Indiana Department of Health

MATERNAL AND CONGENITAL SYPHILIS

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CHIEF MEDICAL OFFICER

11/18/25

OUR MISSION:

To promote, protect, and improve the health and safety of all Hoosiers.

OUR VISION:

Every Hoosier reaches optimal health regardless of where they live, learn, work, or play.

Introduction

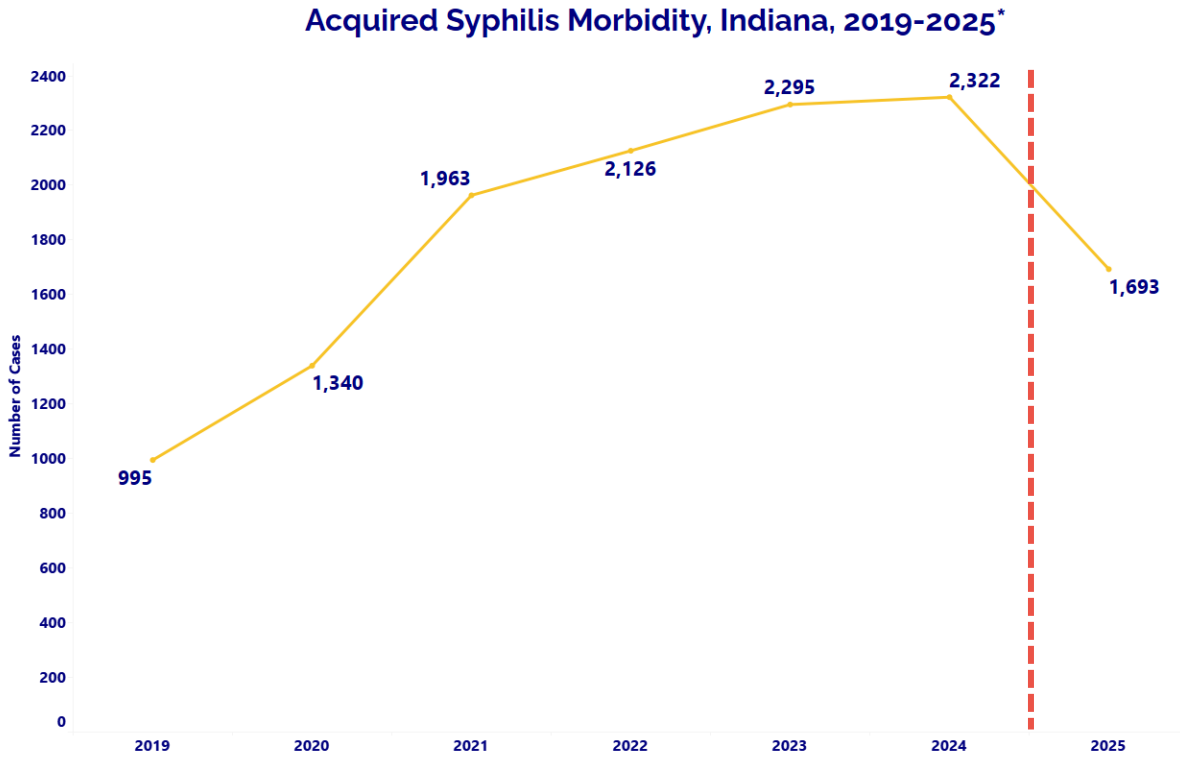
Nationally, there was a 740% increase in congenital syphilis cases between 2014 and 2023 and an 82% increase between 2020 and 2024.

A 2023 analysis from the CDC shows that:

- 8 in 10 cases of newborn syphilis in 2023 might have been prevented with timely testing and treatment during pregnancy.
- Over 42% of cases were among mothers who did not receive timely testing.
- More than 40% of cases were among mothers who tested positive for syphilis during pregnancy but did not receive adequate or timely treatment.

