SOUTH DAKOTA DEPARTMENT OF HEALTH
Every South Dakotan Healthy and Strong

# REDUCING AN UNPRECEDENTED RISE IN SYPHILIS RATES BY ENHANCED SCREENING & TESTING

## SYPHILIS IN SOUTH DAKOTA

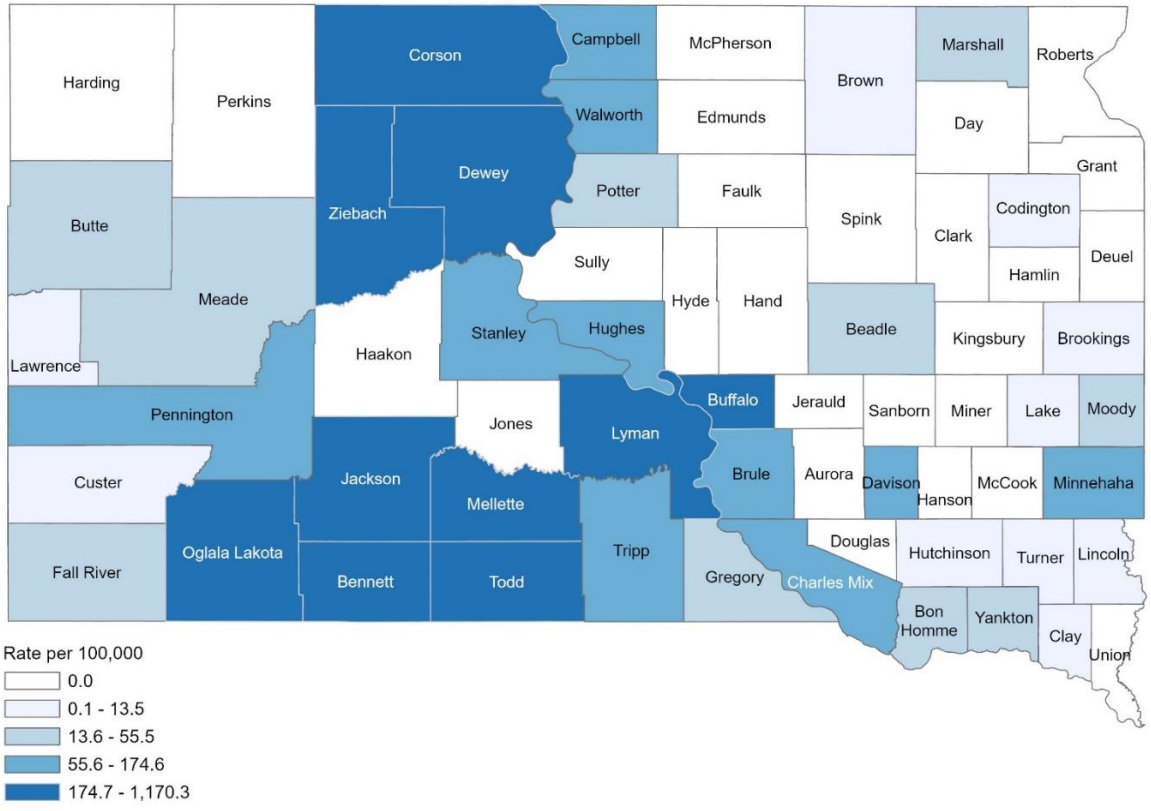
**2024 DATA** Provisional data as of 06.3.2025

| EARLY SYPHILIS | CONGENITAL / SYPHILITIC STILLBIRTHS | UNKNOWN DURATION/LATE SYPHILIS |
|---|---|---|
| 792 Cases Reported<br>43% Reduction from 2023<br>**1%** Increase from 5-Year Median | 40 Congenital<br>(including 4 Syphilitic Stillbirths and 1 Death after Birth)<br>26% Reduction from 2023<br>**150%** Increase in 5-Year Median | 578 Cases Reported<br>14% Reduction from 2023<br>**394%** Increase from 5-Year Median |

