STD Increases Across the Board
STD rates hit another record high, with California near the top

"Every baby born with syphilis represents a tragic systems failure," Gail Bolan, director of CDC's Division of STD Prevention, said in the news release. "All it takes is a simple STD test and antibiotic treatment to prevent this enormous heartache and help assure a healthy start for the next generation of Americans."

"Increases in STDs are a clear warning of a growing threat," Jonathan Mermin, director of CDC's National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention, said in a news release. "STDs are a persistent enemy, growing in number, and ousting our ability to respond."

STD rates reach record high in U.S., government says

"STDs are a persistent enemy, growing in number, and ousting our ability to respond."

STDs hit record high in US, 2M cases reported in 2016

"Increases in STDs are a clear warning of a growing threat."
STDs IN THE UNITED STATES

2,295,739
TOTAL CASES IN 2017

STDs tighten their grip on the nation’s health as rates increase for a fourth year.

CHLAMYDIA
1,708,569
TOTAL CASES IN 2017
6.89% INCREASE SINCE 2016

GONORRHEA
555,608
TOTAL CASES IN 2017
18.58% INCREASE SINCE 2016

SYPHILIS
30,644
TOTAL CASES IN 2017
10.17% INCREASE SINCE 2016

CONGENITAL SYPHILIS
918
TOTAL CASES IN 2017
43.66% INCREASE SINCE 2016

Source: U.S. Centers for Disease Control and Prevention
Congenital Syphilis Resurgence
Syphilis is a Complicated Bacterial Infection

- Syphilis is caused by the bacteria *Treponema pallidum*
- Signs and symptoms of early syphilis can be difficult to detect
- Untreated syphilis then enters a latent phase with no symptoms
- Diagnosis is made by medical history, clinical exam, and two blood tests

<table>
<thead>
<tr>
<th>Primary Stage</th>
<th>Secondary Stage</th>
<th>Latent Phase</th>
<th>Tertiary Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genital lesions within days to weeks</td>
<td>Rashes, wart-like growths, or hair loss within weeks to a few months</td>
<td>Early</td>
<td>Late</td>
</tr>
</tbody>
</table>

No symptoms
Syphilis Can Be Transmitted *In Utero* if Left Untreated

- An infected woman can transmit syphilis to her fetus during pregnancy
  - At any stage of syphilis and any trimester of pregnancy
- Congenital infection can result in:
  - Stillbirth and early infant death
  - Infant disorders such as neurologic impairment and bone deformities

Newborn with congenital syphilis rash and enlarged liver and spleen (marked in black ink)

### Congenital Syphilis Cases
- **2007**: 430
- **2008**: 420
- **2009**: 410
- **2010**: 400
- **2011**: 390
- **2012**: 380
- **2013**: 370
- **2014**: 360
- **2015**: 350
- **2016**: 340
- **2017**: 330

### P&S Syphilis Cases Among Women Aged 15–44 Years
- **2007**: 40
- **2008**: 45
- **2009**: 50
- **2010**: 55
- **2011**: 60
- **2012**: 65
- **2013**: 70
- **2014**: 75
- **2015**: 80
- **2016**: 85
- **2017**: 918

*Note: The number for 2017 is significantly higher than the previous years, indicating a potential increase in reported cases.*

Congenital syphilis cases

P&S syphilis cases among women aged 15–44 years

Number of P&S Syphilis Cases

Number of Congenital Syphilis Cases


- 44%

- 918

- 639

- Congenital syphilis cases
- P&S syphilis cases among women aged 15–44 years

Number of Congenital Syphilis Cases

Number of P&S Syphilis Cases

2007: 400
2008: 400
2009: 400
2010: 400
2011: 400
2012: 400
2013: 400
2014: 400
2015: 400
2016: 400
2017: 918

Increase: 176%
5 States Make Up 70% of the U.S. Congenital Syphilis Morbidity in 2017