Acquired Syphilis Morbidity

- Rates of acquired syphilis have been on the rise since 2014 in Indiana, reaching 33.5 (per 100,000) in 2024.
  - **There have been 1,693 cases of acquired syphilis reported in 2025*, down 10.3% compared to this time last year.**



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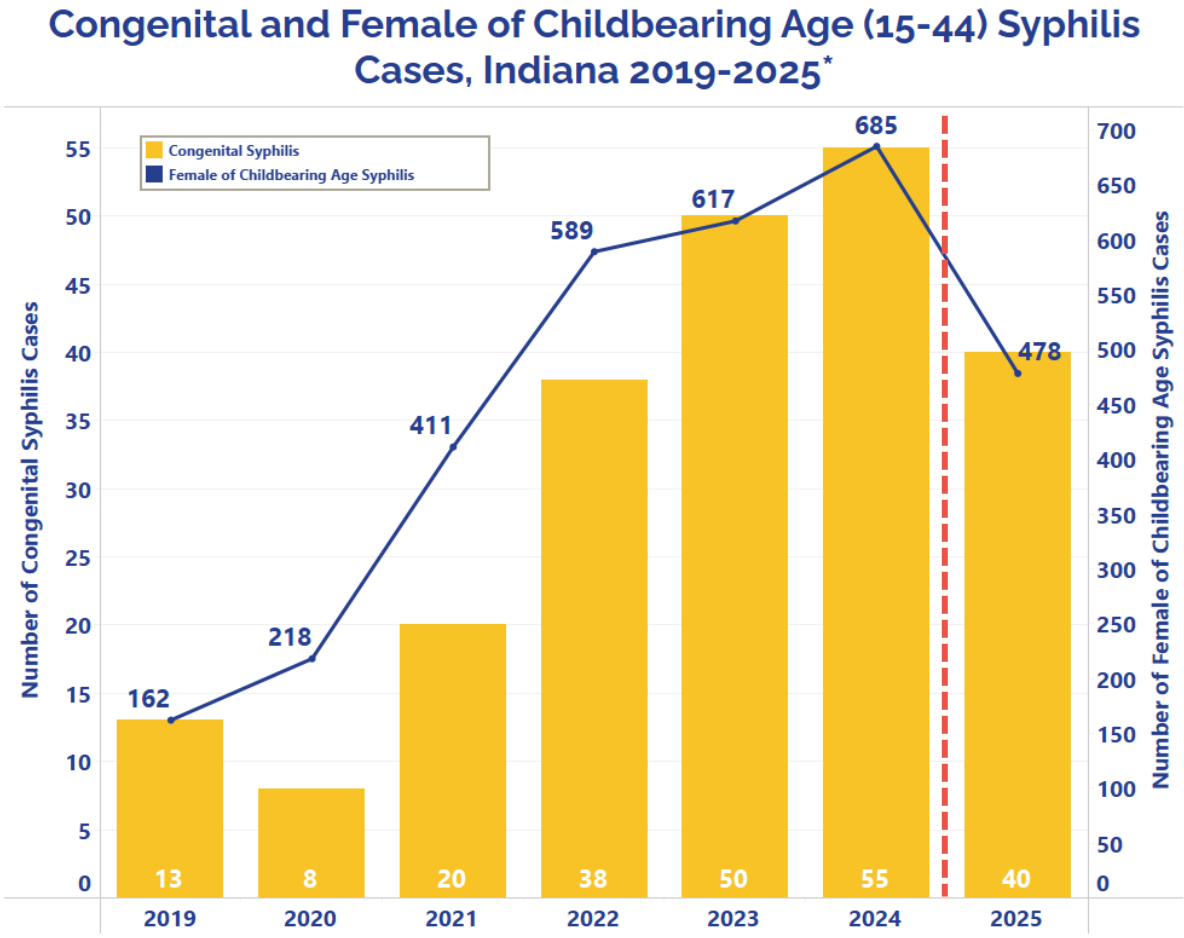
Data source: NEDSS Based System (NBS). **2025 STI data are preliminary and as of 10/21/2025.*

