

Rising Tide of Congenital Syphilis

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Service**

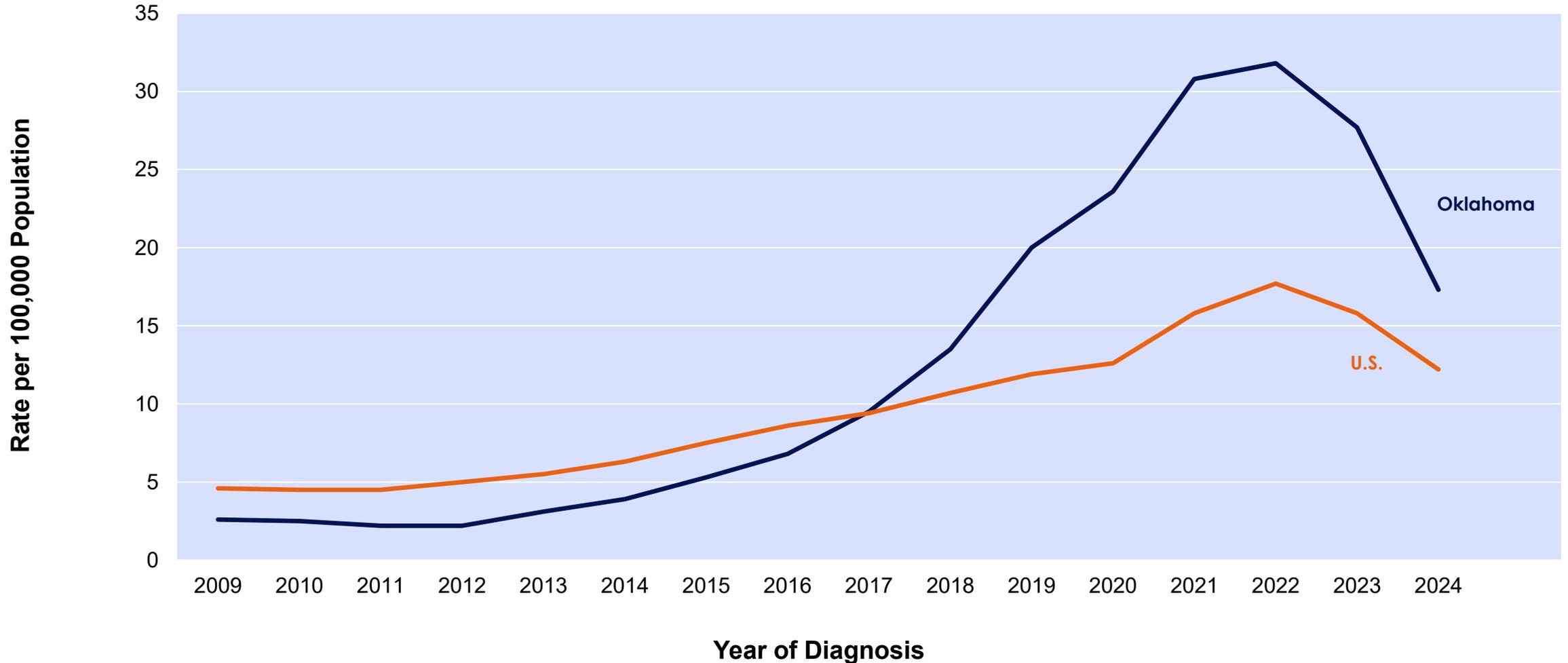


Primary and Secondary Syphilis

2024

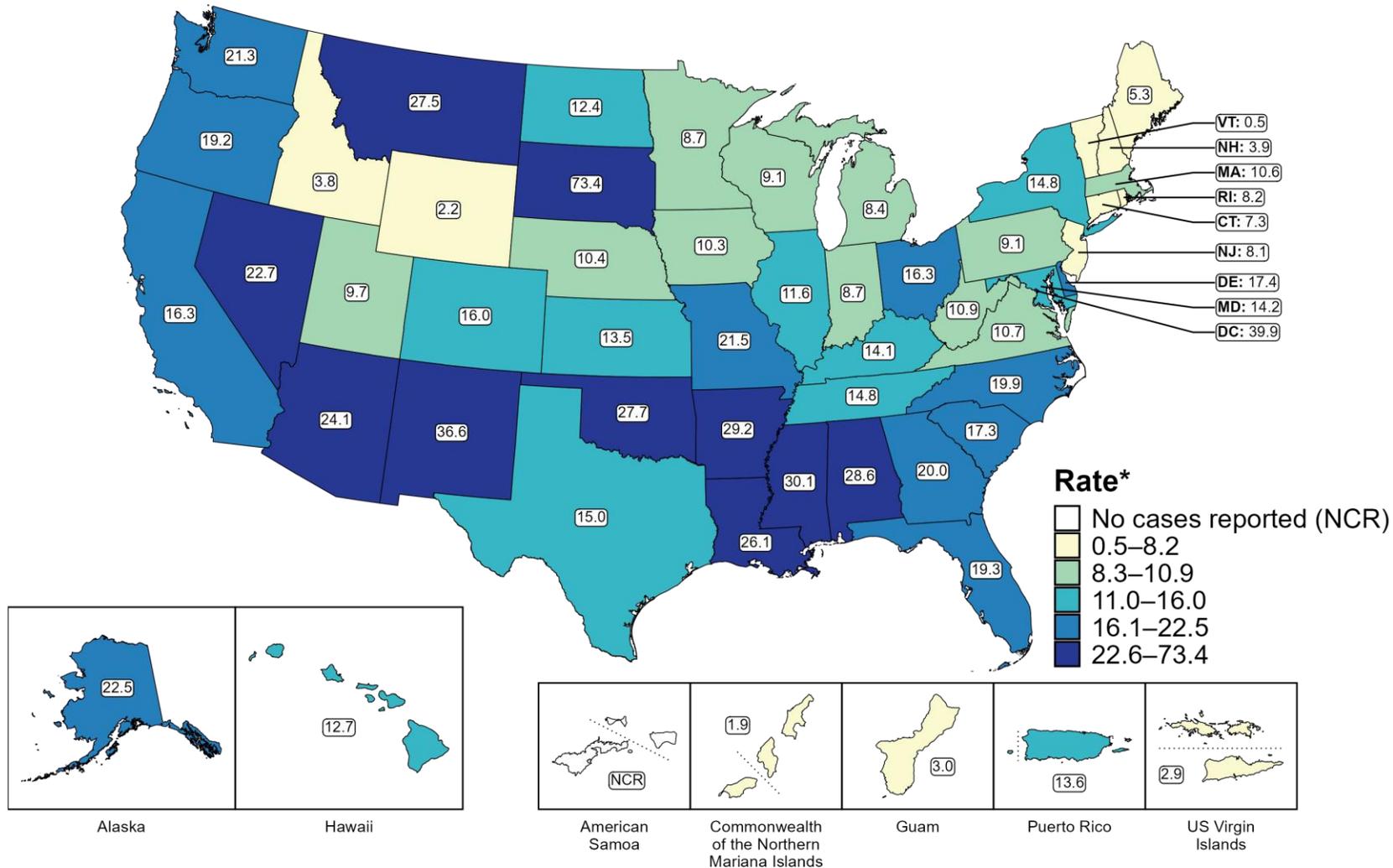
OKLAHOMA STATE DEPARTMENT OF HEALTH

Primary and Secondary Syphilis, Rates per 100,000 Population, Oklahoma and U.S., 2008-2024*



