Congenital Syphilis: The Missed Testing Opportunities Behind Rising Case Counts

Written by The Life Science Feed Editorial Team · Published 6 November 2026 · Edited by Mara Voss

> The resurgence of congenital syphilis across high-income countries represents a profound public health failure, not a novel pathogen. This preventable disease, once nearly eradicated, is now climbing steadily, indicating critical gaps in maternal screening and treatment protocols. The problem is not a lack of effective therapy, but a consistent inability to deliver it to those who need it most.

KEY TAKEAWAYS

- The Pivot: Congenital syphilis rates are increasing, driven by missed opportunities for maternal screening and treatment, not by drug resistance or new disease mechanisms.
- The Data: The rise in cases reflects systemic failures in identifying and treating syphilis in pregnant individuals, particularly among vulnerable populations.
- The Action: Clinicians must reinforce adherence to established screening guidelines, ensure timely treatment, and advocate for public health interventions that address social determinants of health.

Congenital syphilis, a severe and often devastating infection in newborns, occurs when Treponema pallidum is transmitted from a pregnant individual to their fetus. This transmission can happen at any stage of pregnancy and can lead to miscarriage, stillbirth, prematurity, low birth weight, or a range of severe health problems in the infant, including bone deformities, severe anaemia, hepatosplenomegaly, jaundice, neurological impairments, and sensory deficits. The infection is entirely preventable with timely diagnosis and treatment of the pregnant individual, typically with penicillin. The current rise in cases, therefore, points directly to systemic breakdowns in healthcare access and public health infrastructure, rather than any inherent resistance of the pathogen to standard therapy.

The pathophysiology of congenital syphilis involves the transplacental passage of spirochetes, which can occur as early as 9 weeks of gestation. The severity of fetal infection is influenced by the stage of maternal syphilis, the duration of infection, and the timing of treatment. Early maternal syphilis (primary or secondary) carries a higher risk of transmission and more severe fetal outcomes compared to latent or tertiary syphilis. The spirochetes can disseminate throughout fetal tissues, causing widespread inflammation and organ damage. This can manifest as hydrops fetalis, a severe and often fatal condition characterized by fluid accumulation in multiple fetal compartments, or as more subtle signs at birth that progress to severe disease if untreated. The clinical presentation in newborns can be highly variable, ranging from asymptomatic at birth to severe multi-organ involvement, making universal screening essential for early detection.

The Unmet Need for Consistent Screening

The standard of care for preventing congenital syphilis is well-established and has been in place for decades: universal syphilis screening for all pregnant individuals at their first prenatal visit. Many guidelines also recommend repeat screening in the third trimester (28-32 weeks) and at delivery for individuals at high risk or in areas with high syphilis prevalence. The rationale for repeat screening is clear: a negative test early in pregnancy does not preclude acquisition later, and late-stage acquisition can still lead to congenital infection. But adherence to these guidelines is not universal, and the consequences are evident in the rising case numbers. The climbing syphilis rates in high-income countries highlight this failure.

A significant portion of congenital syphilis cases arise from pregnant individuals who either receive no prenatal care, receive late prenatal care, or are not adequately screened or treated despite receiving care. These missed opportunities are often concentrated in vulnerable populations, including those experiencing homelessness, substance use disorders, incarceration, or lacking health insurance. These social determinants of health create substantial barriers to accessing and completing the full course of prenatal care, including essential screenings. The complexity of managing these co-occurring challenges often overwhelms existing healthcare systems, leading to individuals falling through the cracks. For example, a pregnant individual experiencing homelessness may struggle to attend multiple appointments, maintain a consistent phone number for follow-up, or access transportation to clinics. These logistical hurdles, combined with potential stigma or mistrust of healthcare providers, contribute to delayed or absent care.

Diagnosis and Treatment Protocols

Diagnosis of syphilis in pregnancy relies on serological testing. Initial screening typically involves a non-treponemal test, such as the rapid plasma reagin (RPR) or venereal disease research laboratory (VDRL) test, followed by a confirmatory treponemal test, such as the fluorescent treponemal antibody absorption (FTA-ABS) or T. pallidum particle agglutination (TP-PA) test. A reactive non-treponemal test, confirmed by a reactive treponemal test, indicates active or past syphilis infection. Titers from non-treponemal tests are important for monitoring treatment response, as a four-fold decrease in titer indicates successful treatment.

The treatment for syphilis in pregnancy is penicillin, which remains highly effective and is the only antibiotic proven to prevent congenital syphilis. The specific regimen depends on the stage of maternal syphilis. For early syphilis (primary, secondary, or early latent of less than one year's duration), a single intramuscular dose of benzathine penicillin G is usually sufficient. For late latent syphilis (of unknown duration or more than one year's duration), three weekly intramuscular doses of benzathine penicillin G are required. If a pregnant individual is allergic to penicillin, desensitization and subsequent penicillin treatment are recommended, as alternative antibiotics like doxycycline are not safe in pregnancy and do not reliably prevent congenital syphilis. The importance of completing the full course of treatment, especially for late latent syphilis, cannot be overstated. Incomplete treatment or treatment with non-penicillin regimens significantly increases the risk of congenital infection.

The Role of Public Health Infrastructure

Effective prevention of congenital syphilis extends beyond individual clinical encounters. It requires robust public health infrastructure, including strong surveillance systems, contact tracing, and partner notification services. When a pregnant individual is diagnosed with syphilis, public health efforts should focus on identifying and treating their sexual partners to prevent reinfection and further transmission. But these services have faced significant underfunding and workforce

shortages in many regions, eroding their capacity to respond effectively to rising STI rates. The decline in public health funding has directly impacted the ability to conduct thorough contact investigations, provide expedited partner therapy, and offer targeted outreach to high-risk populations. This weakening of the public health safety net creates a ripple effect, allowing infections to spread unchecked and increasing the likelihood of congenital transmission.

