Syphilis Epidemiology, Screening, Diagnosis, Treatment and Case Management

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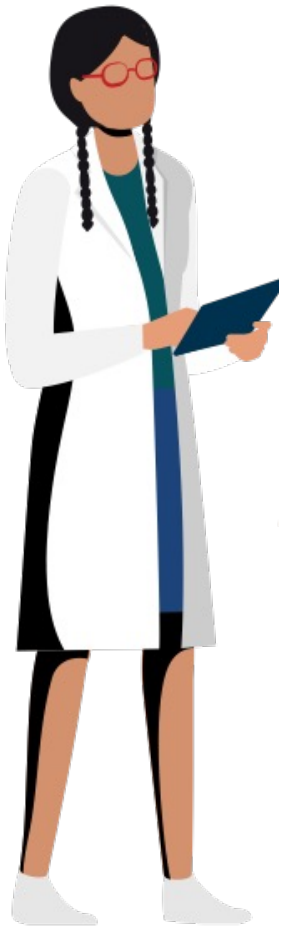
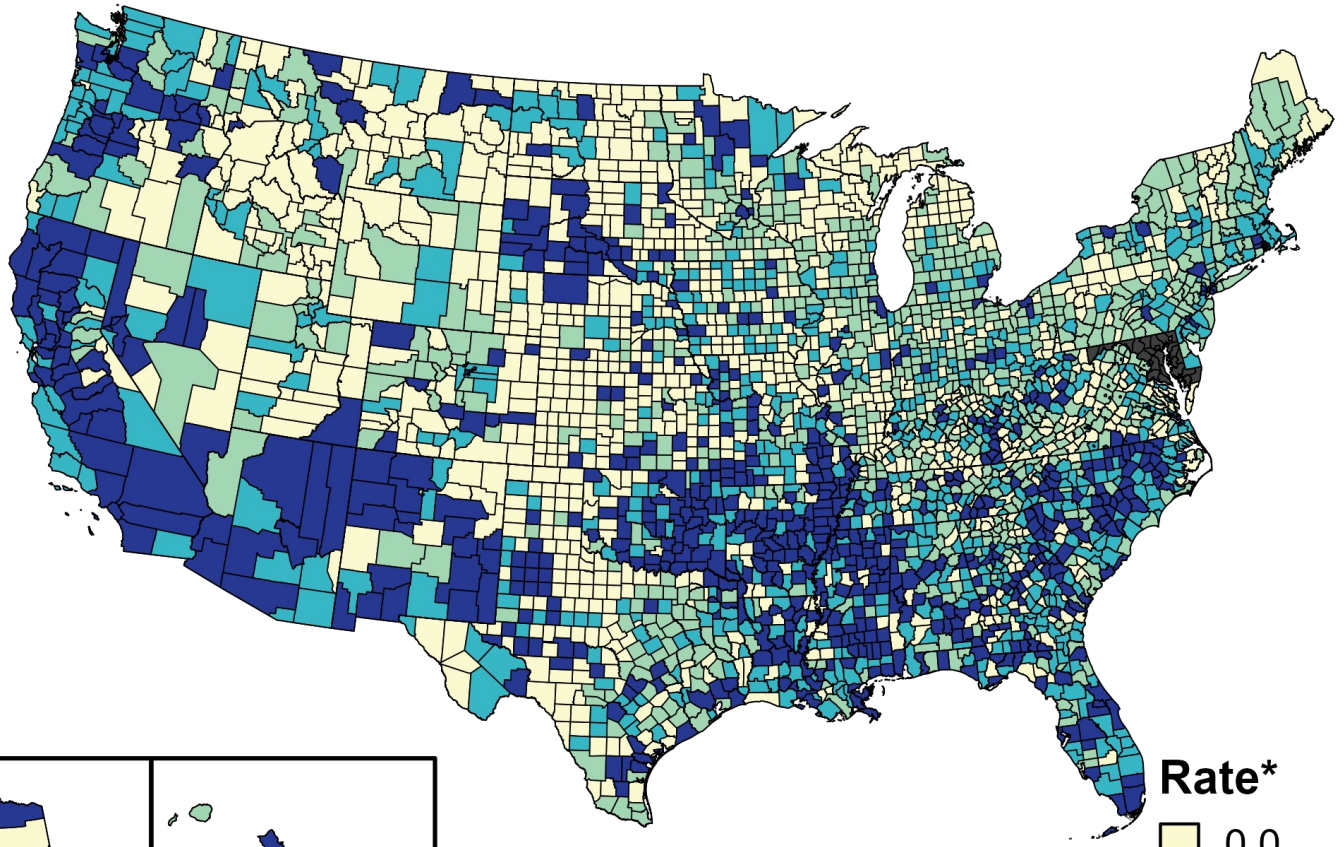
Epidemiology

Primary and Secondary Syphilis – Rates of Reported Cases by County, United States, 2021

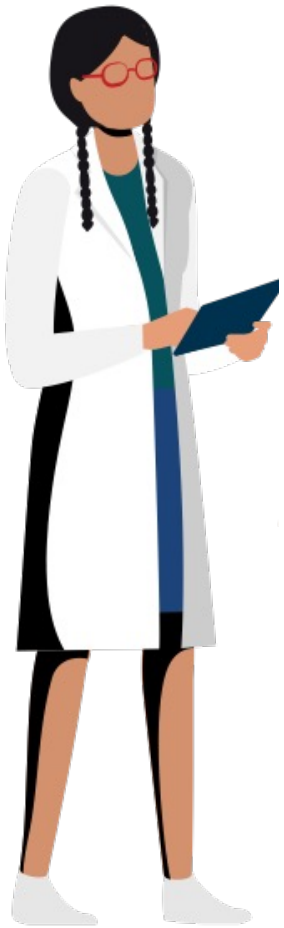


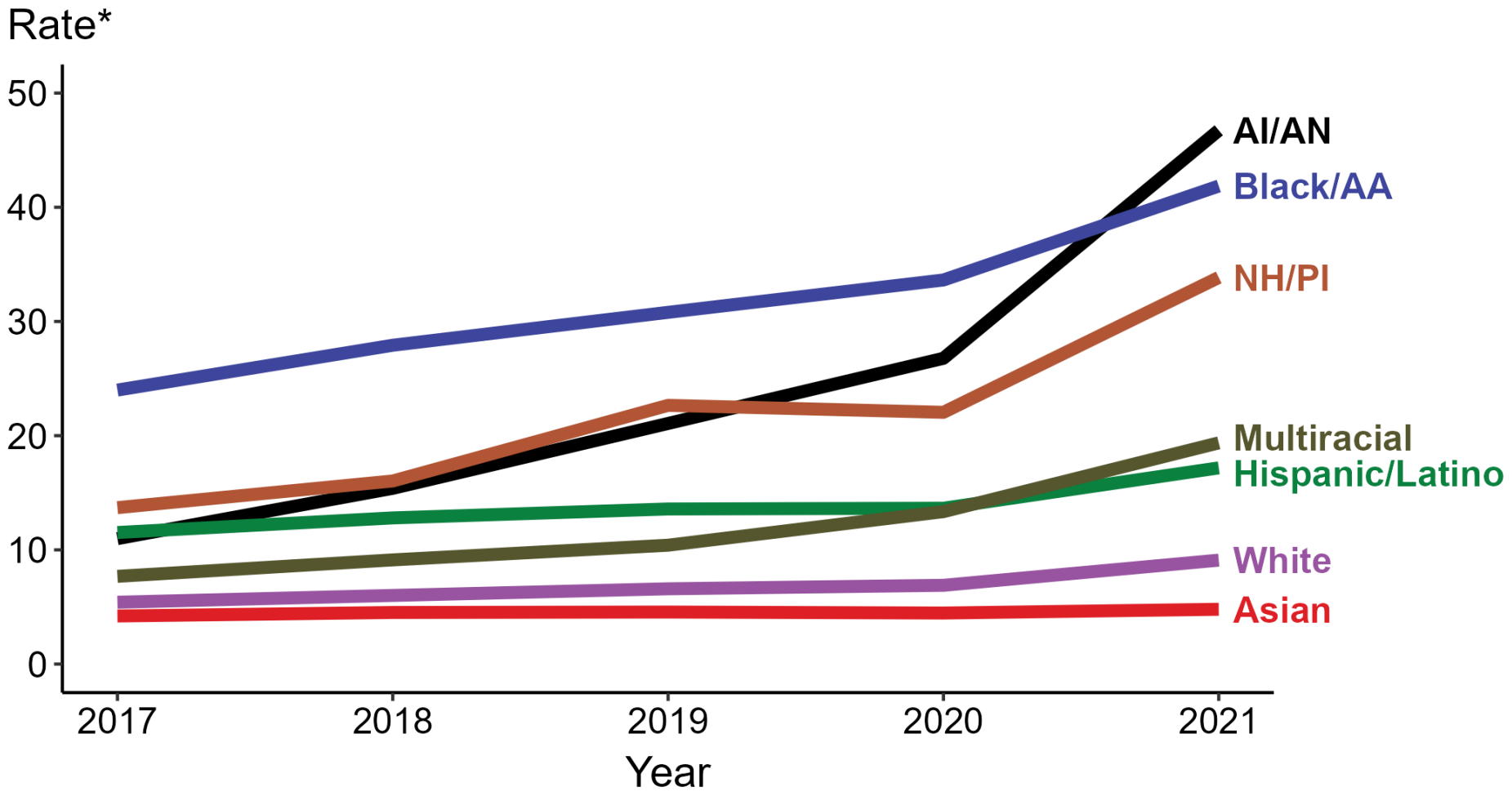


* Per 100,000

https://www.cdc.gov/std/statistics/2021/figures.htm

Primary and Secondary Syphilis – Rates of Reported Cases by Race/Hispanic Ethnicity, United States, 2017-2021



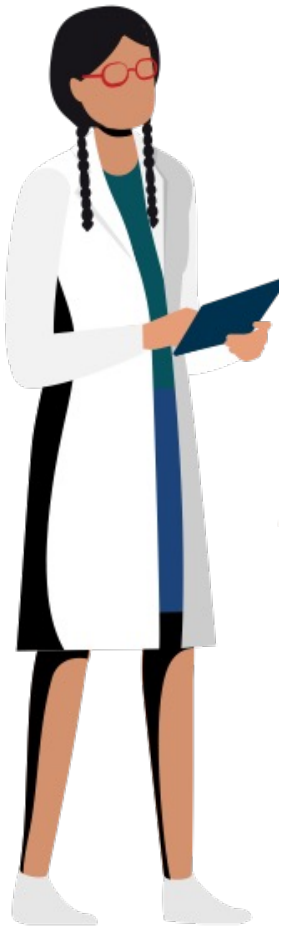


* Per 100,000

ACRONYMS: AI/AN = American Indian or Alaska Native; Black/AA = Black or African American; NH/PI = Native Hawaiian or other Pacific Islander

https://www.cdc.gov/std/statistics/2021/figures.htm

Primary and Secondary Stages– Reported Cases and Rates of Reported Cases by State, Ranked by Rates, US, 2021



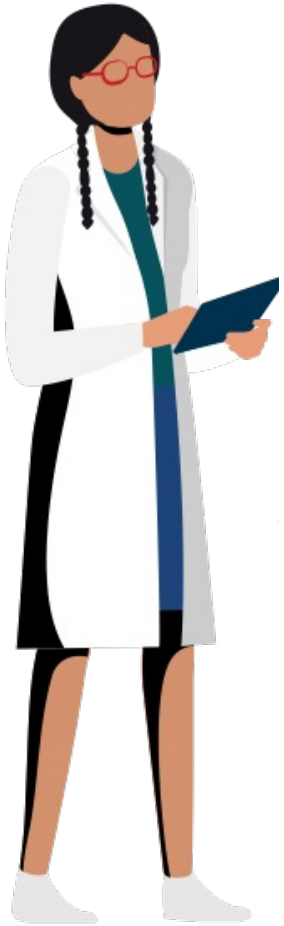
Rank*	State	Cases	Rate per 100,000 Population
1	South Dakota	436	48.7
2	New Mexico	724	34.2
3	Arkansas	990	32.7
4	Oklahoma	1,225	30.7
5	Nevada	939	29.9
6	Mississippi	829	28.1
7	Arizona	1,982	27.2
8	Alaska	194	26.5
9	Oregon	949	22.3
10	California	8,724	22.2
11	Louisiana	995	21.5
12	Missouri	1,316	21.3
13	Florida	4,498	20.7
14	Washington	1,506	19.5
15	Rhode Island	209	19.1
16	Hawaii	259	18.0
17	North Carolina	1,870	17.7
18	New York	3,500	17.6
19	Georgia	1,884	17.4
	US TOTAL+	**53,767**	**16.2**

https://www.cdc.gov/std/statistics/2021/tables/13.htm

Syphilis Screening

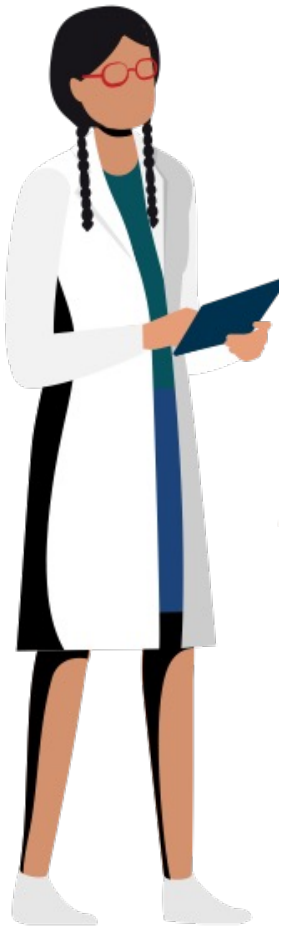
I H S Syphilis Screening Recommendations

I H S June 2023



- Annual syphilis testing for persons aged 13-64 to elimina syphilis transmission by early case recognition
- Turn on the annual EHR reminder at all sites to facilitate testing for two years or until incidence rates decrease locally to baseline
- Three-point syphilis testing for all pregnant people (I H S) : (1) at the first prenatal visit, (2) the beginning of the third trimester, and (3) at delivery. STI Screening Recommendations (cdc.gov)

US Preventive Services Task Force Grade A Recommendations



- **"The USPSTF recommends early screening for syphilis infection in all pregnant women".**
- All pregnant women should be tested for syphilis as early as possible when they first present to care. If a woman has not received prenatal care prior to delivery, she should be tested at the time she presents for delivery.

