



STIs in Focus: The Latest on Syphilis and Prevention Strategies

June 3, 2026

NORTH
Dakota
Be Legendary.

Health & Human Services

Topics of Discussion

- Identify the current impact of syphilis and other STIs in North Dakota.
- Describe the process of diagnosing syphilis.
- Summarize CDC recommended treatment regimens and follow-up testing.



The State of STIs in the U.S. in 2024

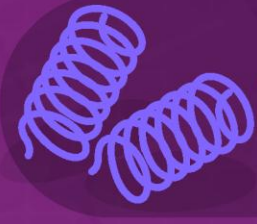
Data are provisional. Details: www.cdc.gov/sti-statistics



1.5 million cases of **CHLAMYDIA**; **4% decrease** since 2020.



543,409 cases of **GONORRHEA**; **20% decrease** since 2020.



190,242 cases of **SYPHILIS**; **42% increase** since 2020.



3,941 cases of **SYPHILIS AMONG NEWBORNS**; **82% increase** since 2020.

29

North Dakota Ranking
Chlamydia
Rate, 2023

27

North Dakota Ranking
Gonorrhea
Rate, 2023

30

North Dakota Ranking
Primary and Secondary Syphilis Rate, 2023

SYPHILIS **ISN'T** A THING OF THE PAST.

In the early 2000s, syphilis was at an all-time low. Now it is spreading at the highest rate in more than 20 years. And it could be closer than you think.

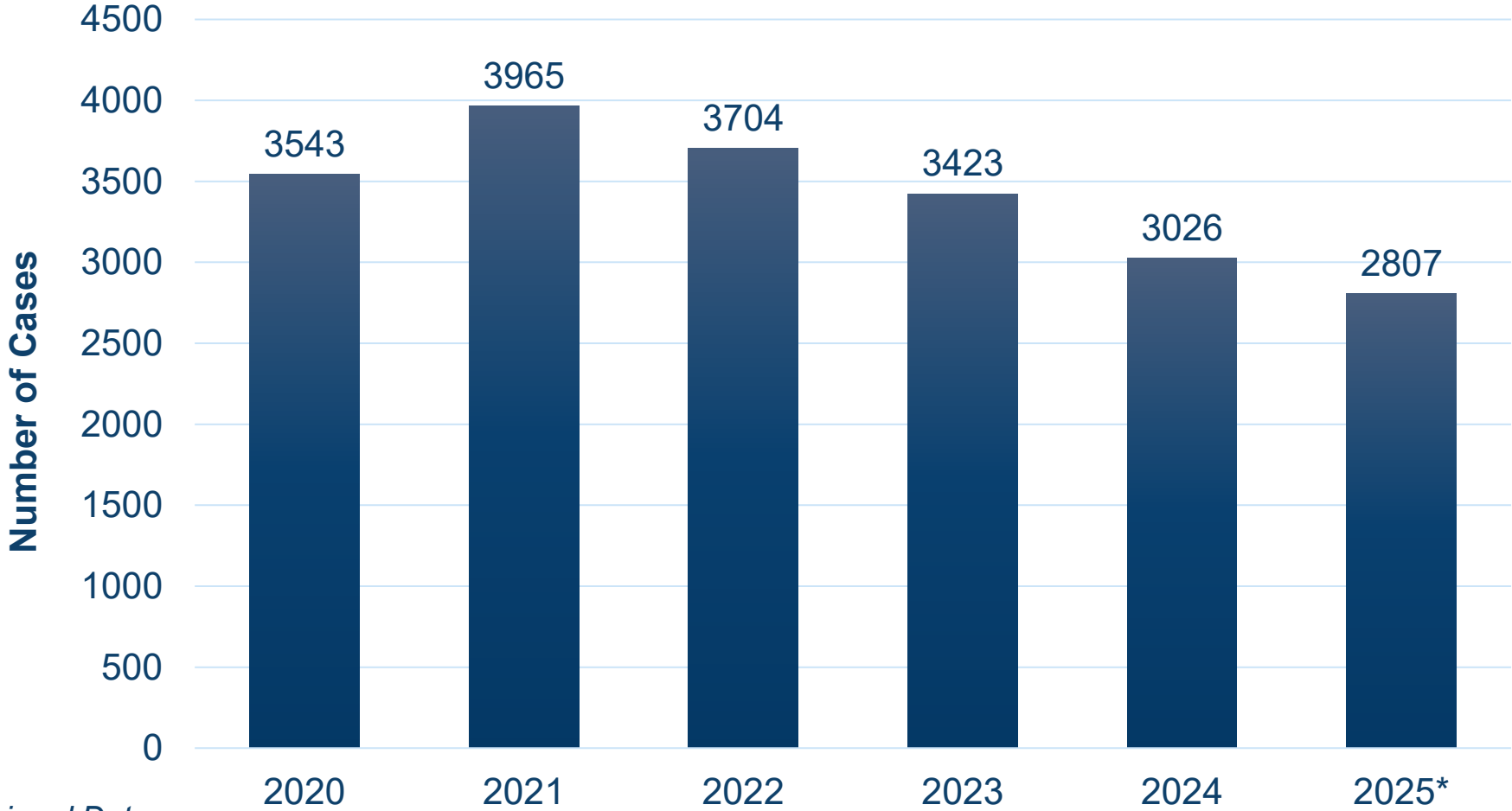
Number of new cases (all stages) in the US