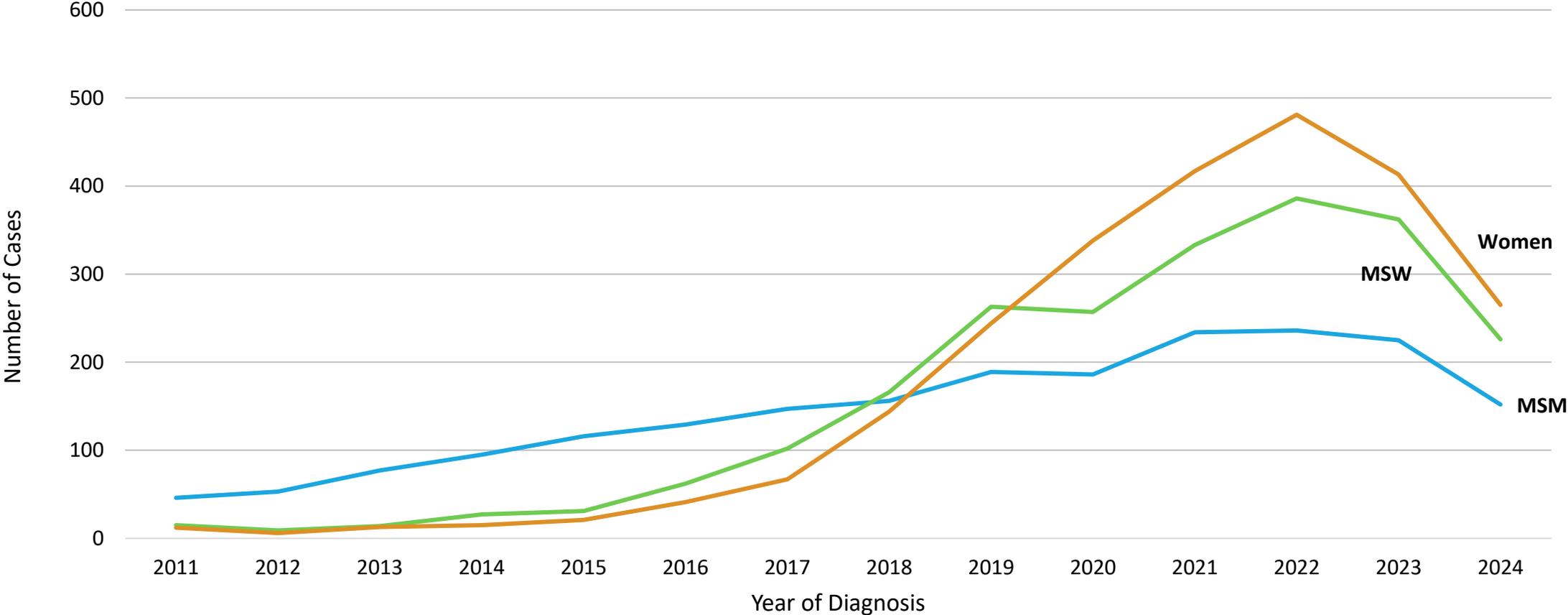
*2024 Data is Preliminary

Primary and Secondary Syphilis Rates of Reported Cases by State and Territory, United States, 2023



Source: CDC. 2023 STI Surveillance Report.

Primary and Secondary STIs in Oklahoma – Reported Cases by Sex and Sex of Sex Partners, 2011-2024*



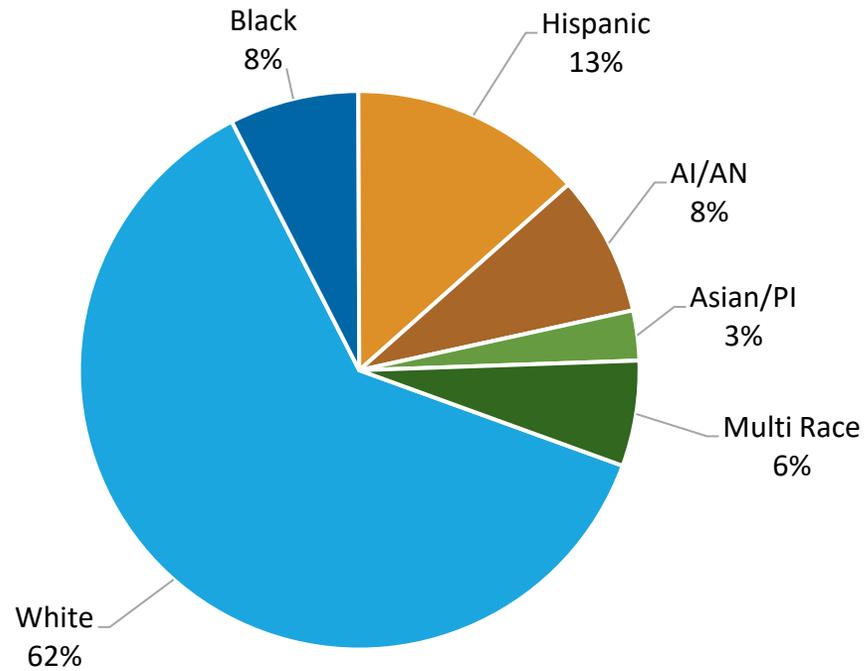
Acronyms: MSM = Gay, bisexual, and other men who have sex with men; MSW = Men who have sex with women only

*2024 Data is Preliminary

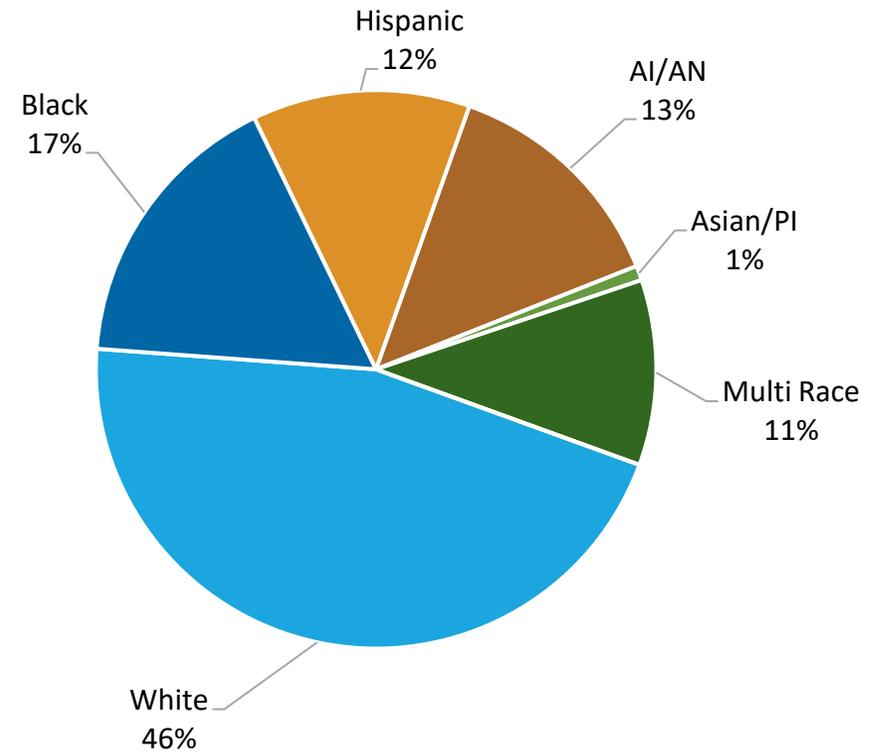
Primary and Secondary Syphilis 2024*

By Race/Ethnicity

State Population (N=4,095,393)



P/S Cases (N=708)



*2024 Data is Preliminary

Syphilis and Drug Use Among Pregnant Females, Oklahoma 2024

Total Syphilis (all stages)

- 34.7% reported drug use
 - 69.6% of which reported meth use
- 37.7% reported Injection Drug Use (IDU)
- 34.8% reported having partners with IDU

Primary and Secondary

- 17.7% reported drug use
- 66.7% (2/3) reported IDU
- 33.3% (1/3) reported partners with IDU

