) No timely prenatal care and no timely syphilis testing

C) Late identification of seroconversion during pregnancy

D) No timely syphilis testing despite receipt of timely prenatal care

E) Clinical evidence of syphilis despite maternal treatment completion

# Statewide Congenital Syphilis Mitigation Strategies



# Need for Syndemic Data Collection

- Inadequate syphilis testing/treatment higher among pregnant people who reported history of
  - Incarceration
  - Being uninsured or underinsured
  - Substance use disorder
  - Unstable housing


Tannis, A. , Miele, K. , Carlson, J. et al, E. (2024). Syphilis Treatment Among People Who Are Pregnant in Six U.S. States, 2018–2021. *Obstetrics & Gynecology*, 143 (6), 718-729.

# Illinois data modernization for improved syndemic surveillance

- New statewide IDSS system with improved linkage of data to better include variables including HIV status and substance use disorder
- Intend to develop a Master Patient Index to link patients from different data sets

# New provider reporting form for perinatal syphilis (OUTSIDE Chicago)

<https://redcap.link/syphreport>



AAA  
□ □

### Perinatal Syphilis/Congenital Syphilis Rapid Reporting tool for Providers

Use this online form to submit **congenital syphilis cases** or **syphilis cases during pregnancy** to your local health department. **Please note: if you are a provider in the city of Chicago, please report directly to the Chicago Department of Public Health (instructions can be found at [CHIMS - Electronic Congenital Syphilis Case Reporting \(October 2021\)\(1\).pdf](#))**

All required fields are marked with a red asterisk (\*); it is not possible to submit the report without completing all required fields. Complete the other fields when known.

The Local Health Department will follow-up for any additional information that may be needed in order to complete the case investigation.

The IDPH Perinatal Syphilis Warmline is an extension of the Perinatal HIV Hotline and is available to any provider for clinical consultation on syphilis treatment, coordination of public health record searches for prior syphilis testing and treatment and assistance with mandatory case reporting. The number is 1-800-439-4079 and calls will be answered within 1 business day.

Date: 11-08-2023 | M-D-Y

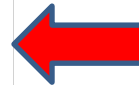
### Person and Facility Submitting Report

**Submitter Name:**   
\* must provide value

**Submitter Email:**   
\* must provide value

**Submitter Phone Number (and extension if applicable):**   
\* must provide value

**Reporting Facility Name:**



## Clinical Information and Serology Test Results

**Latest Lab Results:**  
\* must provide value

- RPR/VDRL
- TP-PA
- EIA
- CIA/CMIA
- FTA-ABS
- Other (Specify)

-RPR/ VDRL is Rapid Plasma Reagin/Venereal Disease Research Laboratory  
-TP-PA is Treponema Pallidum Particle Agglutination  
-EIA is Enzyme Immunoassay  
-CIA/CMIA is Chemiluminescence Immunoassay/Chemiluminescent Microparticle Immunoassay  
-FTA-ABS is Fluorescent Treponemal Antibody Absorption Test.

### Exam Findings and Treatment

**Exam Findings and Clinical Notes**

Expand



# Provider resources

## FUTURE DIRECTIONS IN SYPHILIS DIAGNOSIS

As described, the diagnosis of syphilis is still currently made based clinical history, physical examination, and indirect (serologic) testing. The recent evolution in syphilis serologic tests (with accompanying reverse sequence algorithm) resulted from major advances in the field over the past 20 years. The complete genome of *T pallidum* was sequenced in 1998.<sup>49</sup> This achievement spurred the development of new diagnostic techniques using recombinant treponemal antigens, such as the previously described treponemal-specific immunoassays. Admittedly, diagnostic quandaries are common, and lead to patient (and physician) distress. As our ability to study syphilis is made easier using new technologies, DNA and polymerase chain reaction-based molecular tests will likely play a role in the evolution of syphilis diagnosis over the next 20 years.<sup>50-52</sup>



# Perinatal Syphilis Warmline Launched 11/1/2023



## NEWS RELEASE

**FOR IMMEDIATE RELEASE:**

November 2, 2023

**CONTACT:**

[Michael.Claffey@illinois.gov](mailto:Michael.Claffey@illinois.gov)

[James.Leach@illinois.gov](mailto:James.Leach@illinois.gov)

### **IDPH Launches New Provider Phone Line in Response to Alarming Increase in Babies Born with Congenital Syphilis**

**CHICAGO** – Acting to address a sharp increase in congenital syphilis cases among newborns, the Illinois Department of Public Health (IDPH) is urging healthcare providers to conduct more testing for the sexually transmitted infection in advance of birth and is launching a new phone line to provide clinical consultation for providers who treat pregnant patients and newborns.