**AT THIS RATE, THERE IS
1 NEW CASE
OF SYPHILIS
EVERY 3 MINUTES**

There has been about a **30% decrease** in Chlamydia over the last 5 years

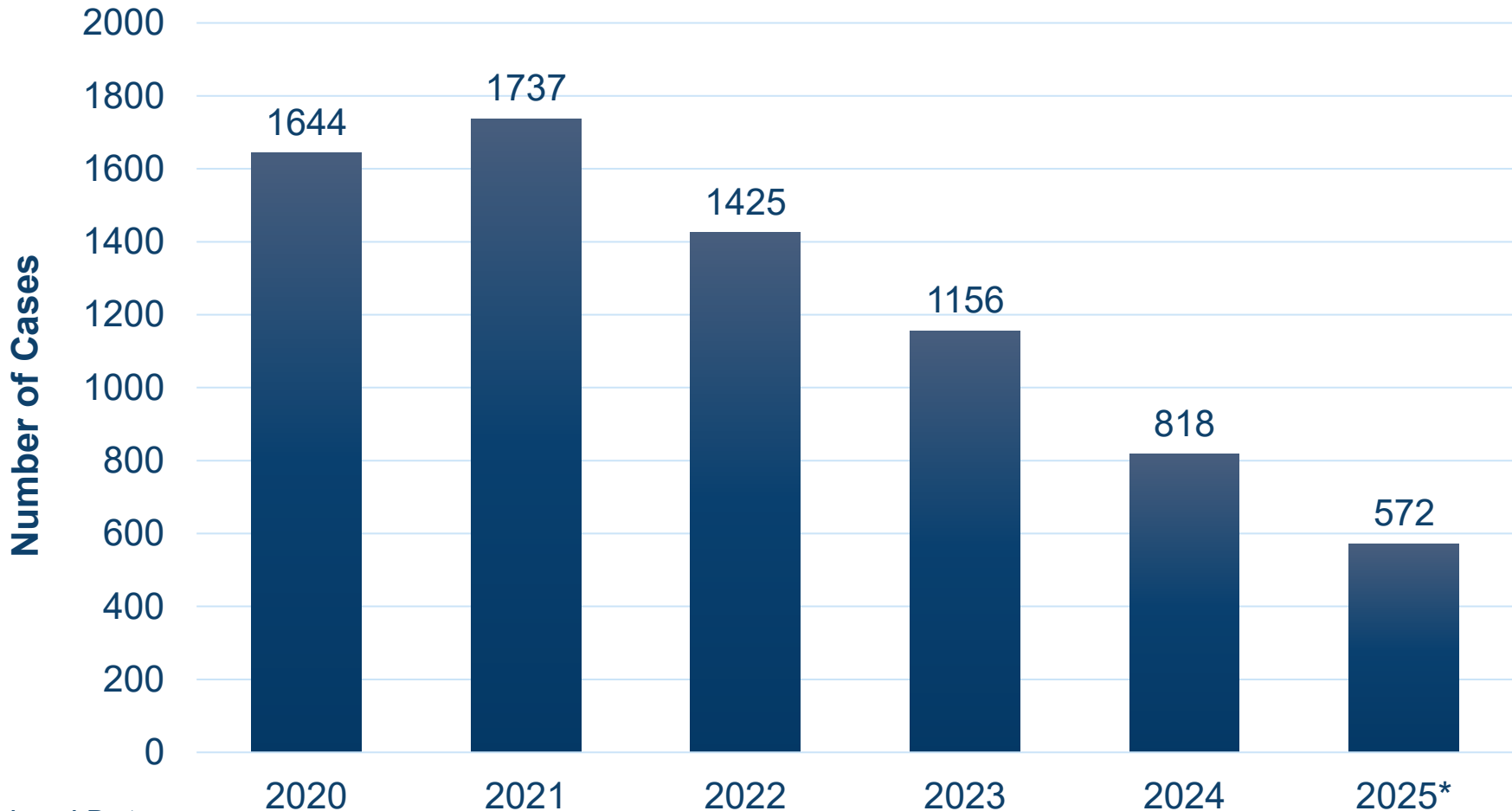
Chlamydia Cases by Year, 2019 – 2025*



*Provisional Data

There has been about a **70% decrease** in **Gonorrhea** over the last 5 years

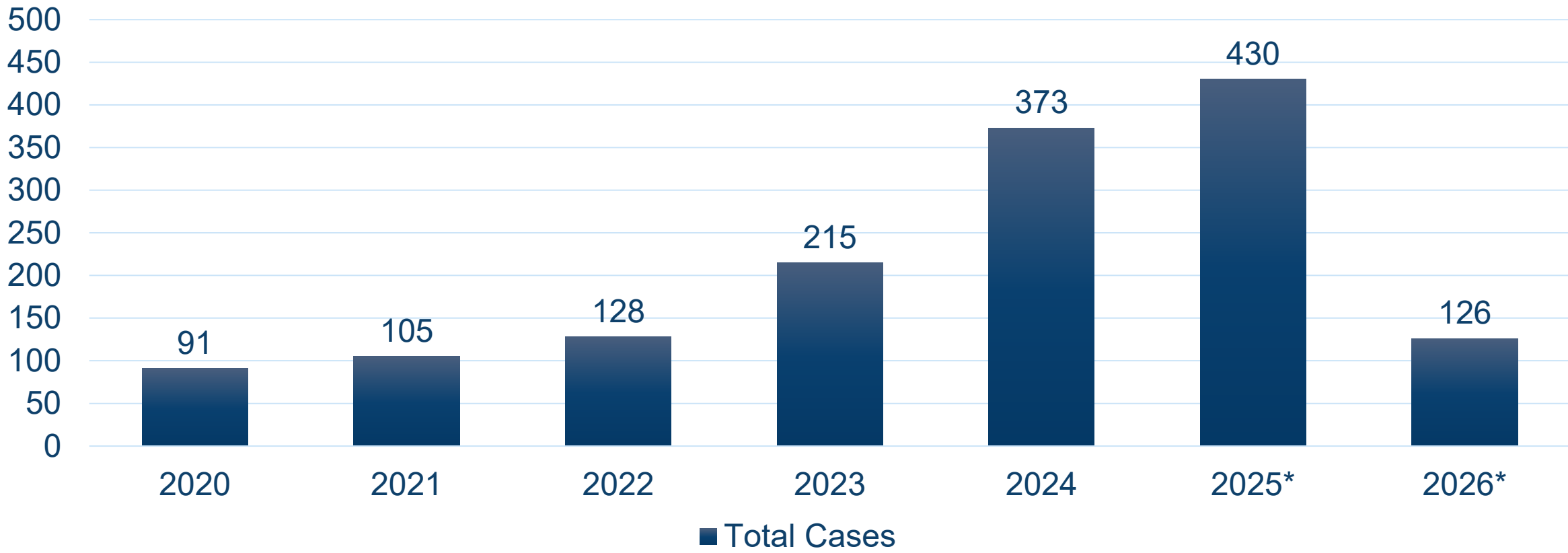
Gonorrhea Cases by Year, 2019 – 2025*



*Provisional Data

There has been a 309% increase in the number of reported Syphilis cases in ND from 2020 – 2024

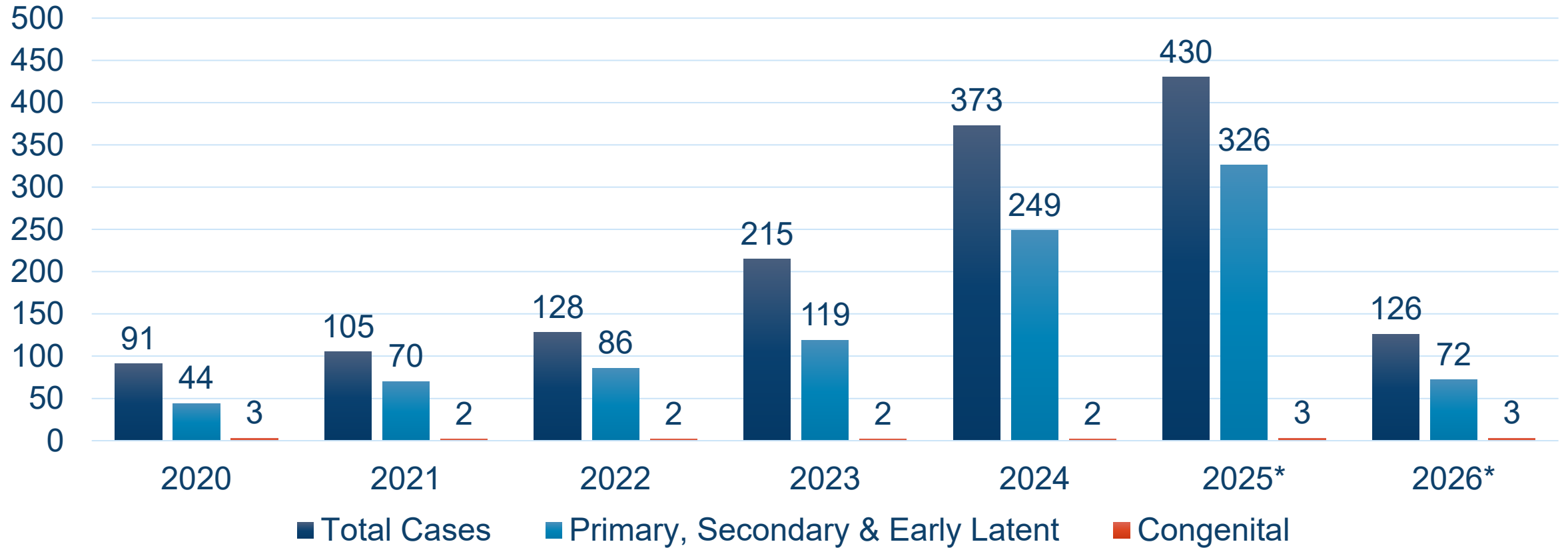
Syphilis by Stage and Year, 2020 – 2026



*Provisional Data

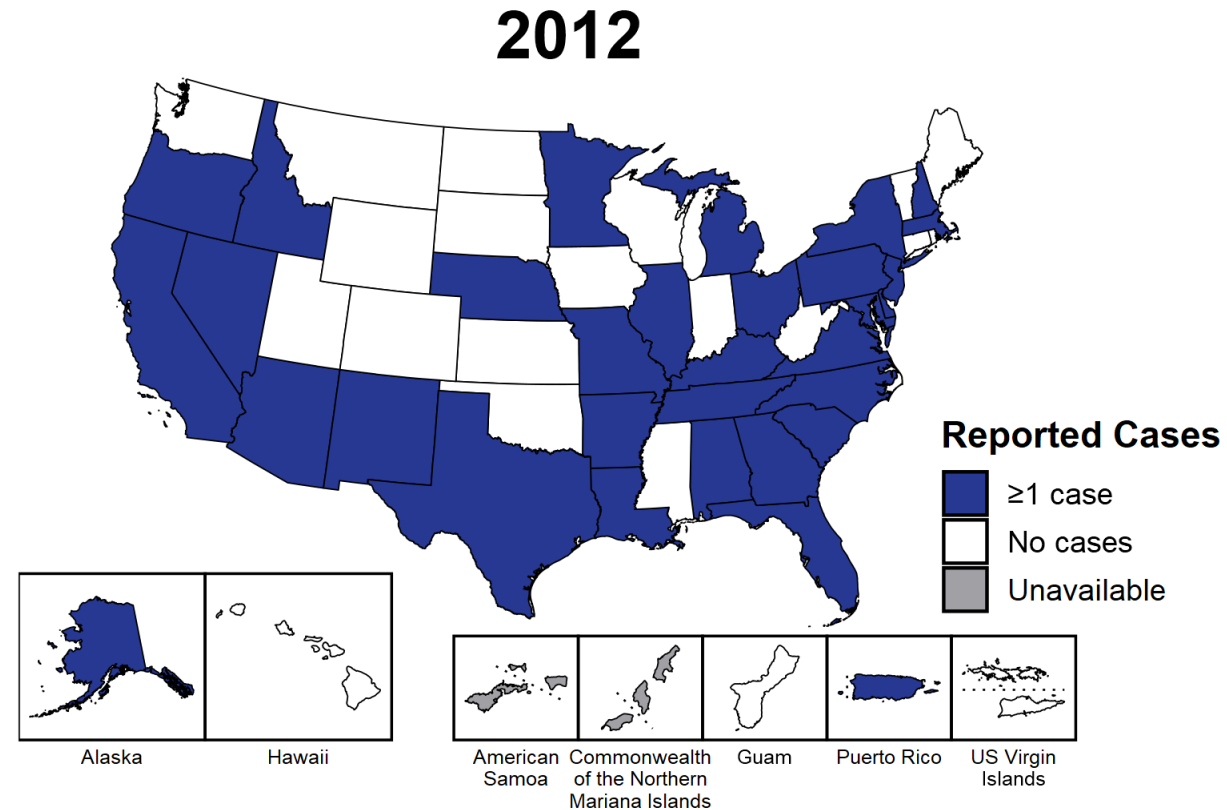
In 2024, Two out of Three of Reported Cases Were Early Syphilis Stages

Syphilis by Stage and Year, 2020 – 2026



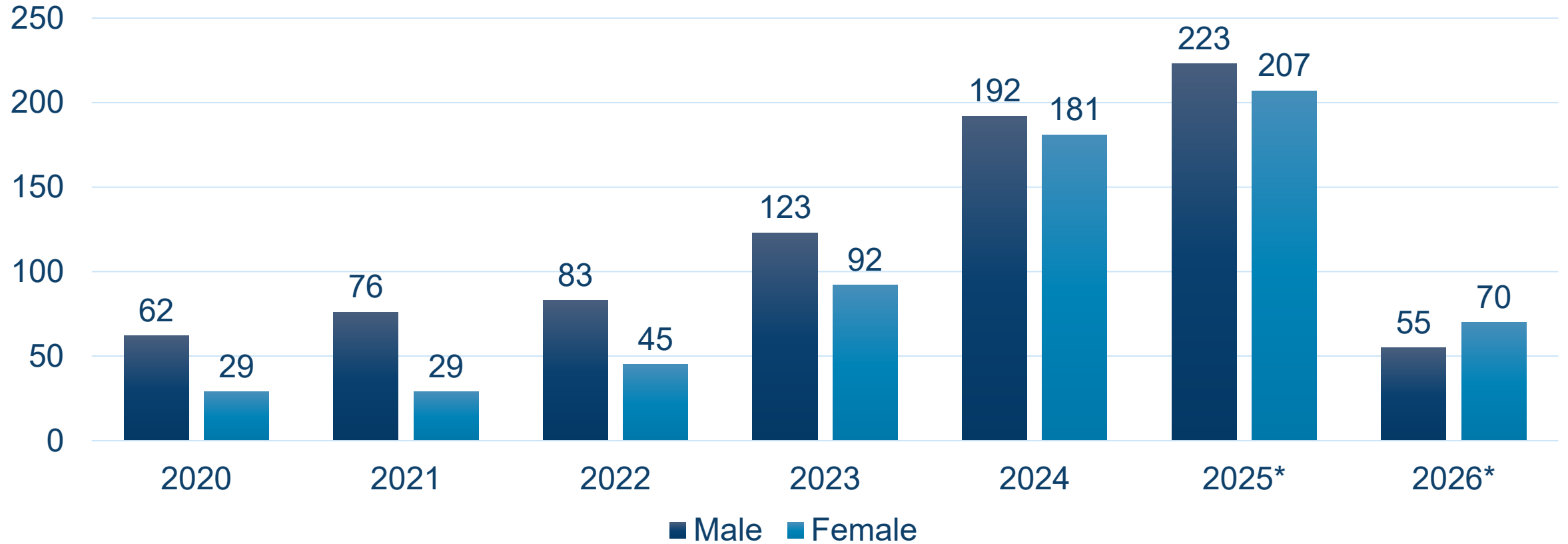
*Provisional Data

Congenital Syphilis — Reported Cases by Year of Birth and State, United States and Territories, 2012–2021