- **"The USPSTF continues to recommend screening for syphilis in nonpregnant persons who are at increased risk for infection".**
- Population: Asymptomatic, nonpregnant adolescents and adults who are at increased risk for syphilis infection

Recommendation: Syphilis Infection in Pregnant Women: Screening | United States Preventive Services Taskforce (uspreventiveservicestaskforce.org)
Recommendation: Syphilis Infection in Nonpregnant Adolescents and Adults: Screening | United States Preventive Services Taskforce (uspreventiveservicestaskforce.org)

Clinical Case 1

- 26 yo pregnant patient tests positive by rapid syphilis test in the emergency department where she presents with a broken arm and facial bruising.
- She has no other medical conditions. She denies symptoms other than morning sickness. Her LMP was 4 months ago. She has had no prenatal care for this pregnancy.
- She lives with her sexual partner and 2 other children. She is aware that he has other sexual partners. She reports methamphetamine use.
- She denies prior diagnosis of syphilis.

What is the ideal clinical management of this patient with a positive rapid syphilis test in the ED?

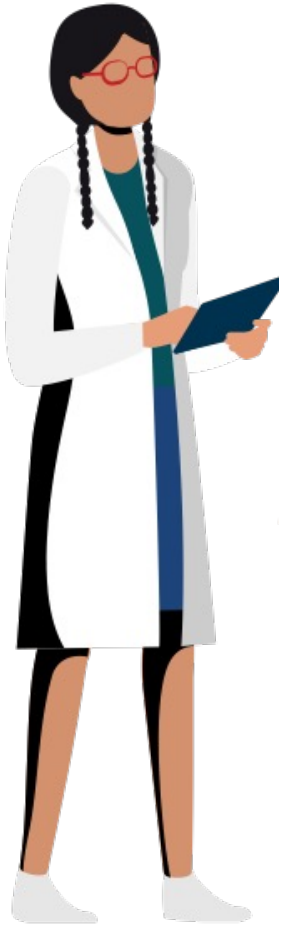
- ❑ A. Begin treatment with doxycycline 100 mg BID as an alternative regimen for treatment of syphilis
- ❑ B. Draw a serum and ask her to return to clinic in one week for follow-up once the syphilis confirmatory lab results are available.
- ❑ C. Evaluate for PCN allergy. If not allergic, administer benzathine penicillin 2.4 MU now and collect serum for RPR testing. Collect staging information on recent syphilis symptoms and exposure.
- ❑ D. Retest her for syphilis with traditional algorithm as rapid test results may be false positive since she is pregnant

What is the ideal clinical management of this patient with a positive rapid syphilis test in the ED?

- ❑ A. Begin treatment with doxycycline 100 mg BID as an alternative regimen for treatment of syphilis
- ❑ B. Draw a serum and ask her to return to clinic for follow-up once the syphilis confirmatory lab results are available.
- ❑ C. Evaluate for PCN allergy. If not allergic, administer benzathine penicillin 2.4 MU now and collect serum for RPR testing. Collect staging information on recent syphilis symptoms and exposure.
- ❑ D. Retest her for syphilis with traditional algorithm as rapid test results may be false positive since she is pregnant

Diagnosis and Staging of Syphilis

Syphilis

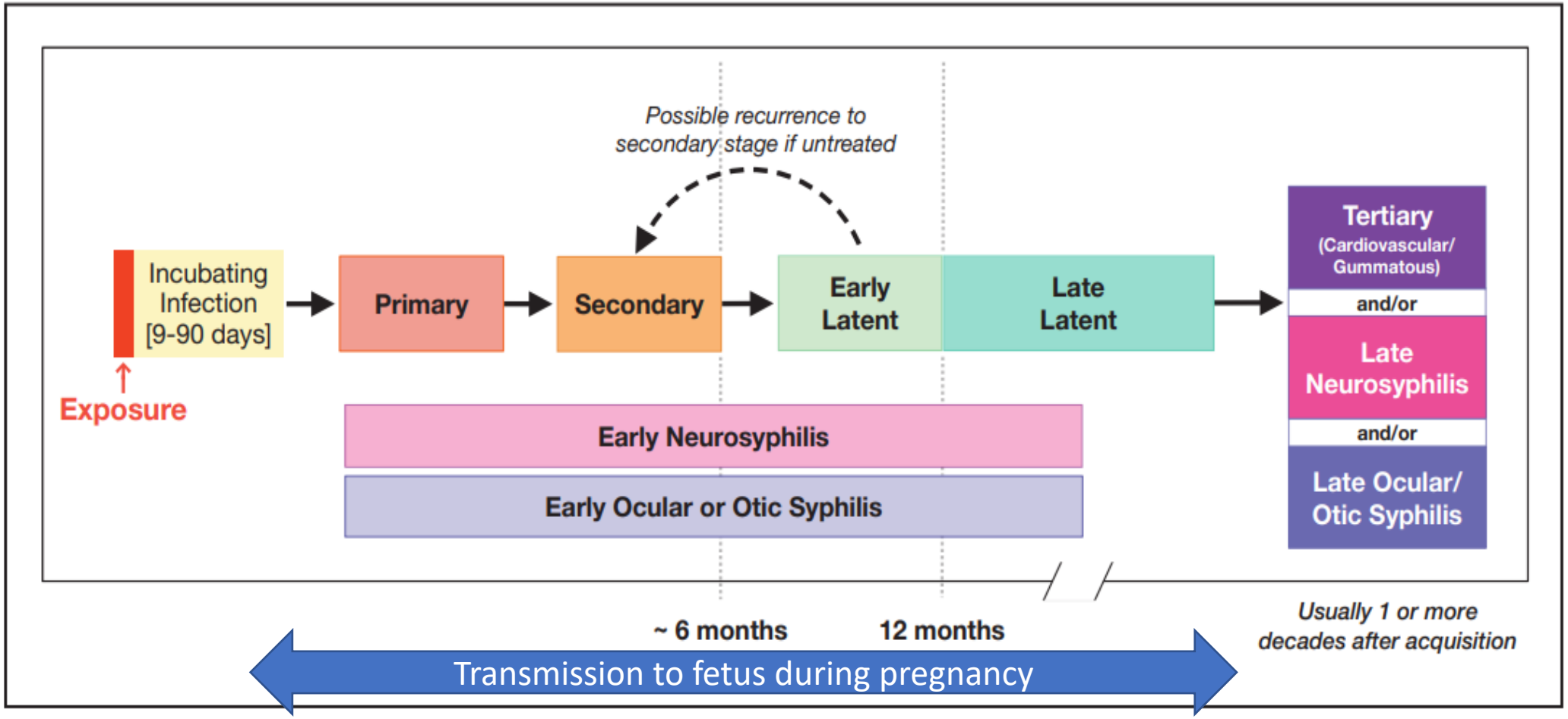


- ***Treponema pallidum***

- Sexual, vertical, and horizontal transmission
- **Curable with penicillin**
- 4 stages

1. Primary
2. Secondary
3. Early (non-primary, non-secondary)
4. Unknown duration or late

Natural History of Untreated Syphilis



The Diagnosis, Management and Prevention of Syphilis An Update and Review. New York City Department of Health and Mental Hygiene Bureau of Sexually Transmitted Infections and the New York City STD Prevention Training Center . May 2019. https://www.nycptc.org/x/Syphilis_Monograph_2019_NYC_PTC_NYC_DOHMH.pdf

Case Definitions: Primary Syphilis

Clinical Description

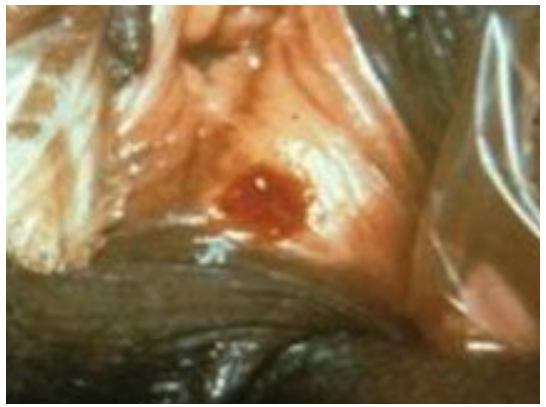
Characterized by one or more ulcerative lesions (e.g. chancre), which might differ in clinical appearance.

Classic Presentation

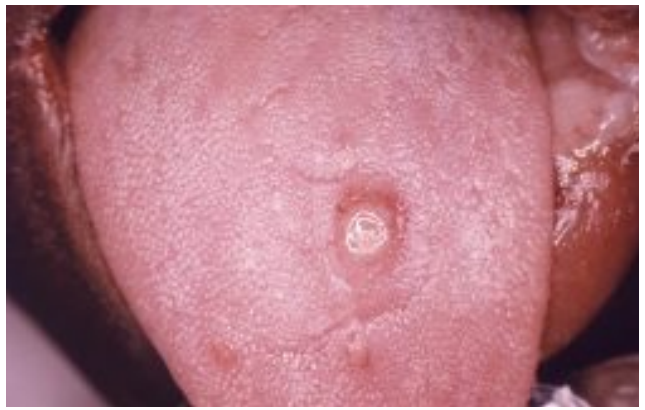
Single painless ulcer or chancre at the site of infection

Atypical Presentation

Multiple, atypical, or painful lesions at the site of infection



Vaginal



Tongue

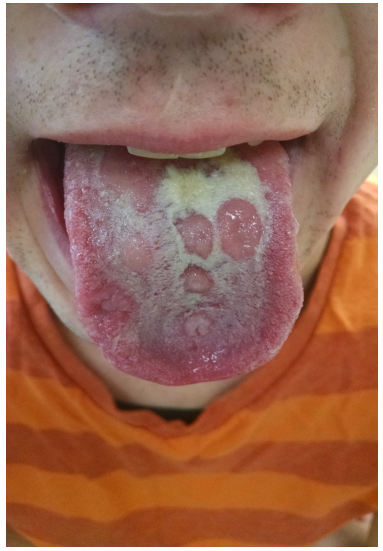
Penile

https://www.cdc.gov/std/syphilis/images.htm and https://www.cdc.gov/std/statistics/2019/case-definitions.htm

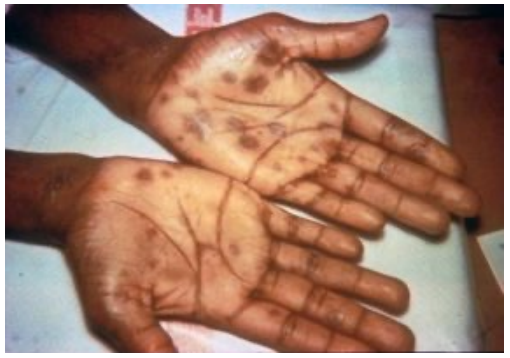
Case Definitions: Secondary Syphilis

Clinical Description

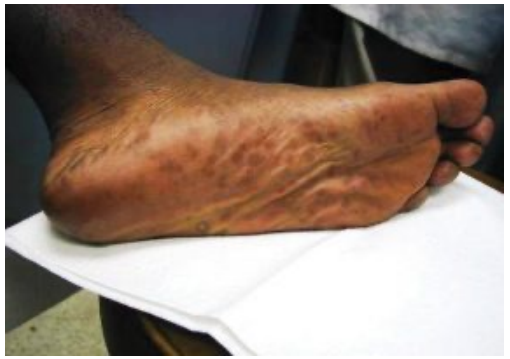
Characterized by localized or diffuse mucocutaneous lesions (e.g., rash – such as non-pruritic macular, maculopapular, papular, or pustular lesions), often with generalized lymphadenopathy. Other signs can include mucous patches, condyloma lata, and alopecia. The primary ulcerative lesion may still be present.