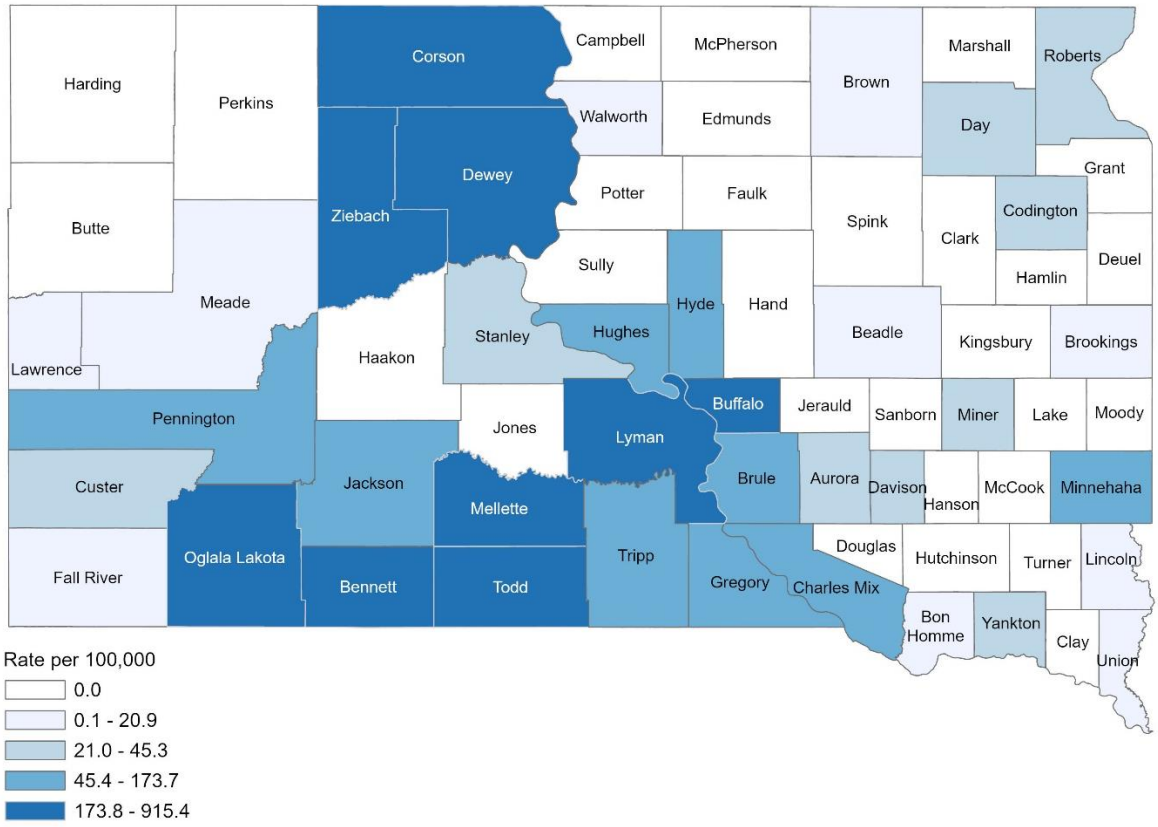
**ALL STAGES OF SYPHILIS**

1,410 Cases Reported
33% Reduction from 2023
**53%** Increase from 5-Year Median

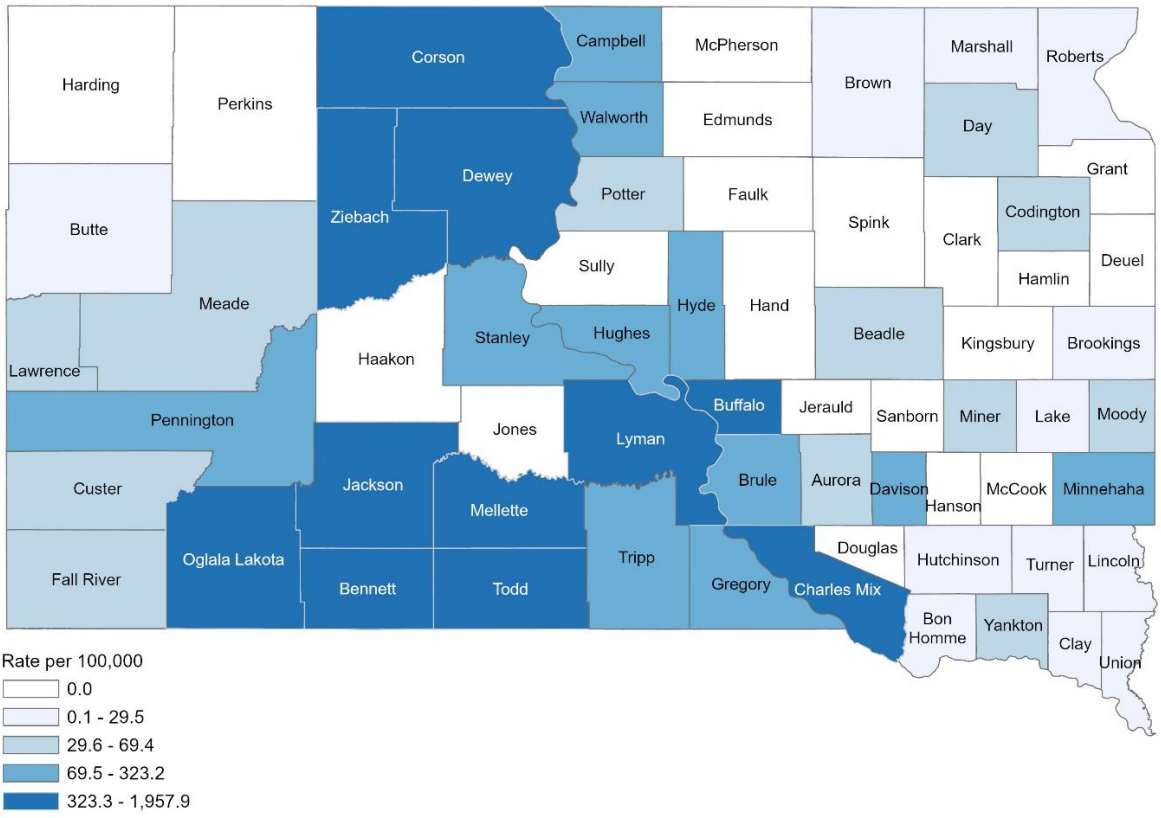
## EARLY SYPHILIS MAP



# UNKNOWN DURATION OR LATE SYPHILIS MAP




# ALL STAGES OF SYPHILIS MAP



## RISK FACTORS FOR ALL SYPHILIS STAGES:

- ☐ 81% American Indian
- ☐ 80% Heterosexual exposure
- ☐ 79% Sex without condom
- ☐ 54% Reported age range of 25-39 years-old
- ☐ 39% Sex while intoxicated
- ☐ 35% History of incarceration
- ☐ 34% History of substance use
- ☐ 24% Cases reported among an institutionalized population

***The SD Department of Health asks providers to perform enhanced screenings in the select settings and populations below.***

# SCREEN

## PRENATAL CARE PROVIDERS

- ☐ All pregnant women should be screened for syphilis **three times** during pregnancy:
  - At first prenatal appointment ***OR*** at time of initial pregnancy diagnosis, if concerned for poor follow up.
  - At 28 to 32 weeks
  - At delivery
- ☐ All pregnant women delivering a stillbirth (gestational age ≥20 weeks)

*Three screenings during pregnancy are recommended for all pregnant women regardless of risk, as endorsed by the American College of Obstetricians and Gynecologists (ACOG). See Screening for Syphilis in Pregnancy for complete recommendations.

## EMERGENCY DEPARTMENT / URGENT CARE PROVIDERS / PRIMARY CARE PROVIDERS

- ☐ All pregnant women
