Stopping Syphilis:
The HHS Summer Seminar Series

Correctional Facilities: Best Practices for Managing Syphilis

Office of Infectious Disease and HIV/AIDS Policy
Office of the Assistant Secretary for Health

August 14, 2024

OASH | Office of the Assistant Secretary for Health

Webinar Agenda

Topic
Welcome and Opening Remarks
Syphilis Trends, Risk Factors, and Best Practices in the Federal Bureau of Prisons
Considerations Regarding Testing Algorithms for Syphilis in Correctional Facilities
Special Considerations for Testing People Who are Pregnant During Incarceration
Q&A Session
Close

Syphilis Trends, Risk Factors, and Best Practices in the Federal Bureau of Prisons

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Population & Correctional Health Branch

Bureau of Prisons

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Syphilis Trends, Risk Factors, and Best Practices in the Federal Bureau of Prisons

Disclosure

This presentation was prepared for informational purposes only. The opinions, views, and content expressed are solely of the content creator and speaker and do not necessarily reflect the view of the Federal Bureau of Prisons, its affiliates, or employees.

Terminology

Jails	Prisons
Short-term facilities (< 1 year)	Longer-term facilities (generally)
People awaiting trial, sentencing, or both	People serving sentences (generally)
Typically those with misdemeanors	Typically those with felonies
Run by local counties	Run by state or federal government

There may be differences in terminology by state.

Mission

- To better understand Adult in Custody population and subpopulations among 121 federal prisons nationwide through data
- To guide interventions that will improve health outcomes and promote health equity within our vulnerable population

Detecting a rise in syphilis cases

- Increased ICD-10 coding for syphilis detected in our electronic medical record
- More case consultation occurring with our regional infection prevention & control consultants
- Research performed on community syphilis trends

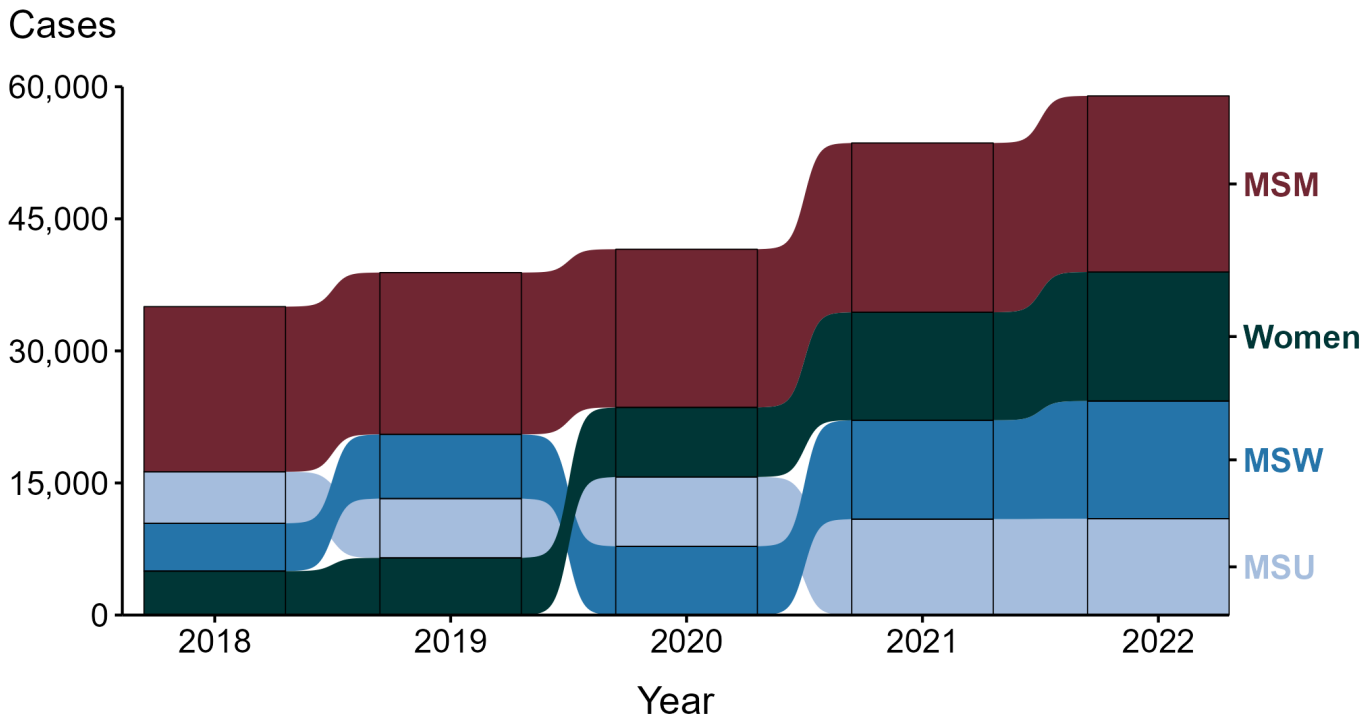
Community Syphilis Trends

Answer: An 80% increase in syphilis cases from 2018-2022.

- In 2022 syphilis cases have reached the highest level since the 1950s!
- 10 times more babies were born with congenital syphilis in 2022 than in 2012.

Cases remain high in MSM, but an increasing share of cases among Women and MSW

Primary and Secondary Syphilis — Reported Cases by Sex and Sex of Sex Partners, United States, 2018–2022



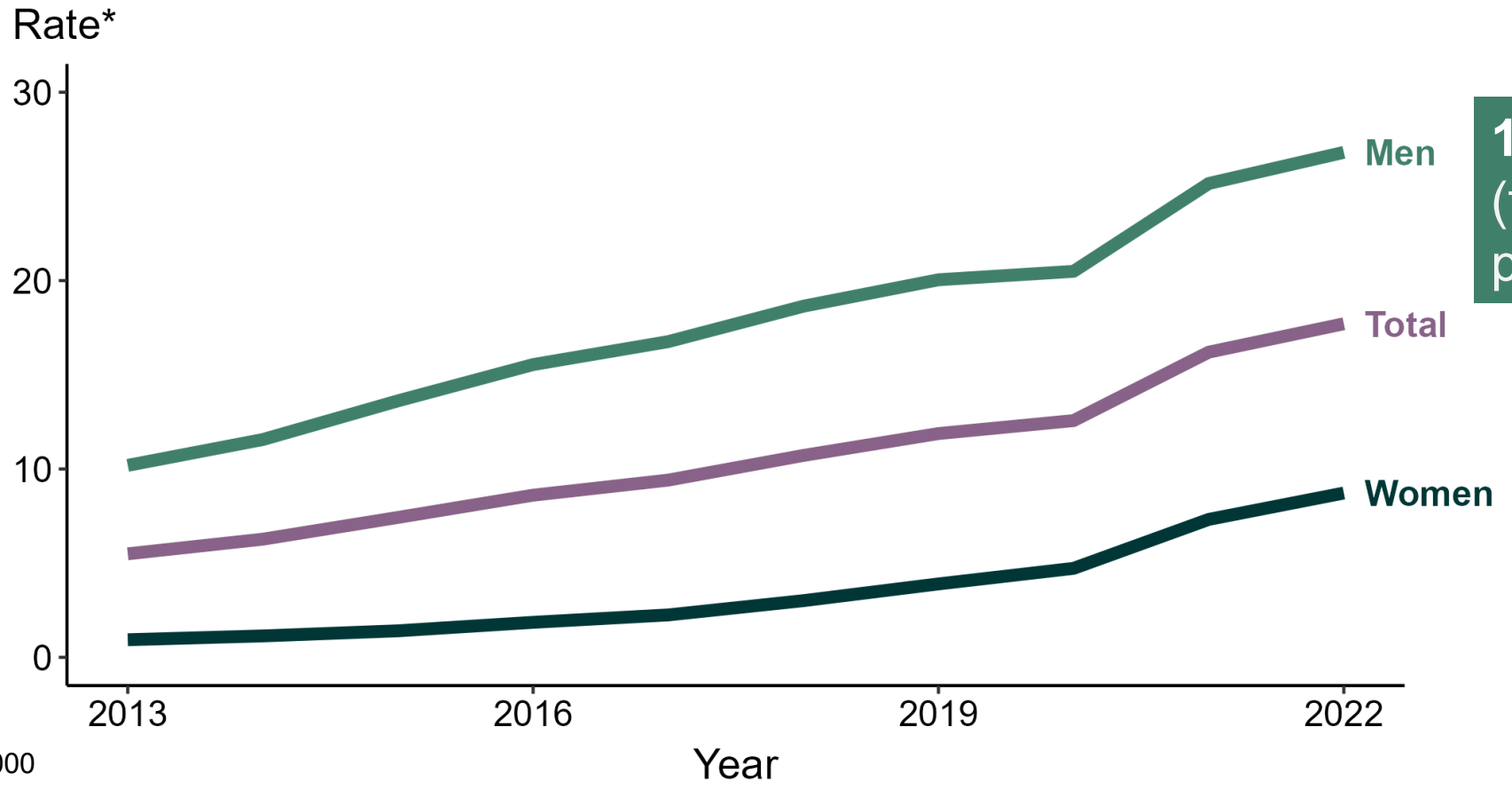
ACRONYMS: MSM = Men who have sex with men; MSU = Men with unknown sex of sex partners; MSW = Men who have sex with women only