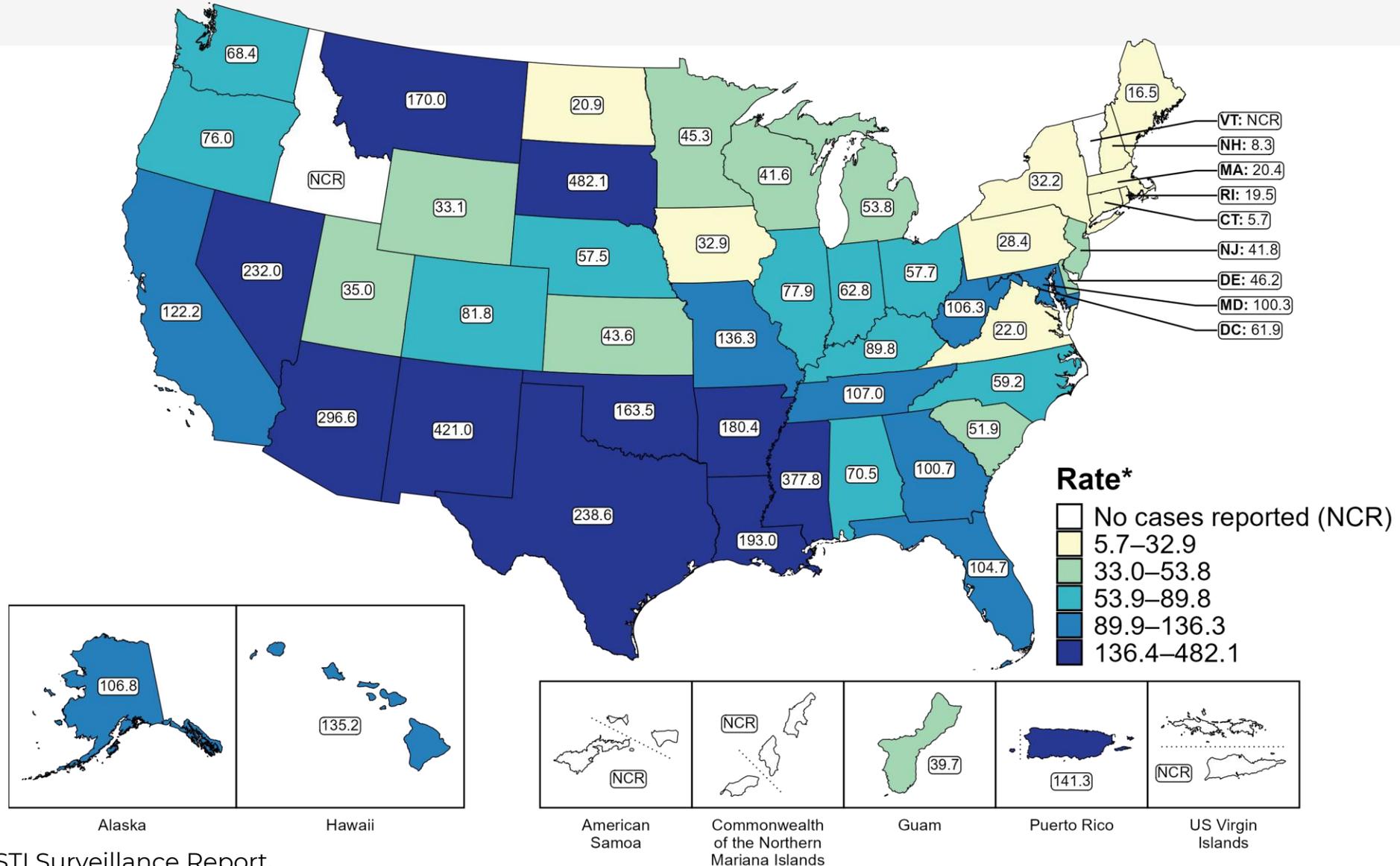
Congenital Syphilis

Oklahoma 2024

Syphilis Among Females, Oklahoma

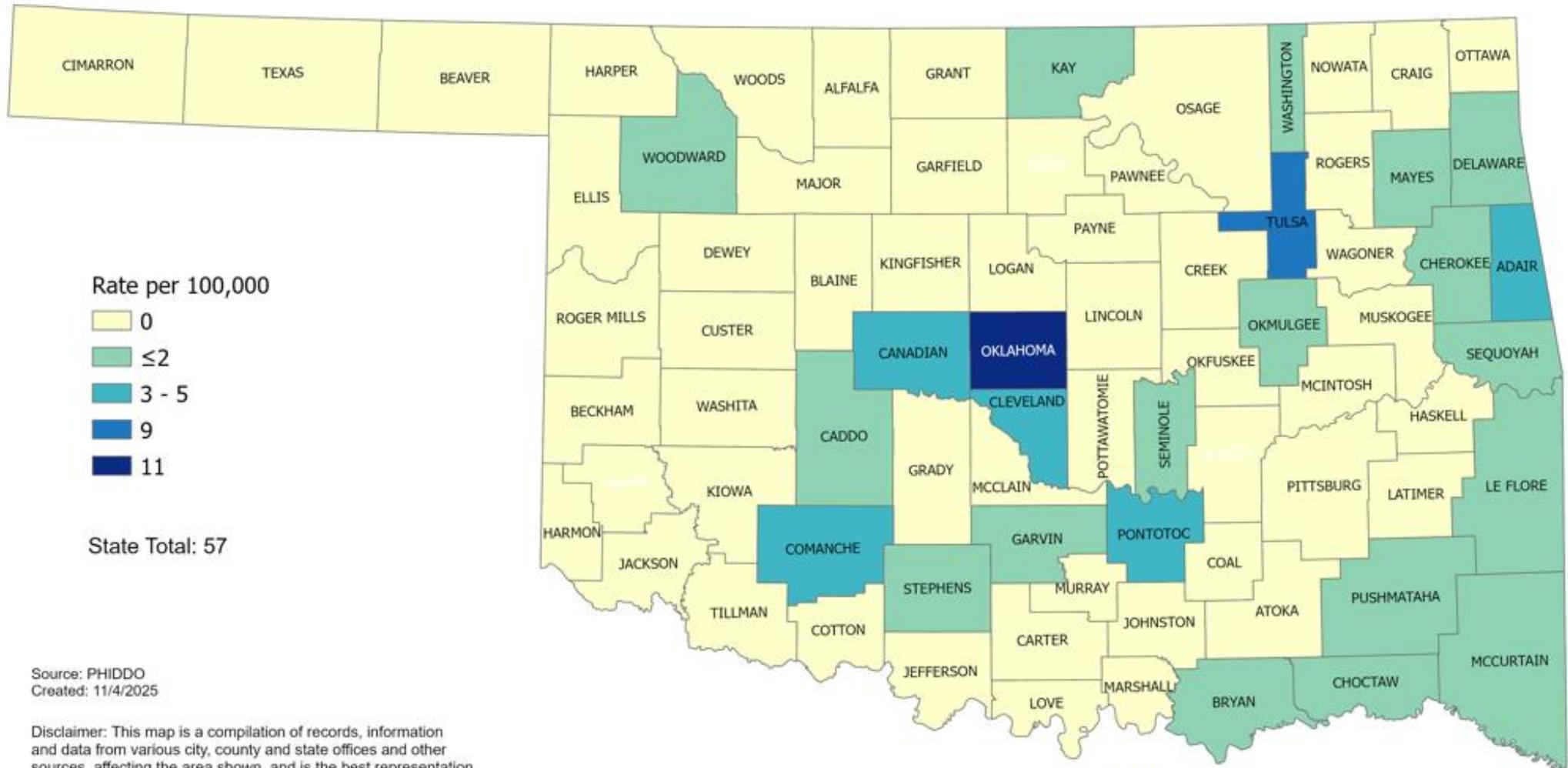
Diagnosis	2020	2021	2022	2023	2024
Primary & Secondary Syphilis – Females	338	417	481	413	271
Primary & Secondary Syphilis – Pregnant Females	25	41	42	45	19
Total Syphilis - Females	697	1135	1463	1464	1401
Total Syphilis - Pregnant Females	130	220	279	247	224
Congenital Syphilis	52	85	110	79	57

Congenital Syphilis - Rates of Reported Cases by Year of Birth and State and Territory, United States, 2023



Source: CDC. 2023 STI Surveillance Report.

Number of Congenital Syphilis Cases by County of Maternal Residence: Oklahoma 2024