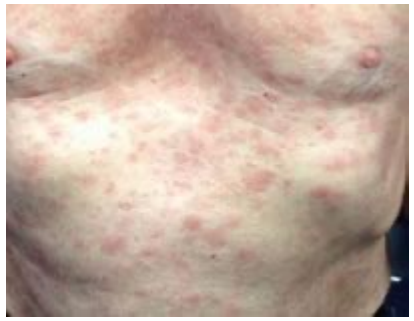


Mucous patches

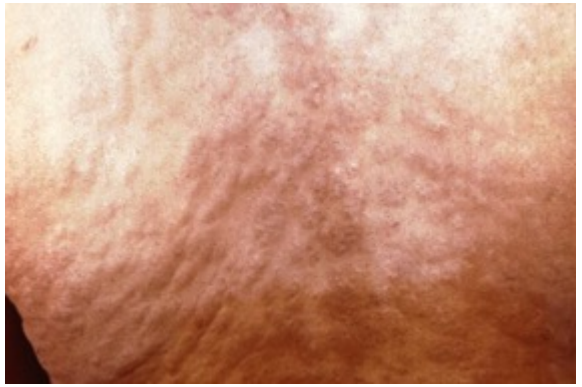


Palmar/plantar rash

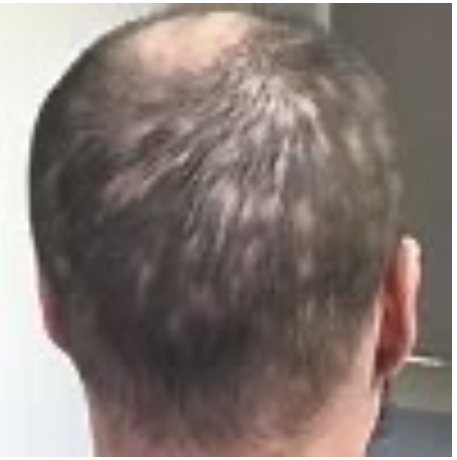




Torso/back rash



Condyloma lata



Alopecia

1. https://www.cdc.gov/std/syphilis/images.htm
2. https://www.cdc.gov/std/statistics/2019/case-definitions.htm

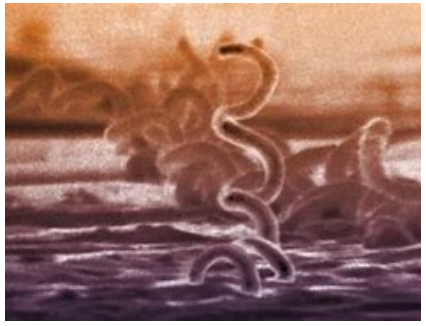
Case Definitions: Early (non-primary non-secondary)

Clinical Description

Stage of infection caused by *T. pallidum* in which initial infection has **occurred within the previous 12 months**, but there are no current signs or symptoms of primary or secondary syphilis.

Less than 12 months duration by (1) interval from prior negative syphilis test (or 4-fold titer increase) OR (2) report of symptoms consistent with syphilis within prior 12 months OR (3) sexual contact with a known case (or sexual debut) within prior 12 months

https://www.cdc.gov/std/statistics/2019/case-definitions.htm)



Case Definitions: Unknown duration or late

Clinical Description

Stage of infection caused by *T. pallidum* in which initial infection has **occurred >12 months** previously or in which there is insufficient evidence to conclude that infections was acquired during the previous 12 months.

Unknown or greater than 12 months duration by: (1) interval from prior negative syphilis test (or 4-fold titer increase) OR (2) report of symptoms consistent with syphilis occurring > 12 months ago OR (3) sexual contact with a known case > 12 months ago (4) Neurologic, ocular, otic signs without evidence of acquiring infection in prior 12 months.

https://www.cdc.gov/std/statistics/2019/case-definitions.htm)

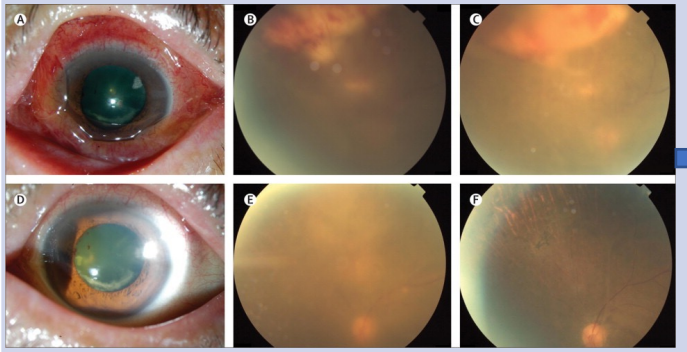
Neurologic Manifestations can occur at any stage

https://www.cdc.gov/std/statistics/2019/case-definitions.htm)

Neurosyphilis

Infection of the central nervous system with *T. pallidum,* as evidenced by manifestations including:

1. Syphilitic meningitis,
2. Meningovascular syphilis,
3. General paresis,
4. Dementia,
5. Tabes dorsalis



https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(13)70198-1/fulltext

Ocular syphilis

Infection of any eye structure with *T. pallidum.*
Manifestations can involve any structure in the anterior and posterior segment of the eye including:

1. Conjunctivitis
2. Anterior uveitis
3. Posterior uveitis
4. Panuveitis
5. Posterior interstitial keratitis
6. Optic neuropathy
7. Retinal vasculitis

Ocular syphilis may lead to decreased visual acuity including permanent blindness.

Otosyphilis

Infection of the cochleovestibular system with *T. pallidum,* as evidenced by manifestations including sensorineural hearing loss, tinnitus, and vertigo.

Typically presents with cochleo-vestibular symptoms including

1. Tinnitus
2. Vertigo
3. Sensorineural hearing loss
4. Unilateral/Bilateral
5. Have a sudden onset
6. Progress Rapidly

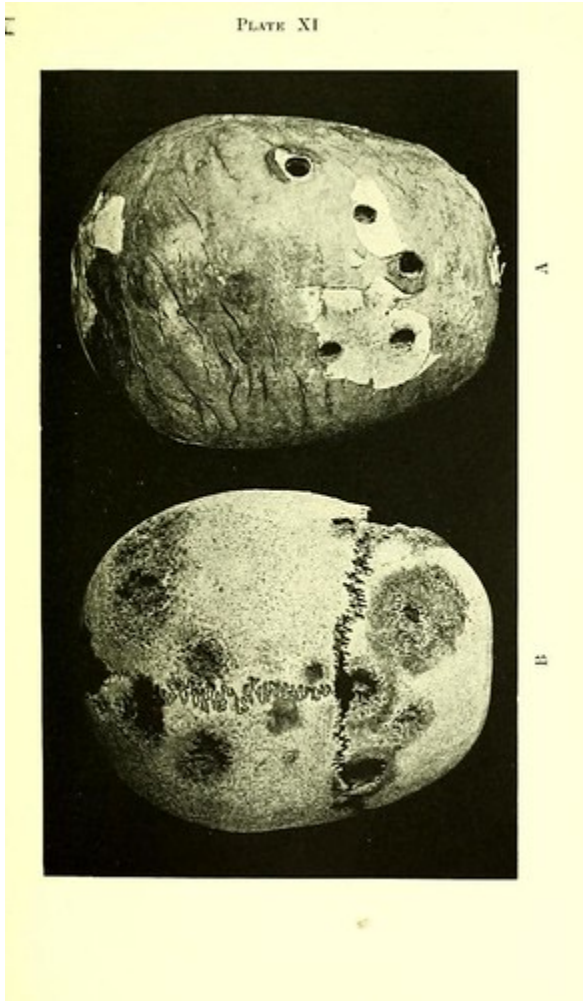
Otic syphilis can result in permanent hearing loss

Late Clinical Manifestations/Tertiary Syphilis

Clinical Description

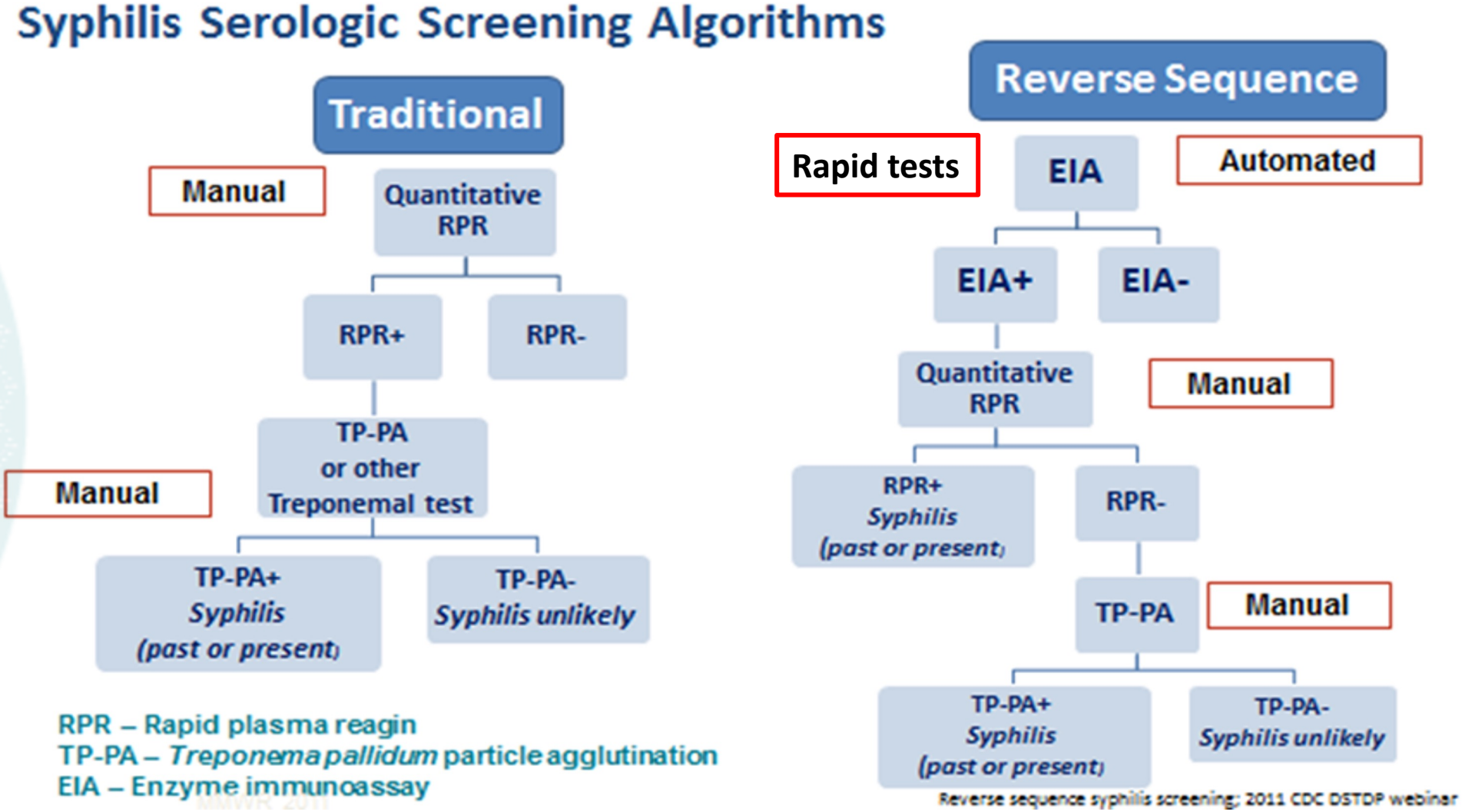
Late clinical manifestations of syphilis (tertiary syphilis) may include inflammatory lesions of:

1. Cardiovascular system (e.g., aortitis, coronary vessel disease),
2. Skin (e.g., gummatous lesions),
3. Bone (e.g., osteitis),
4. Other structures including the upper and lower respiratory tracts, mouth, eye, abdominal organs, reproductive organs, lymph nodes, and skeletal muscle)
5. Neurologic manifestations (e.g., general paresis and tabes dorsalis)



https://www.cdc.gov/std/statistics/2019/case-definitions.htm)

Serologic Diagnosis of Syphilis



Syphilis Treatment

Treatment of syphilis with Penicillin

Stage or Presentation				
Primary	**Secondary**	**Early non-primary, non secondary**	**Late Latent/ or Unknown Duration**	**Neurosyphilis, ocular syphilis and otic syphilis**
Benzathine penicillin 2.4 million units IM in a single dose	Benzathine penicillin 2.4 million units IM in a single dose	Benzathine penicillin 2.4 million units IM in a single dose	Benzathine penicillin 2.4 million units total administered as 3 doses of 2.4 million units IM each at 1-week intervals	Aqueous crystalline penicillin G 18-24 million units per day, administered as 3-4 million units by IV every 4 hours or continuous infusion for 10-14 days Alternative: procaine penicillin G 2.4 million units IM 1x/day PLUS probenecid 500 mg orally 4x/day, both for 10-14 days

https://www.cdc.gov/std/treatment-guidelines/default.htm

Syphilis Penicillin Shortage: National IHS Treatment Priorities 4/19/2023

1. Pregnant persons and HIV infected persons with syphilis as well as infants with congenital syphilis should receive priority for treatment with Benzathine penicillin G.

Benzathine penicillin G (Bicillin L-A®) is the only recommended treatment for pregnant people infected or exposed to syphilis.

2. Other persons with early syphilis (primary, secondary, early latent) and sexual partners should be treated with Benzathine penicillin G if supplies are adequate to cover high risk patients listed under priority #1.