- ☐ Women of reproductive age (15-45)
- ☐ Men who have sex with men
- ☐ Individuals with HIV infection
- ☐ Individuals with multiple sex partners, or a partner who has multiple sex partners
- ☐ Individuals incarcerated or with a history of incarceration
- ☐ Individuals who engage in IV drug use and/or substance use
- ☐ Individuals with a history of sexually transmitted infections (STIs)

To help prevent congenital syphilis, **SD-DOH recommends enhancing syphilis screening to emergency room departments and urgent care.** In 2024, cases of congenital syphilis/syphilitic stillbirths in South Dakota were linked to mothers who received insufficient, delayed, or no prenatal care. Screening women of reproductive age (15-45 years) and sex partners to women of reproductive age can reduce the risk of congenital syphilis.

# PHYSICAL EXAMINATION

- ☐ If the medical history or serologic tests are suggestive **AND/OR**
- ☐ Sex or needle-sharing partner with symptoms of or infected with syphilis
  - Evaluate signs of syphilis including
    - Oral signs of syphilis, including mouth sores (chancres) or mucus patches
    - External genital, anal, or perianal sores (chancres) or other lesions (i.e., condyloma lata)
    - Rashes on the body, particularly on the palms of the hands or soles of the feet (a characteristic of syphilis infection that is unusual in other conditions).