Disparities Between Male and Female Syphilis Diagnosis is Decreasing

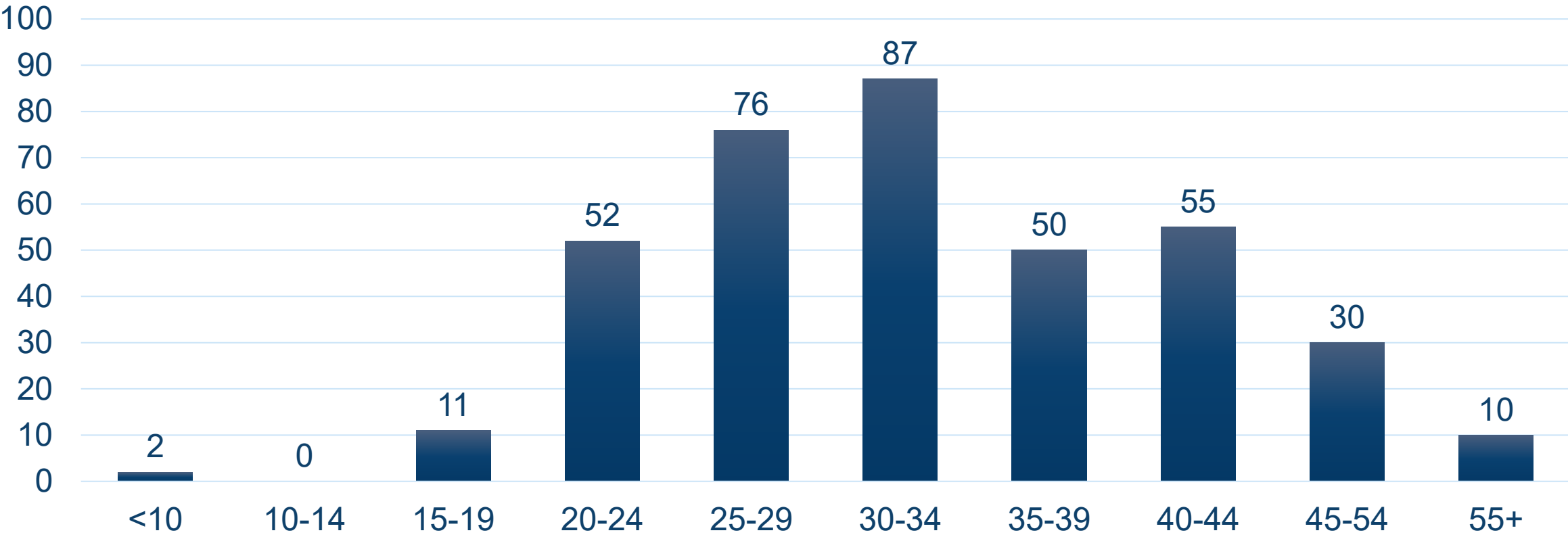
Syphilis by Stage and Year, 2020 – 2026



*Provisional Data

Majority (61%) of Syphilis Diagnosis in 2024 Were Under 35 Years

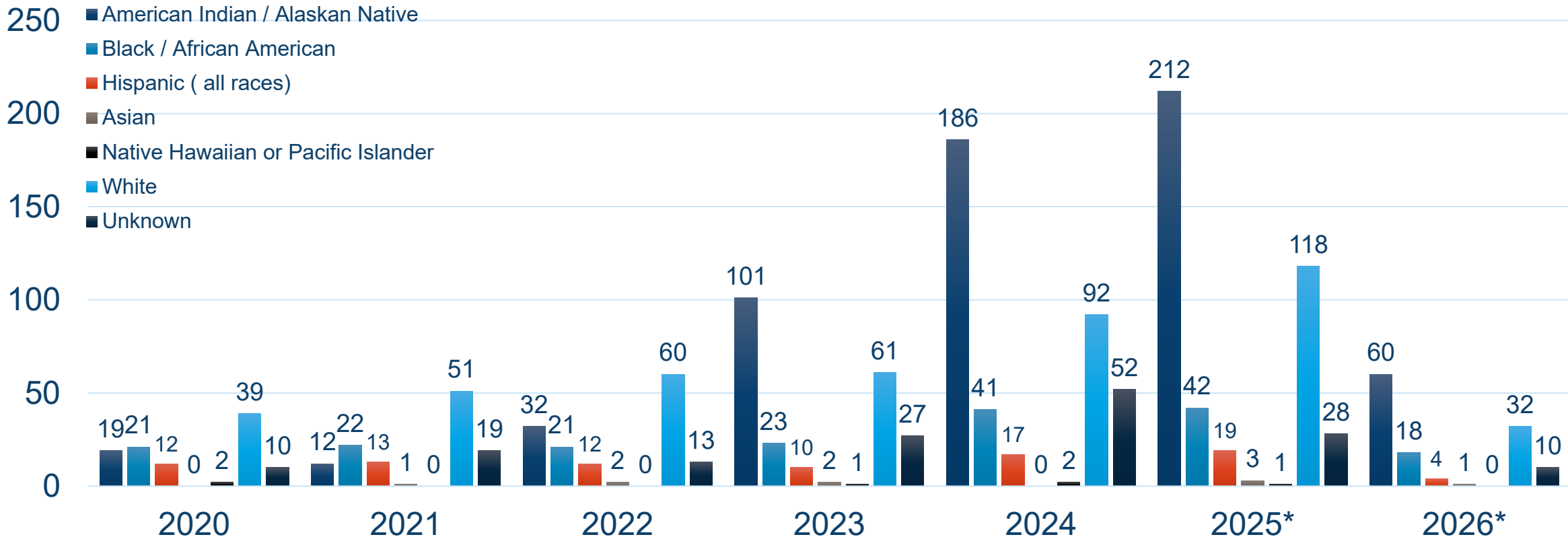
Syphilis by Age Group, 2024



*Provisional Data

Since in 2024, there has been an Increase in Syphilis Rates Diagnosed Among Indigenous Populations

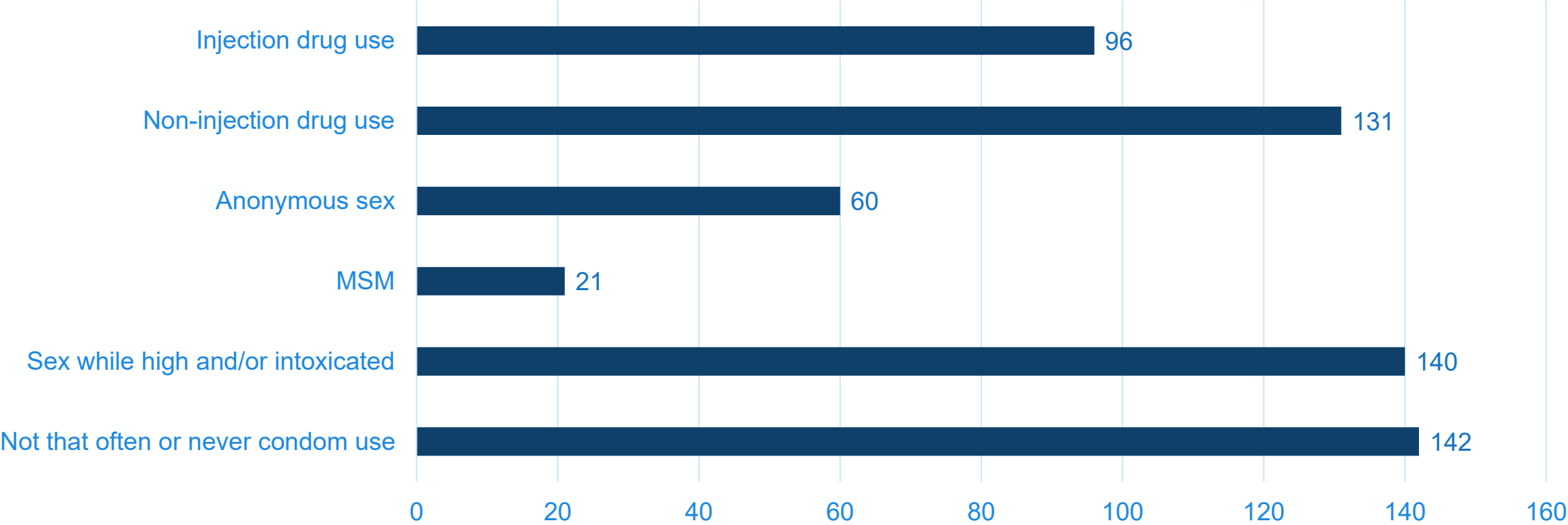
Syphilis by Stage and Year, 2020 – 2026



*Provisional Data

Drug Use is a Prevalent Risk Factor in Syphilis Diagnosis, 2024

Syphilis Cases by Risk Factor, 2024 (N=220)



Syphilis, The Great Imitator

- Chronic sexually transmitted infection caused by *Treponema pallidum*
- Classified into stages
- Infection through small breaks in skin or mucous membranes
- Risk of developing syphilis after sexual contact 10-60% (average about 30%)
- Highest risk with contact to early syphilis; Lesions with many treponemes transmit most effectively