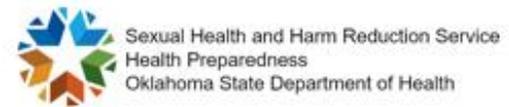
Rate per 100,000

- 0
- ≤2
- 3 - 5
- 9
- 11

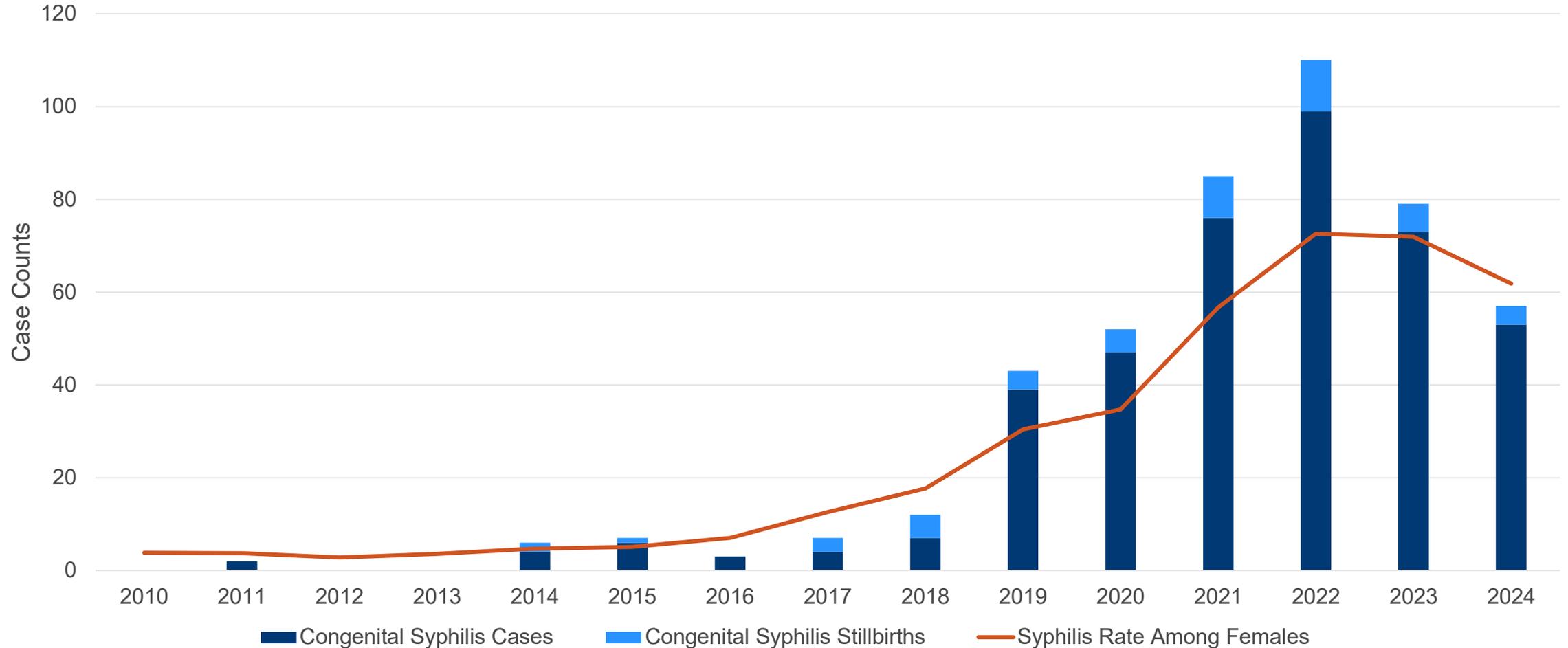
State Total: 57

Source: PHIDDO
Created: 11/4/2025

Disclaimer: This map is a compilation of records, information and data from various city, county and state offices and other sources, affecting the area shown, and is the best representation of the data available at the time. The map and data are to be used for reference purposes only. The user acknowledges and accepts all inherent limitations of the map, including the fact that the data are dynamic and in a constant state of maintenance.



Syphilis in Oklahoma: Congenital Cases and Rates Among Females, 2010-2024*



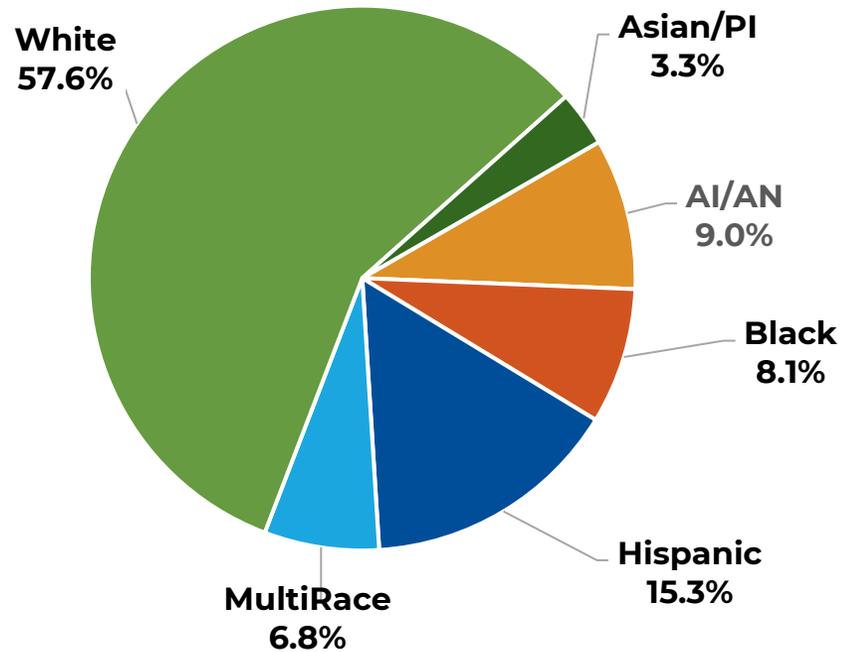
*2024 Data is Preliminary

Congenital Syphilis Cases in 2024*, Maternal Information

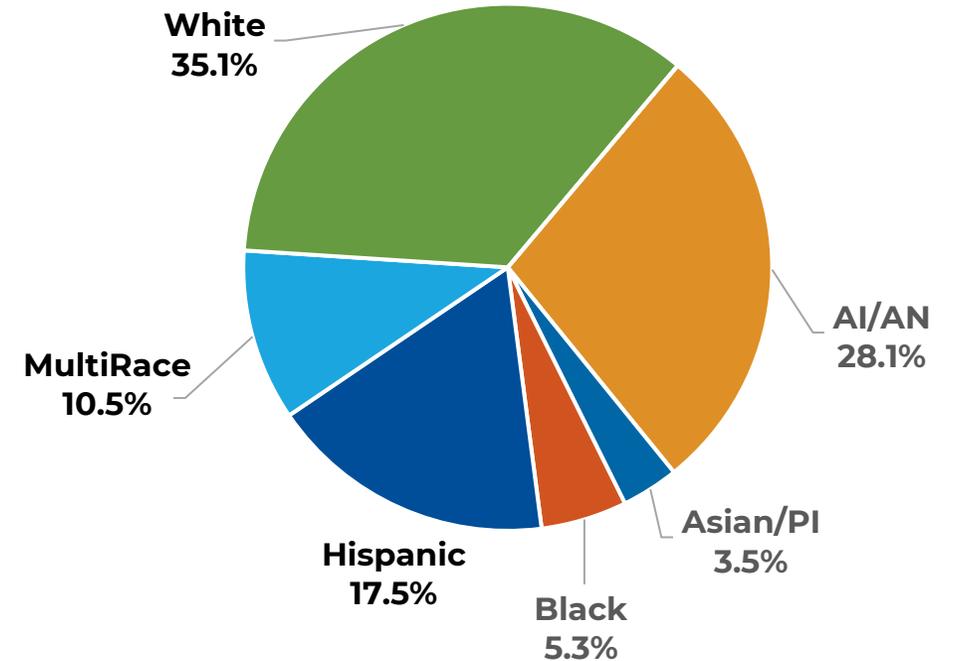
- **57** CS cases in 2024
 - 15.8%** (9/57) - Tulsa
 - 19.3%** (11/57) - Oklahoma
- Maternal age ranged from 16-43 years
 - 15.8%** - 20 to 24
 - 42.1%** - 25 to 29
 - 29.8%** - 30 to 34
- **70.2%** (40/57) had maternal drug use
- **61.4%** (35/57) had previous STI prior to syphilis diagnosis

Congenital Syphilis - Maternal Race and Disparities, 2024*

Oklahoma Females, Aged 15-44 Years



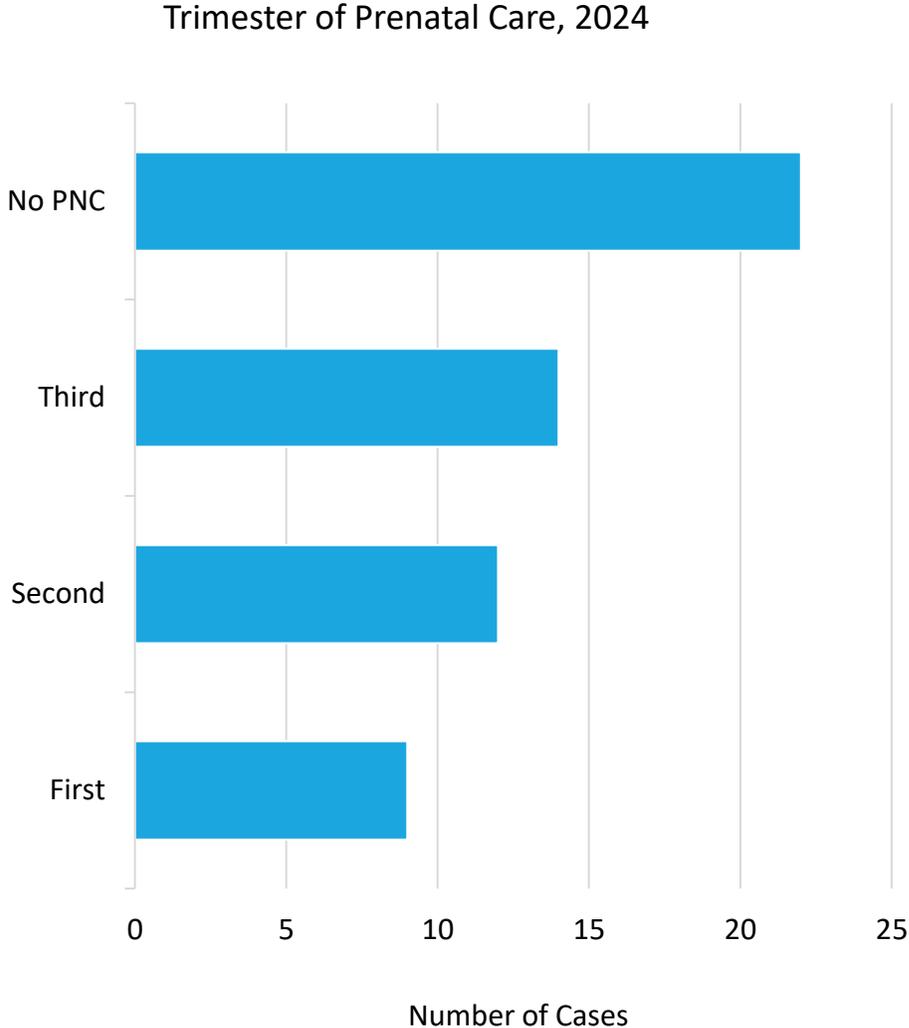
CS Cases by Maternal Race/Ethnicity, 2024