Congenital & Female of Childbearing Age Syphilis Morbidity

- From 2019-2024* there was a 323% increase in congenital syphilis (CS) cases reported.
  - **There have been 40 cases of CS reported in 2025*, down 16.7% compared to this time last year.**
- Of the 40 CS cases reported this year, there has been 1 still birth.
- 127 potential CS cases are currently being tracked.
- From 2019-2024* there was a 323% increase in syphilis cases among females of childbearing age (15-44 years old).
  - **There have been 478 cases of adult syphilis among females of childbearing age in 2025*, down 11.3% compared to this time last year.**



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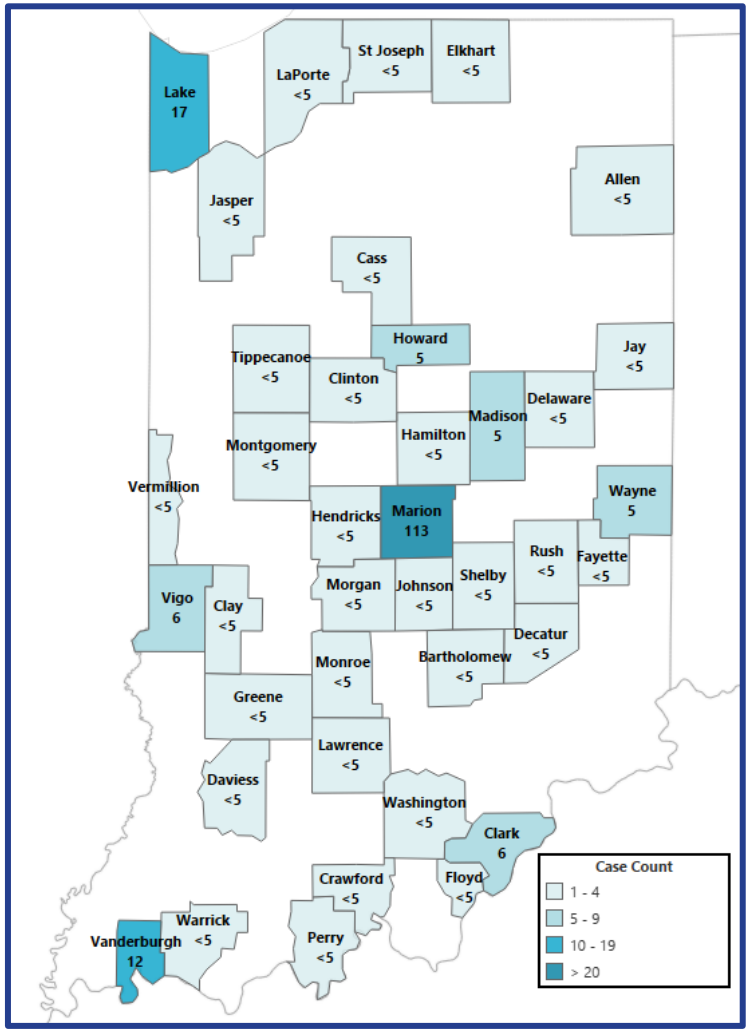
Data source: NEDSS Based System (NBS). **2025 STI data are preliminary and as of 10/21/2025.*

Congenital Syphilis by County 2018-2025*

- 39 Indiana counties have reported at least one CS case since 2018.
  - For comparison, 2 counties reported at least one CS case in 2018 while 16 reported at least one CS case in 2024.
- Marion (113), Lake (17), and Vanderburgh (12) counties have reported the most CS cases since 2018.



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Data source: NEDSS Based System (NBS). **2025 STI data are preliminary and as of 09/16/2025.*

Syphilis During Pregnancy- *Practice Change*

In the context of the rapidly increasing rates of congenital syphilis, the American College of Obstetricians and Gynecologists (ACOG) recommends obstetrician–gynecologists and other obstetric care professionals should ***screen all pregnant women serologically for syphilis at the first prenatal care visit, followed by universal rescreening during the third trimester and at birth, rather than use a risk-based approach to testing.***[1]

Maternal Risk Factors

Maternal risk factors for syphilis during pregnancy include:

- Sex with multiple partners, or a partner that may report these risks:
  - Persons who use illicit drugs
  - Persons who participate in Transactional Sex/ Sex Work
  - Persons with HIV or other STIs
  - Persons with a History of incarceration, sex work, or military service
  - Persons with unstable housing or homelessness
- Late entry to prenatal care (i.e., first visit after 13 weeks gestation or later)
- No prenatal care
- Care that has not been adequately documented (i.e., previous syphilis testing without appropriate follow-up or treatment)

CDC, 2023

Testing Recommendations

- Screen at the first prenatal visit or at the earliest possible time in pregnancy to identify both mothers and unborn children who would benefit from treatment.
- Screening in the third trimester (28-32 weeks) and at delivery.
- Provide syphilis testing and treatment outside of settings in which pregnant patients are typically encountered
  - This could include **emergency departments, urgent cares, and primary care visits**
- When loss-to-follow-up is a concern, consider use of a rapid syphilis test during pregnancy to identify and immediately start syphilis treatment.
  - It is still preferred to perform confirmatory testing in most situations when possible
- Ensure timely treatment once a positive syphilis test is identified.
- Consider screening and treatment for all sexually active women and their partners for syphilis, as well as people with other risk factors for syphilis

Importance of ED screening

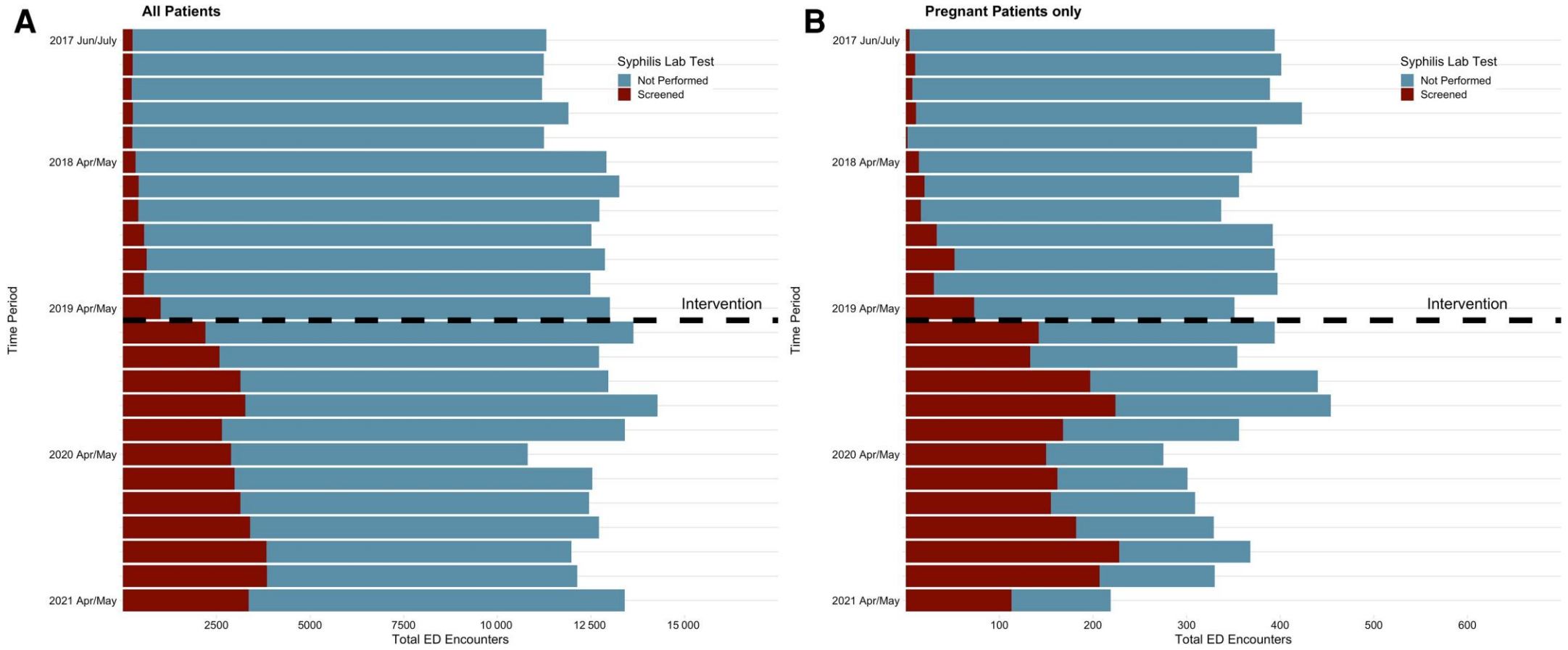
- Study of about 300,000 people in Chicago
- Prior to study, about 3.6% of patients screened for syphilis. After implementation, about 24.4%.
- Pregnant women:
  - Pre-intervention testing was 5.9% (272 of 4,579), post-intervention was 49.9% (2,061 of 4,129)
  - Cases went from 2 to 15