Syphilis Screening Recommendations

Pregnant Women

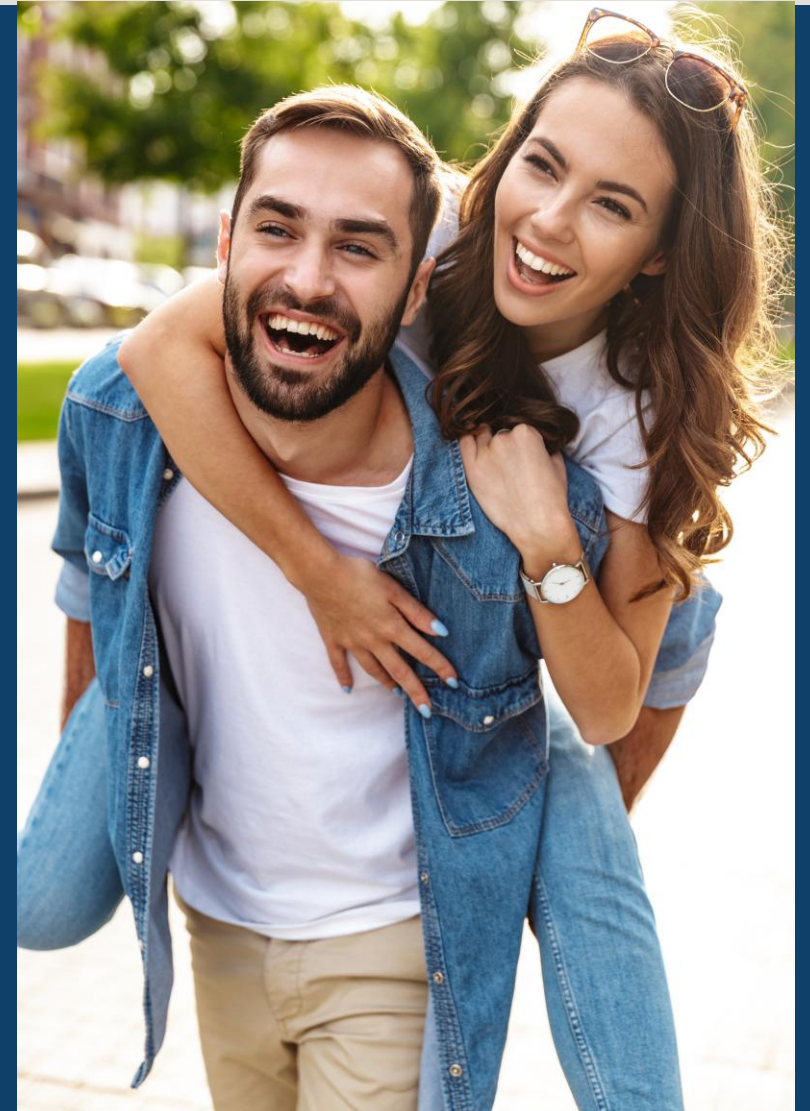
- All pregnant women at the first prenatal visit
- Retest at 28 weeks and at delivery

Men Who Have Sex with Men (MSM)

- At least annually for sexually active MSM
- Every 3 to 6 months if at increased risk

Persons with HIV

- For sexually active individuals, screen at first HIV evaluation, and at least annually
- More frequent screening might be appropriate depending on individual risk behaviors and the local epidemiology



Best Practices for Taking a Sexual History



TAKING A SEXUAL HISTORY

THE 5 "P"s OF SEXUAL HEALTH



Partners

Number, sex, gender identify of partners



Practices

Types of sex — oral, vaginal, anal and high risk behaviors such as injecting drugs, having sex while intoxicated or having anonymous sex partners



Protection from STIs and HIV

Use of condoms, other barrier methods, HIV PrEP or PEP



Past History of STIs and HIV

Previous STI diagnoses, history of STI and HIV testing and partners history of STI diagnoses



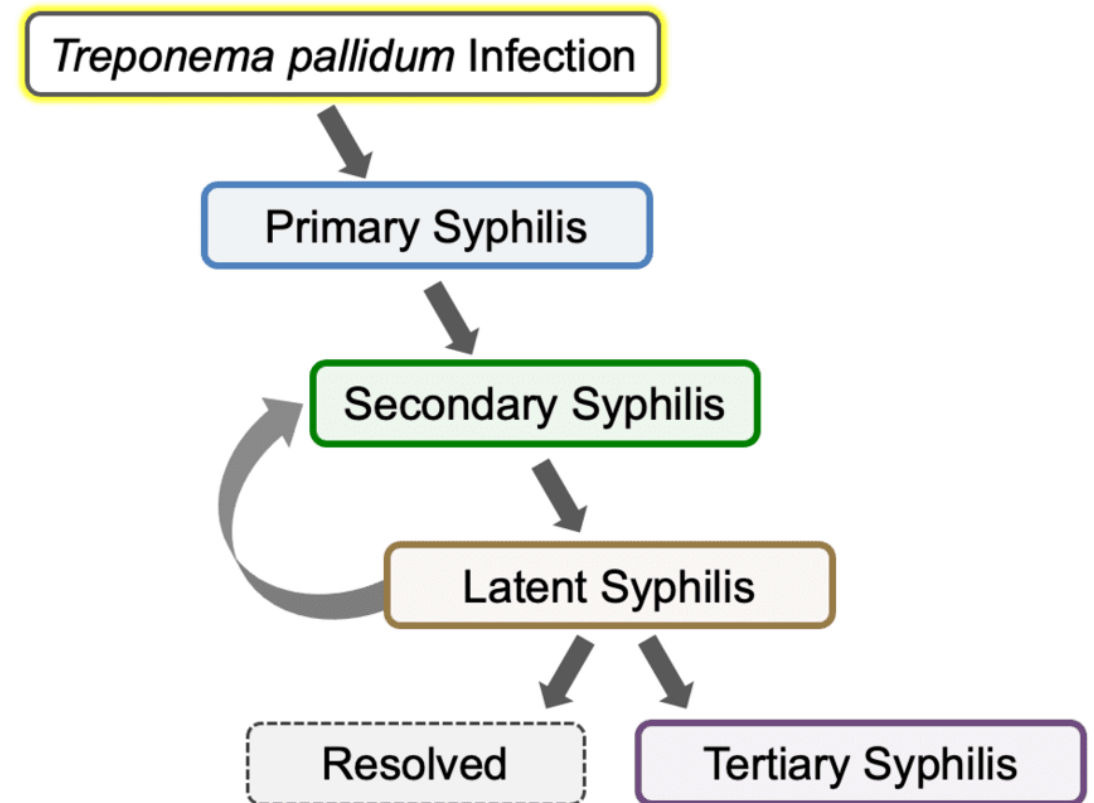
Prevention of Pregnancy

Desire for pregnancy and/or use of prevention methods

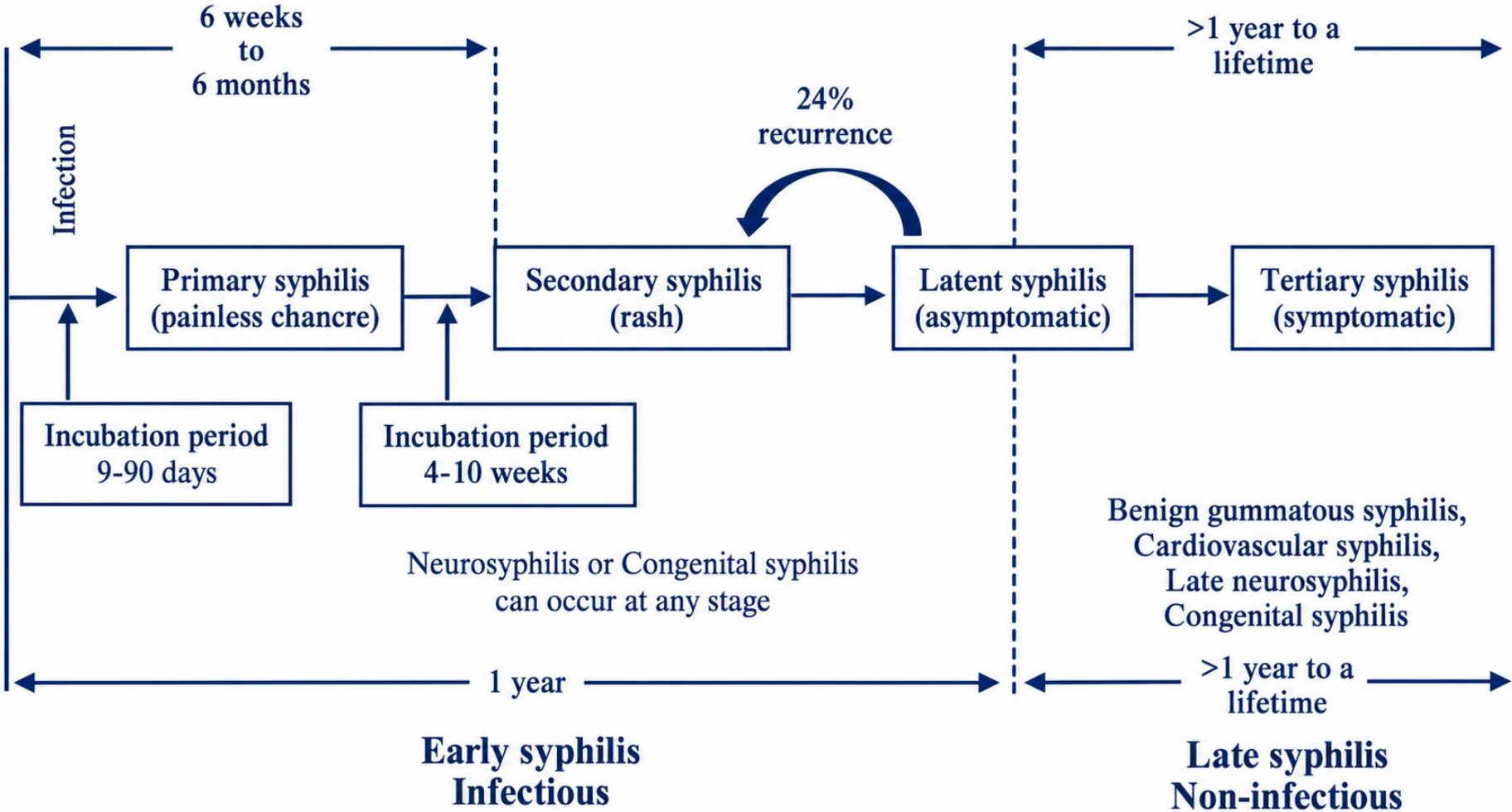
- Ensure a safe patient environment
- Assure confidentiality
- Be nonjudgmental
- Be sensitive, and matter-of-fact
- Avoid assumptions
- Use normalizing language
- Utilize open-ended questions
- 6th 'P': Prevention