3. If Benzathine penicillin G supplies are inadequate to cover patients listed as priority #2, treat early syphilis (primary, secondary, early latent) with **doxycycline 100 mg po bid for 14 days** and late latent syphilis or latent syphilis of uncertain duration with **doxycycline 100 mg po bid for 28 days.**

4. (Ceftriaxone 1 gm IV daily for 10 days may be an acceptable second-line alternate treatment for primary and secondary syphilis)

Indian Health Service National
Pharmacy and Therapeutics Committee

Clinical Case 2

- 23 yo pregnant female (G1P0) presents for her first prenatal visit. She denies symptoms other than morning sickness. Her EGA is 10 weeks
- She has no other medical conditions. She is allergic to penicillin which causes throat swelling.
- Her prenatal labs reveal a positive syphilis EIA and an RPR of 1:512. She denies recent symptoms of syphilis and she is no longer in contact with her sexual partner. Her last sexual encounter was 3 weeks ago.
- She lives 40 miles away and used medical transport to get to clinic today.

What is the ideal clinical management for this patient with syphilis?

- ❑ Administer benzathine penicillin 2.4 MU now as she is unlikely to be truly allergic to penicillin.
- ❑ Begin treatment with doxycycline 100 mg BID as an alternative regimen for treatment of syphilis since she is allergic to penicillin
- ❑ Ask her to return to clinic at her convenience for penicillin desensitization and treatment
- ❑ Admit her to the hospital for penicillin desensitization followed by the first injection of benzathine penicillin 2.4 MU of a 3 weekly dose series.
- ❑ Retest her for syphilis as test results may be false positive since she is pregnant

What is the ideal clinical management for this patient with syphilis?

- ❑ Administer benzathine penicillin 2.4 MU now as she is unlikely to be truly allergic to penicillin.
- ❑ Begin treatment with doxycycline 100 mg BID as an alternative regimen for treatment of syphilis since she is allergic to penicillin
- ❑ Ask her to return to clinic at her convenience for penicillin desensitization and treatment
- ❑ Admit her to the hospital for penicillin desensitization followed by the first injection of benzathine penicillin 2.4 MU of a 3 weekly dose series.
- ❑ Retest her for syphilis as test results may be false positive since she is pregnant

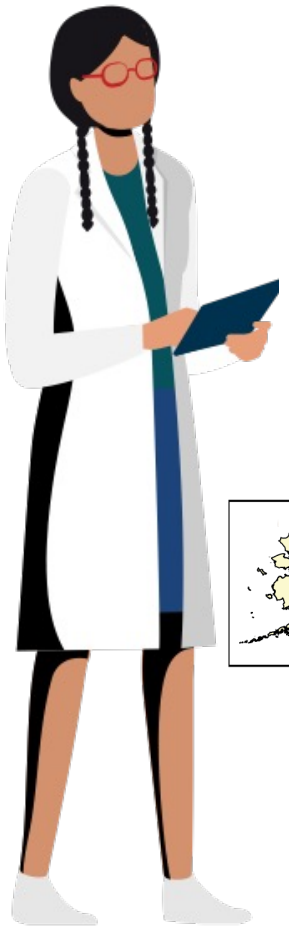
Penicillin Allergy

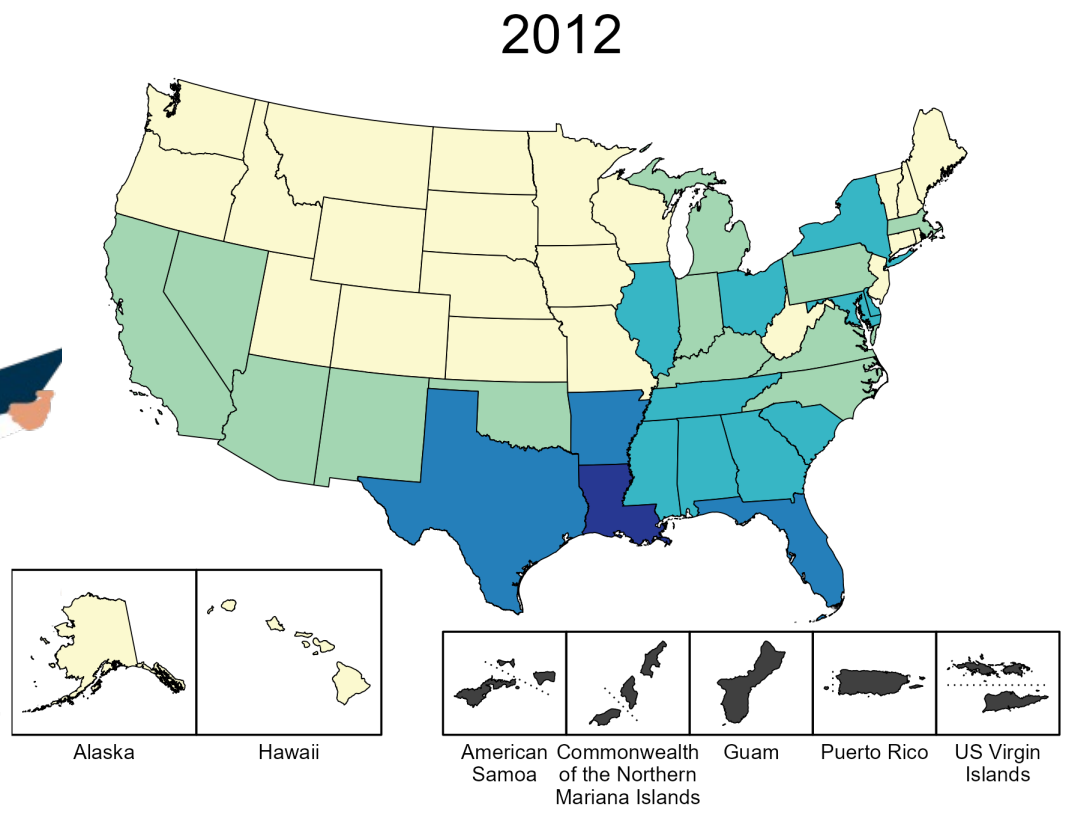
- **Patients often are incorrectly labeled as allergic to penicillin**
  - Evaluate what symptoms were experienced by patients with reported penicillin allergy. Consider allergy testing.
- **Penicillin allergy causing anaphylaxis is rare**
  - In studies that have incorporated penicillin skin testing and graded oral challenge among persons with reported penicillin allergy, the true rates of allergy are low, ranging from 1.5% to 6.1%.
- **Allergies wane over time:**
  - Approximately 80% of patients with a true IgE-mediated allergic reaction to penicillin have lost the sensitivity after 10 years
- ***Desensitization is recommended for pregnant women diagnosed with syphilis followed by treatment with penicillin.***

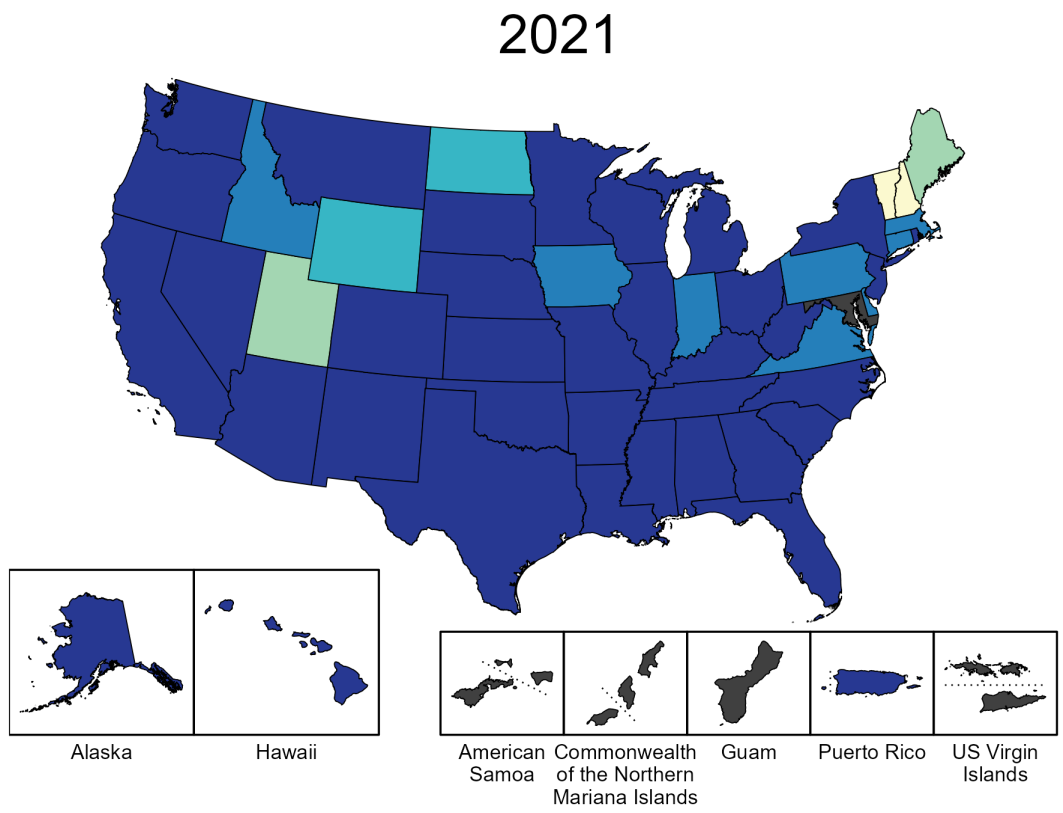
https://www.cdc.gov/std/treatment-guidelines/STI-Guidelines-2021.pdf

Maternal and Congenital Syphilis

Syphilis (All Stages) – Rates of Reported Cases Among Women Aged 15-44 Years by State, United States and Territories, 2012 and 2021





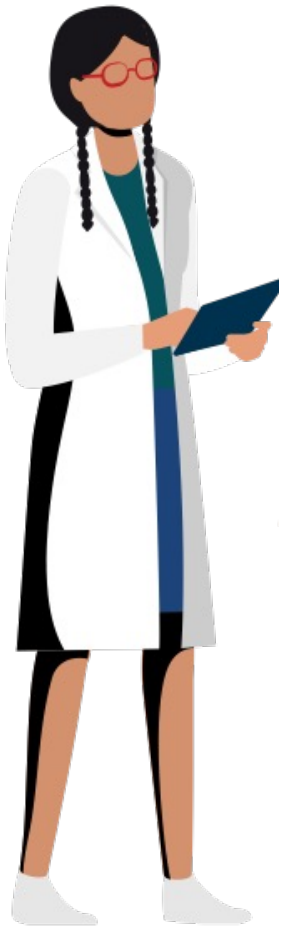


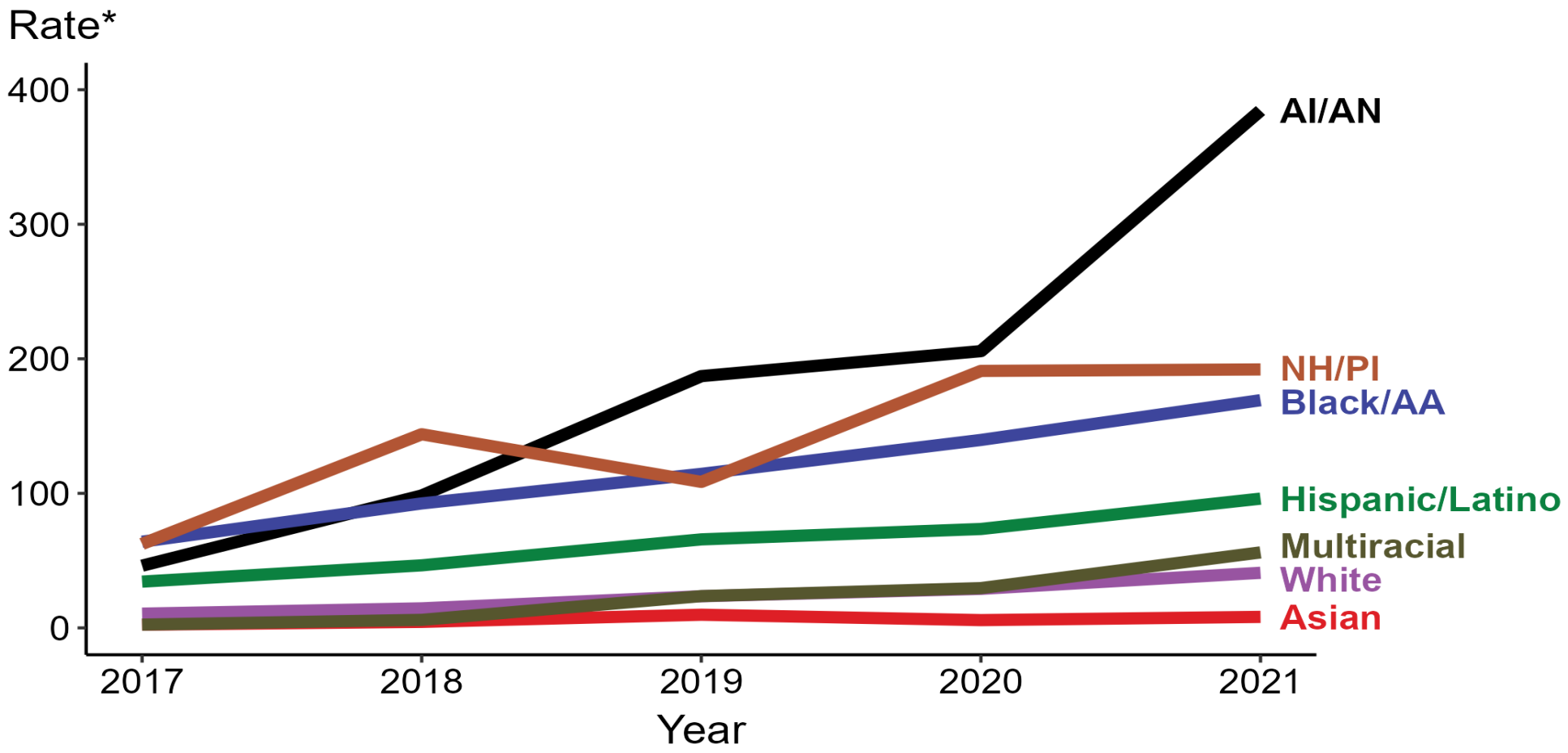
Rate* 0–5 6–10 11–17 18–31 32–267 Unavailable