Media Advisory Tuesday, September 10, 2024

Emergency department screening more than doubles detection of syphilis cases

NIH-supported study shows potential of strategy to reach people with and without symptoms.

Importance of ED screening



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Congenital Syphilis

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Health Implications

Syphilis during pregnancy can cause:

- Miscarriage
- Stillbirth
- Prematurity
- Low birth weight

- Up to 40% of babies born to women who have syphilis and go through pregnancy untreated may be stillborn or die due to the infection shortly after birth.

Infants born with Congenital Syphilis can experience:

- Deformed bones
- Severe anemia
- Enlarged liver and spleen
- Jaundice
- Brain and nerve problems (blindness or deafness)
- Meningitis
- Skin rashes
- Death

Congenital Syphilis

A condition caused by infection in-utero with *Treponema pallidum*.[2]

- An infant or child (less than two years old) may have signs such as hepatosplenomegaly, rash, condyloma lata, snuffles, jaundice (non-viral hepatitis), pseudoparalysis, anemia or edema (nephrotic syndrome and/or malnutrition).[2]
- An older child may have stigmata (e.g., interstitial keratitis, nerve deafness, anterior bowing of shins, frontal bossing, mulberry molars, Hutchinson teeth, saddle nose, rhagades or Clutton joints).[2]

Congenital Syphilis

- A condition affecting an infant whose mother had untreated or inadequately treated* syphilis at delivery, regardless of signs in the infant, **or**
- An infant or child who has a reactive non-treponemal test for syphilis (Venereal Disease Research Laboratory (VDRL), rapid plasma reagin (RPR), or equivalent serologic methods) **and** any one of the following:
  - *Any* evidence of congenital syphilis on physical examination;
  - *Any* evidence of congenital syphilis on radiographs of long bones;
  - A reactive cerebrospinal fluid (CSF) VDRL test; or
  - In a non-traumatic lumbar puncture, an elevated CSF leukocyte (white blood cell, WBC) count or protein (without other cause).

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

Financial Impact

- The mean length of stay and hospitalization charges are significantly higher for infants with congenital syphilis[1]
  - 12.38 ± 0.1 days for CS vs those without 3.42 ± 0.1 days
  - CS: $58,502 ± 1475 vs. Controls (other hospitalizations in the same age group related to any diagnosis other than CS) $12,592 ± 12.97
- *In their January 2024 issue brief on Congenital Syphilis, The National Governors Association noted:*
  - *Rates of CS among Medicaid recipients were six times that of the privately insured, with associated hospitalizations estimated at* ***$58,000/case***[8]