*2024 Data is Preliminary

Congenital Syphilis Cases in 2024, by Prenatal Care and Screening

- **61.4%** (35/57) had prenatal care (PNC).
- Of those with PNC:
 - **71.4%** were tested for syphilis at their first appointment.
 - **51.4%** were tested at 28-32 weeks gestation
- **96.5%** (55/57) were tested for syphilis at delivery.



Objectives

- 1 Define congenital syphilis and describe how it is transmitted from mother to infant
- 2 Describe the pathophysiology of syphilis and its potential impact on fetal/neonatal health
- 3 Outline screening recommendations for syphilis during pregnancy
- 4 Identify clinical manifestations of congenital syphilis in newborns and infants
- 5 Summarize treatment protocols

Introduction

What is Syphilis?

- Syphilis is a sexually transmitted infection (STI) that can cause serious health problems without treatment.
 - Caused by the bacteria *Treponema pallidum*
 - Progresses through distinct clinical stages

Why is it important?

- Untreated syphilis leads to severe health complications
 - Neurosyphilis, congenital syphilis



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Epidemiology and Transmission

Disproportionately affects low-resource settings and marginalized populations

At-Risk Populations

- Multiple sex partners
- MSM
- Living with HIV
- Pregnant with inadequate prenatal care

Primary Modes of Transmission

Sexual Contact

Direct contact with chancres during vaginal, anal, or oral sex.

Vertical Transmission

Mother to baby during pregnancy (congenital syphilis).

Non-sexual routes

Less common- blood or direct mucosal contact

Syphilis Staging

Primary

Secondary

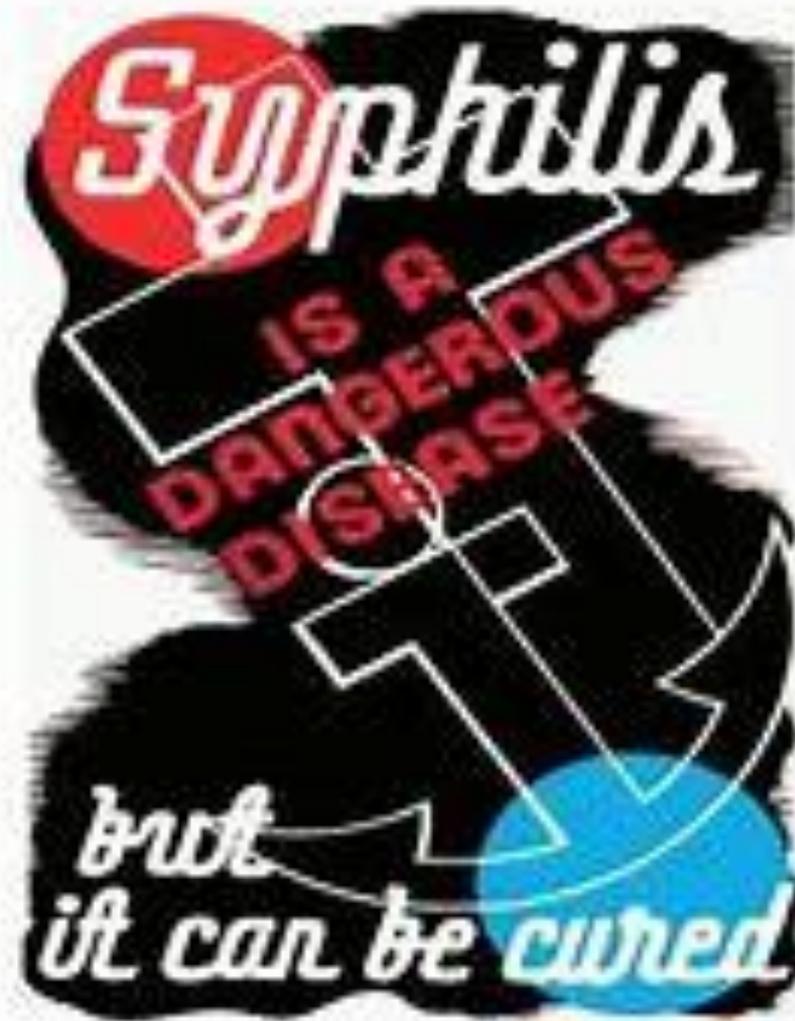
Early Latent

Late Latent

Tertiary

*Neuro/ocular/otosyphilis

Symptoms may overlap



Primary Syphilis

- Chancres (genital/rectal/oral lesions)
 - Painless
 - May not be visible
 - Heals on its own, even without treatment
 - Lasts 3-6 weeks on average
- Most infectious stage
- Labs may be non-reactive



Secondary Syphilis

- Rash
 - Especially on palms and soles
 - Non-pruritic
- Condyloma lata
- Mucus patches
- Patchy alopecia
- Heals even without treatment



Primary and Secondary Syphilis

Primary

Signs consistent with stage
-chancre(s)

Positive treponemal test result

OR

Positive non-treponemal result

Secondary

Signs consistent with stage
-rash, c.lata, alopecia,
mucocutaneous lesions

Positive treponemal test result

AND

Positive non-treponemal result

Early Latent; Late Syphilis/Unknown Duration

Early Non-Primary Non-Secondary (Early Latent)

- Positive treponemal test
- Positive non-treponemal result

Plus one of the following:

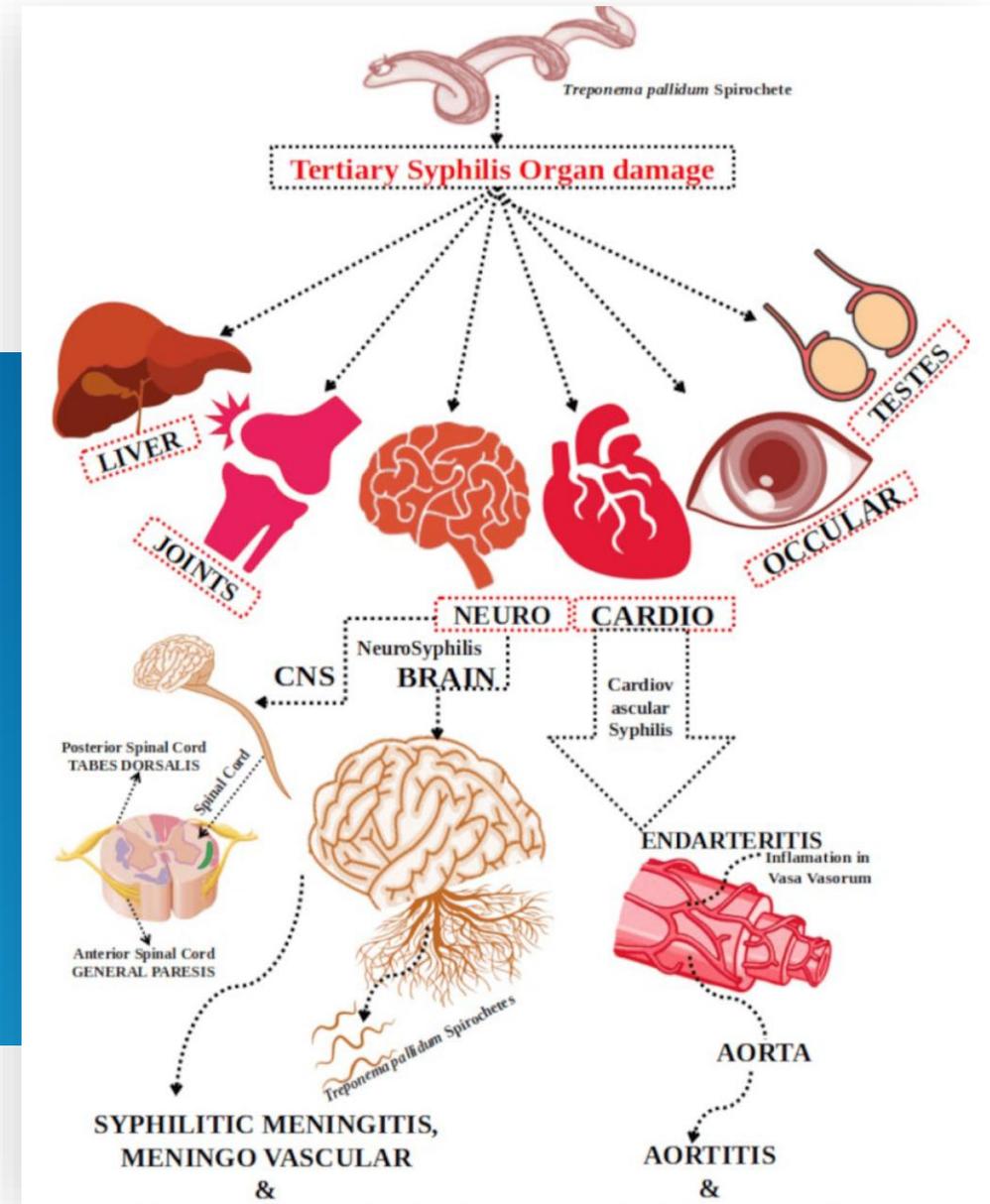
- Negative test within last year
- Signs/symptoms within last year
- Sexual exposure to Primary, Secondary or Early NP NS with last 12 months
- Sexual debut within last 12 months