* Per 100,000

https://www.cdc.gov/std/statistics/2021/figures.htm

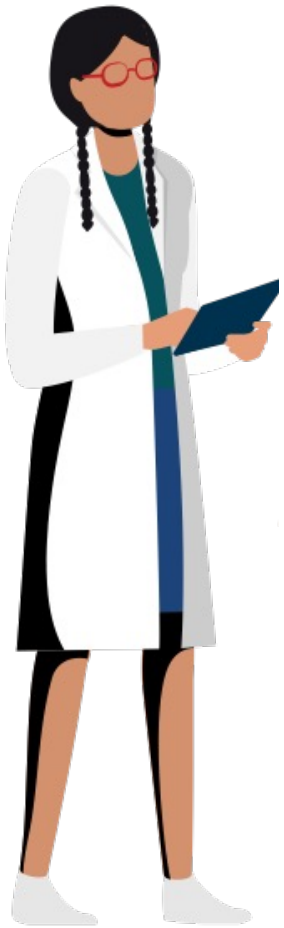
Congenital Syphilis — Rates of Reported Cases by Year of Birth, Race/Hispanic Ethnicity of Mother, United States, 2017–2021





- * Per 100,000 live births
- **ACRONYMS:** AI/AN = American Indian or Alaska Native; Black/AA = Black or African American; NH/PI = Native Hawaiian or other Pacific Islander
- https://www.cdc.gov/std/statistics/2021/figures.htm

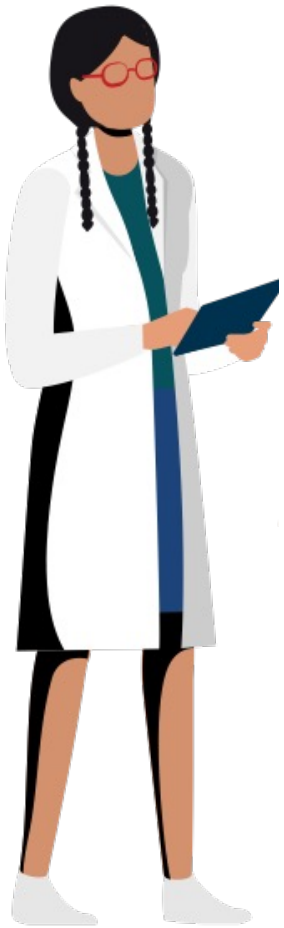
Congenital Syphilis – Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States, 2021

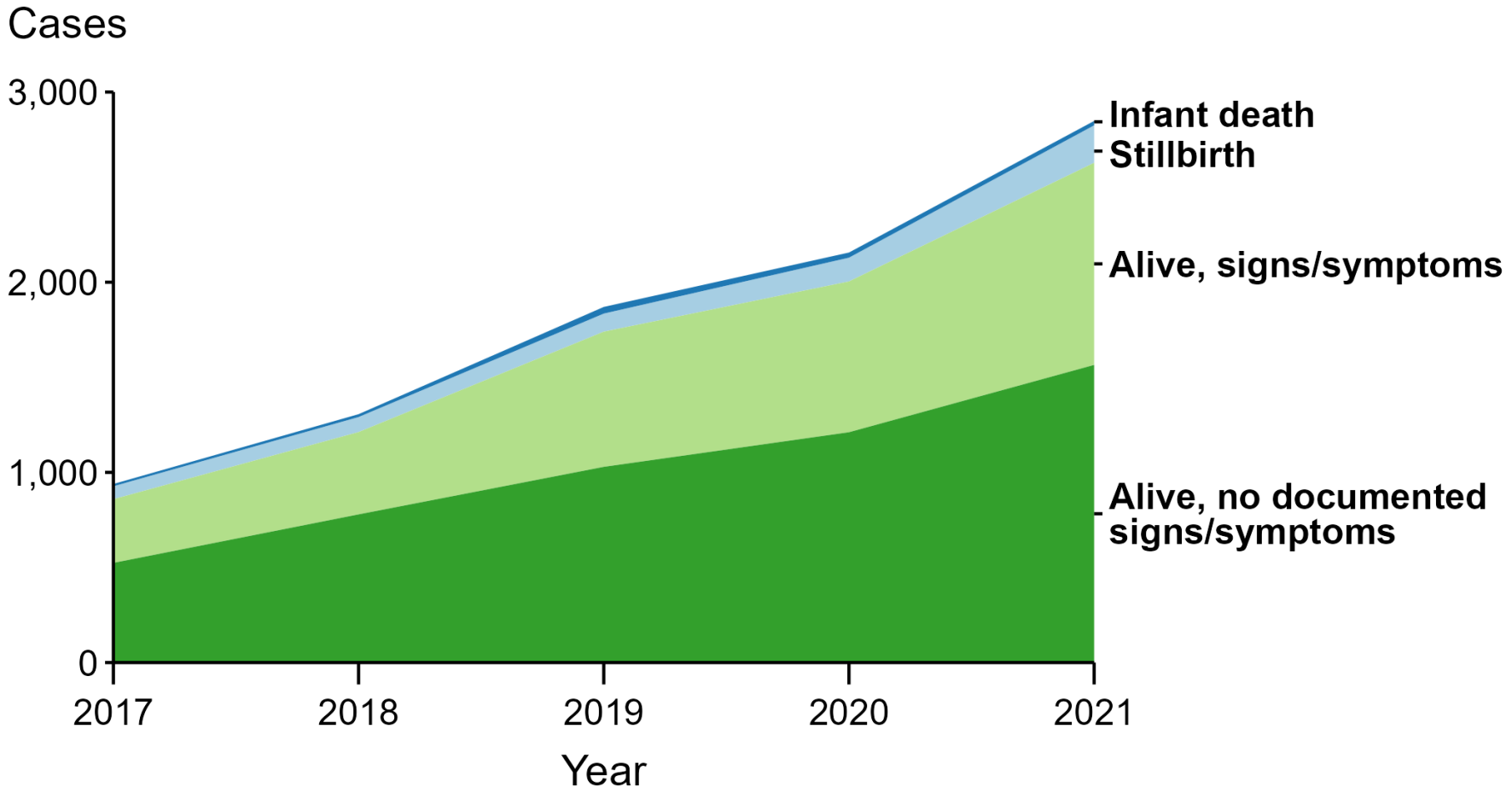


Rank*	State†	Cases	Rate per 100,000 Live Births
1 ★	Arizona	181	232.3
2 ★	New Mexico	44	205.7
3	Louisiana	110	191.5
4	Mississippi	64	182.0
5	Texas	680	182.0
6 ★	Oklahoma	85	175.6
7 ★	South Dakota	16	140.7
8	Arkansas	50	139.0
9 ★	Nevada	45	133.6
10	Hawaii	20	128.0
11	California	518	123.2
12	Missouri	66	95.0
13	West Virginia	15	87.2
14	Florida	180	83.2
15 ★	Montana	9	80.1
	US TOTAL‡	**2,855**	**77.9**

https://www.cdc.gov/std/statistics/2021/tables/20.htm

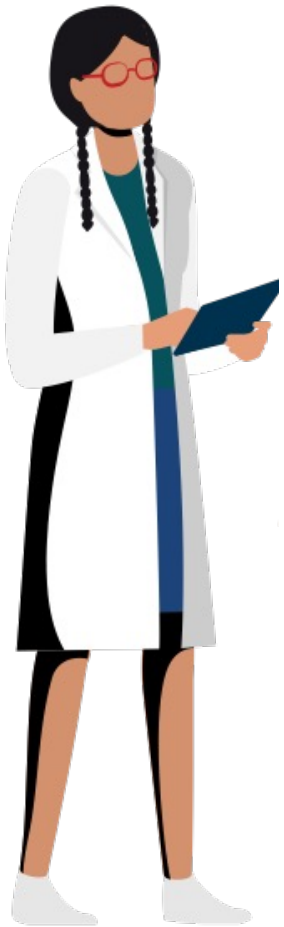
Congenital Syphilis – Reported Cases by Vital Status and Clinical Signs and Symptoms* of Infection, United States, 2017-2021

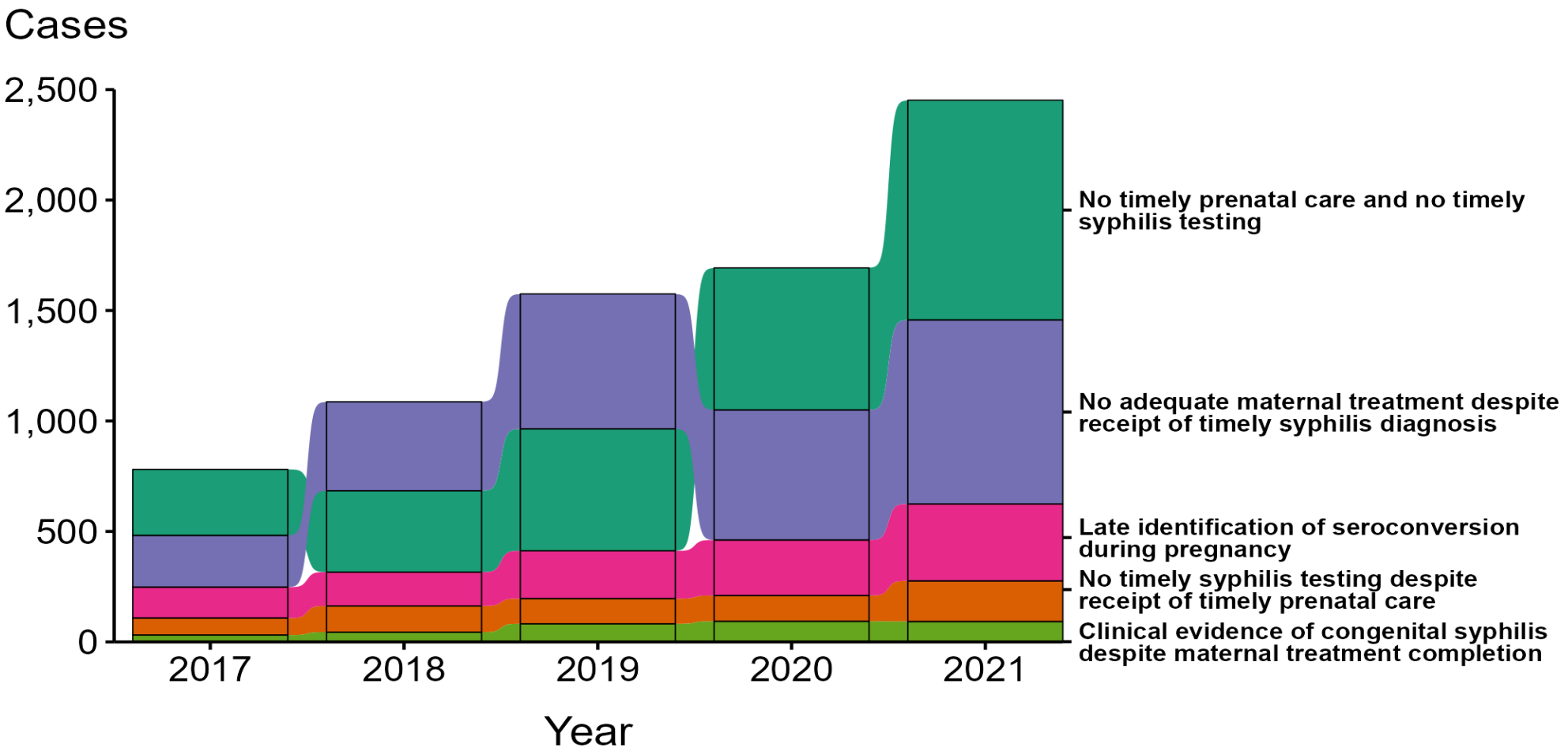




- * Infants with signs/symptoms of congenital syphilis have documentation of at least one of the following: long bone changes consistent with congenital syphilis, snuffles, condylomata lata, syphilitic skin rash, pseudoparalysis, hepatosplenomegaly, edema, jaundice due to syphilitic hepatitis, reactive CSF-VDRL, elevated CSF WBC or protein values, or evidence of direct detection of *T. pallidum*.
- **NOTE:** Of the 9,141 congenital syphilis cases reported during 2017 to 2021, 22 (0.2%) did not have sufficient information to be categorized.
- https://www.cdc.gov/std/statistics/2021/figures.htm