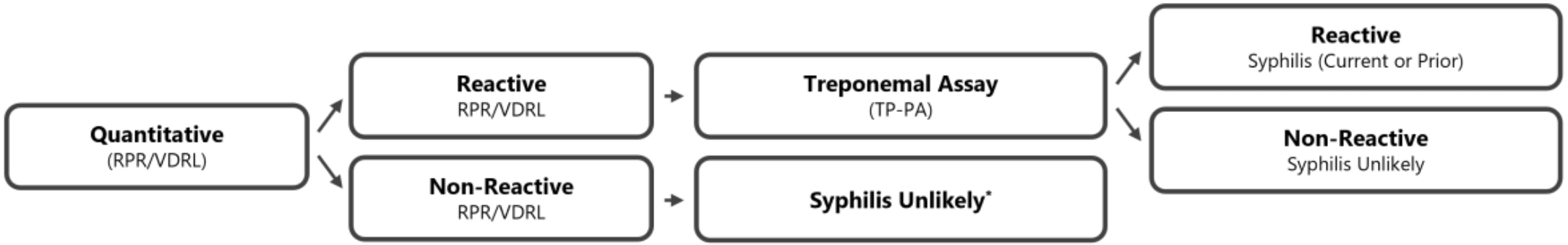
Detection of Syphilis

- Direct detection (confirmed syphilis) can be accomplished with darkfield examinations and molecular tests in which *Treponema pallidum* is directly identified from lesion exudate or tissue (early syphilis (symptomatic) and congenital syphilis).[5]
- A presumptive diagnosis of syphilis requires the use of two laboratory serologic tests—a non-treponemal test (i.e., VDRL or RPR test) and a treponemal test (i.e., the *Treponema pallidum* Passive Particle Agglutination (TP-PA) assay, various enzyme immunoassays (EIAs), chemiluminescence immunoassays (CIAs) and immunoblots, and/or rapid treponemal assays).[5]

Traditional Algorithm

- Non-treponemal test antibody titers are used for monitoring treatment response and should be reported quantitatively.[5]
  - A four-fold change in titer, equivalent to a change of two dilutions (e.g., from 1:16 to 1:4 or from 1:8 to 1:32), is considered "necessary for demonstrating a clinically significant difference between two non-treponemal test results obtained by using the same serologic test."[5]
  - It is preferred that sequential tests for patients diagnosed with syphilis are performed using the same testing method (VDRL or RPR) and by the same laboratory.[5]
- Quantitative non-treponemal test titers are expected to decrease after adequate treatment and can become non-reactive over time.[5]

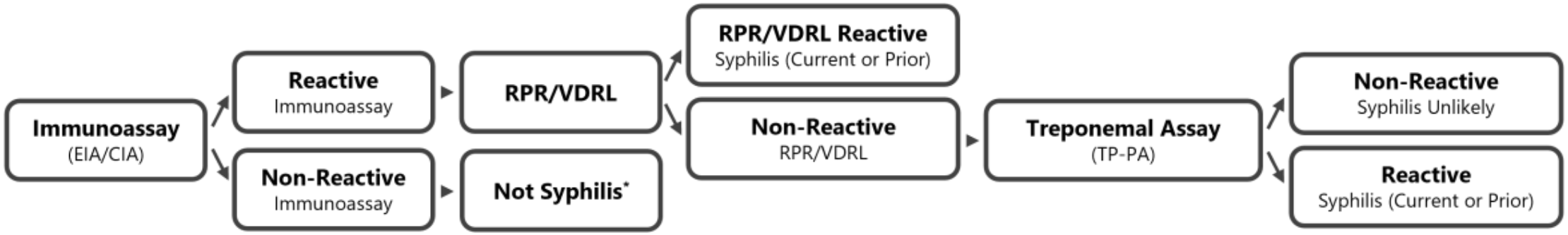
Traditional Algorithm



1. Screen with non-treponemal assay (RPR/VDRL).
2. Confirm reactive non-treponemal assay with treponemal assay.

Reverse-Sequence Algorithm

The reverse-sequence algorithm for syphilis testing can identify patients who have previously been treated for syphilis, those with untreated or incompletely treated syphilis, and those with false-positive results that can occur with a low likelihood of infection.[4]



1. Screen with immunoassay (either EIA or CIA).
2. Confirm reactive immunoassay with non-treponemal assay (VDRL or RPR).
3. Clarify discordant EIA/CIA and RPR/VDRL results with second treponemal assay (TP-PA).

Prevention Initiatives

Maternal Criteria

A condition affecting an infant whose mother had **untreated or inadequately treated syphilis at delivery**, **regardless of signs in the infant**.*

Public health initiatives should take all measures to prevent the maternal criteria of congenital syphilis from being met.

The secondary goal of the maternal criteria not being met is that it reduces the infant criteria from being met.