NOTE: Over the five-year period, 0.2% of cases were missing sex and were not included.

PRIMARY AND SECONDARY SYPHILIS BY SEX, 2013 - 2022

SYPHILIS TRENDS

Over ten years, the primary and secondary syphilis rate among **women** increased **867%.**



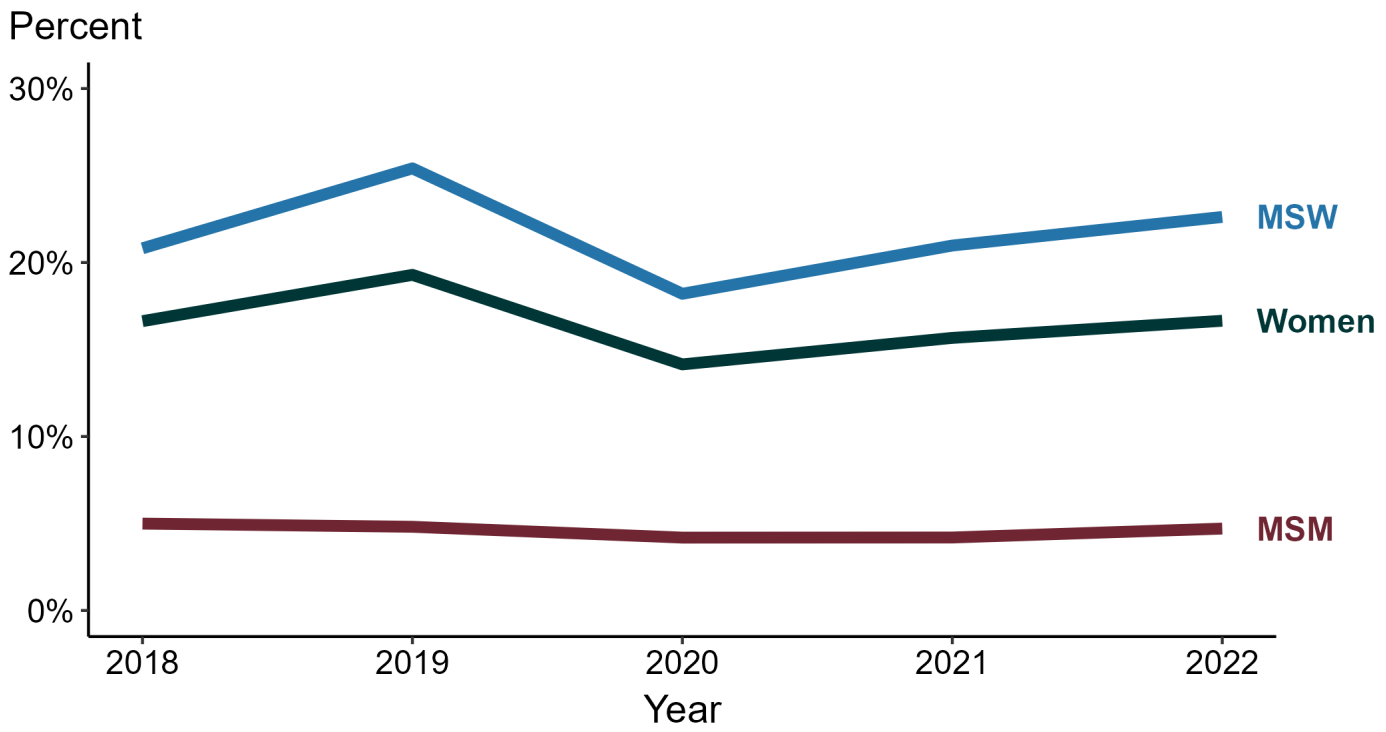
163% INCREASE (from 10.2 to 26.8 per 100,000)

867% INCREASE (from 0.9 to 8.7 per 100,000)

- Per 100,000
- NOTE: Includes all stages of syphilis and congenital syphilis

Patients with syphilis report high levels of prior incarceration

Primary and Secondary Syphilis — Percentage of Cases Reporting Incarceration* by Sex and Sex of Sex Partners, United States, 2018–2022

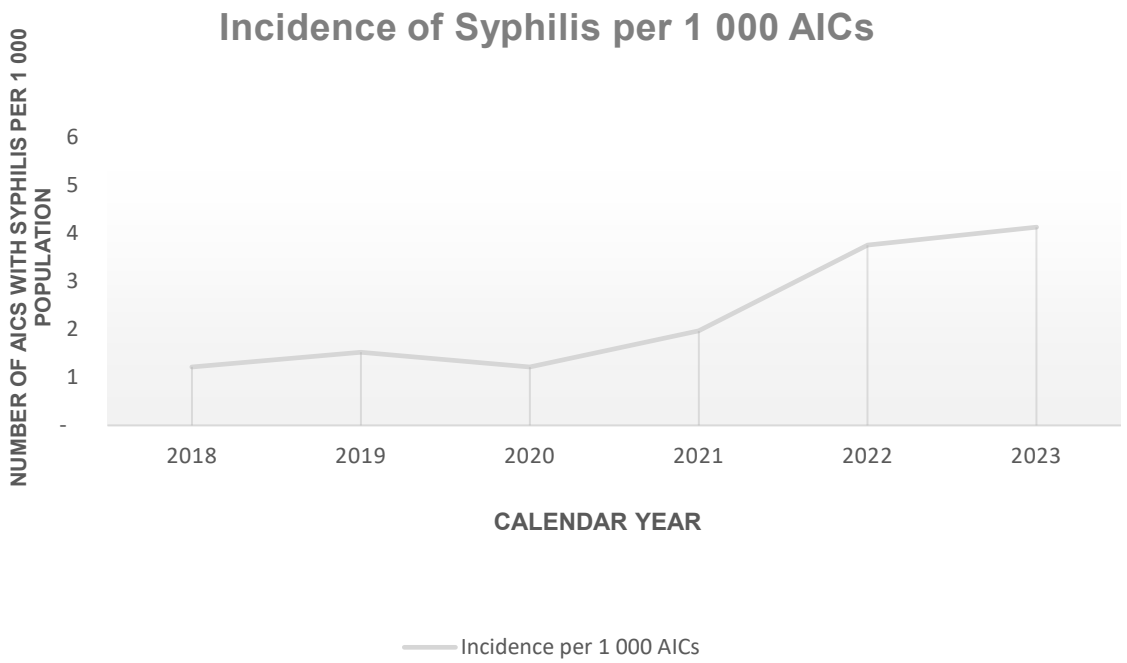


* Proportion reporting being incarcerated within the last 12 months calculated among cases with known data (cases with missing or unknown responses were excluded from the denominator).

