



Update on Congenital Syphilis Response in Chicago, IL

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October 2, 2018

Outline

- **Summarize epidemiologic trends in syphilis in women and congenital syphilis in Chicago**
- **Review recommended screening and treatment for syphilis in pregnancy**
- **Public Health Measures for the prevention of Congenital Syphilis**

Syphilis in Pregnancy

- Perinatal transmission of *Treponema pallidum* can occur at any time during gestation and at any stage of disease
- Primary & secondary syphilis during pregnancy is usually devastating for the fetus
- About half (50%) of untreated latent infections result in adverse pregnancy outcomes
- Adverse outcomes include:
 - Fetal loss and stillbirth: 21%
 - Neonatal death: 9.3%
 - Prematurity or low birth weight: 5.8%
 - Congenital infection and anomalies: 15%



Chlamydia, Gonorrhea, and Primary and Secondary (P&S) Syphilis - Counties and Independent Cities Cases and Rates Ranked by Number of Reported Cases: United States, 2017

Rank	Chlamydia	Gonorrhea	P&S Syphilis
1	Los Angeles County, CA 64,302 cases 634.3/100,000 population	Los Angeles County, CA 26,103 cases 257.5/100,000 population	Los Angeles County, CA 1,996 cases 19.7/100,000 population
2	<u>Cook County, IL</u> 42,422 cases 815.3/100,000 population	<u>Cook County, IL</u> 14,920 cases 286.7/100,000 population	<u>Cook County, IL</u> 980 cases 18.8/100,000 population
3	Harris County, TX 27,556 cases 600.4/100,000 population	Maricopa County, AZ 8,907 cases 209.9/100,000 population	Maricopa County, AZ 730 cases 17.2/100,000 population

Chicago	30,292 cases	11,730 cases	788 cases
State of IL Rate	75,518 cases 589.9/100,000 population	23,859 cases 186.4/100,000 population	1,225 cases 9.6/100,000 population
U.S. Rate	1,708,569 cases 528.8/100,000 population	555,608 cases 171.9/100,000 population	30,644 cases 10/100,000 population

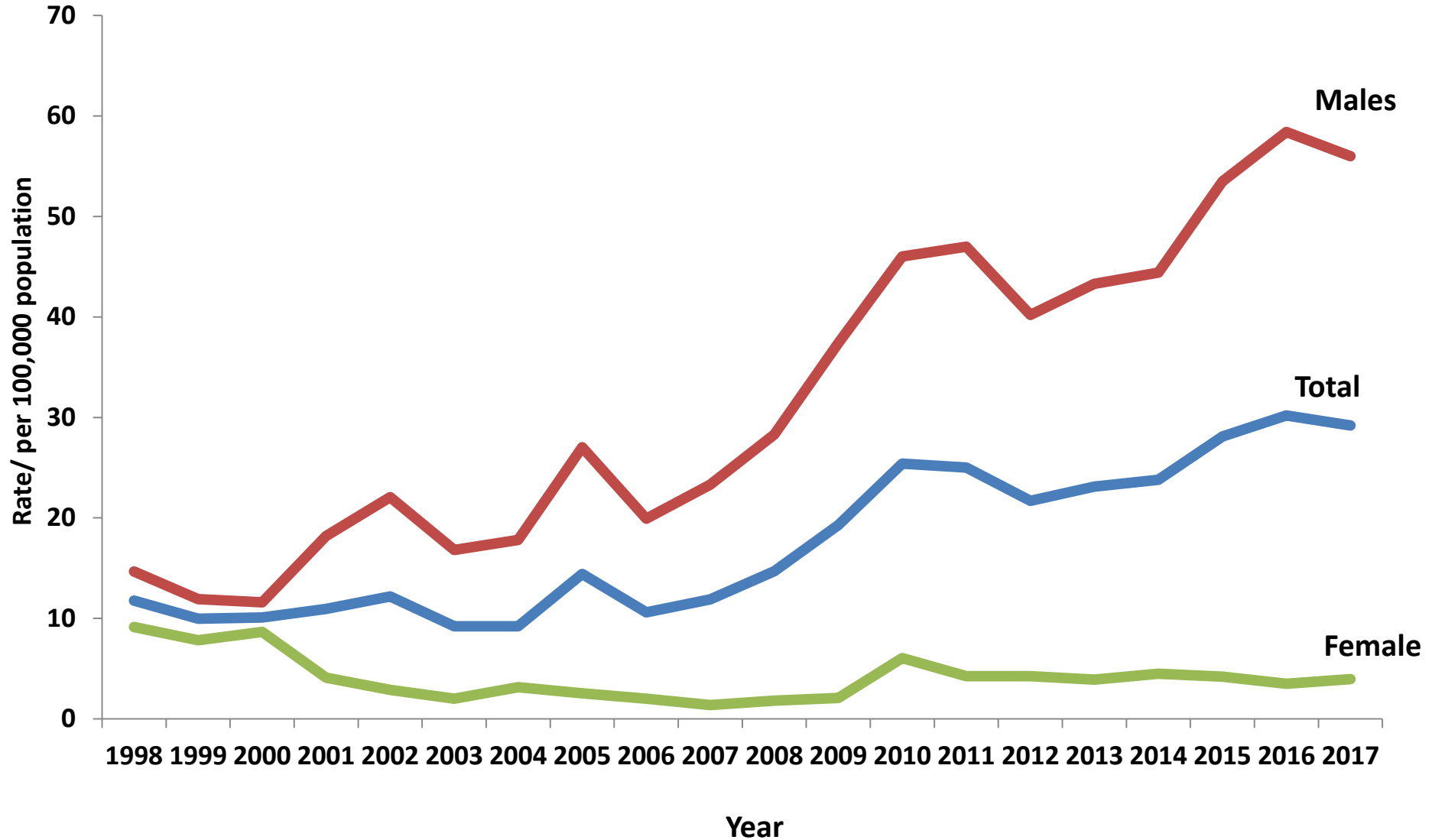
Congenital Syphilis — States With Highest Number of Cases and Highest Rates per 100,000 Live Births, 2017