Importance of Staging Infections

- Diagnosis of syphilis requires clinical and laboratory to differentiate between:
 - Active Infection
 - Prior Infection
 - Absence of Infection
- Determine Stage for Treatment & Partner Services
- Additional Manifestations



Clinical Manifestations and Staging



Primary Syphilis

- Chancres can occur anywhere inoculated by direct contact (fingers, mouth, anus)
- Nontreponemal tests (RPR, VDRL) negative in 15 -25% cases of primary syphilis
- Push to treat if any suspicion of early syphilis! Loss to follow up and spread of infection can be high



Secondary Syphilis

- Generalized rash: evanescent, copper color, macular – reddish, popular, palms/soles
- Condyloma lata
- Mucous patches
- Fever, malaise, generalized lymphadenopathy, alopecia, liver/kidney involvement
- Lasts 2 – 6 weeks



Condyloma lata, Mucous Patches, Other Symptoms

- High numbers of treponemes – highly contagious!
- May occur at any moist body site
- Fleshy, flat-topped lesions that may be mistaken for anogenital warts
- Patchy, “moth-eaten” alopecia, loss of lateral eyebrows
- May affect any organ: kidney, stomach, spleen, liver, etc.



Latent Syphilis

- Defined by positive test in the absence of clinical manifestations
- **Early Latent: infected within the past year**
 - Negative syphilis serology in past year
 - Known contact to early case of syphilis
- **Late Latent: infected >1 year ago or unknown duration**
 - No syphilis serology in past year
 - No contact to syphilis case or history of symptoms in past year



There are Many Other Manifestations of Syphilis.



Neurosyphilis

- Cognitive Dysfunction
- Motor or Sensory Deficits
- Ophthalmic or Auditory Symptoms
- Cranial Nerve Palsies
- Specimen Source: CSF



Ocular Syphilis

- Can involve almost any eye structure.
- Ocular syphilis may lead to decreased visual acuity including permanent blindness.
- Eye redness, blurry vision, and vision loss.



Otosyphilis

- Sensorineural Hearing Loss
- Tinnitus
- Vertigo

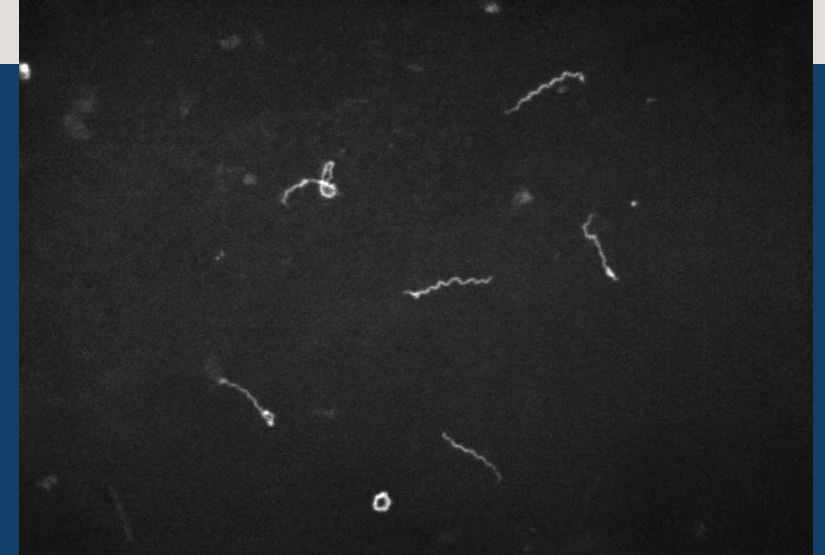


Late Manifestations

- 15-30 yrs. after untreated infection
- Inflammatory lesions:
 - Cardiovascular System
 - Skin
 - Bone
 - Other Tissue

Diagnostics for Syphilis

- Definitive: dark field microscopy, molecular testing (PCR)
- Highly suggestive: histopathology
- Serologic Testing
- POC Testing: Syphilis Health Check™



Serologic Testing for Syphilis

Nontreponemal



RPR, VDRL

Quantitative = titers decrease with treatment

Treponemal



FTA-ABS, TP-PA, EIA/CIA

Qualitative = Good for screening but once positive, positive for life

RPR: Rapid plasma reagin; VDRL: Venereal Research Disease Laboratory: T. pallidum particle agglutination assay; EIA: Enzyme immunoassay/CIA: Chemiluminescence immunoassay; FTA-ABS: Fluorescent treponemal antibody absorption

Understanding the Difference in Types of Syphilis Testing

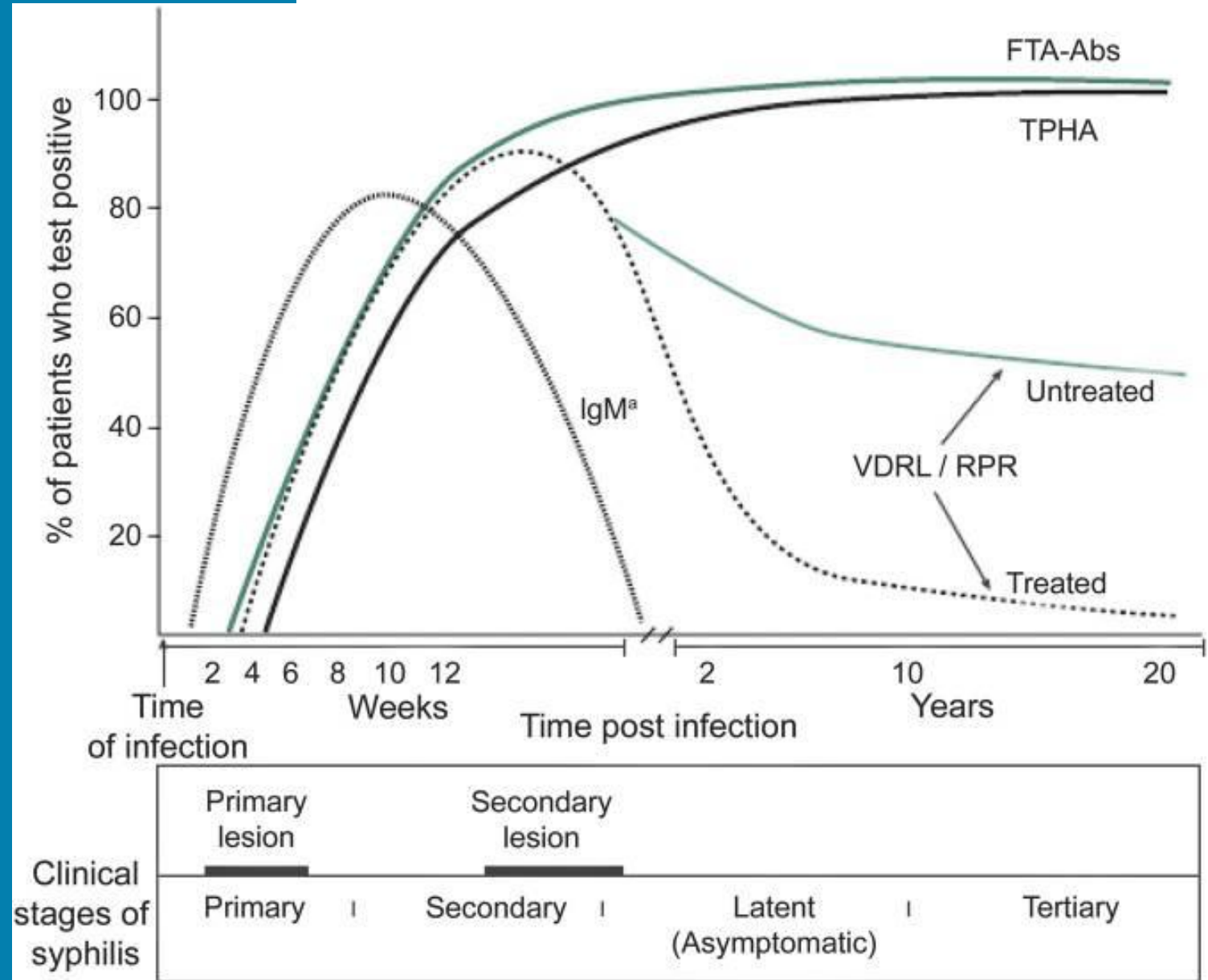
Nontreponemal Tests (RPR or VDRL)

- Detect antibodies to cardiolipin, lecithin, cholesterol antigens – non-specific marker of tissue damage
- Results expressed as a titer
 - Higher titers reflect greater disease activity
 - Titer should decline with successful therapy
 - Even without treatment, titers will decline over time
- May result in biologic false positive (1-2% in US)

Treponemal Tests (EIA/CIA)