ACRONYMS: MSM = Men who have sex with men; MSW = Men who have sex with women only

The Incidence of Syphilis Rose from One Adult in Custody (AIC) Per Thousand Population to Four from 2018 To 2023

Annual Incidence Rate of Syphilis per Thousand Adults in Custody between CY 2018- CY 2023						
Measures	2018	2019	2020	2021	2022	2023
New Cases	305	376	256	401	780	876
Population Size	250,366	246,605	210,960	203,569	207,760	212,142
Incidence per 1 000 AICs	1	2	1	2	4	4



Average time to screening

- 53 days after intake
- However, many facilities were not performing routine screening testing.
- These facilities were following the CDC and BOP guidance at the time, which was risk-based, not universal.

Syphilis Diagnosis Trends Over Time

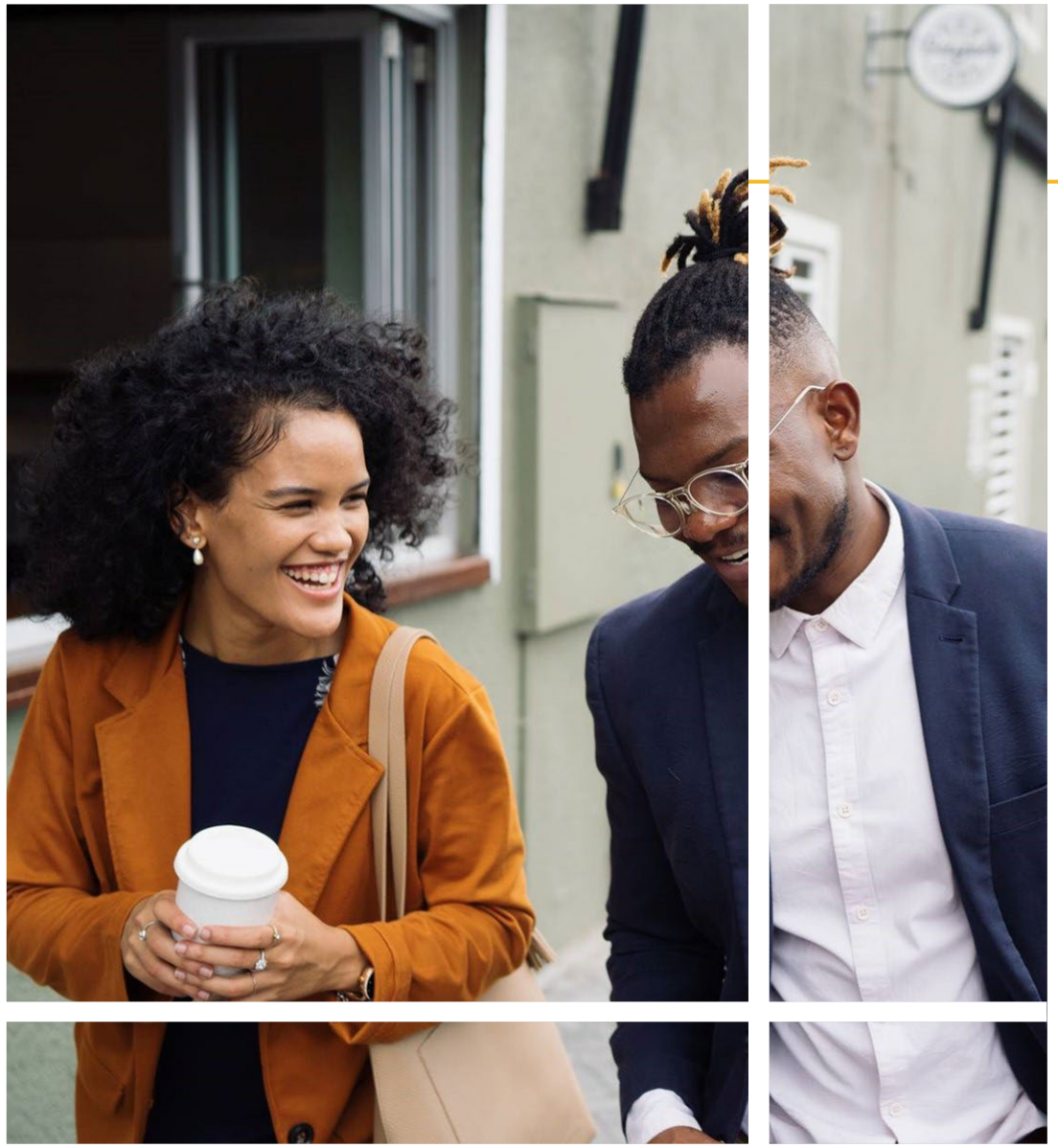
The following subgroups have an increasing share of syphilis diagnoses over the study period:

- Females from 2020 to 2022
- Adults in Custody between 35-44 years old from 2020 to 2022
- American Indian/Alaska Natives from 2020 to 2023
- Residents from Arizona, Missouri, and New York since 2021
- Have completed High School or GED
- Had a concurrent sexually transmitted infection
- Had immigration offenses

Analysis and Odds Ratios

- Associations of sex, age group, race, ethnicity, educational attainment, offense history, and comorbid infections remained significant at 0.05 confidence level
- Adults between **18-24 years old were more likely** to acquire syphilis than adults over 55 years old (OR=1.4, CI=1.2,1.7)
- **Females were almost three times more likely** than males to be diagnosed with syphilis
- **People identified as American Indian/Alaska Natives were almost two times more likely** than **people identified as white** to be diagnosed with syphilis
- Those AICs **without a High School diploma or GED** and were enrolled in a program were 80% more likely diagnosed
- Comorbid infections were highest among those with HIV (OR=19.5, CI=17.1,22.2), followed by Gonorrhea (OR=9.2, CI=5.5, 15.5), and Chlamydia (OR=5.2, CI=3.7,7.4)

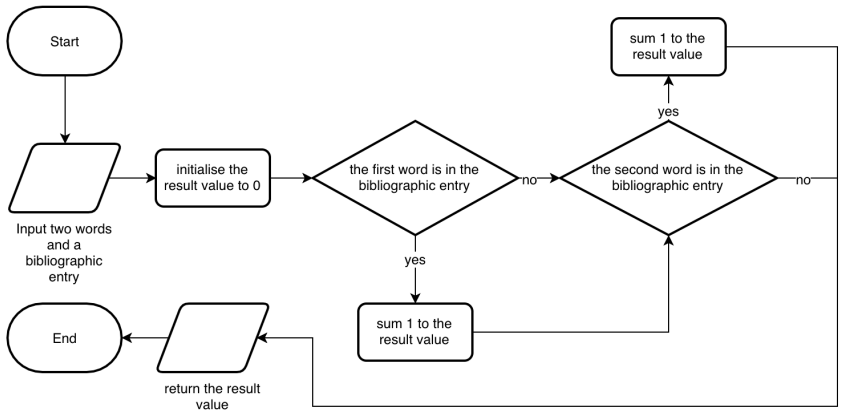
Best Practices in Correctional Syphilis Programs



Changing our clinical guidance and protocols

- Moving to **universal opt-out testing** for syphilis upon entrance to a new facility
- Adding in current recommendations for testing during pregnancy (28 weeks' gestation and at delivery)
- Encouraging "bundling" of other routine tests, such as HIV and Hepatitis B & C
- Switching to a reverse testing algorithm through our national laboratory contract

Spotlight on the Reverse Testing Algorithm



- Conventional testing algorithm:
  - **RPR followed by Treponemal test, if positive**
- Reverse testing algorithm
  - **Treponemal test followed by nontreponemal test, if positive**
  - **If discrepancy detected, then TP-PA test as "tie breaker"**
- Reverse testing algorithm is more sensitive
- However, more false positives

Need for Lab Education to the Field

- In the FBOP, most facilities need to manually order the follow-up TP-PA, if needed
  - **Only automated at 3 correctional facilities with in-house laboratory**
- Memo went out to the field upon release of the new reverse testing algorithm
- However, we recently detected that some of these follow-up TP-PA tests are not being ordered
  - **Could lead to a missed opportunity for treatment**
- New employee education and reporting developed to address this issue

One Additional Consideration on the Reverse Testing Algorithm

- If your organization makes a similar switch, it's helpful to make the reverse algorithm test more prominent among the lab choices.
- An RPR ordered alone should only be utilized for the 6-, 12-, and 24-month follow-up after a positive test (to ensure treatment success) (unnecessary to repeat the full algorithm).