Late Latent

- Positive treponemal test result
- Positive non-treponemal result
- Does not meet criteria for Primary, Secondary or Early NP NS
 - No symptoms
 - No history of syphilis
 - Unable to determine source of contact

Tertiary Syphilis

- Most people will not develop tertiary syphilis
 - Affects organ systems (heart and blood vessels, brain and nervous system)
 - Occurs 10-30 years after infection

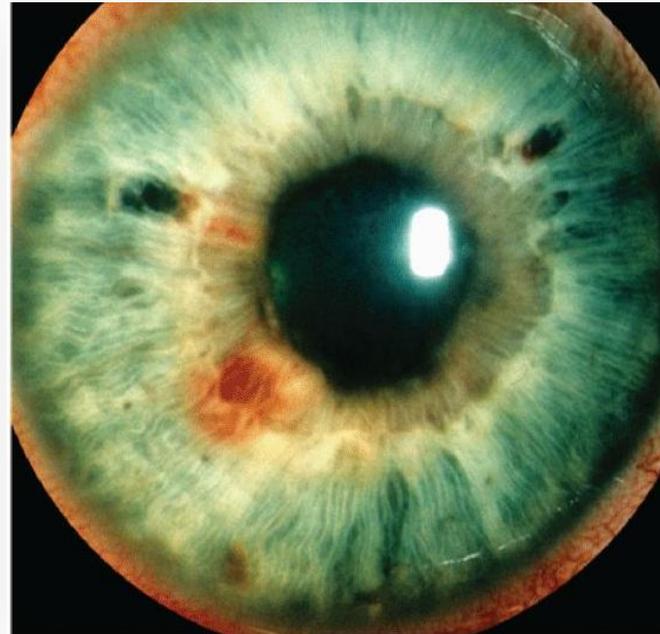


Neuro/Ocular/Otosyphilis

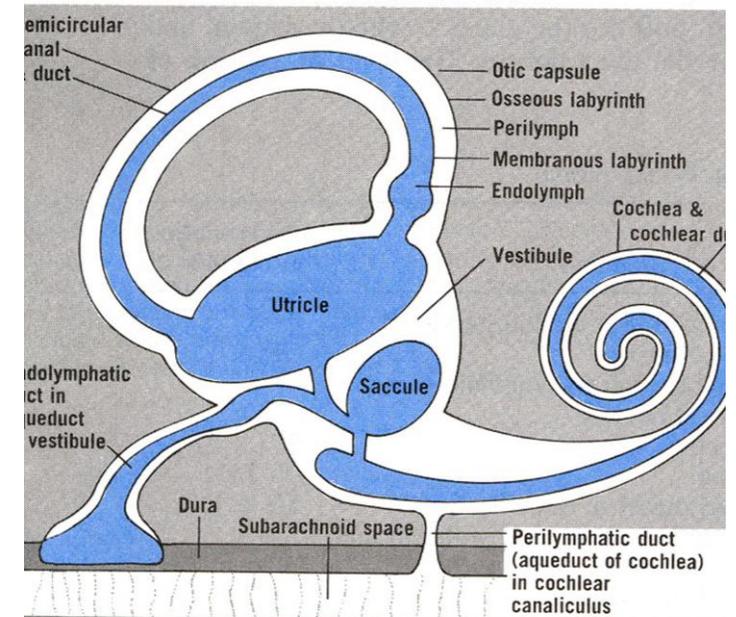
Can occur at any stage

Recent eye pain or redness?
Change in or blurring of vision?
Spots or floaters in vision?
Double vision?
Light hurting eyes?
Ocular/Eye Infection?
New weakness in arms legs or face?
Headache (New) unlike usual headaches?
Stiff Neck?
Inability to flex neck forward?
Muscle weakness on one side of face?
New/recent hearing loss?
New/recent ringing of ears?