Rank	State	2017 Cases
1	California	281
2	Texas	176
3	Florida	93
4	Louisiana	59
5	Arizona	30
6	North Carolina	23
7	Georgia	23
	U.S. TOTAL	918
8	<u>Illinois</u>	21
9	Nevada	21
10	Maryland	20
11	Ohio	18
12	New York	16
14	New Jersey	13

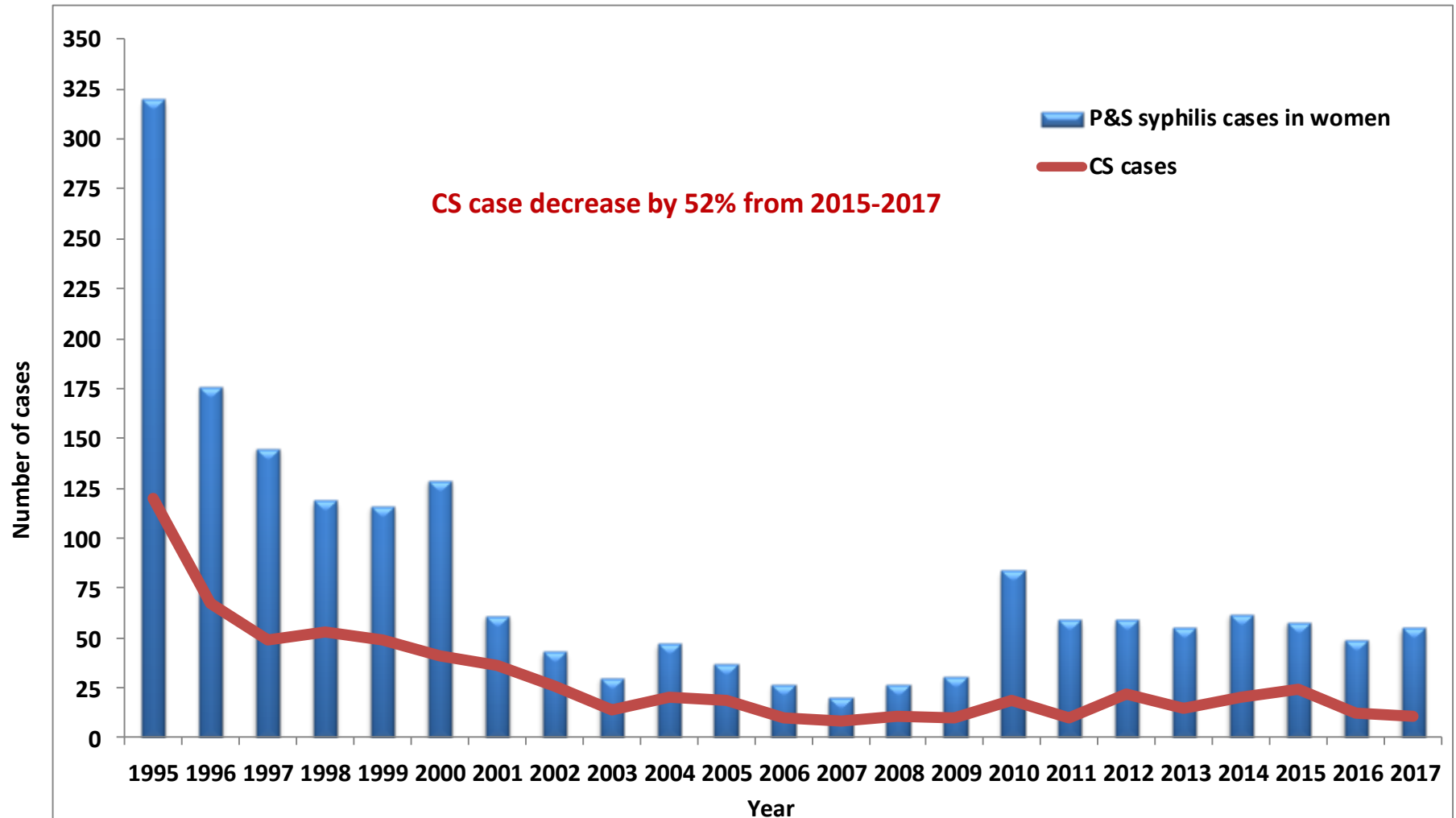
Rank	State	2017 Rate
1	Louisiana	93.4
2	Nevada	57.9
3	California	57.5
4	Texas	44.2
5	Florida	41.3
6	Arizona	35.5
7	Maryland	27.3
	U.S. TOTAL	23.3
8	Arkansas	20.9
9	North Carolina	19.0
10	Georgia	17.7
11	Oregon	17.6
12	Hawai	16.6
13	South Carolina	14.0
14	<u>Illinois</u>	13.6

* States were ranked by rate, then by case count, then in alphabetical order, with rates shown rounded to the nearest tenth. † Mother's state of residence was used to assign case.