*National 2017 CS case report data; all states reporting*
But Why?
Case Study 1

- 26 year old single, Hispanic female
- 4 pregnancies, 2 births (both children in foster system)
- Self-reported meth use, partner currently incarcerated
- Feb 27—1st prenatal visit, 28 weeks gestational age
  - RPR ordered but never performed
- May 4—2nd prenatal visit, 37 weeks gestational age
  - Vaginal rash attributed to Herpes by clinician, breech presentation noted, fetal movement detected, RPR 1:512
- May 7—Offsite ultrasound performed for gender determination
  - Fetal demise identified by technician
- May 7—patient sent to hospital for induction of stillbirth
  - Hospital unaware of positive RPR from May 4; no new RPR performed
  - Patient discharged on May 8 without treatment for syphilis
Case Study 2

- 38 year old single, NH White female
- 11 pregnancies, 7 births
- Drug use, homelessness, history of incarceration, domestic violence, child protective services involvement
- May 31—Mother presents in labor, 37 weeks gestational age
  - No prior prenatal care
  - RPR 1:8 at delivery, no signs/symptoms; staged as early latent syphilis
  - Mother refused treatment, refused interview attempt by public health
- June 1—Mother leaves hospital AMA with baby
  - Infant not yet worked up or treated
- June 14—Infant found, placed in protective custody
- June 17—Infant transferred to father, brought for treatment
  - No work up performed; TP+/RPR-; treated with aqueous PCN for 10d
Congenital Syphilis is a Health Equity Issue

- Some risk factors for syphilis include:
  - Multiple sex partners
  - History of incarceration
  - Substance use disorders
  - History of exchanging sex for drugs/money/housing
  - Having a partner with multiple partners or history of incarceration

- CS case-moms report high levels of risky behavior* (2017)
  - 52% in Los Angeles used drugs during pregnancy
  - 23% in California experienced homelessness in the prior 12 months

- Among pregnant women with syphilis, late or no prenatal care is significantly associated with delivering an infant with CS

*Unpublished data presented at the STD Prevention Conference
CS Rates by Mother’s Race/Ethnicity, 2012–2017*

*Data are preliminary, as of April 13, 2018
% P&S Syphilis Cases* That Reported Using Heroin (Past 12 Months)

*with data on substance use

Jeremy Grey, 2018 STD Prevention Conference
% P&S Syphilis Cases* That Reported Using Methamphetamines (Past 12 Months)

*with data on substance use

Jeremy Grey, 2018 STD Prevention Conference
Congenital Syphilis Prevention

- **Upstream Prevention Opportunity #1:**
  - Prevent females of reproductive age from getting syphilis

- **Upstream Prevention Opportunity #2:**
  - Prevent unintended pregnancies among high-risk women

- **Downstream Prevention Opportunity:**
  - Prevent infected mothers from transmitting syphilis to their infants during pregnancy
Downstream CS Prevention During Pregnancy Occurs through Four Primary Prevention Opportunities

Factors Associated with Congenital Syphilis (CS) Cases: Mothers of Reported Congenital Syphilis Cases (n=628), US, 2016

<table>
<thead>
<tr>
<th>Missed Prevention Opportunities</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prenatal Care:</strong> Received late or no prenatal care</td>
<td>34%</td>
<td>215</td>
</tr>
<tr>
<td><strong>Screening:</strong> Received prenatal care, but not screened in time to treat CS</td>
<td>8%</td>
<td>51</td>
</tr>
<tr>
<td><strong>Treatment:</strong> Positive initial screening test, but inadequate treatment for CS</td>
<td>18%</td>
<td>111</td>
</tr>
<tr>
<td><strong>Re-screening:</strong> Negative initial screening test, but later infected and not diagnosed until delivery</td>
<td>16%</td>
<td>101</td>
</tr>
</tbody>
</table>
As reported cases of early syphilis in women have more than doubled, rates of disease intervention have declined 9%.
What is CDC Doing?
CDC issued a Syphilis Call to Action in April 2017