Infant Criteria

An infant or child who has a reactive non-treponemal test for syphilis (VDRL, RPR, or equivalent serologic methods) **and** any one of the following:

- Any evidence of congenital syphilis on physical examination;
- Any evidence of congenital syphilis on radiographs of long bones;
- A reactive CSF VDRL test; or
- In a non-traumatic lumbar puncture, an elevated CSF WBC count or protein (without other cause).

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

Treatment Adequacy

- Infants born to women with untreated or inadequately treated syphilis at the time of delivery are classified as probable cases of congenital syphilis.
- Appropriate documentation of treatment is essential for determining treatment adequacy.

Infants with reactive syphilis serology should be considered infected unless an adequate treatment history is clearly documented and sequential non-treponemal antibody test titers have decreased as recommended for the syphilis stage. This includes infants with persistent reactive treponemal result(s) and non-reactive non-treponemal result(s).

Treatment Adequacy

- BICILLIN L-A is the only known effective antimicrobial for treating fetal infection and preventing congenital syphilis.
- ***During*** pregnancy, there are no alternatives to BICILLIN L-A treatment. Women who have a history of penicillin allergy should be desensitized and treated with BICILLIN L-A according to their syphilis stage.
    - The optimal interval between doses of BICILLIN L-A for pregnant women receiving treatment for late syphilis (unknown duration or late syphilis) is seven days, but a window of 6-9 days is acceptable.
    - Missed doses—or doses greater than nine days apart—are not acceptable during pregnancy. ***If a dose is missed or the interval between two doses exceeds nine days, the entire course of therapy should be restarted***.
- ***NOTE:*** *Due to the voluntary recall of Bicillin L-A (Penicillin G Benzathine Injectable Suspension), providers should prioritize use of Bicillin L-A for treatment of pregnant women and babies with congenital syphilis.*

- *Doxycycline is contraindicated during pregnancy*. For non-pregnant women and men, Doxycycline 100mg PO BID for 2 weeks (for early syphilis) or four weeks (for latent or syphilis of unknown duration) is the recommended alternative.

Treatment Adequacy

- If the patient requires more than one dose of BICILLIN L-A, each dose must be documented separately with the date that treatment was administered.
- If a patient reports a history of syphilis and previous treatment from out-of-state, but records are unsuccessfully located or record search results are negative, ***the patient should be retreated***. If the patient reports a history of syphilis from out of the country and does not have documentation of treatment, ***the patient should be retreated***.

- NOTE: Titer decrease may occur over 3-12 months for primary infections whereas secondary infections may decrease over 12-24 months. Always consider the possibility of reinfection.

Congenital Syphilis is Preventable

Toolkit can be found here: https://www.in.gov/health/audiences/clinicians/clinical-guidelines-and-references/congenital-syphilis-clinician-toolkit/

Includes:

- Dashboards (adult and congenital syphilis)
- Case definitions
- Treatment algorithm
- Clinical staging
- Treatment information

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Indiana STI Reporting Requirements

A variety of sexually-transmitted infections (including syphilis, gonorrhea, and chlamydia) and associated laboratory reports are reportable to IDOH.

- Summaries of which conditions are reportable for Healthcare Providers and Hospitals and which Results/Pathogens are reportable for Laboratories can be found at:
  - https://www.in.gov/health/idepd/communicable-disease-reporting/
- Additional guidance for what should be included with provider reports for each condition is located at:
  - https://www.in.gov/health/hiv-std-viral-hepatitis/std-surveillance/#reporting
  - This site also has links to REDCap forms to report for Chlamydia, Gonorrhea, and Syphillis

If you have any questions regarding STI Reporting Requirements please contact our STI Epidemiologist, Andrew Medellin (AMedellin@health.in.gov).

2024 STI Surveillance Data Finalized

- Indiana's 2024 STI Surveillance data have been finalized and the 2024 STI Executive Summary report has been published to the STI Surveillance website here.
- Slides have also been published with additional STI Surveillance data here.

For syphilis questions and assistance, contact:

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Questions?

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