



Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention
11 State House Station
Augusta, Maine 04333-0011
Phone: (800) 821-5821 / Fax: (207) 287-7443

Maine Health Alert Network (HAN) System

PUBLIC HEALTH ALERT

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Increase in Syphilis in Maine

Summary

- Syphilis cases have been increasing in Maine over the past several years, particularly among women.
- The increase in syphilis cases among women of reproductive age is concerning because of the potential risk of congenital syphilis if she is pregnant.
- All pregnant persons at the first prenatal visit, and retest at 28 weeks gestation and at delivery if at [high risk](#)
- Maine CDC recommends testing for syphilis in all patients who are obtaining any sexually transmitted infection (STI) testing.
- Providers should presumptively treat if a patient is symptomatic, is a contact to a syphilis case, belongs to a high-risk group, or if follow-up is uncertain.
- Report all cases of syphilis to Maine CDC at 1-800-821-5821.

Background

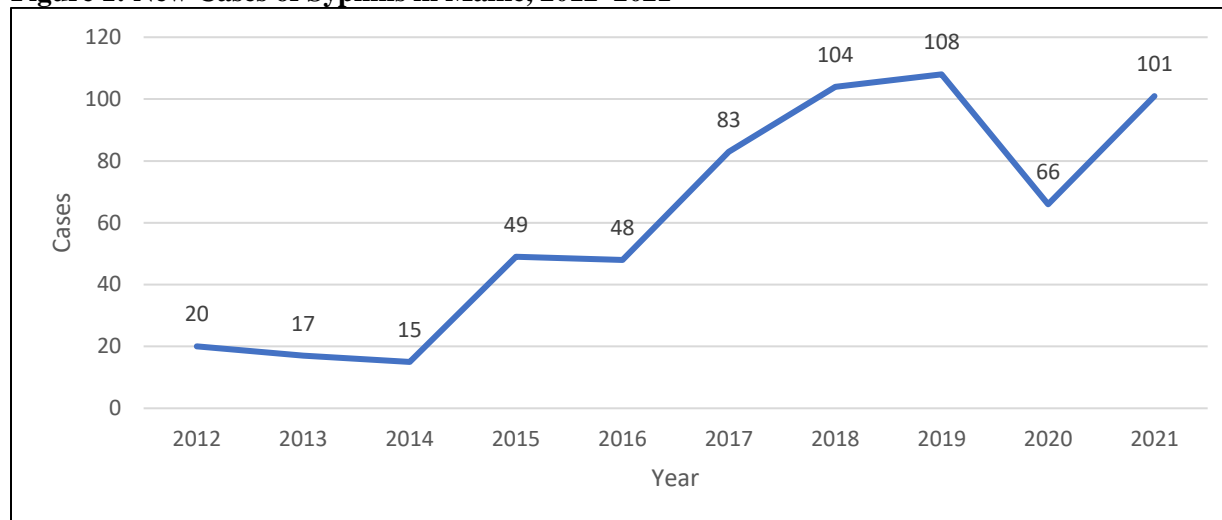
The incidence of syphilis is increasing in Maine and at the national level, especially among women. There were 101 cases of syphilis in Maine in 2021, and cases increased steadily during 2014–2019 (Figure 1). A decrease in cases in 2020 was likely a result of underdiagnosis during the COVID-19 pandemic as patients were less likely to access medical services.

In 2021, 60% of syphilis cases reported in Maine were identified during the primary and secondary stages. During 2017–2021, 54% of primary and secondary syphilis cases in Maine were among men who have sex with men (MSM); nationally, 46% were among MSM.¹ Cases of

¹ Preliminary 2021 United States STI surveillance data are available at <https://www.cdc.gov/std/statistics/2021/default.htm>

primary and secondary syphilis among MSM decreased 17% in Maine and increased 7% in the U.S., and primary and secondary cases among women increased 78% in Maine and increased 216% nationally.