The challenges are not merely about testing availability. They encompass a broader spectrum of issues, including provider education, patient adherence, and systemic biases. Some clinicians may not be fully aware of current screening recommendations or the nuances of interpreting syphilis serology, particularly in areas with historically low prevalence. Patients, especially those facing social or economic instability, may struggle with adherence to multi-dose penicillin regimens or follow-up appointments. Implicit biases within the healthcare system can lead to stigmatization, deterring individuals from seeking care or disclosing risk factors. Addressing these varied barriers requires a coordinated approach involving healthcare providers, public health agencies, and community organizations. The missed opportunities in congenital syphilis are a stark reminder of these systemic issues.

Where Current Strategies Fall Short

Despite clear guidelines, the implementation often falters. The timing of screening is critical. A single screen at the first prenatal visit may miss infections acquired later in pregnancy. But repeat screening, while recommended for high-risk populations, is not universally mandated or consistently performed. This creates a window of vulnerability where a previously uninfected or treated individual can acquire syphilis and transmit it to the fetus before delivery. The lack of a rapid, point-of-care test that can be easily deployed in diverse settings also contributes to delays in diagnosis and treatment initiation. While rapid treponemal tests exist, they often require confirmatory non-treponemal tests, adding steps to the diagnostic pathway.

Another significant challenge lies in the management of penicillin-allergic pregnant individuals. While desensitization protocols are effective, they are resource-intensive and require specialized medical settings, which may not be readily available in all communities. This can lead to delays in treatment or the use of less effective alternative regimens, increasing the risk of congenital syphilis. The logistical complexities of managing these cases highlight the need for improved access to specialized care and streamlined referral pathways. The efficacy of doxycycline PEP for STIs, while relevant for other infections, does not apply here given its contraindication in pregnancy for syphilis treatment.

The problem is not a lack of knowledge or effective treatment. It is a failure of execution, a breakdown in the public health safety net that should protect the most vulnerable. The rising numbers of congenital syphilis cases are a direct indictment of fragmented healthcare systems and underfunded public health initiatives. Until these foundational issues are addressed, the preventable tragedy of congenital syphilis will continue to unfold.

> **CLINICAL IMPLICATIONS**
>
> The escalating rates of congenital syphilis are a clear indicator that current public health strategies are failing. Clinicians cannot simply rely on initial prenatal screening; repeat testing in the third trimester for high-risk individuals and at delivery for all is not merely a suggestion, it is a necessity. The cost of a missed diagnosis far outweighs the cost of additional testing.
>
> The issue extends beyond the clinic walls. We must acknowledge the profound impact of social determinants on health outcomes. Pregnant individuals experiencing homelessness, substance use, or lacking insurance

> are not just 'high-risk' patients; they are individuals facing systemic barriers that prevent them from accessing essential care. Addressing these underlying issues requires advocacy for broader public health funding and integrated care models.
> For healthcare systems, this means re-evaluating the accessibility and comprehensiveness of prenatal care. Are desensitization protocols for penicillin-allergic pregnant individuals readily available? Are there streamlined pathways for rapid diagnosis and treatment for those presenting late or with incomplete records? These are not minor logistical hurdles; they are critical junctures where preventable harm occurs.
> The pharmaceutical industry, while not directly implicated in this public health failure, could explore more accessible penicillin formulations or research into novel, pregnancy-safe treponemicides that do not require complex desensitization. But the immediate solution remains simple: use the tools we already have, consistently and effectively. The tragedy of congenital syphilis is that it is entirely avoidable, yet we continue to fail.

EDITORIAL & AI STANDARDS

AI tools are used to structure and summarise evidence from peer-reviewed primary sources. Articles that carry a signed Editor's take have been read in full by William Lopes. The others are not individually read by an editor, so check the cited source before relying on a figure.

REFERENCES

1. 1. Sankaran D, Partridge E, Lakshminrusimha S. Congenital Syphilis-An Illustrative Review. Children (Basel). 2023;10(8). doi:10.3390/children10081310
2. 2. Gilmour LS, Walls T. Congenital Syphilis: a Review of Global Epidemiology. Clin Microbiol Rev. 2023;36(2):e0012622. doi:10.1128/cmr.00126-22
3. 3. Chevalier FJ, Bacon O, Johnson KA, Cohen SE. Syphilis: A Review. JAMA. 2025;334(21):1927-1940. doi:10.1001/jama.2025.17362
4. 4. d'Hemecourt K, Santos E, Guerina N, Hardy E. Syphilis in Pregnancy and Congenital Syphilis. R I Med J (2013). 2024;107(12):16-19. PMID:39576996
5. 5. Stafford IA, Workowski KA, Bachmann LH. Syphilis Complicating Pregnancy and Congenital Syphilis. N Engl J Med. 2024;390(3):242-253. doi:10.1056/NEJMra2202762
6. 6. Cooper JM, Sánchez PJ. Congenital syphilis. Semin Perinatol. 2018;42(3):176-184. doi:10.1053/j.semperi.2018.02.005

LICENCE & RIGHTS

© 2026 The Life Science Feed. All rights reserved. This content is produced for medical education purposes. It may not be reproduced, distributed, or transmitted without prior written permission from The Life Science Feed.

MEDICAL DISCLAIMER

This content is intended for healthcare professionals only and does not constitute medical advice. Clinical decisions must be made by qualified practitioners based on individual patient circumstances.

FOLLOW THE LIFE SCIENCE FEED

Instagram @lifesciencefeed **LinkedIn** linkedin.com/company/thelifesciencefeed

thelifesciencefeed.com