Pharmacy Interventions

Centralized Pharmacy System:

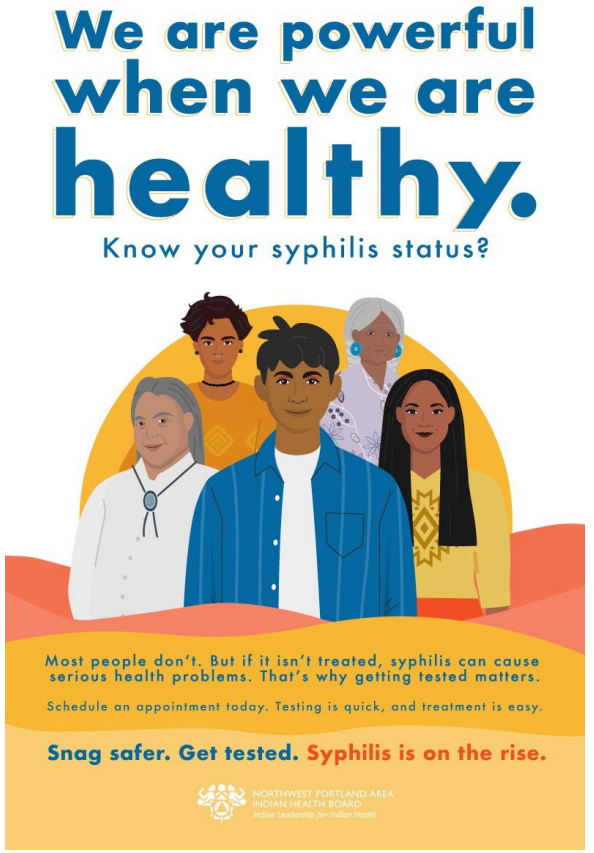
- Allowed for early monitoring of Bicillin shortages
- Streamlined purchasing of Bicillin
- Directed prison pharmacies nationwide to check expiration dates and divert Bicillin to areas with shortages

Clinician Education

- 60-minute webinar delivered to over 70 participants in September 2023 on syphilis signs/symptoms, need for universal screening, testing algorithms, etc.
  - Partnered with National Network of STD Prevention Training Centers
    - Able to link clinicians to subject matter experts for confusing syphilis cases through STDCCN (e.g., cases of potential treatment failure or reinfection)
- Field calls delivered to over 50 participants to update Quality Improvement/Infection Prevention & Control Coordinators on uptick in syphilis cases, new screening recommendations and testing algorithm
- 60-min educational seminar delivered to 150 FBOP employees on changes to syphilis guidance
- Two clinical alerts delivered to over 200 FBOP employees nationwide on increase in syphilis cases to raise awareness

Next Steps: Adult in Custody Educational Campaign

- Adults in Custody have access to computers for email.
- Employing computer screensavers to deliver health education across the FBOP (over 200,000 views)
- Planning to post content on the importance of syphilis testing and treatment.
    - Incorporating messaging to appeal to the most affected subgroups
    - Need for culturally competent language/messaging



Next Steps: Follow-Up Analyses

- Planned for end of CY2024
- Comparing screening rates, especially among most vulnerable subpopulations
- Analyzing for changes in subpopulations most affected

Point-Of-Care Testing for People Incarcerated for a Short Period

Tomina Kinzie, RN, BSN

Director of Public Health
Fort Peck Tribal Health

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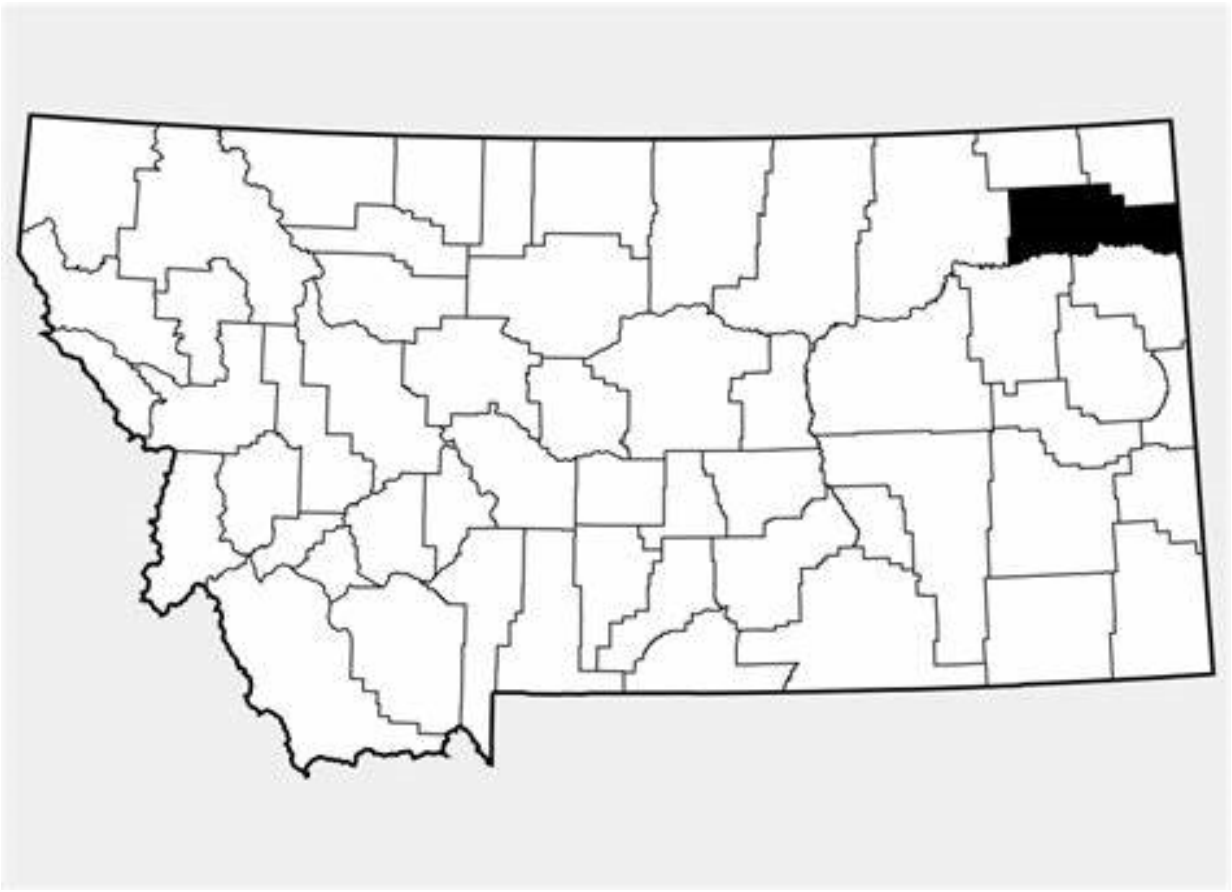
Fort Peck Indian Reservation

- Roosevelt County, Montana
- Population size: ~10,000
- 2 IHS facilities (Wolf Point, Poplar)
- Tribal Health
- Prenatal Testing & Referral
- Tribal Adult Corrections



Syphilis Statistics in Montana (2023)

Between 2020 and 2023:

- 728% increase in syphilis cases (762 reported cases)
- 1,800% increase in congenital syphilis cases (19 cases)

Fort Peck Adult Correctional Facility

- Located in Poplar, MT
- # of inmates: <100
- Serves as both a Jail and a Prison
- Risk Factors: Substance Use (IVDU)
- Healthcare provided by Tribal NP & IHS

POC Syphilis Tests

Diagnostics Direct

- CLIA waived rapid treponemal antibody test
- Fingerstick, requires 2 drops of blood + 4 drops of diluent
- Results in 10 minutes

POC Syphilis Tests

Chembio

- CLIA waived rapid treponemal antibody and HIV antibody test
- Fingerstick, requires 10 uL of blood + 6 total drops of buffer
- Results in 15 minutes

Point of Care Syphilis Tests

- Portable, can be done in the field
- Provides immediate results, RPR can take up to a week to result
- Reduces time to treatment, minimizes individuals lost to follow-up
- Community Health Workers able to conduct testing
- Cannot be used in people previously treated for syphilis.