Figure 1: New Cases of Syphilis in Maine, 2012–2021



The increase in syphilis cases among women is particularly concerning given the potential for congenital syphilis (CS). In 2021 there were a total of 2,677 cases of CS reported in the U.S., an increase of 702% from 2012. It has been over 30 years since a case of CS was reported in Maine, but national data as well as state trends highlight the need for increased awareness of symptoms, appropriate testing, and prompt treatment to prevent CS.

Signs, Symptoms, and Stages of Syphilis

Syphilis is divided into stages (primary, secondary, latent, and tertiary) with each stage having unique signs and symptoms. Patients are not infectious during the latent and tertiary stages.

- **Primary syphilis** generally presents with a sore or sores at the site of infection. These sores typically present on the penis, vagina, in or around the mouth, and around the anus or in the rectum. Sores are typically, but not always, firm, round, and painless. The sore(s) usually last 3 to 6 weeks and heal independent of treatment.
- Symptoms of **secondary syphilis** may include skin rash, lymphadenopathy, and fever. Additional symptoms may include sore throat, hair loss, headaches, weight loss, myalgia, and fatigue. Symptoms often present when the primary sore(s) are resolving or several weeks later.
- There are no signs or symptoms associated with **latent syphilis**.
- **Tertiary syphilis** can present 10–30 years after infection. It can cause serious medical problems with the brain, heart, and other organs. Symptoms vary depending on organ system(s) affected. Most people with untreated syphilis do not develop tertiary syphilis, however it is very serious and can be fatal.

Symptoms of both primary and secondary syphilis can be mild and may go unnoticed by both the patient and provider. Neurosyphilis, ocular syphilis, and otosyphilis can occur at any stage

described above. Symptoms may include changes in vision, hearing loss, muscle weakness or paralysis, and changes in mental status.

Congenital Syphilis

Congenital syphilis occurs when a pregnant person with syphilis passes the infection to the fetus during pregnancy. The risk of transmission is highest if the pregnant person was infected recently. Congenital syphilis can lead to newborn and childhood illness including hydrops fetalis; hepatosplenomegaly; rashes; fevers; failure to thrive; deformity of the face, teeth, and bones; blindness; and deafness.

If undetected or not treated in a timely manner, CS can cause stillbirth or newborn death in up to 40% of babies born to persons with untreated syphilis. Adequate and timely treatment of syphilis in pregnant persons dramatically decreases the rate of CS. Infants born to untreated pregnant persons, or pregnant persons with inadequate treatment (including those treated <30 days prior to delivery) should be evaluated and treated for congenital syphilis per [CDC guidelines](#).

Clinical Considerations for Syphilis

- Syphilis can be difficult to distinguish from other diseases.
- Treat presumptively if a patient is symptomatic, is a sexual partner of a syphilis case, belongs to a high-risk group, or if follow-up is uncertain.
- Discuss sexual practices, barrier methods like condoms, history of STIs, and STI prevention with patients.
- Consider syphilis during evaluations for possible STIs. Maine CDC recommends providers recognize the signs and symptoms of syphilis and test patients who present with unexplained lymphadenopathy or rash, even if rash is not localized to the palms and soles.
- Patients who test positive for syphilis should be interviewed to identify any sexual partners who should be tested or treated. Providers should work with Disease Intervention Specialists through Maine CDC to facilitate partner services, including interview, testing, and treatment.

Testing Recommendations for Syphilis

Because of the increase in cases, there is an increased risk of syphilis transmission to people who were previously considered low risk or who do not consider themselves to be at risk. **Maine CDC recommends providers collect a comprehensive sexual health history from all patients to assess for syphilis risk and test accordingly.**

Additionally, Maine CDC recommends syphilis testing for the following individuals:

- All pregnant persons at the first prenatal visit, and retest at 28 weeks gestation and at delivery if at [high risk](#) (lives in a community with high syphilis morbidity or is at risk for syphilis acquisition during pregnancy [drug misuse, STIs during pregnancy, multiple partners, a new partner, partner with STIs]);
- Test sexually active MSM as often as every 3 to 6 months if at [increased risk](#) (history of incarceration or transactional sex work, geography, race/ethnicity, and being a male younger than 29 years), and at least annually.
- Persons living with HIV at first evaluation and at least annually thereafter;
- Persons evaluated for any STI;

- Sexually active individuals with multiple sex partners; and
- Persons with a sex partner who has been recently diagnosed with an STI.