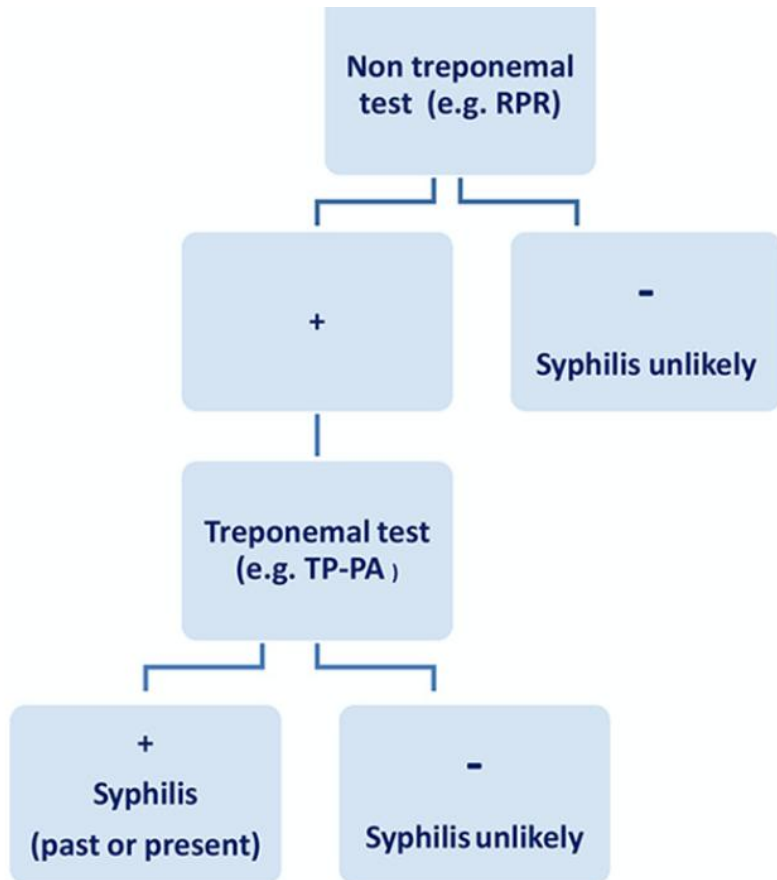
- FTA-ABS and TP-PA: measure antibody response to whole organism
- EIAs/CIAs: measure antibodies to recombinant *T. pallidum* proteins
- Results are expressed qualitatively (reactive or nonreactive)
- Once positive, stay positive for many years ("for life")
- False positives may occur; etiology not well-defined

Natural History of Syphilis

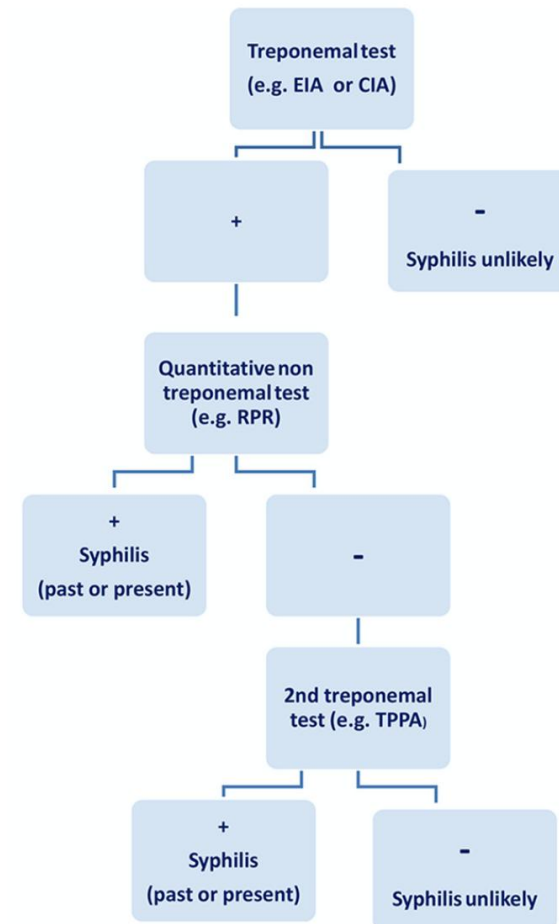


Two Algorithms for Syphilis Testing

Traditional Screening



Reverse Sequence Algorithm



Sensitivity of Serologic Test Options

Test	Sensitivity in untreated syphilis		
	Primary	Secondary	Latent
RPR	86	100	98
VDRL	78	100	96
TP-PA TP-HA	95 (88)	100	97-100
EIA/CIA	95	100	93-100
FTA-ABS	78 (84)	93 (100)	93-100

*Park IU, Fakile YF, et al. CID, 2019;68(6).
Cantor AG, Pappas M, et al. JAMA, 2016;315(21).*

Understanding Syphilis Titers

- A **fourfold change or two dilutions** represents a clinically significant difference
 - 1:32 → 1:4
 - 1:2 → 1:16
- **Persistent NTT positivity despite adequate treatment**
 - More likely and commonly seen in HIV+ patients
 - For HIV- patients, risk factors include: age >30, female sex, prior h/o syphilis, non-early stage, baseline RPR titer $\leq 1:32$, non-PCN therapy
- **False Positive:** HIV, HSV, malaria, leprosy, older age, autoimmune disorders, cardiovascular disease, pregnancy, IVDU, recent immunizations





Review of Syphilis Test Results

RPR and TPPA test results for four patients

Patient 1

RPR
Reactive, 1:2

TPPA
Negative

Likely early infection or biologic false positive.

Patient 2

RPR
Reactive, 1:4

TPPA
Positive

Consistent with current or past syphilis infection.

Patient 3

RPR
Negative

TPPA
Positive

Possible past infection or late latent syphilis.

Patient 4

RPR
Reactive, 1:64

TPPA
Positive

High titer suggests active infection—follow up recommended.



KEY TAKEAWAY

RPR detects active infection and monitors treatment. TPPA confirms exposure and may remain positive for life.

The Treatment for Syphilis Has Been Available Since 1943

Penicillin still works and is the only treatment option for pregnant women. Dosage depends on stage.

Stage of Syphilis	Dosage
Primary	Benzathine penicillin G 2.4 million units
Secondary	Benzathine penicillin G 2.4 million units IM
Early latent	Benzathine penicillin G 2.4 million units
Late Latent	Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM each at 1-week intervals

ND Health Alert: April 20th, 2023

- Challenges Accessing Bicillin
- The manufacturer anticipates the issue will be resolved December 2027
- Notify HHS with treatment challenges with Pregnant Persons
 - 701.328.2378

Potential Access Challenges to Bicillin L-A®

North Dakota Health & Human Services (HHS) is sharing information that the Centers for Disease Control and Prevention (CDC) has received reports of providers being currently unable to procure enough penicillin G benzathine (Bicillin L-A®) – the first-line recommended treatment for syphilis. The manufacturer anticipates the issue will be resolved in the next two (2) months. In the meantime, they are working closely with CDC and the U.S. Food and Drug Administration (FDA) to address urgent requests.

During this time, providers should:

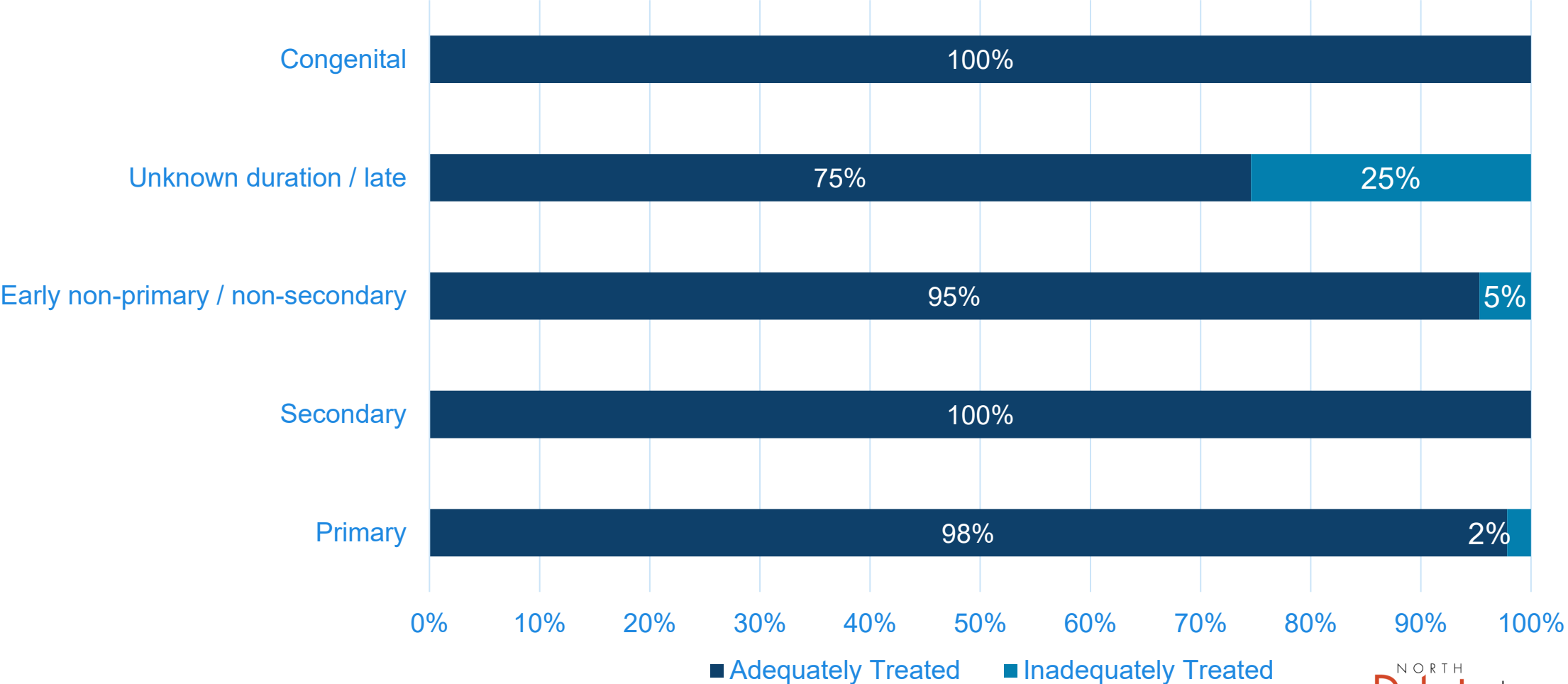
- Continue to follow [CDC's treatment recommendations](#). Penicillin G benzathine (Bicillin L-A®) is the **only recommended treatment** for pregnant people infected or exposed to syphilis.
- Doxycycline 100mg PO BID for two (2) weeks (for early syphilis) or four (4) weeks (for late latent or syphilis of unknown duration) is an alternative for the treatment of non-pregnant people with a penicillin allergy.
- Prioritize the use of Bicillin L-A® to treat pregnant people and babies with congenital syphilis.
- Notify HHS (disease@nd.gov) of any shortage or low inventories of Bicillin L-A® in your practice so we can continue to monitor this situation and provide situational awareness to CDC, FDA and Pfizer.