Physical examination for signs of syphilis help determine the stage of syphilis, which determines the recommended treatment dosage.

## MEDICAL HISTORY

- ☐ Previous STI history & treatment
- ☐ Sexual partner with STIs
- ☐ Sexual orientation
- ☐ Number of sex partners
- ☐ History of Substance Use
- ☐ Symptom history: Particularly symptom history of sores on the genitals, anus, or mouth or a rash on the body, especially on the palms of the hands or soles of the feet.

## TREAT

Treatment should be initiated immediately for individuals who are confirmed to be infected, show signs or symptoms of syphilis, report recent exposure, or receive a 'reactive' result from a rapid syphilis test, even if confirmatory test results are still pending. Additionally, if test results are 'nonreactive' but clinical suspicion remains high, empiric treatment is warranted.

The Centers for Disease Control and Prevention (CDC) recommends Penicillin G benzathine (Bicillin L-A), administered parenterally, as the preferred treatment for all stages of syphilis. For pregnant individuals, Bicillin L-A remains the only recommended treatment. For non-pregnant individuals, Doxycycline may be used as an alternative in cases of penicillin allergy. The formulation used (i.e., benzathine, aqueous procaine, or aqueous crystalline), along with the dosage and treatment duration, should be based on the stage of syphilis and clinical presentation. Late latent syphilis and Tertiary syphilis require longer courses of therapy.

| RISK CATEGORY | RECOMMENDED REGIMEN | ALTERNATIVES |
|---|---|---|
| Primary, secondary, or early latent: adults (including pregnant women and people with HIV infection) | Benzathine penicillin G 2.4 million units IM in a single dose | ***For non-pregnant patients**, Doxycycline 100 mg orally 2 times/day or tetracycline 500 mg orally 4 times/day, for 14 days. ***Pregnant women** allergic to penicillin should be desensitized and treated with penicillin G, as there are no alternatives that exist for pregnant patients. |
| Late Latent or unknown duration: adults (including pregnant women and people with HIV infection) | Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM each at 1-week intervals | ***For non-pregnant patients**, Doxycycline 100 mg orally 2 times/day or tetracycline 500 mg 4 times/day, for 28 days. ***Pregnant women** allergic to penicillin should be desensitized and treated with penicillin G, as there are no alternatives that exist for pregnant patients. |
| Neurosyphilis, ocular syphilis, and otosyphilis | 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 | ***For non-pregnant patients**, Procaine penicillin G 2.4 million units IM 1x/day PLUS probenecid 500 mg orally 4x/day, both for 10-14 days |
| For children or congenital syphilis | See STI Treatment Guidelines, 2021 | |
| The complete list of recommendations on treating syphilis and discussion of alternative therapy in people with penicillin allergy can be found in STI Treatment Guidelines, 2021. | | |

## POST EVALUATION

Clinical and serologic evaluations are essential for monitoring treatment response, based on baseline nontreponemal titers. It's important to note that titers may temporarily rise for several weeks following treatment. In the absence of new exposures or persistent/recurrent signs or symptoms, follow-up testing should be as followed:

- ☐ People with primary or secondary syphilis should undergo clinical and serologic evaluation at 6 and 12 months post-treatment.
- ☐ People with HIV infection should have a clinical and serological evaluation to monitor for treatment failure at 3, 6, 9, 12, and 24 months.
- ☐ People with latent syphilis should have quantitative nontreponemal serologic testing repeated at 6, 12, and 24 months.

## MANAGEMENT OF PARTNERS

Anyone who has had sexual contact with an individual with syphilis should be notified, undergo a clinical evaluation, receive syphilis serologic testing, and be treated according to the following:

- ☐ Sexual contact to a patient with primary/secondary/early latent syphilis:
  - If exposure occurred within 90 days of a diagnosed case, **CDC recommends presumptive treatment for early syphilis, even if serologic test results are negative.**
  - If exposure occurred 90 days or more before the diagnosis of a case, CDC recommends **presumptive treatment** if serologic test results are not immediately available and/or follow-up is uncertain. If serologic tests are positive, treatment should be based on clinical evaluation, serologic testing results, and syphilis stage. If serological testing is negative, and the above conditions are not met, treatment is not required.
- ☐ Sexual contact to a patient with unknown duration or late syphilis:
  - Clinical evaluation and presumptive treatment are recommended for contacts exposed within 12 months of first serologic evidence of infection or re-infection in the case-patient.