Workflow

- Testing is conducted as needed (roster is emailed weekly)
- Reactive point of care tests results: RPR drawn on-site
- Treatment provided on-site
- Follow-up if needing multiple injections
- Documentation in EHR
- Data sharing with Montana State

Opportunities & Lessons Learned

- Buy-in from corrections and c
- Incentives (gift cards)
- Rapid testing bundles (HIV, HCV, GC/CT)
- DoxyPEP
- HIV PrEP

Special Considerations for Testing People Who are Pregnant During Incarceration

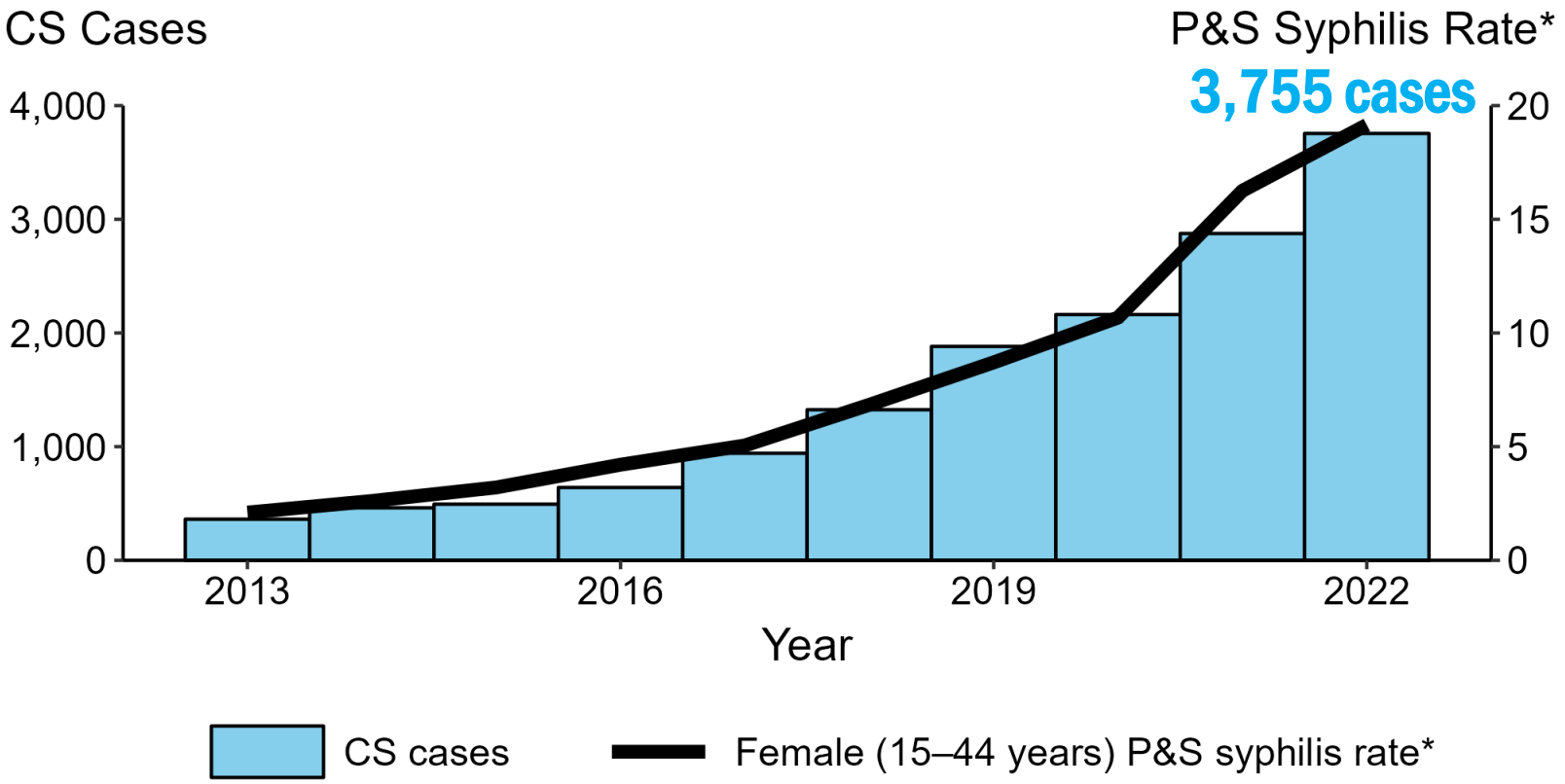
Kate Miele, MD, MA, FACOG

Centers for Disease Control and Prevention

OASH | Office of the Assistant Secretary for Health

CONGENITAL SYPHILIS CASES, 2013 – 2022

In 2022, **3,755 cases of congenital syphilis** were reported. These numbers have increased alongside primary and secondary syphilis among women.



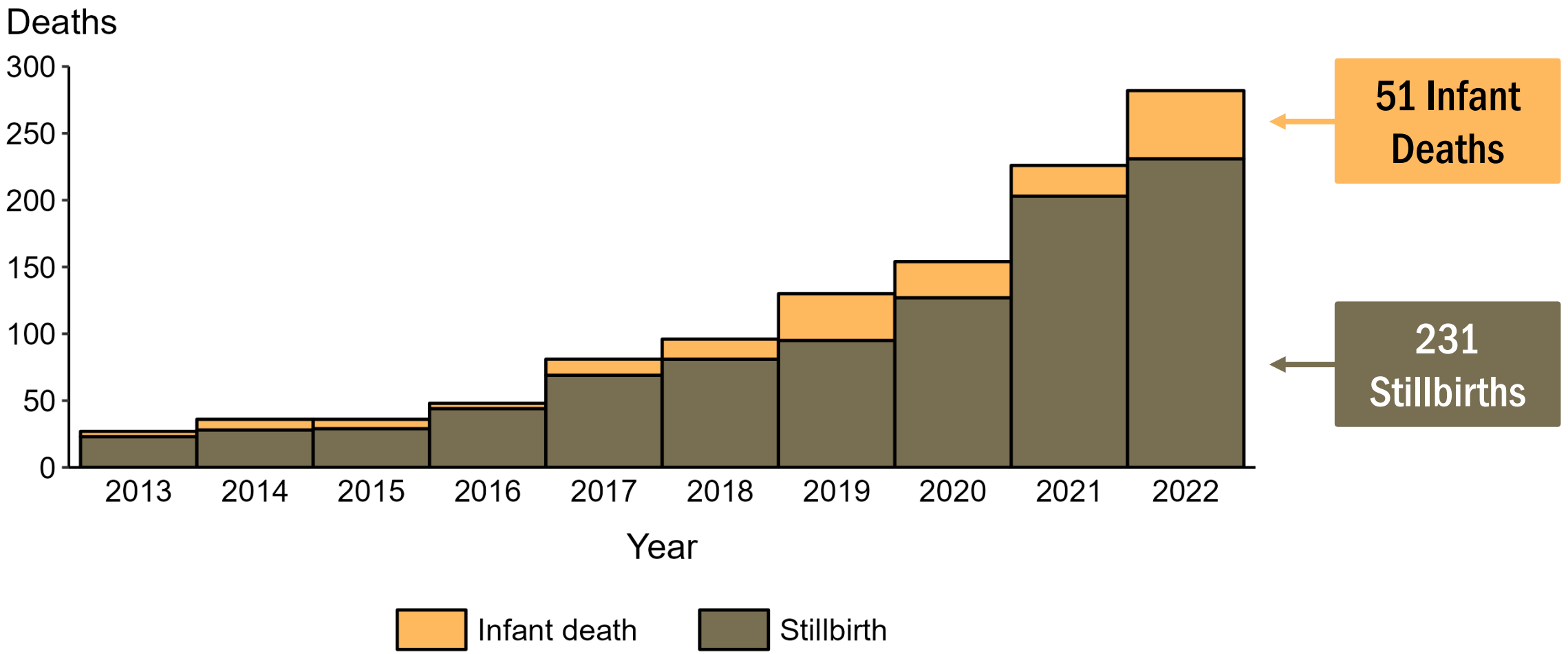
31% since 2021

937% since 2013

* Per 100,000

CONGENITAL SYPHILIS CASES, 2013 – 2022

Congenital syphilis-related **stillbirths and infant deaths** have increased.