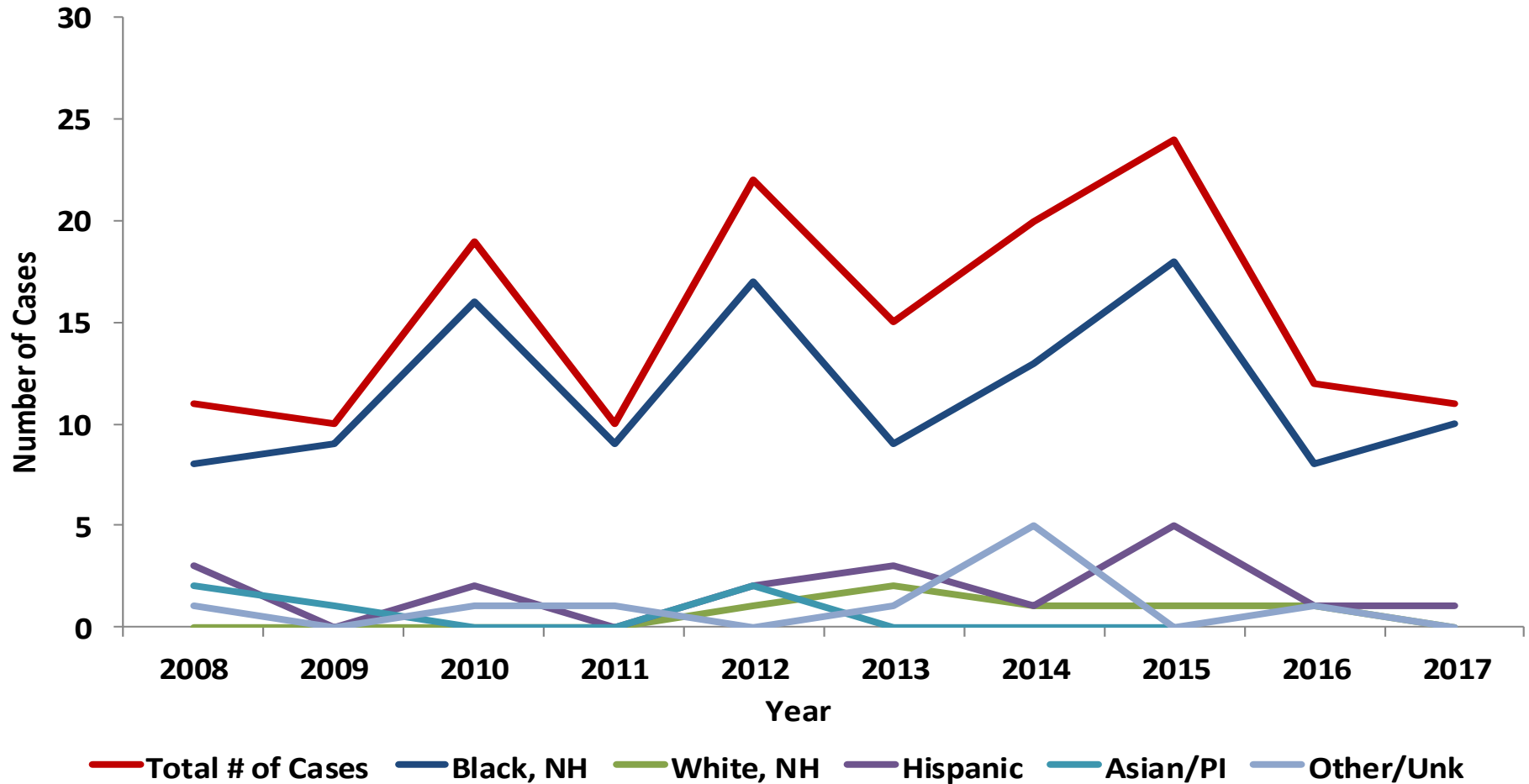
P&S Syphilis, Rates by Gender, Chicago, 1998-2017



P&S Syphilis Cases among Women & Congenital Syphilis Cases, Chicago, 1995-2017



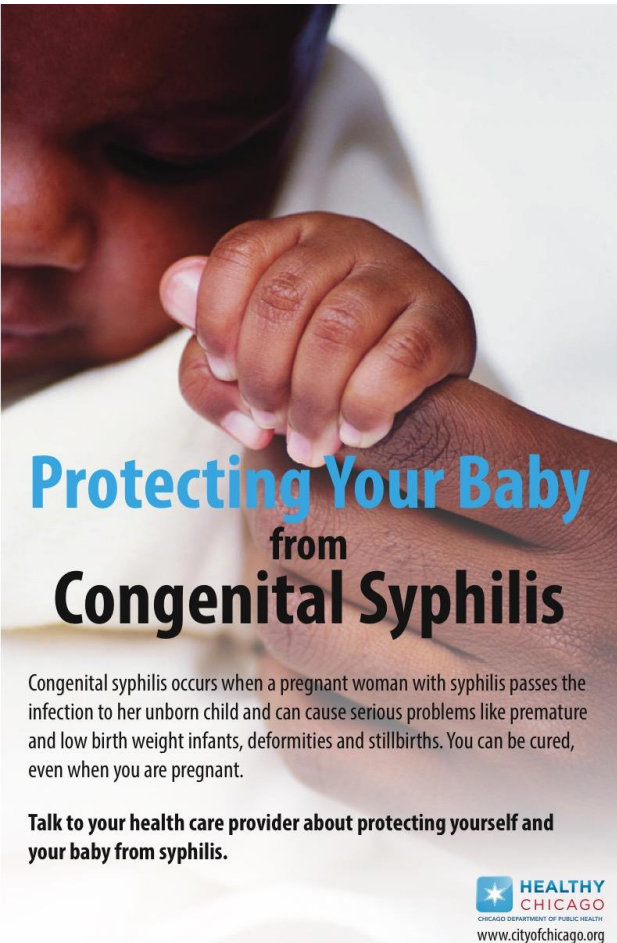
Congenital Syphilis Cases by Race/Ethnicity, Chicago, 2008-2017