## TESTS

*Diagnosis of syphilis requires the use of **two tests**: nontreponemal and treponemal tests.*

- ☐ **Nontreponemal Antibody Test:** Detect antibodies that are not specifically directed against the *Treponema pallidum* bacterium but are produced as a response when an individual has syphilis. While these antibodies are commonly present during syphilis infection, they can also appear in several other conditions, making the tests non-specific. Nontreponemal tests are highly sensitive, especially in the early stages of infection, but false-positive results may occur due to a variety of conditions. Such results may occur in individuals with injection drug use (IDU), during pregnancy, or in the presence of conditions like Lyme disease, certain types of pneumonia, malaria, tuberculosis (TB), or autoimmune disorders such as lupus. Nontreponemal tests include:
  - **RPR** (Rapid Plasma Reagin): in addition to screening, this test is useful in monitoring treatment for syphilis. It may also be used to confirm the presence of an active infection when an initial examination for treponemal antibodies is positive. For this purpose, the level (titer) of the antibody is measured.
  - **VDRL** (Venereal Disease Research Laboratory): in addition to blood, this test is primarily performed on CSF to help diagnose neurosyphilis.

- ☐ **Treponemal Antibody Test:** Detect antibodies that specifically target *T. pallidum*. They are highly specific for syphilis, meaning a positive result is unlikely to be caused by other conditions. However, once a person is infected and these antibodies develop, they remain in the blood for life. Treponemal antibody tests include:
  - **FTA-ABS** (Fluorescent treponemal antibody absorption): this test is useful after the first 3-4 weeks following exposure. In addition to blood testing, it can be used to measure antibodies to *T. pallidum* in the CSF to help diagnose neurosyphilis.

- **TP-PA** (*T. pallidum* particle agglutination assay): this test is sometimes performed instead of FTA-ABS because it is more specific and has fewer false positives.
- **DPP HIV-Syphilis Rapid Test** (*T. pallidum* particle immunoassay): this test is a single-use rapid, qualitative, multiplex, immunoassay for the detection of antibodies to HIV-1/2, and/or *Treponema pallidum* bacteria in fingerstick whole blood, venous whole blood, or plasma specimens.
- **MHA-TP** (Micro hemagglutination assay): another confirmatory method; this test is used much less commonly.
- **IgG and IgM Enzyme Immunoassays ~ IgG** (SYPGN / Syphilis Total Antibody, Serum): is recommended for prenatal screening. Testing for IgM-class antibodies should not be performed during routine pregnancy screening unless clinically indicated.

## STAGES OF INFECTION AND CLINICAL DESCRIPTION

- ☐ **Primary Syphilis:** Classically presents as a single painless ulcer or chancre at the site of infection but can also present with multiple, atypical, or painful lesions.
- ☐ **Secondary Syphilis:** 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.
- ☐ **Early Non-Primary and Non-Secondary Syphilis:** A person's initial infection has occurred within the previous 12 months, and there are NO signs or symptoms of primary or secondary syphilis. May fall between primary and secondary, and after the secondary stage.
- ☐ **Unknown Duration or Late:** Person's initial infection has occurred greater than 12 months previously or in which there is insufficient evidence to conclude that infection was acquired during the previous 12 months.

**SYPHILIS MANIFESTATION**

Neurosyphilis, ocular syphilis, and otosyphilis should be considered in the differential diagnosis of neurological, ocular, and other signs/symptoms among persons with HIV Infection or untreated syphilis.

- ☐ **Congenital:** An infant or child (aged less than 2-years) may have signs such as hepatosplenomegaly, rash, condyloma lata, snuffles, jaundice (nonviral hepatitis), pseudo paralysis, anemia, or edema (nephrotic syndrome and/or malnutrition). 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).
- ☐ **Syphilis Stillbirth:** A fetal death that occurs after a 20-week gestation or when the fetus weighs greater than 500 grams, in a mother who was untreated or inadequately treated at the time of delivery.

**ADEQUATE TREATMENT FOR INFECTED CASE DURING PREGNANCY**

- Completion of a penicillin-based regimen, appropriate for stage of infection, 30 or more days before delivery.
- Pregnant women MUST be treated with penicillin. If allergic, she must be desensitized and treated to stage of illness.