- U.S. syphilis rates are increasing among women, their babies, and men
- Untreated syphilis can cause severe medical issues
- Efforts are needed to:
  - Create new tools
  - Detect and treat syphilis
  - Increase testing
  - Control the further spread of syphilis
  - Improve electronic medical records to improve patient outcomes

Visit: https://www.cdc.gov/std/syphilis/resources.htm
## CS Supplement Recipients—Number of Cases, 2015–2017

<table>
<thead>
<tr>
<th>Project Area</th>
<th>2015 Cases</th>
<th>2016 Cases</th>
<th>2017 Cases</th>
<th>Cumulative % of 2017 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNITED STATES TOTAL</strong></td>
<td>492</td>
<td>628</td>
<td>920</td>
<td>-</td>
</tr>
<tr>
<td>California (excl LA &amp; SF)</td>
<td>118</td>
<td>172</td>
<td>237</td>
<td>26%</td>
</tr>
<tr>
<td>Louisiana</td>
<td>54</td>
<td>48</td>
<td>59</td>
<td>32%</td>
</tr>
<tr>
<td>Texas</td>
<td>52</td>
<td>71</td>
<td>176</td>
<td>51%</td>
</tr>
<tr>
<td>Florida</td>
<td>38</td>
<td>59</td>
<td>93</td>
<td>61%</td>
</tr>
<tr>
<td>Chicago</td>
<td>23</td>
<td>11</td>
<td>10</td>
<td>63%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>21</td>
<td>32</td>
<td>43</td>
<td>67%</td>
</tr>
<tr>
<td>Georgia</td>
<td>21</td>
<td>21</td>
<td>23</td>
<td>70%</td>
</tr>
<tr>
<td>Maryland &amp; Baltimore</td>
<td>18</td>
<td>16</td>
<td>20</td>
<td>72%</td>
</tr>
<tr>
<td>Ohio</td>
<td>17</td>
<td>11</td>
<td>18</td>
<td>74%</td>
</tr>
</tbody>
</table>

*2015 and 2016 counts taken from 2015 & 2016 STD Surveillance reports; 2017 preliminary as of 06/30/2018*
CDC Supplemental Funds for Enhanced CS Response

Award
- $4 million to 9 project areas receiving STD AAPPS funds

Period
- October 1, 2017–December 31, 2018

Goals
- Sustainable improvements to CS-related activities
- Strengthen CS prevention through prospective information-gathering and interventions
- Strengthen CS prevention through retrospective activities to identify opportunities for change
Key Activities

1. Improve data collection of maternal and fetal epidemiologic and clinical risk factors

2. Improve ascertainment of pregnancy status among female syphilis cases and use pregnancy information for linkage to appropriate care & services

3. Strengthen CS Morbidity and Mortality Case Review Boards

4. Match syphilis surveillance data with vital statistics data

5. Strengthen partnerships with MCH, healthcare providers, and other CS prevention partners
## Early Accomplishments of the CS Supplement

<table>
<thead>
<tr>
<th>Category</th>
<th>Accomplishments</th>
</tr>
</thead>
</table>
| **Surveillance**                              | - 5 jurisdictions have completed at least one match with vital statistics data  
  - Matches have identified 5-10% more CS cases than previously reported  
| **Disease Investigation & Intervention**       | - 4 jurisdictions have established referrals to MCH-funded case management programs for follow-up of pregnant syphilis case-patients  
  - 1 jurisdiction established an in-house case management program  
  - 7 jurisdictions have strengthened relationships with MCH  
| **Promotion of CDC-Recommended Screening, Diagnosis, & Treatment** | - 7 jurisdictions have reached over 500 providers with information about female syphilis prevention and control  
| **Promotion of Prevention & Policy**           | - 4 jurisdictions have launched media campaigns to increase awareness of congenital syphilis and promote testing and screening  
  - 1 jurisdiction has seen state legislation introduced for universal early 3rd trimester syphilis screening  
| **Data Use for Program Improvement**           | - 8 jurisdictions have convened at least one case review board (CRB)  
  - 7 jurisdictions have created a sustainable CRB model meeting quarterly |
What Do Providers Need to Know?
Prenatal Syphilis Screening is the Cornerstone of Congenital Syphilis Prevention