Effectiveness Of Alternatives To Penicillin In Treating Latent Syphilis Has Not Been Well Documented

- **Lentocilin© temporary approved for import by FDA.**

Stage of Syphilis	Dosage
Primary	Doxycycline 100 mg orally 2 times/day for 14 days
Secondary	Doxycycline 100 mg orally 2 times/day for 14 days
Early latent	Doxycycline 100 mg orally 2 times/day for 14 days
Late Latent	Doxycycline 100 mg orally 2 times/day for 28 days Tetracycline 500 mg orally 4 times/day for 28 days

Most ND Syphilis Cases are Successfully Treated, 2024



Source: NDHHS Sexually Transmitted and Bloodborne Diseases Unit

Screening & Treatment in Pregnancy.

All pregnant individuals in ND should be screened 3 times during pregnancy.

- At initiation of antenatal care and/or if stillbirth at >20 wks gestation
- At beginning of 3rd trimester, i.e. 28 weeks
- At delivery

PCN is appropriate for every stage of infection.

- If allergic to PCN - desensitize



All About Congenital Syphilis

- Transmission occurs during pregnancy or at delivery
- Risk of transmission correlates with stage of maternal syphilis
- Diagnosis: Nontreponemal testing of neonatal serum
- Symptoms: small for gestational age, snuffles, jaundice, hepatomegaly, splenomegaly, lymphadenopathy, skin rash, bone involvement, myocardial dysfunction



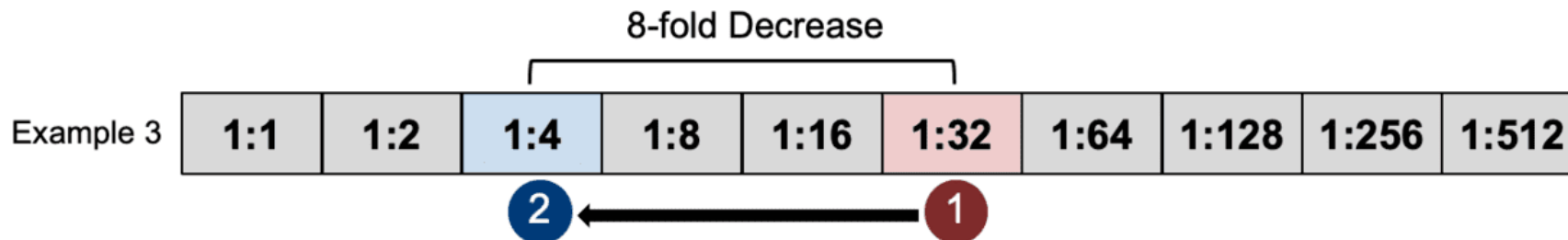
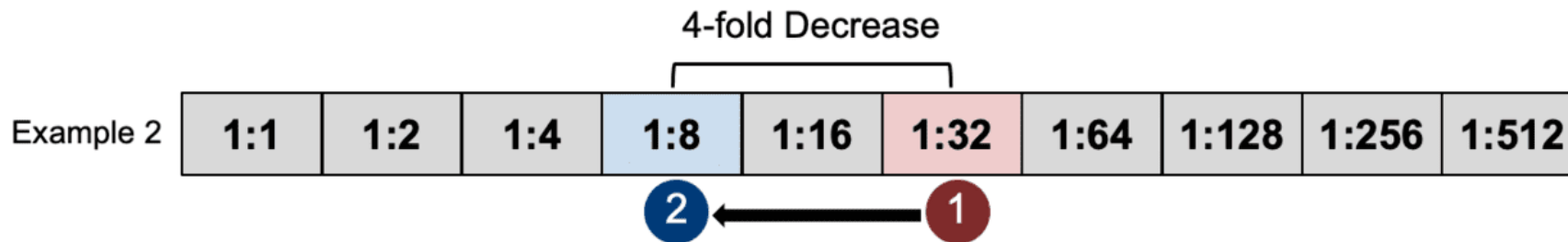
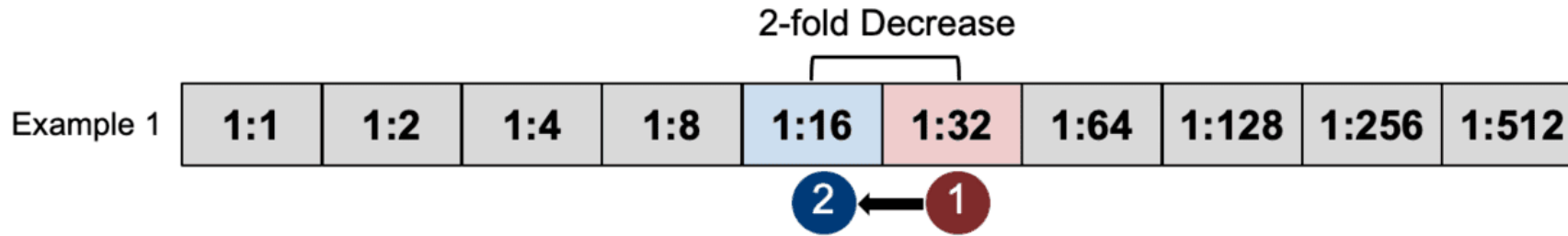
Ongoing Follow-Up of Those Diagnosed

- Quantitative nontreponemal titers used to follow response. Fourfold change (two dilutions) is an appropriate response within 6-12 months.
 - Factors associated with adequate serologic response: age, early state, initial titer

Stage	2015 Recommendations	2021 Recommendations
P&S, early latent	Retest at 6, 12 mo	Retest at 12 mo
Late latent/unk duration	Retest at 6, 12, 24 mo	Retest at 24 mo

- Local jurisdictions may choose to retest at 3 months (or sooner), reinfection risk is high
 - Assure continued engagement with care
 - Rescreen for all STIs, including HIV!

4x-Fold Decrease In Syphilis Titers Indicates Appropriate Treatment



Partner Services & Role of HHS

- Individuals exposed to early syphilis <90 days before diagnosis
 - Presumptive treatment
- Partner Notification:
 - Primary: 3 Months + Duration of Symptoms
 - Secondary: 6 Months + Duration of Symptoms
 - Early Latent: 1 Year
- NDHHS: Registry of Syphilis Cases, Verify Treatment History in Other Jurisdictions



Another STI Prevention Tool: Doxy PEP

PRESCRIBING DOXY PEP TO PREVENT STIS

PER CDC GUIDELINES...



Discuss **doxy PEP** with those who would benefit the most



If offering, write a prescription for patients to self-administer 200 mg doxycycline within **72 hours** after sex, with enough doses until next follow-up visit



Offer doxy PEP in the context of comprehensive **sexual health approach**

- Doxy 200 mg taken once orally within 72 hours of oral, vaginal or anal sex
- Safe, well tolerated, highly acceptable, high adherence
- In three large randomized controlled trials, reduce syphilis and chlamydia infections by >70% and gonococcal infections by approximately 50%

HIV PrEP: An Important Component of HIV Elimination

- PrEP, or pre-exposure prophylaxis, is daily medicine that can reduce chance of getting HIV.
- Daily PrEP reduces the risk of getting HIV from sex by more than 99%. Among people who inject drugs, it reduces the risk by more than 70%.
- PrEP should be considered part of a **Comprehensive Prevention Plan**.

MSM	<ul style="list-style-type: none">■ HIV-positive sexual partner■ Recent bacterial STI■ High number of sex partners■ History of inconsistent or no condom use■ Commercial sex work
Heterosexual Women and Men	<ul style="list-style-type: none">■ HIV-positive sexual partner■ Recent bacterial STI■ High number of sex partners■ History of inconsistent or no condom use■ Commercial sex work■ In high-prevalence area or network
Injection Drug Users	<ul style="list-style-type: none">■ HIV-positive injecting partner■ Sharing injection equipment■ Recent drug treatment (but currently injecting)

Components of Sexual Health Visit



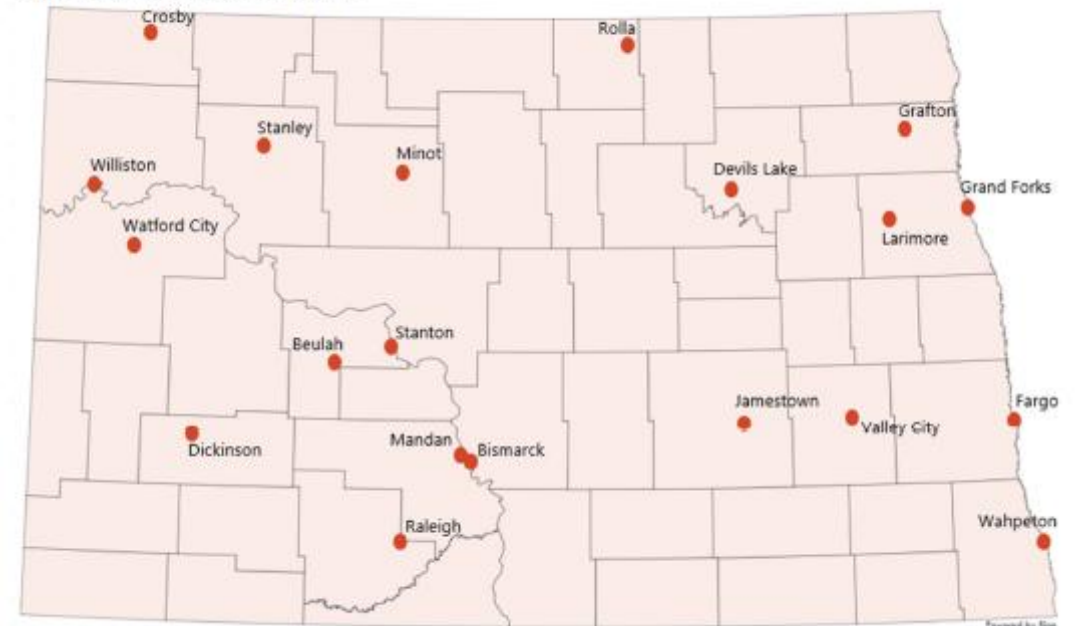
- Sexual Health History Taking
- Prevention:
 - Chlamydia, Gonorrhea, Syphilis, HIV Screening, Extragenital Testing
 - DoxyPEP & HIV PrEP
 - Provide Condoms & Education
 - Vaccination
 - Cancer Screening & Contraceptive Counseling
- If Positive:
 - Treatment & Follow-Up Appt
 - Partner Services, EPT