## INCUBATION PERIOD

- ☐ **Primary**: A chancre typically occurs about 3 weeks (range 10 to 90 days) after exposure and lasts 3 to 6 weeks.
- ☐ **Secondary**: 4 to 8 weeks after onset of the primary chancre.
- ☐ **Neurologic, Ocular, or Otic**: Manifestations can occur at any stage of syphilis.
- ☐ **Late clinical**: Manifestations (tertiary syphilis) generally occur after 15–30 years of untreated infection.

## *What do Disease Intervention Specialists do?*

## CASE INTERVENTION AND PARTNER NOTIFICATION

Disease Intervention Specialists (DIS) follow-up with and provide case intervention services to all physician-diagnosed and/or suspect cases. **Case intervention includes:**

- ☐ Completing a medical chart review for necessary patient information (i.e., diagnostic, demographic, clinical, and known risk history information).
- ☐ Conducting client interviews to obtain additional pertinent information, elicit contacts, provide partner notification and disease intervention for follow-up and prevention.
- ☐ Providing STI testing and treatment assistance (i.e., arranging transportation).
- ☐ Communicating pertinent information that is learned through investigations with the medical provider to assist with the testing, diagnosis, and treatment continuum of care.

## DISEASE INTERVENTION SPECIALIST (DIS) CONTACT INFORMATION

Contact your local DIS with syphilis questions or if you need assistance contacting a client for testing, treatment, and counseling for syphilis, HIV/AIDS, and other sexually transmitted infections.

| | | |
|---|---|---|
| **Aberdeen**<br>402 S. Main St.<br>Aberdeen, SD 57401-4127<br>Toll-free: 1-866-805-1007 | **Mobridge**<br>210 East Grand Crossing, Suite A<br>Mobridge, SD 57601<br>Toll-free: 1-833-618-2740 | **Sioux Falls**<br>1501 S Highline Ave, Suite 1F<br>Sioux Falls, SD 57110<br>Toll-free: 1-866-315-9214 |
| **Pierre**<br>740 E. Sioux, Suite 107<br>Pierre, SD 57501-3395<br>Toll-free: 1-866-229-4927 | **Rapid City**<br>221 Mall Dr., Suite 102<br>Rapid City, SD 57701<br>Toll-Free: 1-866-474-8221 | **Watertown**<br>2001 9th Ave. SW #500<br>Watertown, SD 57201-4038<br>Toll-free: 1-866-817-4090 |
| **Mitchell**<br>1420 North Main St.<br>Mitchell, SD 57301<br>605-995-8051 | **Main office**<br>Toll-Free: 800-592-1861 | |

## Additional Resources for Providers

## CDC 2021 STD Treatment Guidelines

- ☐ CDC has a mobile-friendly website for the STI Treatment Guidelines, 2021 available at: https://www.cdc.gov/std/treatment- guidelines/default.htm
- ☐ Provider Resources, including mobile app, wall charts and pocket guide, are available at: https://www.cdc.gov/std/treatment-guidelines/provider-resources.htm

## STI CLINICAL CONSULTATION SERVICE

The National Network of STI Clinical Prevention Training Centers offers a C*linical Consultation Service* intended for licensed healthcare professionals and STI program staff. Submit a clinical consult by going to the online consultation request at https://www.stdccn.org/render/Public.

## NATIONAL STI CURRICULUM

The *National STI Curriculum,* developed by the University of Washington STI Prevention Training Center, is a free online learning platform that offers comprehensive education on STIs. The modulars address the epidemiology, pathogenesis, clinical manifestations, diagnosis, management, and prevention of STIs. The curriculum is regularly updated in alignment with the latest CDC STI Treatment Guidelines. It is modular, allowing learners to progress at their own pace, and offers free continuing education credits (CME/CNE/CE). Access this resource at https://www.cdc.gov/sti/php/training/courses.html?CDC_AAref_Val=https://www.cdc.gov/std/training/courses.htm

*A Guide for Taking a Sexual History* is a framework guide on how to discuss sexual health issues with patients. Available at https://www.cdc.gov/sti/hcp/clinical-guidance/taking-a-sexual-history.html?CDC_AAref_Val=https://www.cdc.gov/std/treatment/sexualhistory.htm

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