CONGENITAL SYPHILIS CASES, 2013 – 2022

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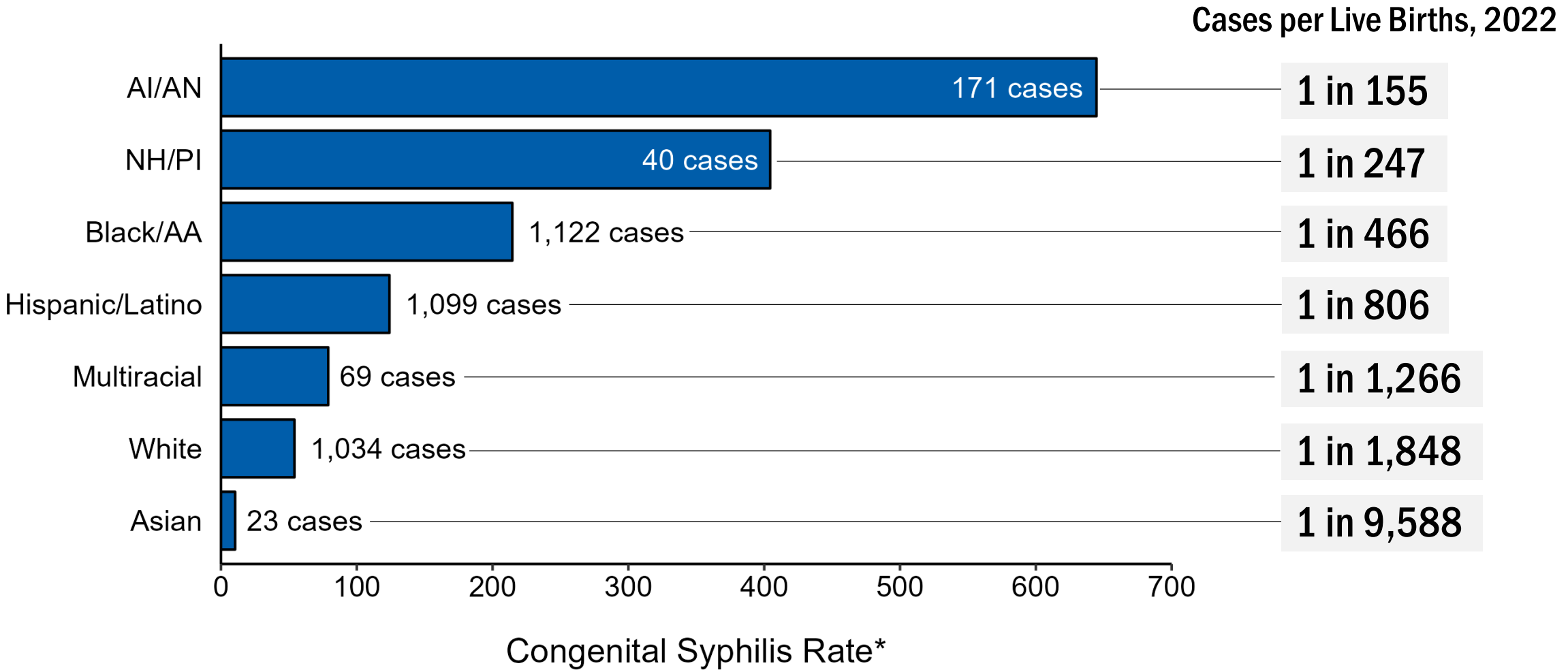
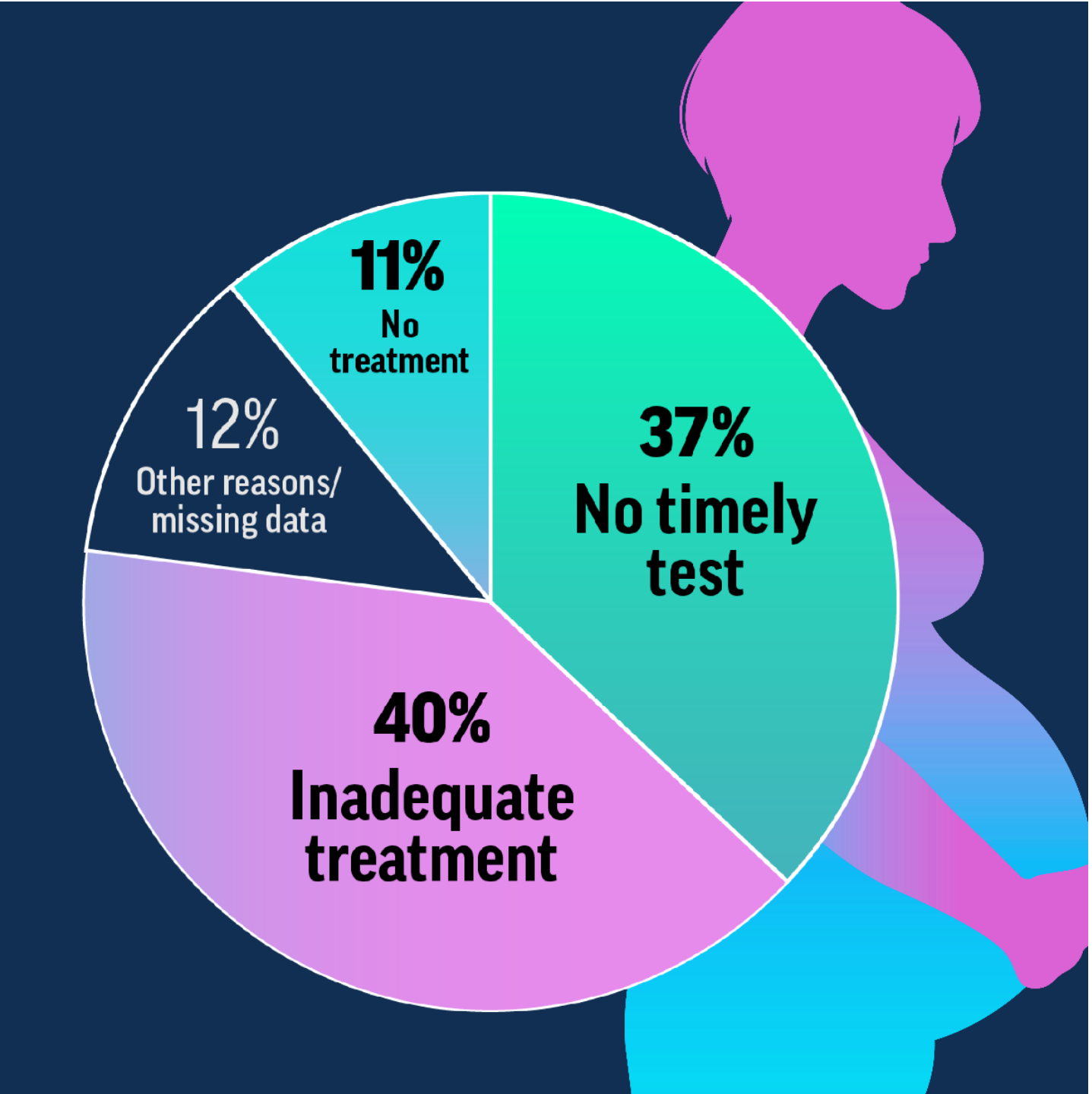
There are differences in the burden of congenital syphilis by race and ethnicity.