Note: NH= Non-Hispanic, A/PI = Asian/Pacific Islander

Average Annual Congenital Syphilis Rates by Community

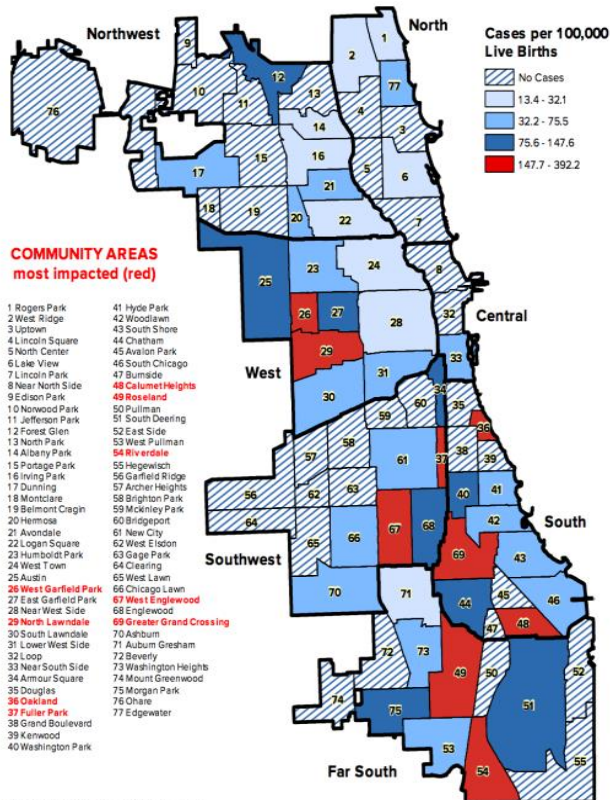
Rates, Chicago, 2011-2015 and 2012-2016



Protecting Your Baby from Congenital Syphilis

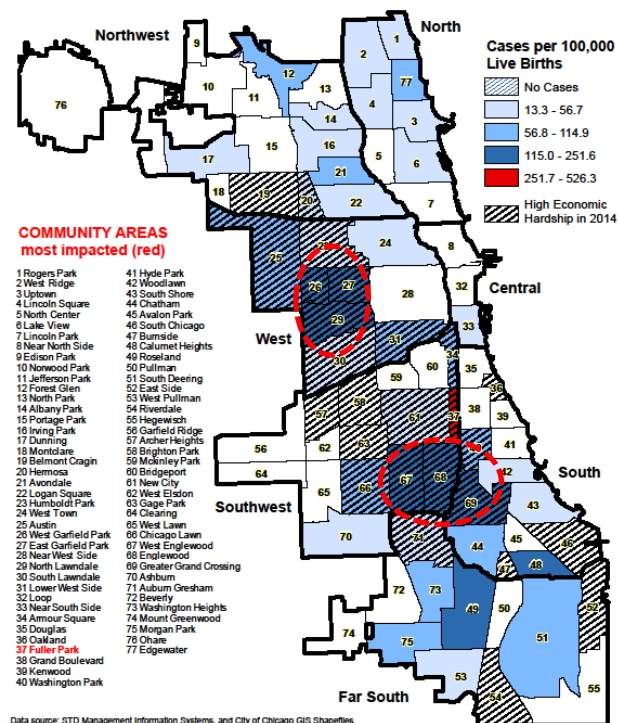
Congenital syphilis occurs when a pregnant woman with syphilis passes the infection to her unborn child and can cause serious problems like premature and low birth weight infants, deformities and stillbirths. You can be cured, even when you are pregnant.

Talk to your health care provider about protecting yourself and your baby from syphilis.



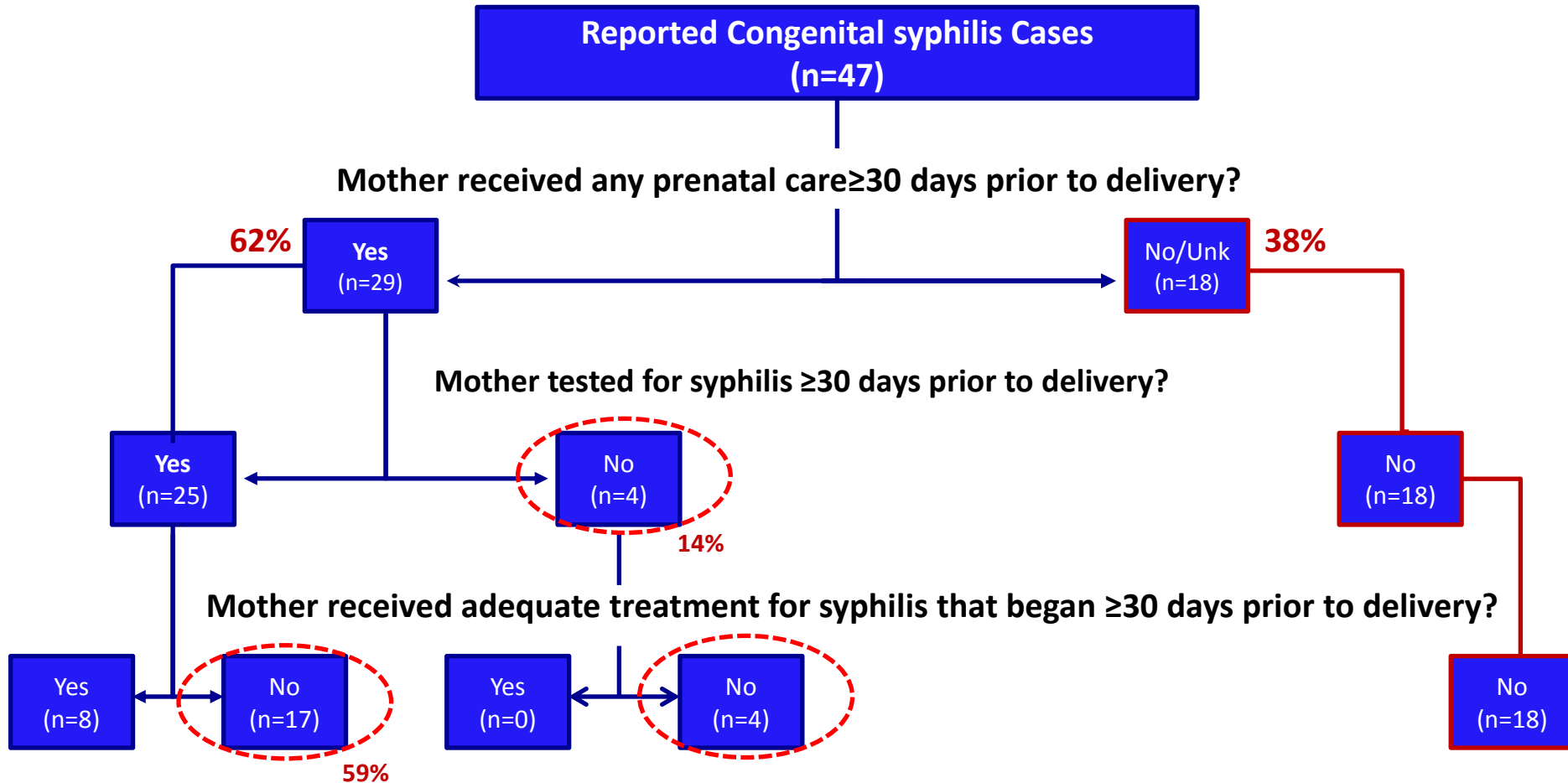
Data source: STD Management Information Systems, City of Chicago GIS, Shapelles, and US Census. Note: Rates per 100,000 were calculated using 2012 live births as the denominator.