ODH 1291



Blindness



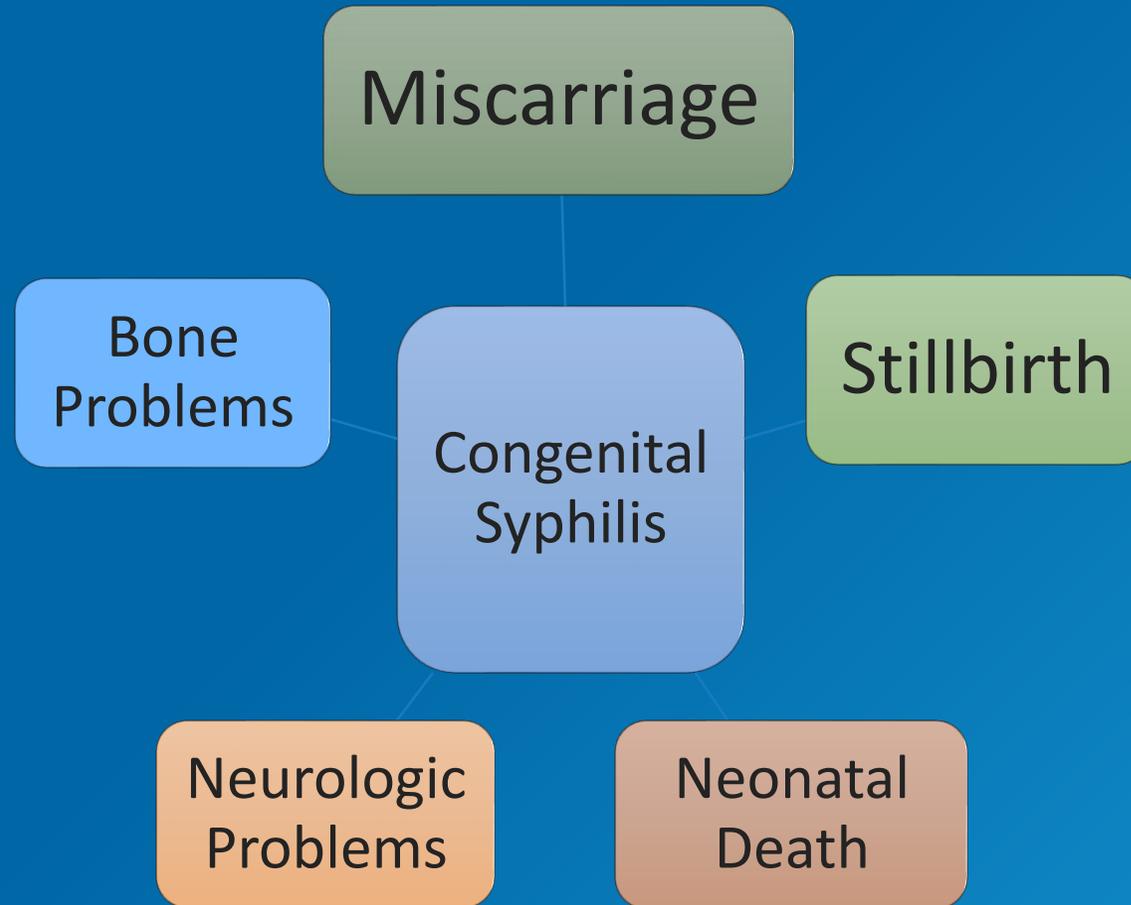
Hearing loss

Congenital Syphilis



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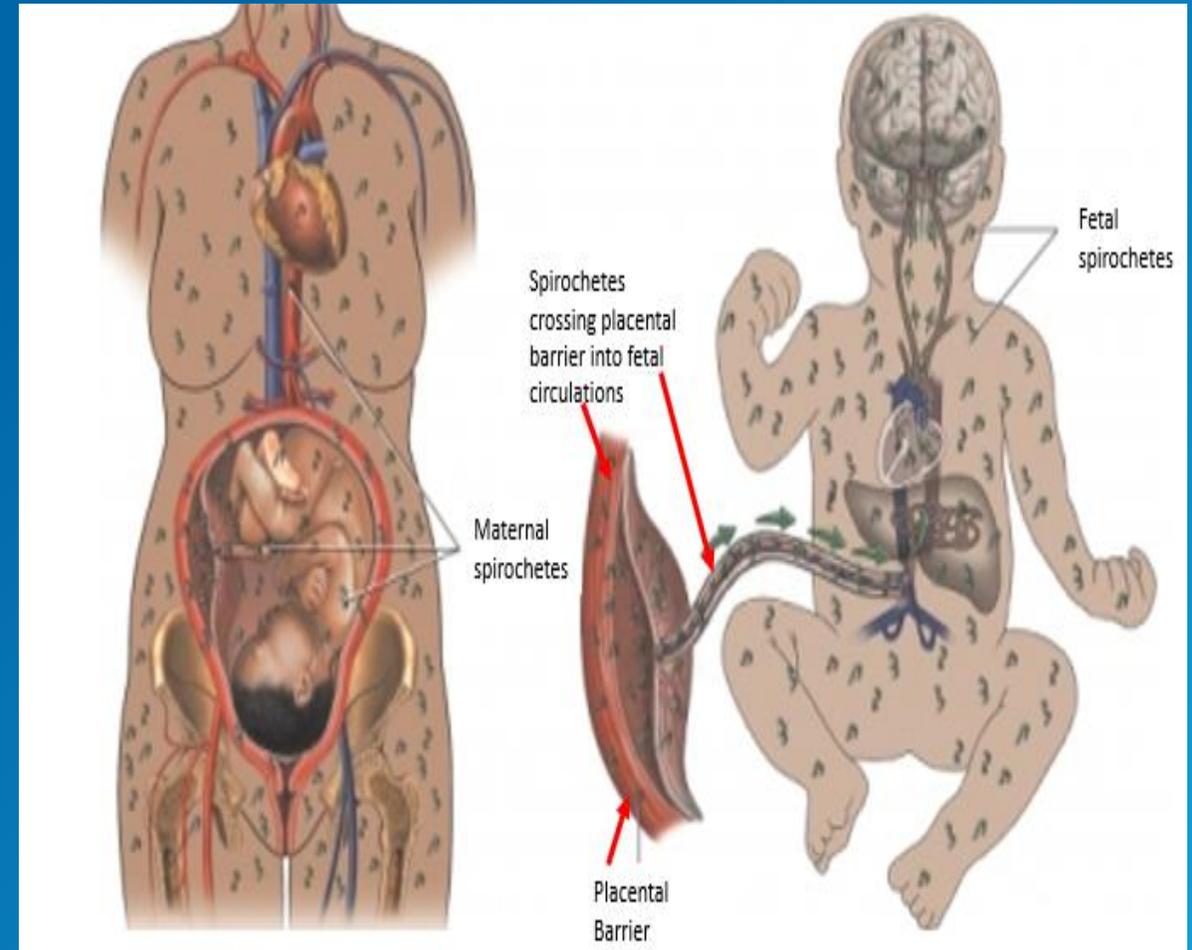
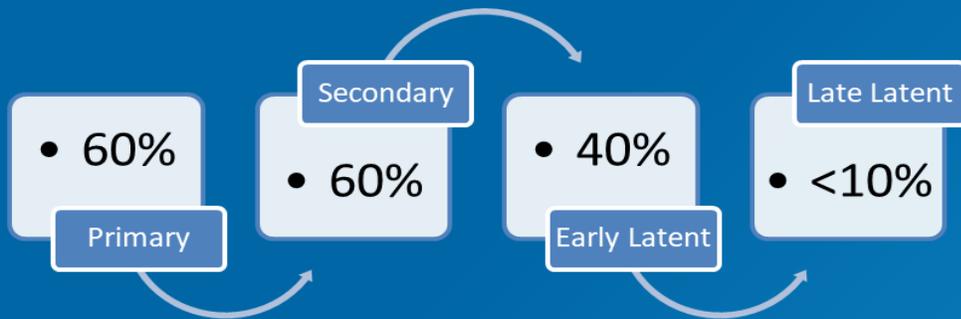
Untreated syphilis is pregnancy can cause:



Syphilis in Pregnancy

- Transplacental transmission of spirochetes from Maternal bloodstream to fetal bloodstream

% rate of fetal transmission by maternal stage



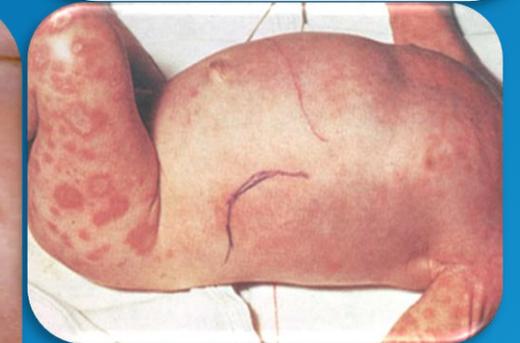
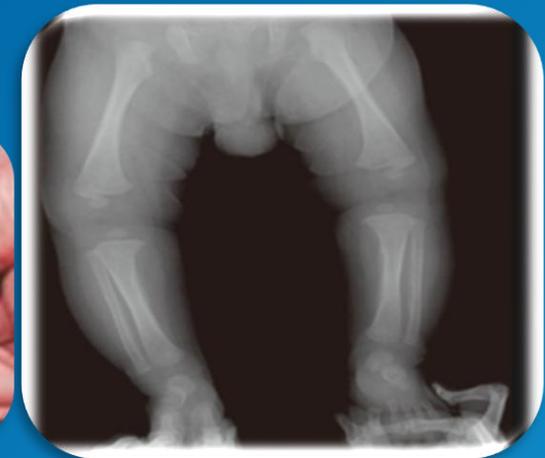
Symptoms

Early Congenital Syphilis

- **Osteochondritis**
- **Syphilitic rhinitis (Snuffles)**
- **Rash**
- Severe anemia
- **Hepatosplenomegaly**
- Jaundice
- Nephritis
- Mucous patches
- IUGR

Late Congenital Syphilis

- Hutchinson's Triad:
 - Interstitial keratitis
 - **Hutchinson's teeth**
 - Deafness (8th nerve)
- Protruding mandible
- Flaring scapulas
- **Mulberry molars**
- **Saber shins**



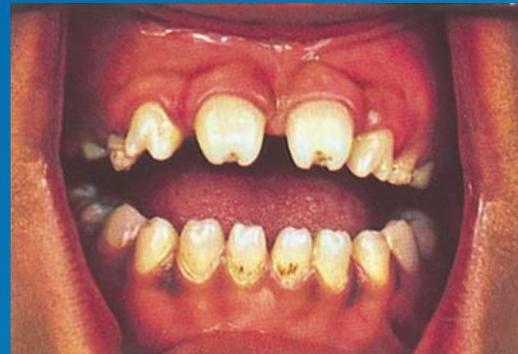
EARLY CONGENITAL SYPHILIS: CLINICAL MANIFESTATIONS: Newborn Rash



Late Congenital Syphilis



Fig. 1 : Dysmorphic facies with frontal bossing, prominent supraorbital ridges, absence of eyebrow and eyelashes, and a saddle nose



Source: Courtesy Dr. Stephanie Taylor

Treatment in Pregnancy

- The only treatment for syphilis in pregnancy is penicillin G, there are no available alternatives
- Treat with the penicillin regimen appropriate for their stage of infection
- Pregnant people with a penicillin allergy require desensitization
- Treating **sex partners** is crucial to preventing reinfection before delivery



Treatment in Pregnancy

- Primary, secondary, and early latent
 - Treatment x 2 doses at 1-week intervals
 - Clients who do not return for second dose of Bicillin are still considered adequately treated per CDC guidelines.
- Late latent or unknown duration
 - Treatment x 3 doses at 1-week intervals
- 7-day interval between doses (no more than 9)
 - Treatment must be re-started if dose is missed (interval >7 days)
- Treatment must be initiated and completed > 30 days before delivery to be considered adequate
- Encourage abstinence or condom use until patient and partner(s) are treated