**(800) 439-4079**





## NEWS RELEASE

**FOR IMMEDIATE RELEASE:**

November 2, 2023

**CONTACT:**

[Michael.Claffey@illinois.gov](mailto:Michael.Claffey@illinois.gov)

[James.Leach@illinois.gov](mailto:James.Leach@illinois.gov)

IDPH has issued [a letter to healthcare providers](#) in the state calling for increased awareness and testing for syphilis.


IDPH is encouraging medical providers to increase syphilis testing of all individuals - especially pregnant people - in any medical setting, including urgent care, emergency departments, and all prenatal care settings. Prenatal health care providers are required by Illinois law to screen all who are pregnant for syphilis infection at the first prenatal visit and early in the third trimester. Additional testing at the time of delivery is also recommended in high-risk settings.

The expansion of the Illinois Perinatal HIV Hotline to include the Perinatal Syphilis Warmline will provide clinical consultation for health care providers for syphilis in pregnancy and the newborn period, coordination of public health record searches to obtain prior syphilis testing and treatment information, and assistance with mandatory reporting. The warmline will be available Monday- Friday with messages returned in one business day.

Reducing syphilis cases (especially congenital syphilis) has the additional challenge of the current Bicillin shortage, the only medication that treats syphilis in pregnancy and children. Until this shortage is alleviated, it is critical that providers prioritize Bicillin inventory for treatment of those for whom there are no other treatment options: infants and those who are pregnant. Providers should consult the [CDC treatment guidelines](#) to ensure adequate care. Those who are pregnant should talk to your health care provider about testing and any needed treatment as you prepare for your baby's arrival.




# Community Outreach - Chicago



**GET TESTED**

Did you know if you are pregnant, it's recommended you get tested for syphilis during your 1st and 3rd trimester? The Chicago Department of Public Health has free testing and resources for STIs.

VISIT [CHICAGO.GOV/STI-HIV](http://CHICAGO.GOV/STI-HIV) TO LEARN MORE.



**HAZTE LA PRUEBA**

¿Sabías que se recomienda que te hagas la prueba de sífilis durante el primer y tercer trimestre del embarazo? El Departamento de Salud Pública de Chicago cuenta con pruebas y recursos gratuitos para las ITS.

PARA MÁS INFORMACIÓN, VISITA [CHICAGO.GOV/STI-HIV](http://CHICAGO.GOV/STI-HIV).



**SYPHILIS**  
CAN BE FATAL TO YOUR BABY  
[FREESTD.CHECK.ORG](http://FREESTD.CHECK.ORG)



# Community Outreach - Statewide


IDPH

## VIRTUAL TOWNHALL: CONGENITAL SYPHILIS

WITH IDPH WOMEN'S HEALTH MEDICAL ADVISOR  
DR. MAURA QUINLAN, MD  
OB/GYN

Presentation with Q&A to follow  
**Friday, April 26, 2024**  
1:00 PM - 2:00 PM

Register today to secure your spot!  
<https://illinois.webex.com/webex/register?957a21c4031cd3811b17102222e42b47>



IDPH

## PRESENTACIÓN VIRTUAL: SÍFILIS CONGÉNITA

CON LA  
DRA. MARIANA ESPINAL, MD  
DEL HOSPITAL NORTHWESTERN MEMORIAL  
OB/GYN

Presentación con preguntas y respuestas a continuación  
**Viernes, 10 de mayo, 2024**  
1:00 PM - 2:00 PM

¡Regístrate hoy! Haga clic en el enlace  
<https://illinois.webex.com/webex/register?43c7c9a916a0cd6a001f4a>

Presentación en español

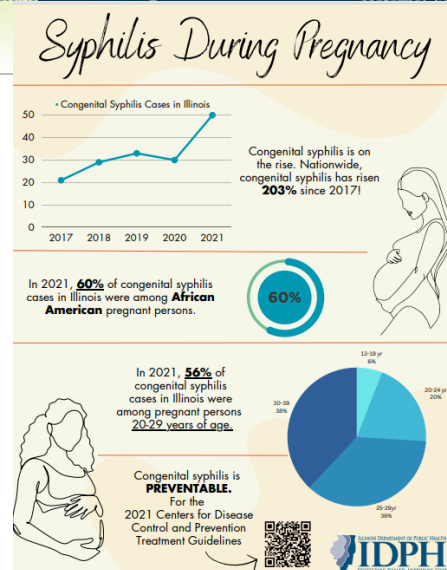



## Presentación virtual: Sífilis congénita

Viernes, 10 de mayo 2024 | 1:00 pm



**Dra. Mariana Espinal, MD, OB/GYN**  
Maternal-Fetal Medicine Fellow  
School of Medicine  
Western Medicine

# Potential future efforts for CS prevention

- Mobile unit in Chicago for Bicillin treatment of pregnant people with possible partner treatment
- Enhanced case management for syphilis in pregnancy
- Expand rapid testing/treatment



**Thank you for all you do!**

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