Figure 1.7 - Average Annual Congenital Syphilis Case Rates by Community Area, Chicago, 2012-2016



Data source: STD Management Information Systems, and City of Chicago GIS Shapelles. Note: Rates per 100,000 were calculated using 2014 live births as the denominator. The economic hardship index utilizes multiple indicators to measure economic conditions of Chicago Community Areas. High hardship index scores indicate worse economic conditions.

Prenatal care, testing, and treatment status of mothers of reported Congenital Syphilis Cases (n=47), Chicago, 2015-2017



State of IL Syphilis Screening Recommendations

- **Mother To Child Transmission (MTCT) of syphilis is prevented by testing and treatment of pregnant women**
- **State of IL Syphilis Screening Recommendations during the pregnancy: serological testing should be done on the mother at the time of the first prenatal visit and again during the third trimester as required by the Illinois(IL) Prenatal Syphilis Act (410 ILCS 320)**

CDC Screening Recommendations

- All pregnant women should be screened for syphilis at the first prenatal visit
- Women who are at high risk for syphilis, live in areas of high syphilis morbidity, or are previously untested should be screened again both:
 - Early in the third trimester (approximately at 28 weeks GA)
 - At delivery
- Routine risk assessment should be conducted throughout pregnancy to assess risk factors and inform the need for additional testing.
- No infant should leave the hospital without the maternal serologic status having been determined at least once during pregnancy, and again at delivery if at risk
- Any woman who delivers a stillborn infant should be tested for syphilis
- **US Preventive Services Task Force (USPSTF)** updated final syphilis screening recommendations in Pregnant Women in September, 2018

Syphilis Treatment during pregnancy

- In pregnancy, benzathine penicillin is the only recommended therapy. No alternatives.
 - Prioritize use of Bicillin-LA for treatment of pregnant women infected with or exposed to syphilis if Bicillin supply is in question.
-
- Timely and appropriate treatment is critical: at least 30 days prior to birth for effective treatment of the fetus
 - Adherence to 7 day interval between doses in pregnancy is necessary
 - Restart treatment (3 weekly doses) if dose missed (interval >7 days)
 - Pregnant women with penicillin allergy should be desensitized and treated with penicillin
 - Partner testing and treatment

All patients with syphilis should be tested for HIV



Inadequate or suboptimal treatment of maternal syphilis

Inadequate therapy

Treatment with a non-penicillin antibiotic

Treatment less than four weeks before delivery (including treatment with penicillin)

Inappropriate dose for stage of disease

Inadequate documentation of maternal treatment

Lack of performance of serial non-treponemal* antibody titers after maternal treatment

Maternal therapy was not documented

Inadequate response to therapy

Maternal non-treponemal antibody titers did not decline at least fourfold (two dilutions) after treatment

Maternal non-treponemal antibody titers suggest reinfection or relapse (i.e., fourfold increase)