Total dose Bicillin 7.2mu



Pregnant people with a penicillin allergy require desensitization ; refer to OB or ER

Follow-up: Pregnant females diagnosed and treated at or before 24weeks- 8 weeks post treatment
Pregnant females diagnosed and treated after 24 weeks- titer should be repeated at delivery

Jarisch-Herxheimer Reaction



Acute febrile illness following penicillin injection

Usually occurs within a few hours after Bicillin injection



Dying treponemes release endotoxins faster than body can clear them



Can occur at any stage

Most common during early syphilis when treponemal load is higher



Can cause exacerbation of syphilis symptoms and uterine contractions

Penicillin Allergy

- 80 % of patients with a true IgE Mediated allergic to PCN have lost the sensitivity after 10yrs.
- Patients with recent reactions(within preceding 10 yrs) reaction are more likely to be allergic than patients with remote reactions(longer than 10yrs), and patients who had allergic reactions in the distant past might no longer be reactive.
- Family history of PCN allergy is not a contraindication for treating with BIC.
- Penicillin is recommended for all clinical stages of syphilis, and no proven alternatives exist for treating neurosyphilis, congenital syphilis, or syphilis during pregnancy.

(CDC STI Treatment Guidelines, 2021).

Clients who report PCN Allergy, Nursing Staff should ask:

- When the reaction occurred? (within past 10 yrs. or longer than 10 yrs. or childhood)
- What type of reaction occurred?
- Was medical/anaphylactic intervention needed to correct reaction?

Serology

Non-treponemal tests

RPR

VDRL

- Detects non-specific antibodies (IgM and IgG) against Reagin
- Quantitative if reactive - measured in titers (*helps determine past/present infection or reinfection*) used to monitor response to therapy
- May be reactive for life (Serofast)
- Can have false +/- results

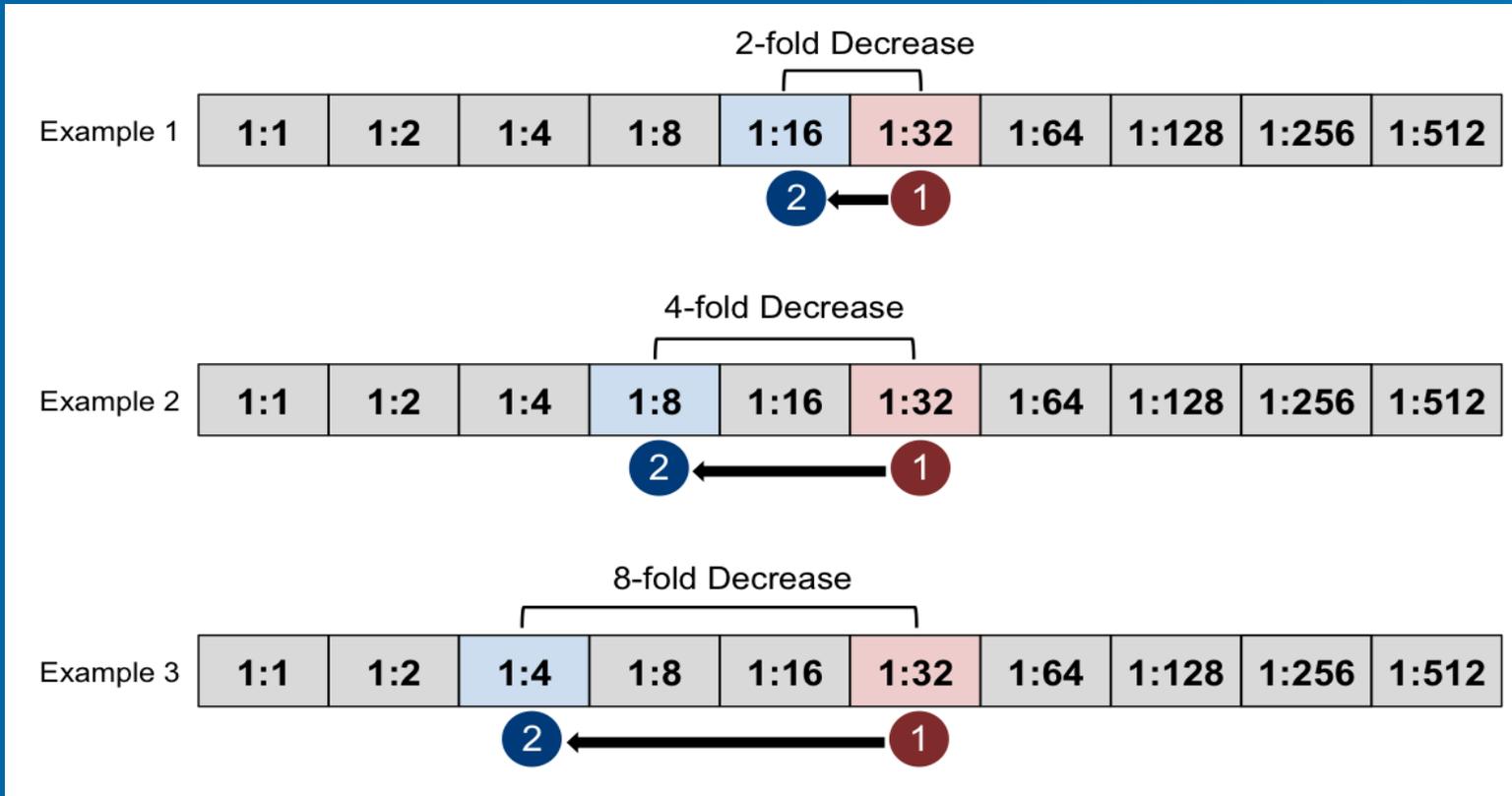
Treponemal tests

TP-N, TPPA

FTA-ABS, EIA/CIA

- Detects specific antibodies against *T. pallidum*
- Likely remains positive forever (85%)
- Qualitative (Reactive/Non-Reactive)

Titers



Titers Post Treatment (follow-up serology)

- Primary/Secondary/ Early Latent Syphilis- 6 & 12 months (Clients with P&S symptoms should be seen by provider 1-week post treatment to assess for resolution of symptoms).
- Latent/Unknown Duration - 6, 12, & 24 months
- Clients Living with HIV- 3, 6, 9, 12, & 24 months
- **Pregnant females diagnosed and treated at or before 24 weeks- 8 weeks post treatment**
- * Clients with risk factors, practices, or behaviors pose an increased risk for syphilis acquisition can be screened more frequently.
- ****Titers should be repeated sooner in pregnant females if reinfection or treatment failure is suspected, or client is living with HIV****



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Prevention

The only way to completely avoid STIs is to not have vaginal, anal, or oral sex.

If you are sexually active, you can do the following things to lower your chances of getting syphilis:

- Being in a long-term **mutually** monogamous relationship with a partner who has been tested and does not have syphilis.
- Using condoms the right way every time you have sex.

Condoms prevent the spread of syphilis by preventing contact with a sore. Sometimes sores occur in areas not covered by a condom. Contact with these sores can still transmit syphilis.

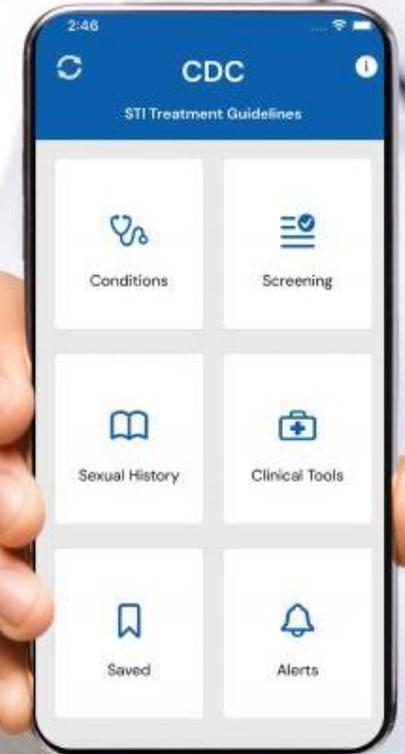
Takeaways

- Initial Staging can change based on Nurse examination or DIS investigation
- If client has a history of syphilis, The RPR will determine if client is re-infected
- Treponemal tests will almost always stay positive after initial infection
- Ask specific questions about reported PCN allergy to determine if client can still be treated with Bicillin (When? What type of reaction? Was medical intervention needed?)
- Always assess for neuro/ocular/otosyphilis
 - Treat according to stage and refer

STI Treatment Guide Mobile App

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More Integrated
More Features

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