*Per 100,000 live births

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



Timely syphilis testing and treatment during pregnancy could have prevented almost 90% of cases.

COMPLICATIONS OF UNTREATED SYPHILIS

Neurosyphilis/Ocular Syphilis/Otosyphilis

- Stroke
- Meningitis
- Blindness
- Hearing loss

Congenital Syphilis *(Transplacental Transmission)*

- Miscarriage
- Stillbirth
- Neonatal death

Increased HIV Acquisition/Transmission

EARLY CONGENITAL SYPHILIS (UNDER 2 YEARS OLD)

If left untreated, congenital syphilis can lead to serious complications.

Most babies are without symptoms!

- Hepatosplenomegaly
- Jaundice
- Rash
- Snuffles
- Bone abnormalities

[1] Catueno, S., Tsou, P.-Y., Wang, Y.-H., Becker, E., & Fergie, J. (2022). Congenital Syphilis and the Prozone Phenomenon: Case Report. The Pediatric Infectious Disease Journal, 41(6), e268-e270. https://doi.org/10.1097/inf.0000000000003522

[2] Arrieta, A. C., & Singh, J. (2019). Congenital Syphilis. *New England Journal of Medicine, 381(22), 2157-2157. https://doi.org/doi:10.1056/NEJMicm1904420*

[3] CDC Public Health Image Library - https://phil.cdc.gov/Default.aspx

[4] Jacobs, K., Vu, D. M., Mony, V., Sofos, E., & Buzi, N. (2019). Congenital Syphilis Misdiagnosed as Suspected Nonaccidental Trauma. Pediatrics, 144(4). https://doi.org/10.1542/peds.2019-1564

LATE CONGENITAL SYPHILIS (OVER 2 YEARS OLD)

If left untreated, congenital syphilis can lead to serious complications.

Classic Hutchinson's Triad:

1. Complications with eyes
2. Deafness
3. Complications with teeth

- Skull (saddle nose, frontal bossing)
- Long bones
- Developmental delay

[1] Arrieta, A. C., & Singh, J. (2019). Congenital Syphilis. New England Journal of Medicine, 381(22), 2157-2157. https://doi.org/doi:10.1056/NEJMicm1904420

[2]CDC Public Health Image Library - https://phil.cdc.gov/Default.aspx

CONGENITAL SYPHILIS PREVENTION

Congenital syphilis can be prevented by:

Diagnosing and treating syphilis
prior to pregnancy

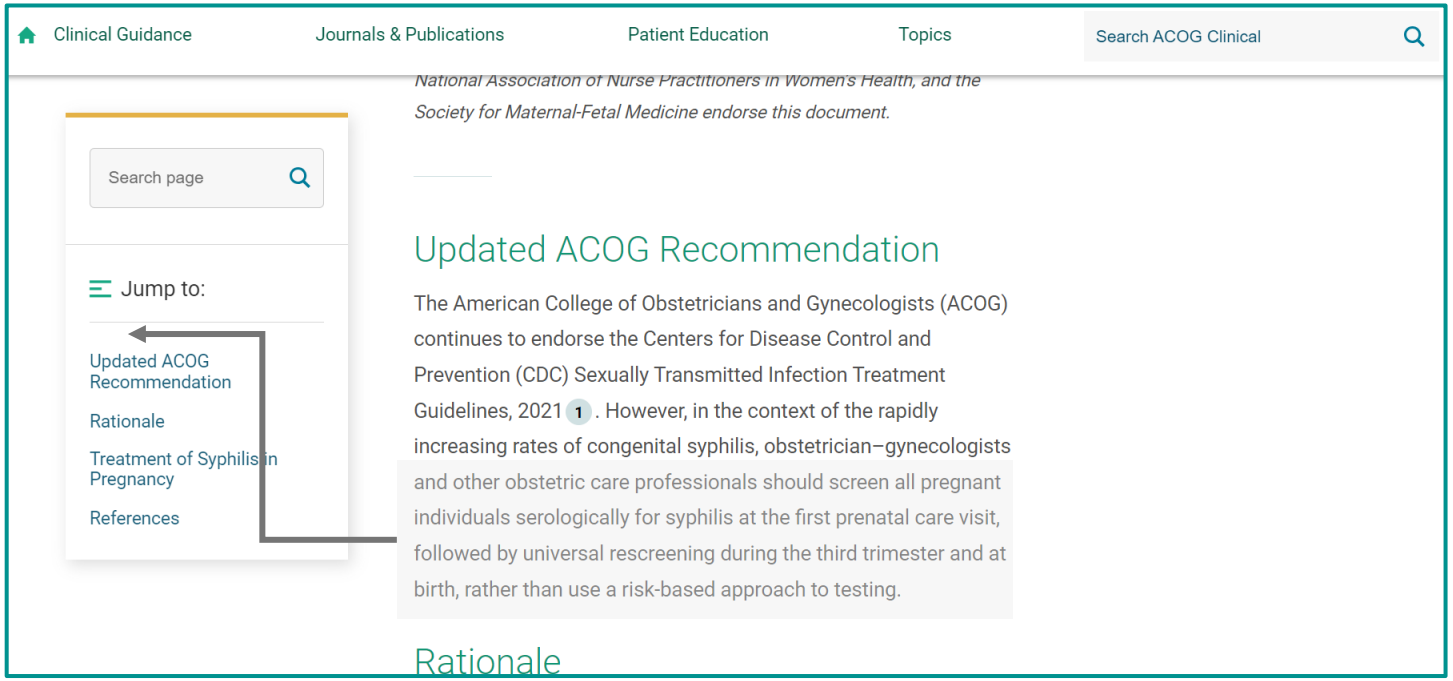
Diagnosing and treating syphilis
≥ 30 days before delivery

Treatment of syphilis during pregnancy can
treat fetal infection and prevent congenital syphilis.

UPDATED ACOG RECOMMENDATIONS

All pregnant people should be tested for syphilis three times!

Obstetrician–gynecologists and other obstetric care professionals should screen all pregnant individuals 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.