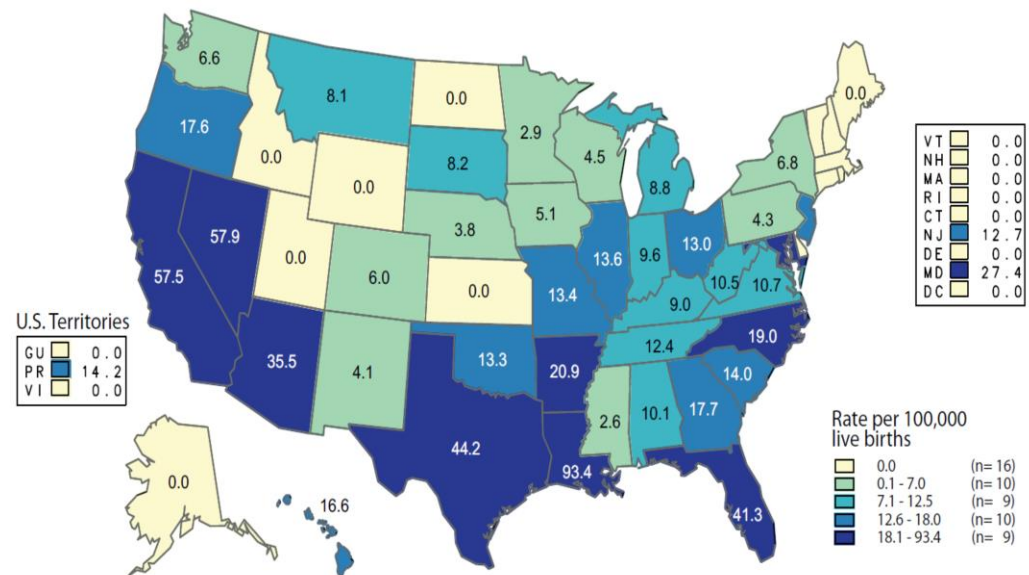
* Non-treponemal test: Rapid plasma reagin (RPR) test or Venereal Disease Research Laboratory (VDRL) test.

Public Health Measures for the prevention of Congenital Syphilis

Notice of Funding Opportunity (NOFO) to Strengthen the National Response to Congenital Syphilis

CDPH Bureau HIV/STI is one of the project areas that received award from the CDC

<u>Project Area</u>	<u>2012 Cases</u>	<u>2016 Cases</u>
CA (excl LA & SF)	29	172
TX	78	71
FL	37	59
Louisiana	33	48
Los Angeles	6	32
GA	16	21
MD & Baltimore	12	16
AZ	14	15
Chicago	23	11
OH	19	11
U.S. Total	334	628



The congenital syphilis rate increased 60.3% in the South, 40.7% in the West, 5.7% in the Northeast, and 5.7% in the Midwest during 2016–2017.

NOTE: The total rate of reported cases of congenital syphilis for infants by year of birth for the United States and outlying areas (including Guam, Puerto Rico, and the Virgin Islands) was 23.2 per 100,000 live births.

ACRONYMS: GU = Guam; PR = Puerto Rico; VI = Virgin Islands.

Key activities -What we are doing?

- Formed CS Elimination Team who is meeting on a weekly basis
- Team consist of CDPH STI Surveillance, Partner Services, MCH program members
- Improve collection of pregnancy status for all cases of syphilis among women of reproductive age; Case management/linkage to the prenatal care or family planning (FP) services
- Strengthen CS morbidity and mortality case review boards to help identify causes of CS and develop interventions to address causes
- Improve methods to match vital statistics birth and mortality data with syphilis surveillance data to review syphilis testing practices among stillbirths, identify missed cases of syphilis-related stillbirth, and strengthen CS stillbirth case report data
- Strengthen partnerships with health care providers, CBOs, state and local Title V maternal and child health programs, Medicaid programs, and health care organizations

Patient Educational Materials



Know the Facts: Your Baby Will Thank You!

You can get syphilis or other STDs more than once. If you would like more information, talk to your health care provider, call or visit one of the Chicago Department of Public Health's STD/HIV clinics.

Englewood STD Specialty Clinic
641 W. 63rd St., Lower Level
Phone: 312.747.8900 / 312.747.8901
M, W, F 8am-4pm, T, Th 10am-5pm

South Austin STD Specialty Clinic
4918 W. Madison
Phone: 312.746.4871 / 312.746.4872
M, W 8am-4pm, T, Th 10am-5pm

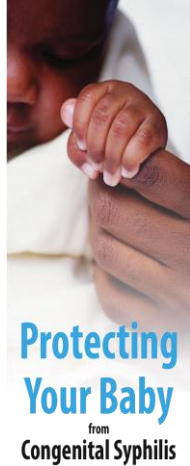
West Town STD Specialty Clinic
2418 W. Division
Phone: 312.744.5464 / 312.742.4902
F 8am-4pm

Lakeview STD Specialty Clinic
2861 N. Clark, 2nd Floor
Phone: 312.744.5507 / 312.744.5628
M, W, F 8am-4pm, T, Th 10am-5pm

Roosevelt STD Specialty Clinic
2091 S. 119th St.
Phone: 312.747.2831 / 312.747.8854
M 8am-4pm, Th 8am-5pm

HEALTHY CHICAGO
Department of Public Health
333 S. State Street, Suite 200
Chicago, Illinois 60604
www.cityofchicago.org/health

Facebook: facebook.com/chicagohealth Instagram: @chicagohealth



Protecting Your Baby from Congenital Syphilis

HEALTHY CHICAGO

Conozca los hechos: Su bebé se lo agradecerá!

Usted puede contraer sífilis u otras enfermedades de transmisión sexual más de una vez.

Si desea más información, hable con su doctor o proveedor de cuidado de la salud, o llame o visite una de las clínicas de enfermedades sexuales del Departamento de Salud Pública.

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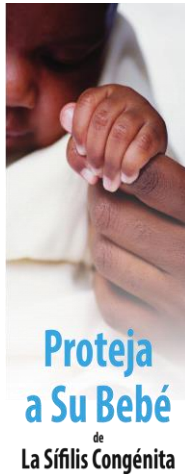
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Proteja a Su Bebé de La Sífilis Congénita

HEALTHY CHICAGO

GET PRENATAL CARE

& Protect Your Baby from Congenital Syphilis.

Call 311 or visit healthychicagobabies.org

PROTECT YOUR BABY from Congenital Syphilis.

Know the Facts:
Your Baby Will Thank You!