- Syphilis is curable using injectable, long-acting penicillin
- Timely detection and treatment are essential for preventing congenital syphilis and its complications
Syphilis

Screening Recommendations

- **Prenatal**
  - 1\textsuperscript{st} prenatal visit: All pregnant women
  - Early 3\textsuperscript{rd} trimester (~28 weeks) and at delivery: Pregnant women who are at high risk for syphilis or live in areas of high syphilis morbidity
  - Some states require all women to be screened at 3\textsuperscript{rd} trimester and/or at delivery

- **Neonates:** should *NOT BE* discharged from the hospital unless the syphilis serologic status of the mother has been determined at least one time during pregnancy and preferably again at delivery if at risk

- **Stillborn:** Any woman who delivers a stillborn infant should be tested for syphilis
SYPHILIS TESTING IS ESSENTIAL FOR ALL PREGNANT WOMEN

ONE TEST MAY NOT BE ENOUGH

START TESTING EARLY AND AGAIN IF NEEDED

80% The chance of a mother passing syphilis onto her unborn baby if left untested or untreated.

Source: U.S. Centers for Disease Control and Prevention
The following states only require third trimester screening if the patient is at increased risk: Alabama, Indiana, Missouri, Pennsylvania, and Tennessee.

The following states only require screening at delivery if the patient is at increased risk: Florida, Georgia, Louisiana, Maryland, and Missouri.

Includes state statutes and regulations effective as of 2016.

Warren et al., 2018
Timely Treatment is Just as Important

- Don’t delay in treating a pregnant woman for syphilis
  - Don’t wait for the next scheduled prenatal visit to treat!
  - Follow up with her and work her in before her next visit

- Take advantage of Disease Intervention Specialists (DIS) and the knowledge of your local health department
  - Can help with locating hard-to-reach women
  - May have historical syphilis information, including old titers

- Benzathine penicillin is the only acceptable treatment for a pregnant woman with syphilis
Centers for Disease Control and Prevention

Resources

- STD Prevention Resources Handout
- Syphilis Pocket Guide for Providers
- A Guide to Taking a Sexual History

https://www.cdc.gov/std/default.htm
https://www.cdc.gov/std/treatment/sexualhistory.pdf
https://www.cdc.gov/std/treatment/sexualhistory.pdf
Centers for Disease Control and Prevention

Resources

- 2015 STD Treatment Guidelines
  - Pocket Guide
  - Wall Chart
  - FREE Apple or Android App

https://www.cdc.gov/std/tg2015/default.htm
National Network of STD Clinical Prevention Training Centers (NNPTC)

Resources

- Clinical Training and Consultation Network
- STD Clinical Toolbox App

GOT A TOUGH STD QUESTION?
Get FREE expert STD clinical consultation at your fingertips

Log on to www.STDCCN.org for medical professionals nationwide
National Network of STD Clinical Prevention Training Centers (NNPTC)

Resources: National STD Curriculum

- 7 Self-Study Modules
- Modular learning in any order with an individual progress tracker
- Free CME and CNE

https://www.std.uw.edu/
Fact Sheets
- ‘Basic’ fact sheets for the public
- ‘Detailed’ fact sheets for health care providers
- Spanish, Chinese, Russian, Vietnamese, and Haitian Creole

Infographics
- Printable and customizable infographics
- English and Spanish

https://www.cdc.gov/std/healthcomm/fact_sheets.htm
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