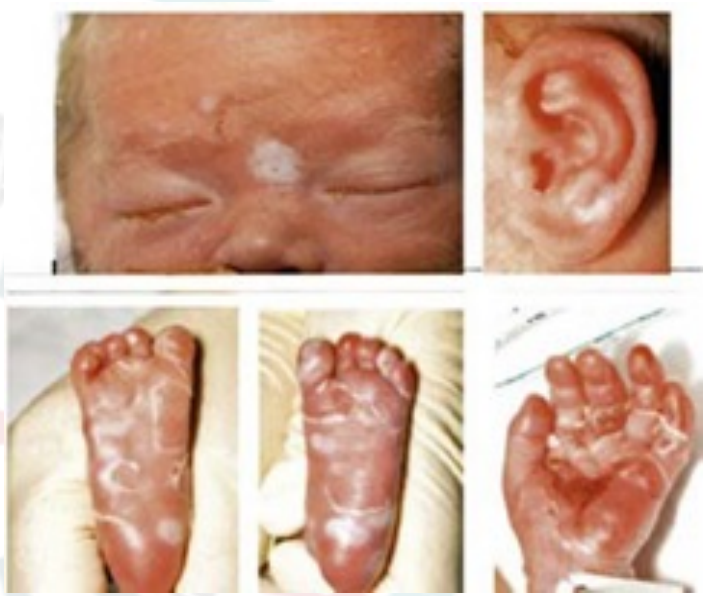
Congenital Syphilis — Missed Prevention Opportunities among Mothers Delivering Infants with Congenital Syphilis, United States, 2017–2021

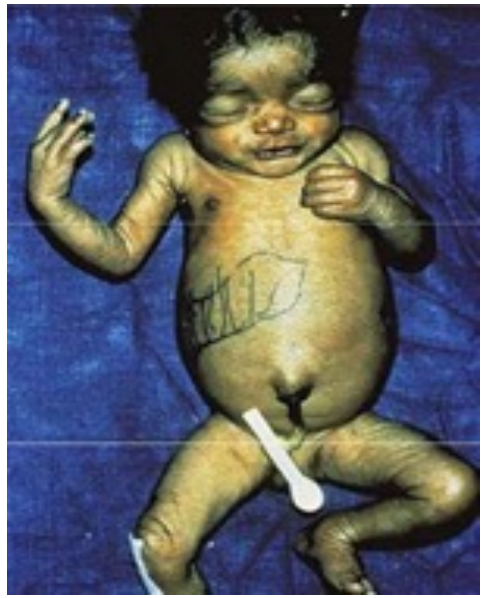


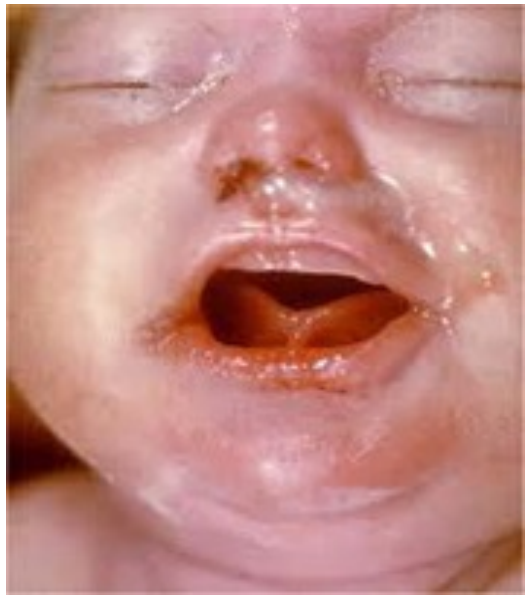


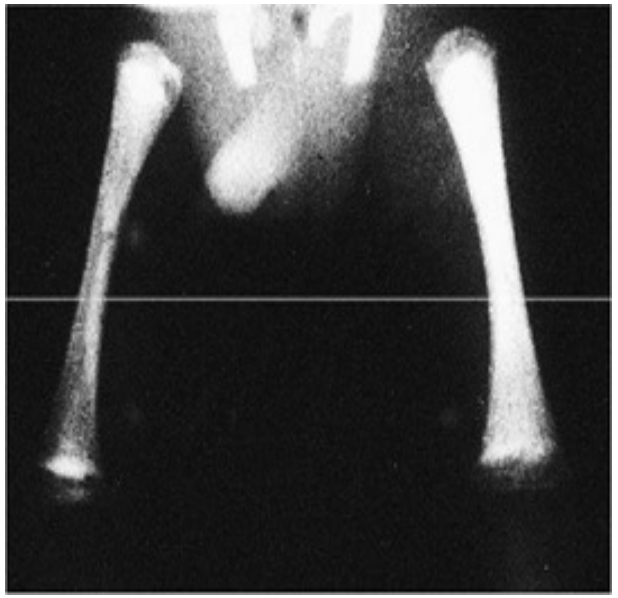
- **NOTE:** Of the 9,141 congenital syphilis cases reported during 2017 to 2021, 1,553 (17.0%) were not able to have the primary missed prevention opportunity identified due to insufficient information provided to CDC related to maternal prenatal care, testing, or treatment.
- https://www.cdc.gov/std/statistics/2021/figures.htm

Clinical Manifestations of Congenital Syphilis (CS)









https://www.cdc.gov/ncbddd/birthdefects/surveillancemanual/quick-reference-handbook/congenital-syphilis.html

Scenario 1: Confirmed, proven or highly probable congenital syphilis	Scenario 2: Possible congenital syphilis	Scenario 3: Congenital syphilis less likely	Scenario 4: Congenital syphilis unlikely
Neonate with: • a physical exam consistent with CS • serum quantitative nontreponemal serology 4-fold greater than mother's or • a positive darkfield or PCR test of placenta, body fluids or positive silver stain of placenta or cord	**Neonate with** a normal physical exam and a serum quantitative nontreponemal serologic titer equal to or < 4-fold of the maternal titer at delivery and **one** of the following: • The mother was not treated, was inadequately treated, or has no documentation of treatment. • The mother was treated with erythromycin or a regimen not recommended in these guidelines • The mother received recommended regimen but treatment was initiated <30 days before delivery.	**Neonate with** a normal physical examination and a serum quantitative nontreponemal serologic titer equal or <4-fold of the maternal titer at delivery and **both** of the following are true: • The mother was treated during pregnancy, treatment was appropriate for the infection stage, and the treatment regimen was initiated ≥30 days before delivery. • The mother has no evidence of reinfection or relapse	**Neonate with:** • a normal physical exam • serum quantitative nontreponemal serology equal to or less than 4-fold mother's at delivery and • Mother's treatment was adequate before pregnancy • Mother's nontreponemal titer remained low and stable before and during pregnancy and at delivery
Evaluation: CSF with VDRL, cell ct, protein, CBC/diff, long bone radiographs, neurologic eval (eye, auditory, imaging)	CSF analysis for VDRL, cell count, and protein** CBC, differential, long-bone radiographs	No evaluation is recommended	No evaluation is recommended
Treatment: **Aqueous crystalline penicillin G** 100,000–150,000 units/kg/body wt./day, administered as 50,000 units/kg body wt./dose IV q 12 hours during the first 7 days of life and q 8 hours thereafter for a total of 10 days OR **Procaine penicillin G** 50,000 units/kg body weight/dose IM in a single daily dose for 10 days	**Treatment:** **Aqueous crystalline penicillin G** 100,000–150,000 units/kg/body wt./day, administered as 50,000 units/kg body wt./dose IV q 12 hours during the first 7 days of life and q 8 hours thereafter for a total of 10 days OR **Procaine penicillin G** 50,000 units/kg body weight/dose IM in a single daily dose for 10 days OR **Benzathine penicillin** 50,000 units/kg	**Treatment:** **Benzathine penicillin G 50,000** units/kg body weight/dose IM in a single dose * Another approach involves not treating the newborn if follow-up is certain but providing close serologic follow-up every 2–3 months for 6 months for infants whose mothers' nontreponemal titers decreased at least fourfold after therapy for early	**No treatment recommended** • Benzathine penicillin 50,000 units/kg body weight as a single IM injection might be considered, if follow-up is uncertain and the neonate has a reactive nontreponemal test. • Neonates should be followed serologically to ensure the nontreponemal test returns to negative

Syphilitic Stillbirth

Clinical case definition

A fetal death that occurs **after a 20-week gestation** OR in which the fetus weighs **>500g** AND the **mother had *untreated* or *inadequately* treated* syphilis at delivery.**

* Adequate treatment is defined as completion of a penicillin-based regimen, in accordance with CDC treatment guidelines, appropriate for stage of infection, initiated 30 or more days before delivery.

Comments: For **reporting** purposes, congenital syphilis includes:

1. cases of congenitally acquired syphilis among infants and children
2. syphilitic stillbirths

https://www.cdc.gov/std/statistics/2019/case-definitions.htm)

Case Management and Partner Services/Contact Tracing

Clinical Case 3

- 24 yo male, screened for syphilis in the ED during an evaluation for injury. His results return one week later with an RPR of 1:128 and a positive TPPA. He is contacted by PH and presents to clinic
- He denies prior history of syphilis and does not have any drug allergies. He remembers having a rash on his chest/abdomen and hands about 2 months ago which resolved.
- He reports 2 female sexual partners in the last 90 days, one is pregnant

What treatment (based on staging) would you offer this patient based on his symptom history and lab results?

- ❑ A. One injection of benzathine penicillin 2.4MU for his primary stage of infection
- ❑ B. One injection of benzathine penicillin 2.4MU for his secondary stage of infection
- ❑ C. One injection of benzathine penicillin 2.4MU for his early latent stage of infection
- ❑ D. Three injections of benzathine penicillin 2.4MU (one per week x 3 weeks) since he is HIV positive
- ❑ E. Treatment with doxycycline as this would also treat his chlamydia

What treatment (based on staging) would you offer this patient for his symptom history and lab results?

- ❑ A. One injection of benzathine penicillin 2.4MU for his primary stage of infection
- ❑ B. One injection of benzathine penicillin 2.4MU for his secondary stage of infection
- ❑ C. One injection of benzathine penicillin 2.4MU for his early latent stage of infection
- ❑ D. Three injections of benzathine penicillin 2.4MU (one per week x 3 weeks) since he is HIV positive
- ❑ E. Treatment with doxycycline as this would also treat his chlamydia

What additional public health case management is needed?

- ❑ A. The patient should be asked to refer his female sex partners to clinic for evaluation
- ❑ B. A contact tracing interview is needed to collect names and locating information of the sexual partners from the case patient to confidentially notify them of their exposure and refer for immediate presumptive treatment
- ❑ C. The patient does not need additional public health follow-up for contact tracing
- ❑ D. The patient can be given prescriptions for expedited partner therapy to given to his sexual partners

What additional public health case management is needed?

- ❑ A. The patient should be asked to refer his female sex partners to clinic for evaluation
- ❑ B. A contact tracing interview is needed to collect names and locating information of the sexual partners from the case patient to confidentially notify them of their exposure and refer for immediate presumptive treatment
- ❑ C. The patient does not need additional public health follow-up for contact tracing
- ❑ D. The patient can be given prescriptions for expedited partner therapy of syphilis to give to his sexual partners

Natural History of Untreated Syphilis

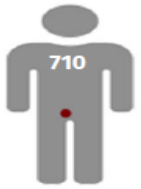
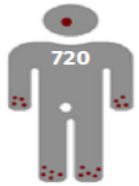
SYPHILIS QUICK GUIDE FOR COMMUNICABLE DISEASE INVESTIGATORS

First 12 months of infection

Treatment*: 1 dose of 2.4 mu Long-Acting (LA) Bicillin

1+ year(s) later

Tx*: 3 doses of 2.4 mu LA Bicillin @ 7 day intervals

EARLY	PRIMARY	EARLY	SECONDARY	EARLY	LATE OR UNKNOWN
 730	 710	 730	 720	 730	 755
*Disease code					
10 - 90 days Average = 3 weeks	1 - 5 weeks Average = 3 weeks	0 - 10 weeks Average = 4 weeks	2 – 6 weeks Average = 4 weeks	Ends 12 months after initial infection	Infected 1+ year(s) ago **OR** unknown infection date
A person becomes infected with syphilis. One **OR** both tests may be negative. Ask patient about partners in the last 12 months. If patient is a partner of a 710/720 **treat** without waiting for test results.	**A painless sore appears at exposure site, which may go unnoticed.** **One test may be negative.** **CAN spread the disease to partners. Ask about partners in the last 4½ months. Partners exposed within the last 90 days should be treated, regardless of test results.**	Symptoms may temporarily disappear **OR** patient may immediately progress into secondary syphilis. Ask about partners in the last 12 months.	**New symptoms appear: Sores in the mouth and/or genital area; a rash (especially on hands/feet); flu-like symptoms; patchy hair loss. Primary lesion may still be present.** **CAN spread the disease to partners. Ask about partners within the last 8 months. Partners exposed within the last 90 days should be treated, regardless of test results.**	Symptoms disappear **HOWEVER** patient may relapse into secondary syphilis at **ANY TIME**. Ask about partners in the last 12 months.	Symptoms typically disappear. May relapse into secondary **OR** progress into tertiary syphilis, affecting multiple organ systems and can be fatal. Tertiary symptoms would appear 10-30 years after infection.