You can get syphilis or other STDs more than once. If you would like more information, talk to your health care provider, call or visit one of the Chicago Department of Public Health's STD/HIV clinics.

1. Get tested for syphilis and other STDs at 10, 12, 16, 24, 36, and 48 weeks of pregnancy.
2. Use condoms every time you have sex.
3. Get tested in the 1st and 3rd trimesters.
4. Get treated.

Call 311 or visit healthychicagobabies.org

Protect Your Baby from SYPHILIS

Know The Dangers

YOUR BABY COULD BE

- Blind
- Deaf
- Premature

PREVENT

- Death
- Meningitis
- Anemia
- Low birth weight

Protect Your Family

- Talk to your doctor
- Use condoms
- Get tested in 1st & 3rd trimesters
- Get treated

Call 311 or visit healthychicagobabies.org

Pregnant?

Get Prenatal Care and Protect Your Baby from Congenital Syphilis

Call 311 or visit www.cityofchicago.org/health

HEALTHY CHICAGO
Department of Public Health
333 S. State Street, Suite 200
Chicago, Illinois 60604
www.cityofchicago.org/health

facebook.com/chicagohealth Instagram: @chicagohealth

<http://www.healthychicagobabies.org/congenitalsyphilisinfo.html>

Current Partnership

- Program is utilizing coordinated strategy through a collaborative partnership with CDPH Bureau of Maternal, Infant, Child, and Adolescent Health (MICAH), IDPH, Cook County Department of Public Health, Pediatric AIDS Chicago Prevention initiative (PACPI) and St. Louis STD/HIV prevention training center



**Center of Excellence in
Maternal and Child Health**

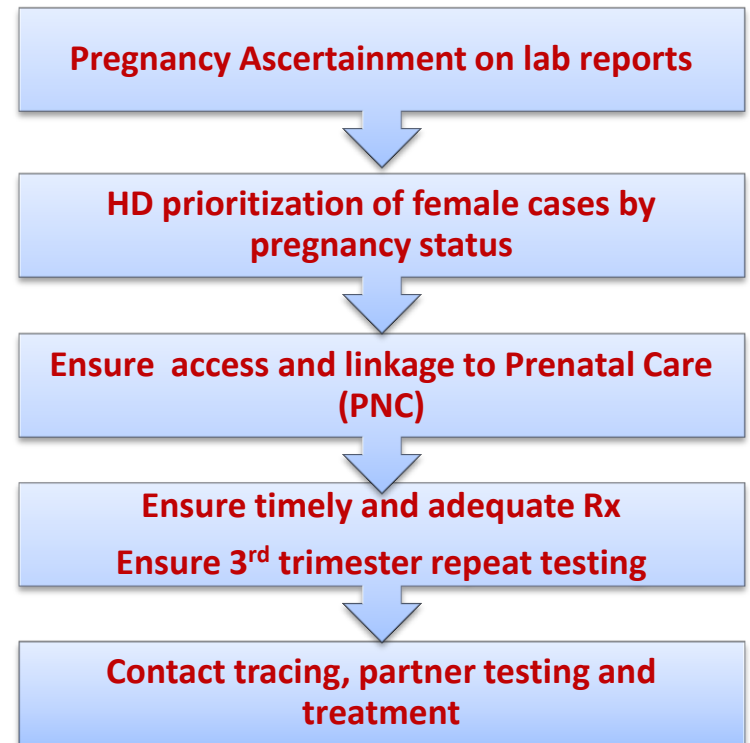


Cook County DEPT. of
Public Health
Promoting health. Preventing disease. Protecting you.



Lessons Learned

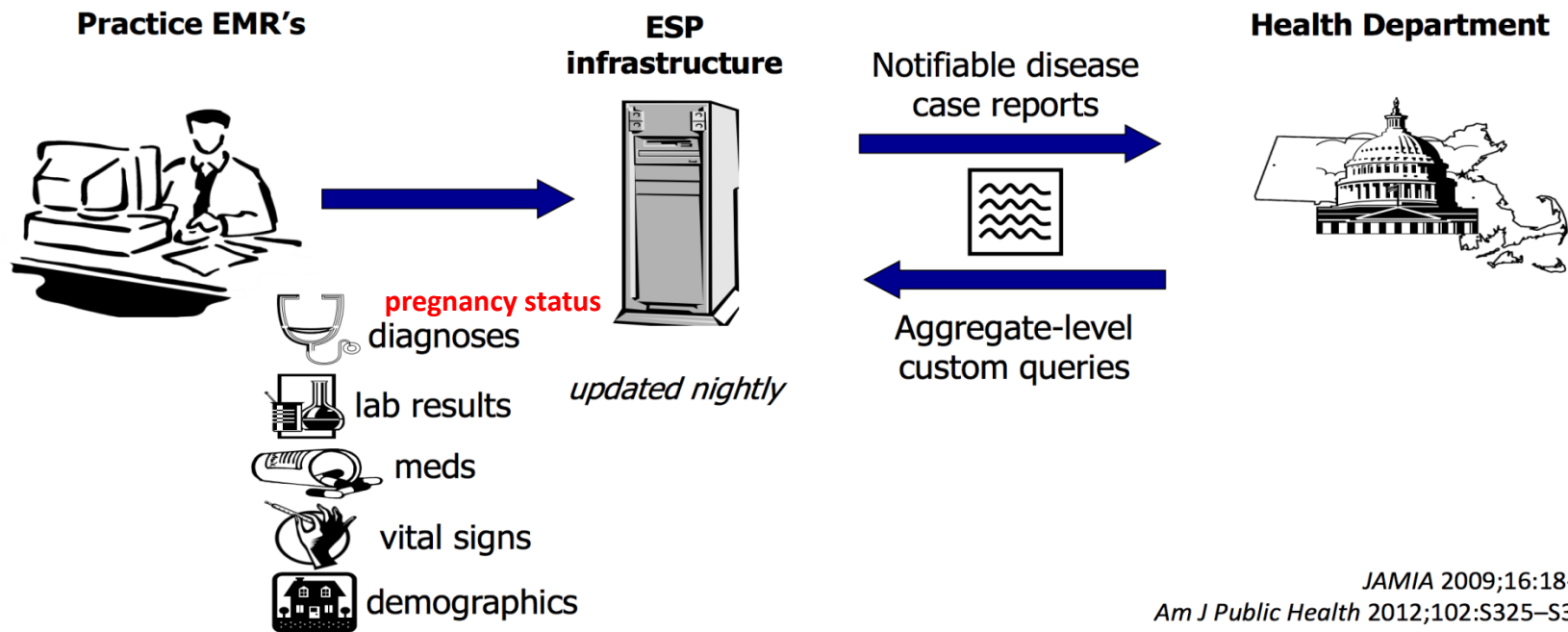
- Timely and accurate data on pregnancy status for females diagnosed with syphilis is needed.
- Need to improve the quality of PNC as well as PNC coverage.
- Lack of knowledge on state of IL Prenatal Syphilis Act.
- Improved PNC data on syphilis testing coverage, positivity, and treatment are needed.
- There is a need to prioritize partner services for syphilis cases among pregnant women and women of reproductive age, their sex partners, and men who have sex with women.