Testing Algorithm

- Two tests are required to diagnose syphilis, a non-treponemal assay (*i.e.*, VDRL or RPR) and a confirmatory treponemal test (*i.e.*, FTA-ABS tests, TP-PA assay).
- Use of only one type of serologic test (non-treponemal or treponemal) is insufficient for diagnosis and can result in false-negative results or false-positive results.
- For more information on syphilis testing and interpretation, visit <https://www.cdc.gov/std/treatment-guidelines/syphilis.htm>.
- For information on syphilis testing at Maine CDC's Health and Environmental Testing Laboratory (HETL) see <https://www.maine.gov/dhhs/mecdc/public-health-systems/health-and-environmental-testing/micro/documents/Detection-of-Syphilis-by-Three-Methods-LSIS.pdf>

Treatment Guidelines

- **Primary, Secondary, and Early Latent Syphilis**
 - Recommended Regimen: Benzathine Penicillin G (Bicillin L-A) 2.4 million units IM once
 - Alternative Regimen (For penicillin-allergic, non-pregnant only): Doxycycline 100mg orally 2 times a day for 14 days *OR* Tetracycline 500mg orally 4 times a day for 14 days
- **Late Latent Syphilis**
 - Benzathine penicillin G 7.2 million units total, given as 3 doses of 2.4 million units IM each at 1-week intervals
- **Neurosyphilis, Ocular Syphilis, and Ootosyphilis**
 - Recommended Regimen: Aqueous crystalline penicillin G 18-24 million units per day, administered as 3-4 million units by IV every for 4 hours or continuous infusion, for 10-14 days
 - Alternative Regimen: Procaine penicillin G 2.4 million units IM 1x/day *AND* probenecid 500 mg orally 4x/day, both for 10-14 days
- **Syphilis in pregnant persons**
 - Pregnant persons should be treated with the penicillin regimen for their stage of infection
 - For pregnant persons with primary, secondary, or early latent syphilis, a second dose of benzathine penicillin G 2.4 million units IM can be administered 1 week after the initial dose.
 - More information on syphilis during pregnancy can be found at <https://www.cdc.gov/std/treatment-guidelines/syphilis-pregnancy.htm>
- For more information on STI treatment, see the [CDC 2021 STI Treatment Guidelines](#)

Reporting: Syphilis reports can be provided to Maine CDC through electronic laboratory reporting, by fax at 207-287-8186, or by phone at 1-800-821-5821.

Additional Syphilis Resources

- For more information on syphilis in Maine, contact Maine CDC at 1-800-821-5821 or disease.reporting@maine.gov.
- U.S. CDC: Syphilis website (<http://www.cdc.gov/std/syphilis>)
- U.S. CDC STI Treatment Guidelines (2021): <https://www.cdc.gov/std/treatment-guidelines/default.htm>
- Maine CDC STI Treatment Guidelines Summary: https://www.maine.gov/dhhs/mecdc/infectious-disease/hiv-std/documents/pdf/ME%20STI%20Treatment%20Chart%20Mar2022_FINAL_LOGOS_COLOR.pdf
- HETL Laboratory Submission Information Sheet for syphilis: <https://www.maine.gov/dhhs/mecdc/public-health-systems/health-and-environmental-testing/micro/documents/Detection-of-Syphilis-by-Three-Methods-LSIS.pdf>
- STI Clinical Consultation Network: <https://www.stccn.org/render/Public>
- STI Training Opportunities: <https://www.nnptc.org/>
- U.S. CDC: Sexually Transmitted Diseases (STDs): Data & Statistics (<http://www.cdc.gov/std/stats16/default.htm>)