CTR Program

- About 40 locations across ND provide free HIV and HCV screening
- Many also reduced fee STI testing
- Referrals for PrEP

hhs.nd.gov/HIV/CTR

Figure 27. Location of CTR sites



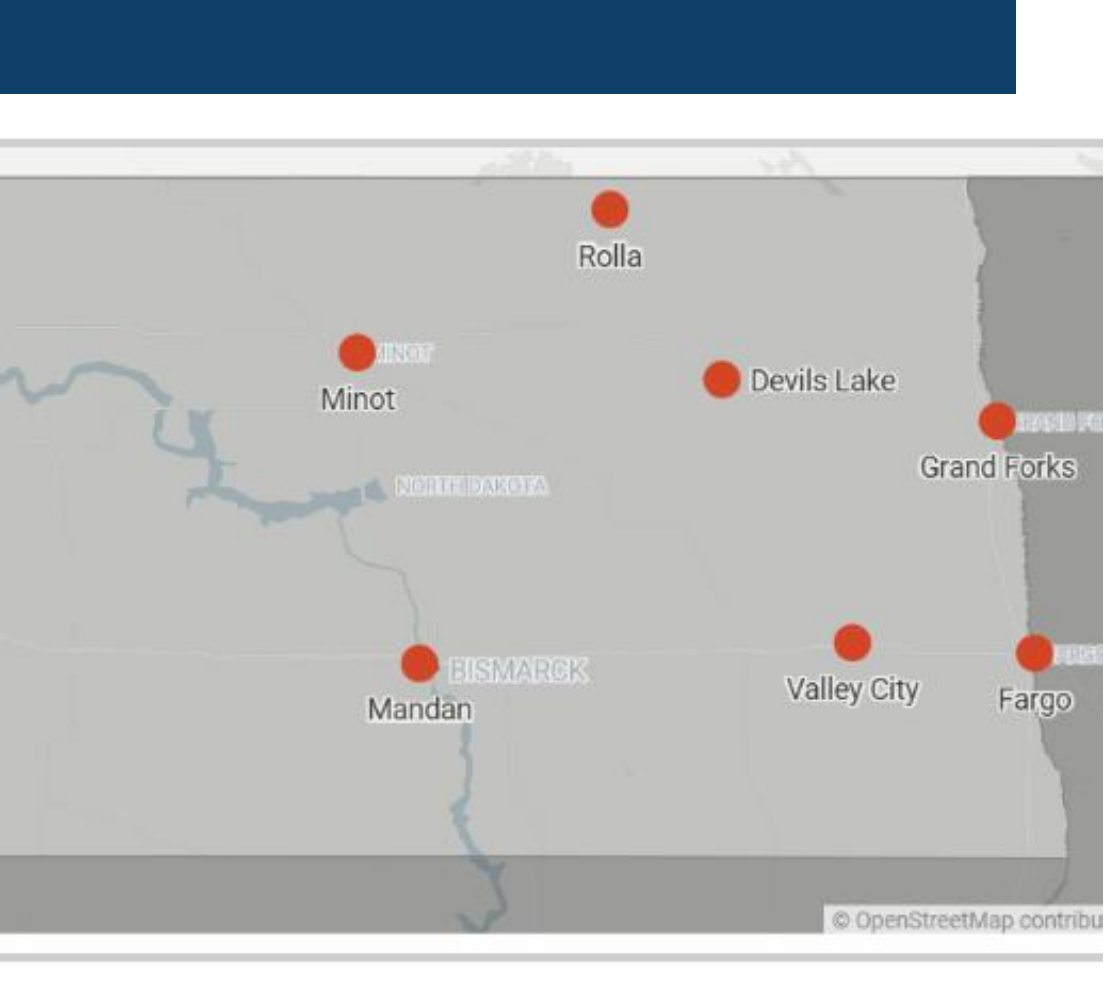
At Home Self-Collection STI Testing



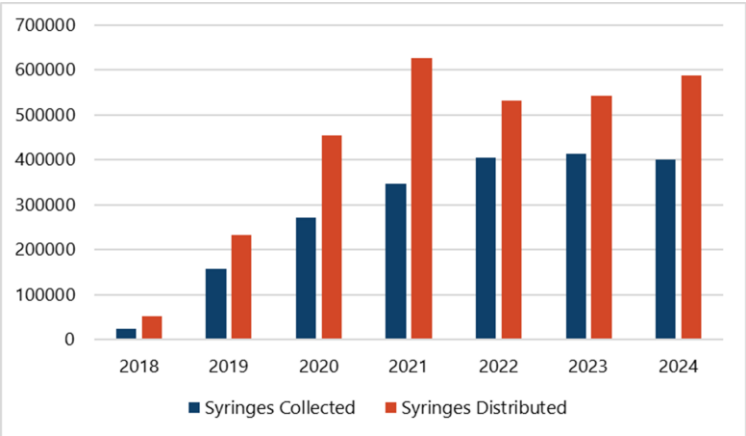
- Kit Ordered
- Kit Arrives via UPS
- Self-Collection
- Samples Mailed to Lab in Postage Paid Envelope
- Client Receives Results
- Tele-healthcare Visit

<https://nddhhs.mybinxhealth.com/>

Syringe Service Programs - SSPs



- 7 Authorized Programs in ND
- Provide comprehensive harm reduction Services
- Participants served: 3,711 from 2018 - 2024



STI Educational Resources

ND Health & Human Services

- www.hhs.nd.gov/STI

University of WA STD Prevention Training Center

- www.uwptc.org

National Network of STD/HIV Prevention Training Centers

- www.nnptc.org

CDC 2021 STI Treatment Guidelines

- www.cdc.gov/std/treatment

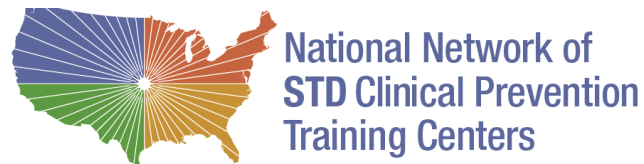
American Sexual Health Association (ASHA) booklets, books, handouts,

- www.ashastd.org

Sexually Transmitted Infections Treatment Guidelines, 2021

STD Clinical Consultation Network (STDCCN)

- Provides STD clinical consultation services within 1-3 business days, depending on urgency, to healthcare providers nationally
- Your consultation request is linked to your regional PTC's expert faculty
- We are just a click away! www.STDCCN.org



STD Clinical Consultation Network

Important for Requestors to Consider

The Clinical Consultation Service is intended for licensed healthcare professionals and STD program staff. We do not provide direct medical care, treatment planning, or medical treatment services to individuals.

The information provided through the Clinical Consultation Service is not a replacement for local expertise or your state STD program protocols. Information is offered as clinical decision support, is advisory in nature and is not intended to replace local healthcare decision-making or provision. Requestors are free to disregard any advice offered. Final clinical decisions are the sole responsibility of the healthcare provider.

CONTINUE

National STD Curriculum

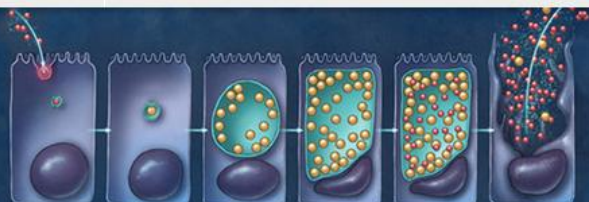
std.uw.edu

National STD Curriculum Sign In








[CE Self-Study](#) [STD Modules Content View](#) [Question Bank](#) [Master Bibliography](#)

National STD Curriculum

Funded by a grant from the Centers for Disease Control and Prevention



STD Modules

 Chlamydia	Chlamydia Self-Study CNE/CME Tracking progress and receiving CE credit	Content View > Quick viewing of Chlamydia STD Module	Question Bank > Interactive board-review style questions
 Gonorrhea	Gonorrhea Self-Study CNE/CME Tracking progress and receiving CE credit	Content View > Quick viewing of Gonorrhea STD Module	Question Bank > Interactive board-review style questions
 HSV Herpes Simplex Virus (HSV)	HSV Self-Study CNE/CME Tracking progress and receiving CE credit	Content View > Quick viewing of HSV STD Module	Question Bank > Interactive board-review style questions
 HPV Human Papillomavirus (HPV)	HPV Self-Study CNE/CME Tracking progress and receiving CE credit	Content View > Quick viewing of HPV STD Module	
 PID Pelvic Inflammatory Disease (PID)	PID Self-Study CNE/CME Tracking progress and receiving CE credit	Content View > Quick viewing of PID STD Module	
 Syphilis	Syphilis Self-Study CNE/CME Tracking progress and receiving CE credit	Content View > Quick viewing of Syphilis STD Module	
 Vaginitis	Vaginitis Self-Study CNE/CME Tracking progress and receiving CE credit	Content View > Quick viewing of Vaginitis STD Module	

Sexually Transmitted and Bloodborne Diseases Unit

Sarah Weninger

- HIV.STD.Hepatitis Prevention Coordinator
- 701.328.2366
- sweninger@nd.gov

STI

Sexually Transmitted Infections
National Strategic Plan
for the United States | 2021-2025



The United States will be a place where sexually transmitted infections are prevented and where every person has high-quality STI prevention, care, and treatment while living free from stigma and discrimination.

This vision includes all people, regardless of age, sex, gender identity, sexual orientation, race, ethnicity, religion, disability, geographic location, or socioeconomic circumstance.

National STI Strategic Plan, 2021 - 2025