Future Directions

- Paper-based case report hinders our ability to timely update surveillance system with the most up to date demographic and treatment information/delayed data entry of treatment information.
- Electronic Case Reporting (EPR) will improve the data quality of case reports and enhance public health surveillance capacity

Automated disease detection and reporting



JAMIA 2009;16:18-24
Am J Public Health 2012;102:S325-S332
Am J Public Health 2014;104:2265-2270

Summary

- **Most congenital syphilis cases can and should be prevented if pregnant women with syphilis are diagnosed and treated in a timely manner.**
- **Elimination of Congenital Syphilis in Chicago is now feasible due to the limited number of cases with a highly focal distribution.**
- **Confirm maternal syphilis testing at delivery; infants should not be discharged without this information.**
- **Ensure exposed infants are evaluated and treated according to guidelines; this is an opportunity to prevent morbidity associated with untreated syphilis.**
- **Report congenital syphilis cases to the health department within 24 hours.**
- **Control and elimination of syphilis can only occur where the medical community and the public health community work jointly.**



A routine blood test for syphilis protects the pregnant mother and her baby.

Prioritize screening, diagnosis, and treatment of pregnant women => congenital syphilis is preventable!

Acknowledgments

- **Chicago Department of Public Health**
- **Illinois Department of Public Health**
- **Centers for Disease Control and Prevention**
- **St. Louis STD/HIV prevention training center**

Newborn syphilis cases in U.S. reach 20 year high



CBS NEWS

Newborns infected with syphilis skyrocket; Georgia cases rise slightly

By Aroli Hosi - The Atlanta Journal-Constitution



The Atlanta-based U.S. Centers for Disease Control and Prevention reports that the number of babies born with syphilis has hit its highest level since 2013, at 23.3 per 100,000 live births. Georgia's rate was 17.7 cases per 100,000 live births. (Aroli Hosi/The Atlanta Journal-Constitution)



Congenital Syphilis Cases Hit 20-Year Record High in US
September 26, 2018

The New York Times

Syphilis Rises Sharply Among Newborns

Along with an increase in adult infections, the rate of infants born with the disease has reached a 20-year high.

Thank you Questions?

SHARP INCREASES in syphilis among newborns in the US continue

Improved testing and treatment needed for pregnant women

918 cases in 2017

#STDreport 2017 STD Surveillance Report



HEALTH 09/26/2018 04:11 pm ET | Updated 3 days ago

Syphilis Among Pregnant Women Is On The Rise, Alarming Public Health Experts

The sexually transmitted infection can cause pregnancy loss, infant death and lifelong disability.

September 25, 2018

Congenital syphilis cases soar from 2013-'17; what is pediatricians role?

Candice J. McNeil, M.D., M.P.H., FACP, FAAP and Gale Burstein, M.D., M.P.H., FAAP

Case 1: A 19-year-old female is diagnosed with late latent syphilis in her first trimester of pregnancy with an initial rapid plasma reagin (RPR) titer of 1:128. She is treated with weekly benzathine penicillin 2.4 million units intramuscularly for three weeks. At delivery, she reports interim sexual exposures and absent partner treatment history. What is your role as the pediatrician seeing this infant?

Case 2: A 5-week-old baby presents to his pediatrician's office for a sick visit with a palmer planter rash and pseudoparalysis of the left upper extremity. Mother had a history of what she was told was a "false positive" syphilis screening test in her second trimester of pregnancy. No follow-up syphilis serologies were performed. What are the missed opportunities for screening and prevention on both sides of the placenta?

In 2017, the Centers for Disease Control and Prevention (CDC) released a Call to Action (<https://www.cdc.gov/std/syphilis/SyphilisCalltoActionApril2017.pdf>) encouraging a



Number of babies born with syphilis has more than doubled since 2013, Sept. 25, 2018



Syphilis Rates In Babies Are At a 20-Year High, CDC Says

Protect your baby from syphilis.

Syphilis during pregnancy can cause serious problems for your baby, like being born too soon or too small. It also can cause death for your baby before or after birth.

If your baby is born with syphilis, it can cause lifelong problems with:

- ✗ Eyes and ears (like being blind or deaf)
- ✗ Teeth, bones and joints

The only way your baby can get syphilis is if you pass it to him during pregnancy. Here's what you can do