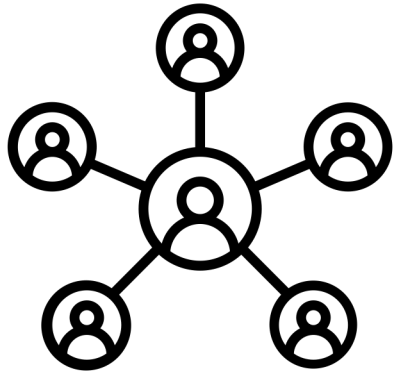
Pregnant women can pass the disease to their baby at **any time**

Patients can develop neurologic symptoms at **any time**

Disease Intervention: Partner Services (Case Investigation and Contact Tracing)

Importance of identifying and referring sexual contacts to syphilis cases

- **Partner services is an effective method to identify undiagnosed cases of syphilis and other STIs. It has a higher yield than screening**.
- If an SU cannot provide this type of care coordination, it should express this lack of capacity to the tribal HD, I H S (CD, AO) and State DoH.
- Consistent and frequent **communication** with the clinical service unit to the state, county and/or tribal Disease Intervention Specialists (DIS) is important to relay case information to facilitate sexual partner identification and referral to care.



Case Management and Partner Services

1) **Dedicated facility-level case manager** that tracks adult and pregnant patients with syphilis to ensure linkage to treatment and partner services
2) **Close communication with state, county and tribal health departments.** The PH entity that is performing partner services/contact tracing needs the clinical and locating information of the case to locate and perform case investigation, referral for treatment, and contact tracing. **Staff performing contact tracing for syphilis are called disease intervention specialists (DIS). DIS can be employed by tribal, state, or county.**
3) **Prioritize data sharing across public health partners.** Each partner can play a valuable and complementary role to diagnose, stage and treat cases, identify sexual contacts, and disrupt transmission within sexual networks

CDC-Supported Staff Training for Disease Intervention/Partner Services

https://www.cdc.gov/std/training/courses.htm

- CDC TRAIN Courses
- Coaching for Enhanced Disease Intervention Skills (CEDIS)
- National Network of Disease Intervention Training Centers
- National Network of STD Clinical Prevention Training Centers
- National STD Curriculum
- Revised Passport to Partner Services Course: Principles, Practices, and Pathways to Disease Intervention (3PDI)
- Tailored Training
- Viral Hepatitis Training Resources

CDC-Supported Staff Training for Disease Intervention/Partner Services

National Disease Intervention Training Program

National Network of Disease Intervention Training Centers (NNDITC)

Training plans available in CDC TRAIN

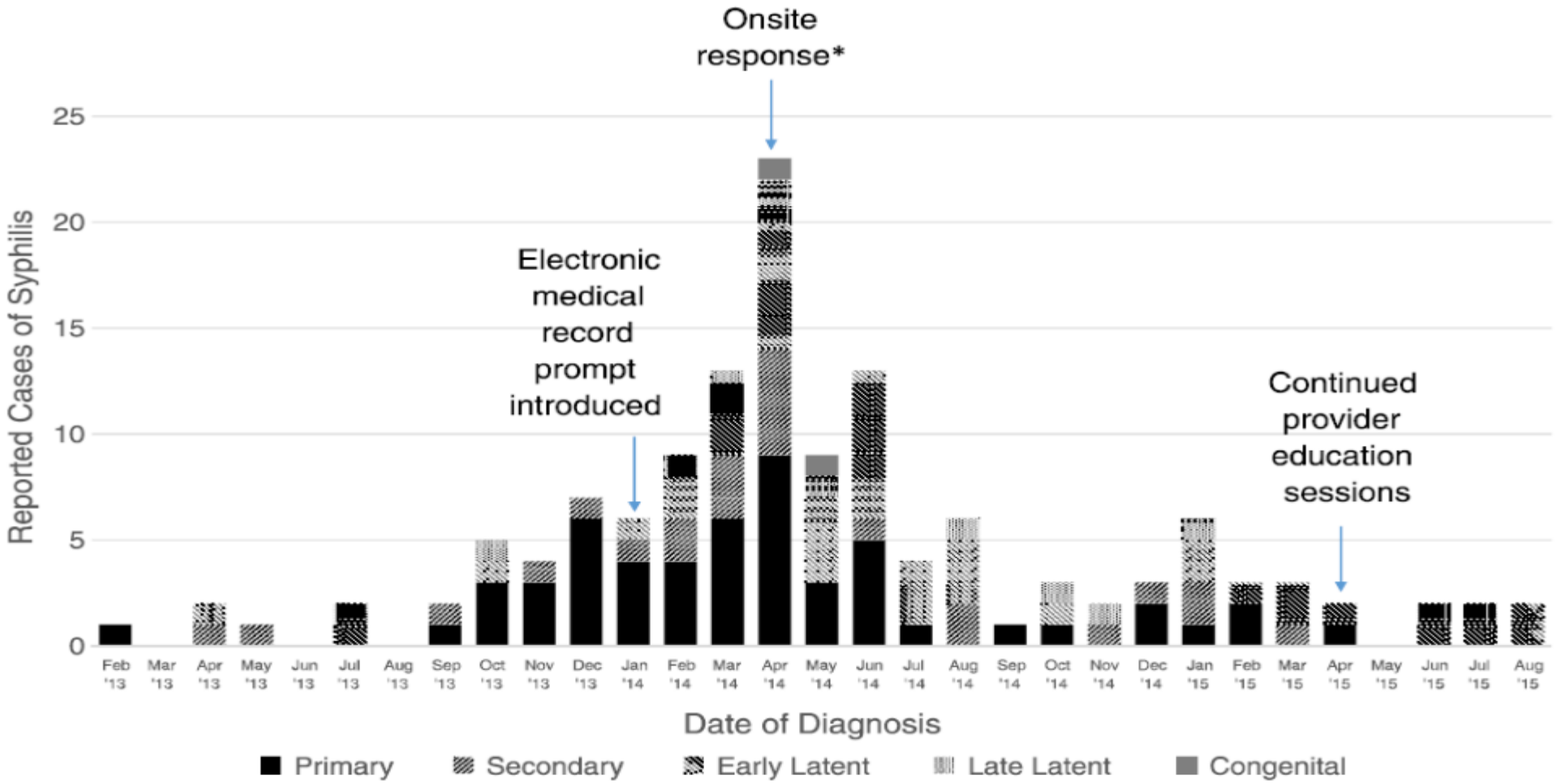
- Disease Intervention Training Plan with Outbreak Response
- Introduction to Public Health Practice

Skills-building Programs

- Coaching for Enhanced Disease Intervention Skills (CEDIS)
- Facilitated Interview Practice Sessions
- Learning Collaboratives

https://www.cdc.gov/std/training/courses.htm

South Dakota/North Dakota, 2013-2015



*Onsite response included first and largest community screening and venue-based screening events as well as 3 provider education sessions

Bowen VB, et al. Multi-state syphilis outbreak among American Indians, 2013-2015. *Sexually Transmitted Diseases*. 2018;45(10):690-95

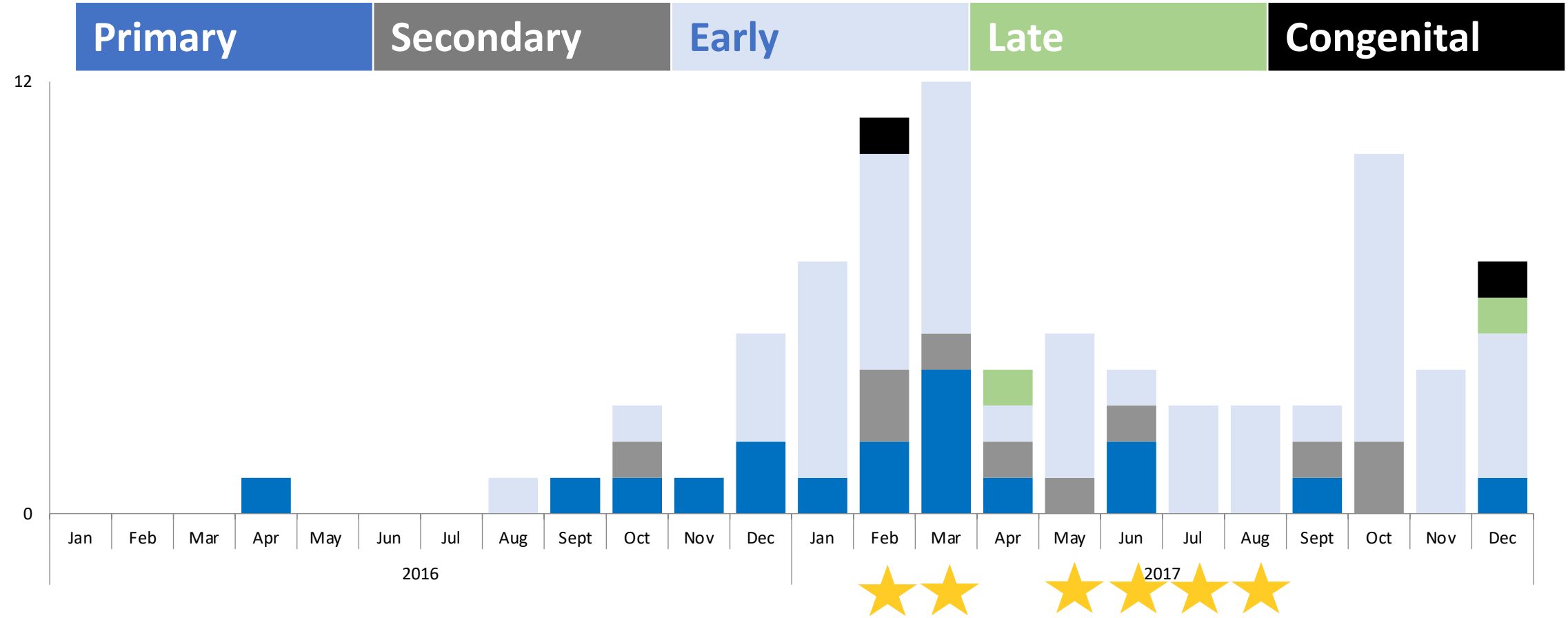
South Dakota/North Dakota

2013-2015 high-yield syphilis case-finding and treatment activities

1. Increase prenatal screening, (1st,3rd trimesters and at delivery)
2. Prioritize training and delivery of sexual partner notification and management
3. Field treatment of cases and partners
4. Improve community awareness and symptomatic test seeking,
5. Educate providers and increase general population screening for syphilis,
6. Implement electronic medical record reminders for providers,
7. Screen high-morbidity communities and at high-risk venues (corrections),

Bowen VB, et al. Multi-state syphilis outbreak among American Indians, 2013-2015. *Sexually Transmitted Diseases*. 2018;45(10):690-95

Central Arizona, 2016-2017



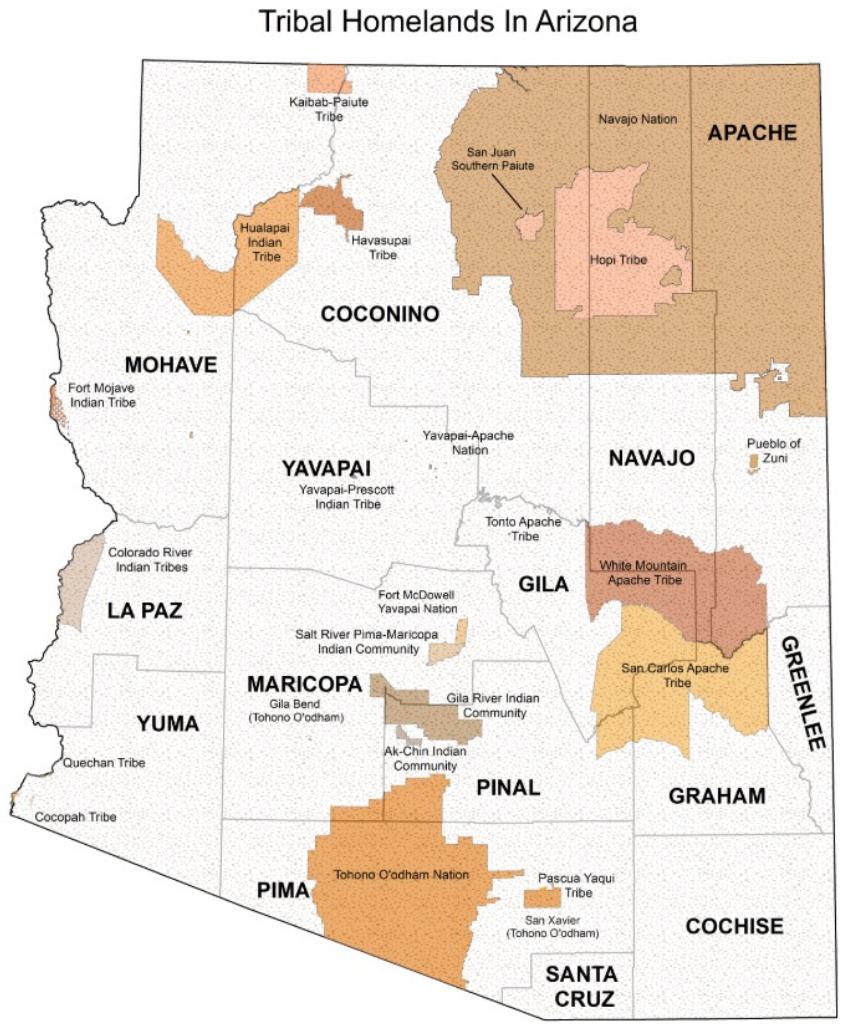
★ Site Visit

*Benzathine penicillin

Browne K, Ridpath A, Scranton R et al. Abstract # 39462. 2018 National STD Prevention Conference Washington, D.C., Aug. 27-30, 2018. https://cdc.confex.com/cdc/std2018/webprogram/Paper39462.html