PREGNANT PEOPLE

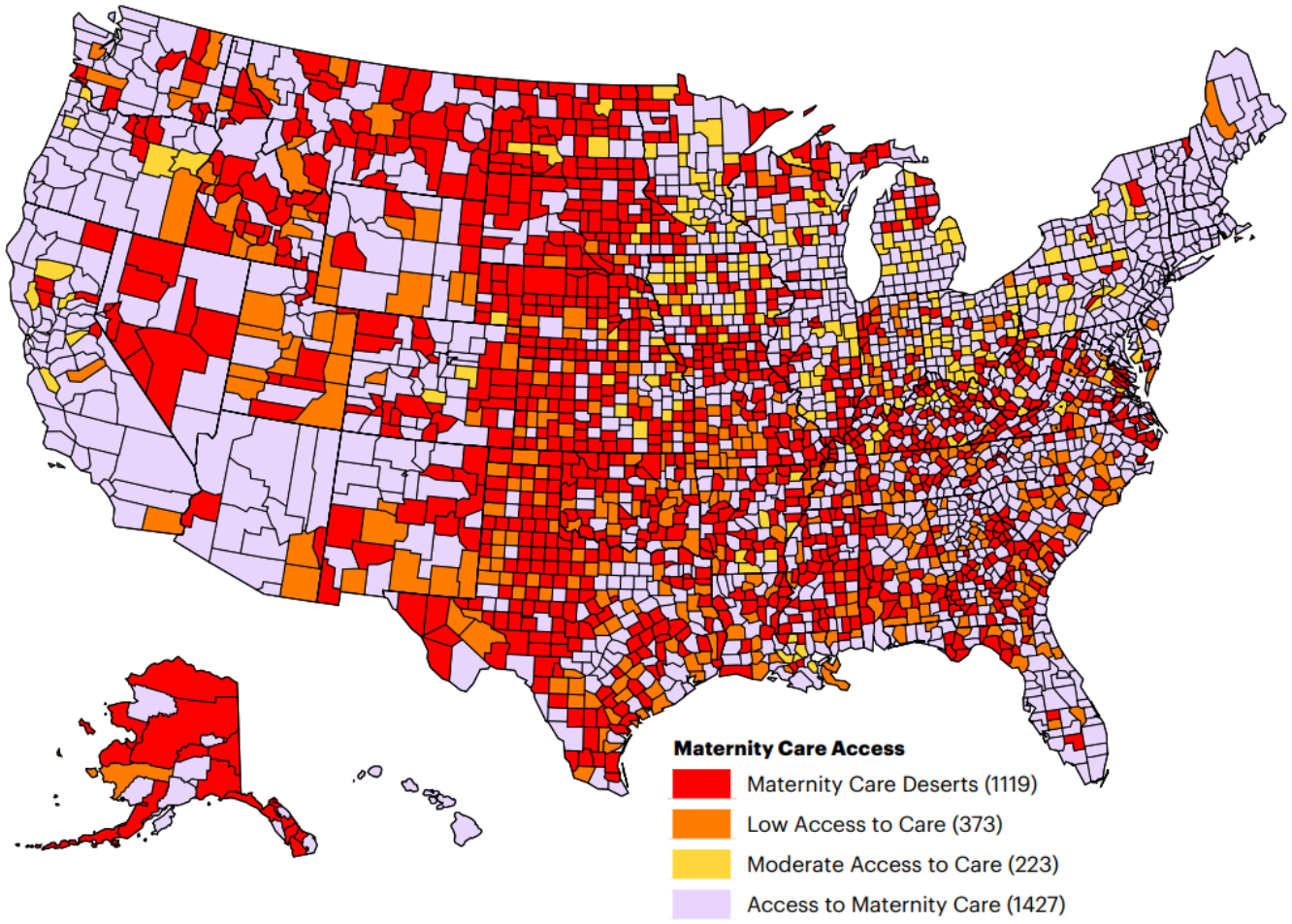
1. First prenatal visit
2. 28 weeks
3. At delivery

* All people delivering a stillborn infant

Additional Considerations

- All pregnant people should be tested for syphilis three times.
- **Most states mandate testing** at the first prenatal visit.
- **Consider point-of-care testing** at intake if follow up may be an issue.

Pregnancy care deserts is a growing problem.



More than 2.2 million women of childbearing age live in pregnancy care deserts.

Source: U.S. Health Resources and Services Administration (HRSA), Area Health Resources Files, 2021.

Pregnant people who have a history of **penicillin allergy should be desensitized** and treated with penicillin G benzathine.

Treat with Penicillin G Benzathine (Long-Acting IM)

- Early Syphilis (primary, secondary, and early latent)
  - 2.4 million units x 1 dose

- Late or Unknown Duration Syphilis
  - 2.4 million units x 3 at 1-week intervals
  - Optimal treatment interval: 7 days
  - Acceptable treatment interval: **up to 9 days**

Follow-up and partner testing are critical.

- Titers:
  - Compare to the titer obtained on the first day of treatment
  - Adequate response is a four-fold decrease
  - Reinfection concern if signs/symptoms or four-fold increase

- Pregnancy:
  - If treated before 24 weeks, repeat after 8 weeks and at delivery
  - If treated after 24 weeks, repeat at delivery alone

- Outside of Pregnancy:
  - 6, 12, and 24 months

Strategies to Address Congenital Syphilis in Correctional Facilities

1. **Opt out syphilis screening** for everyone

2. **Syphilis screening three times during every pregnancy**
   (at intake, 28 weeks, and delivery)
   – Per ACOG's new guidance.

3. **Point-of-care testing** for anyone with follow-up challenges

4. **Prioritize treating people who are pregnant** with benzathine penicillin G as needed.

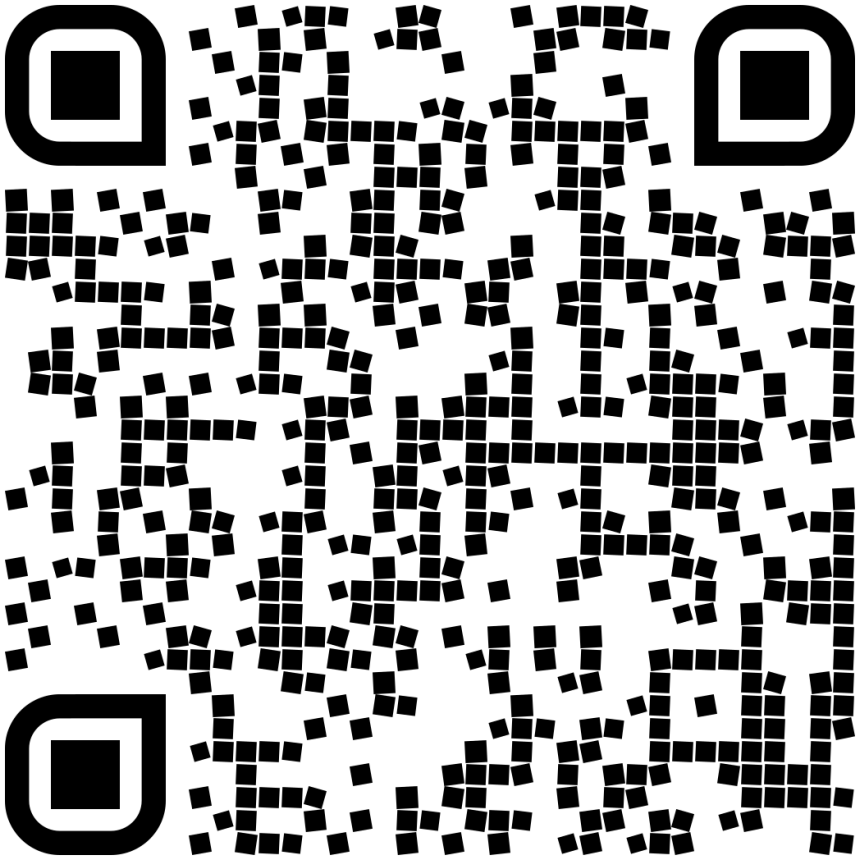
5. **Test and treat the partners** of people who are pregnant.

6. **Integrate syphilis education** into existing programs.

Syphilis Resources

- Updated 2021 STI Treatment Guidelines App
  https://www.cdc.gov/std/treatment-guidelines/provider-resources.htm
- National Network of STD Clinical Prevention Training Centers
  www.nnptc.org
- National STD Curriculum
  www.std.uw.edu
- STD Clinical Consultation Network
  www.stdccn.org
- Indian Country ECHO Syphilis Resource Hub
  https://www.indiancountryecho.org/resource-hubs/syphilis-resources/
- HHS Considerations for the Implementation of Point of Care Tests for Syphilis
  https://www.hhs.gov/sites/default/files/nscss-considerations-for-the-implementation-of-syphilis-poc-tests.pdf
- Clinical Training Center for Sexual and Reproductive Health
  https://ctcsrh.org/?s=syphilis

Additional Resources and Information



Scan the QR Code to see:

- Webinar schedule
- Various resources related to the series including:
  - **Slide decks from each webinar**
  - **Federal agency funding flexibilities**
  - **Professional and clinical resources for syphilis and congenital syphilis**

Thank You and Contact Information

For more information, or if you have any questions or feedback, contact the HHS Sexually Transmitted Infections Inbox at STI@hhs.gov

Notify CDC's DSTDP (stdshortages@cdc.gov) of any shortage or low inventories of STI treatments in your jurisdiction so CDC can continue monitoring treatment availability.

Presenters:

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- Kate Miele, MD, MA, FACOG, Centers for Disease Control and Prevention, pph9@cdc.gov

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