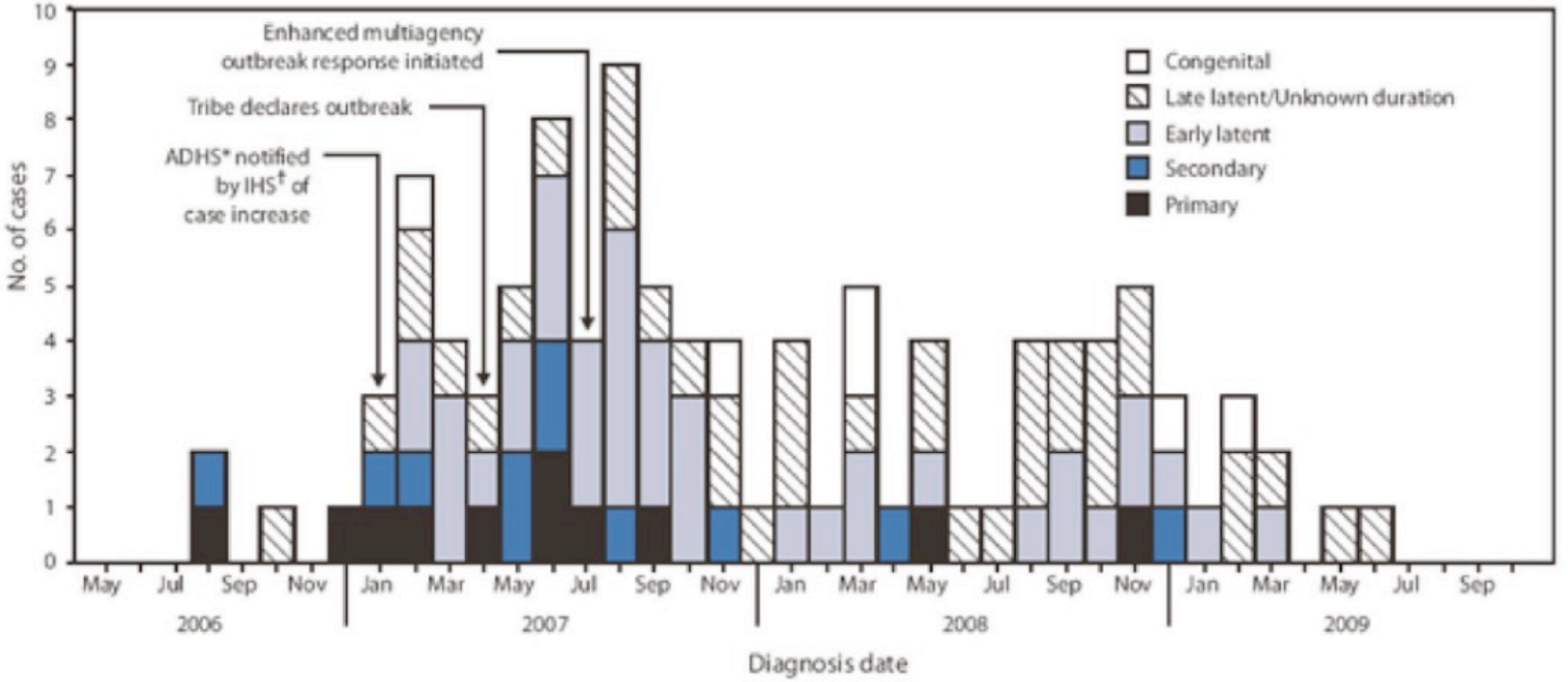
Central Arizona, 2016-2017

Methods of Case Finding	
Partner Services	**51%**
Screening *Provider screen (74%)* *Prenatal screen (11%)* *Jail screen (7%)* *Community screen (7%)*	32%
Self-Referral	14%
Referred by partner	2%



Browne K, Ridpath A, Scranton R et al. Abstract # 39462. 2018 National STD Prevention Conference Washington, D.C., Aug. 27-30, 2018. https://cdc.confex.com/cdc/std2018/webprogram/Paper39462.html

Southern Arizona, 2007-2009



Johnson M, et al. Syphilis Outbreak Among American Indians --- Arizona, 2007–2009. *MMWR Morb Mortal Wkly Rep.* 2010 February 19; 59(6): 158–161

Southern Arizona Syphilis Response

Identification of syphilis, HIV, other STIs

1. Case investigation and clinical management of sexual partners
2. Clinic- and hospital-based screening of all persons aged 12–55 years receiving health care (including pregnant women),
3. Screening of all incarcerated adults and juvenile detainees,
4. Screening of students at seven high schools and of youths at six social events,
5. Screening of workers at two worksites, and door-to-door screening in seven of the reservation's 11 districts.
6. Community awareness campaign

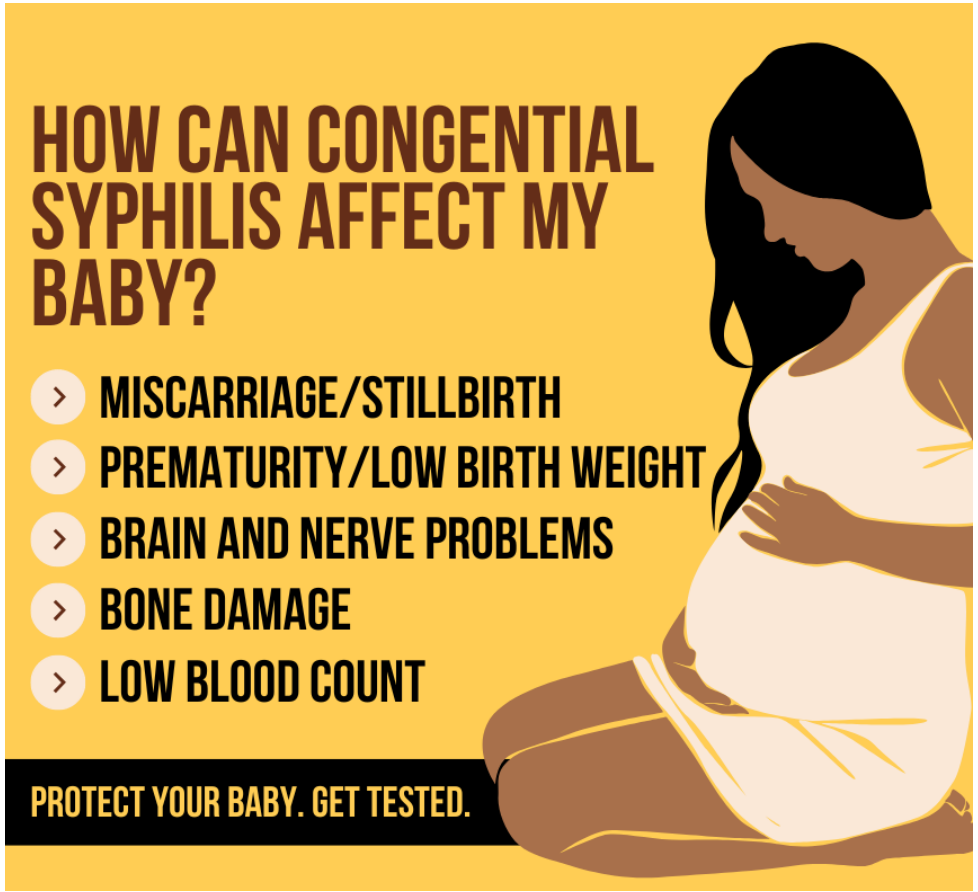
Johnson M, et al. Syphilis Outbreak Among American Indians --- Arizona, 2007–2009. *MMWR Morb Mortal Wkly Rep*. 2010 February 19; 59(6): 158–161

Provider Education Resources

- **CDC STD Treatment Guidelines:** https://www.cdc.gov/std/treatment-guidelines/default.htm
- **Indian Country Infectious Disease ECHO:** www.IndianCountryECHO.org
- **CDC STD Prevention Training Centers:** https://www.cdc.gov/std/training/default.htm
- **University of Washington STD CME sessions:** https://www.std.uw.edu/
- **California Prevention Training Center Online:** https://www.stdhivtraining.org/online_courses.html
- **Johns Hopkins STD Prevention Training:** https://www.stdpreventiontraining.com/
- **New York City STD/HIV Prevention Training Center:** https://www.nycptc.org/
- **CDC STD Surveillance:** https://www.cdc.gov/std/statistics/2021/default.htm
- **CDC STD Hotline:** https://www.usa.gov/federal-agencies/cdc-national-std-hotline

Contact Information

Melanie Taylor, mdt7@cdc.gov



Syphilis Campaign Materials

Boost Your Syphilis Prevention Efforts!

With these free resources, you can spread the word about syphilis prevention in eye-catching ways and make a difference in your community. View materials and order today by scanning the QR code above!

For more information, contact CDC

1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

I. Enhancement of public health STI services and interventions

Strategy	Goal	Activities
Improve and enhance syphilis surveillance and outbreak response	**Timely surveillance and response data**	Increase collaboration between state DoH and IHS/Tribal/Urban clinics to share syphilis data via direct access to the state surveillance platform for more timely case investigation and partner services.
		Quality assurance to ensure all cases are reported into the state Disease and Outbreak Management System.
		Perform prompt syphilis case reporting to appropriate health department. Improve racial data via data linkages and provider training on importance of submitting correct race/ethnicity data.
	Partner Services	Ensure presence of Disease Intervention Specialists (DIS, public health staff responsible for finding and counseling people with sexually transmitted infection) is commensurate with caseload.
		Utilize public health emergency funds/staff to supplement DIS needs.
		Collaborate with Community Health Representative (CHR) programs to assist with contract tracing and other essential partner services.

Strategy	Goal	Activities
Improve and quality assure clinical and partner services	**Increase screening based on local data (rates and age).**	**Increase screening for syphilis in Emergency Room/Urgent Care; Screening eligibility can be broadly based (e.g. age, sex) or by type of visit (e.g. with trauma or substance use). Process should be established as to who is designated for ER/UC follow up of positive results.**
		Implement universal syphilis screening ages 13-64. Screen for syphilis with routine blood draw/panels. Permission can be integrated into the form for general medical consent.
		Implement universal syphilis screening on entry to substance use treatment programs, harm reduction programs, tribal jails, detention centers, parole.
		Screen during pregnancy at first and third trimester and delivery.
		Coordinate and communicate with state, county, local public health departments that are performing case investigation and contact tracing (partner services)
	Increase testing	Walk- in, no appointment STI testing. Examples of access points in I/T/U clinics include laboratory, public health nursing and UC/ER.
		Rapid tests increase access to testing in situations where prompt diagnosis is urgent, such as field-based settings, in ER and for patients that may be hard to recontact. Two FDA approved rapid syphilis tests are now CLIA waived
	Increase laboratory testing and	Consider use of the reverse syphilis screening algorithm. Consider use of rapid syphilis tests in outreach settings

Strategy	Goal	Activities
Improve and quality assure clinical and partner services	Informatics for patient screening, monitoring, treatment	**Deploy clinical decision support (reminder) to increase screening across all services during periods of high case burden. Can be a stand-alone syphilis reminder or a bundled reminder to include a comprehensive screening of CT, GC, syphilis, HIV, HCV, (+HCG).**
		Create a EHR flag system for treatment follow up for patients with syphilis diagnosis. A EHR flag may be time consuming to maintain depending on caseload, but links a patient to treatment regardless of where they access the health system. This flag can also be done by entering syphilis on the active problem list, but this option relies on provider to check, and pharmacy or lab staff may not review.
		Maintain a patient panel in iCare to manage syphilis treatment.
	Policies, Standing Protocols	Ensure STI testing and treatment policy is in place and updated to align with the current 2021 CDC STD Treatment Guidelines.
		Develop standing orders so that tests or treatment can be ordered by RN, MA or other staff during intake, or at pharmacy- or lab- only visits as appropriate
		Presumptive Treatment for patients with symptoms, sexual partners of cases, and for positive rapid test results.
		Develop treatment protocols for Public Health Nurse (PHN) for field consultations and home visits that include administration of benzathine penicillin to diagnosed cases and sexual contacts in the home.