

Congenital Syphilis: The Missed Opportunities Behind Rising Case Counts

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The resurgence of congenital syphilis represents a significant public health failure, with cases climbing steadily across many regions. This preventable condition, once nearly eradicated, now highlights systemic gaps in maternal healthcare and infectious disease surveillance. Understanding the points of failure in testing and treatment is paramount to reversing this alarming trend.

KEY TAKEAWAYS

- **The Pivot:** Rising congenital syphilis cases are primarily due to missed maternal screening and insufficient treatment, not a failure of existing therapies.
- **The Data:** A substantial proportion of mothers with congenital syphilis cases received no prenatal care or were not tested for syphilis during pregnancy.
- **The Action:** Clinicians must ensure universal syphilis screening at the first prenatal visit, repeat testing in the third trimester for high-risk populations, and immediate treatment for all positive cases.

Congenital syphilis, a severe and often devastating outcome of untreated maternal syphilis, has seen a concerning increase in incidence. This rise is particularly frustrating because the tools for prevention are well-established and highly effective: universal prenatal screening and timely antibiotic treatment. The disease manifests when *Treponema pallidum*, the causative bacterium, crosses the placenta from an infected mother to her fetus. The consequences for the neonate can range from stillbirth or neonatal death to a spectrum of severe, lifelong morbidities affecting multiple organ systems, including neurological, skeletal, and dermatological complications. The clinical presentation is highly variable, making early diagnosis challenging without a robust screening program.

The standard of care for preventing congenital syphilis involves screening all pregnant individuals for syphilis at their first prenatal visit. For those at high risk of infection or reinfection, repeat testing in the third trimester (28 to 32 weeks' gestation) and again at delivery is recommended. This strategy aims to identify and treat maternal infection promptly, thereby preventing vertical transmission. Penicillin G remains the only antibiotic with documented efficacy for treating maternal syphilis during pregnancy and preventing congenital syphilis. Its effectiveness is well-established, and no resistance has been reported for *T. pallidum*. The critical window for intervention is during pregnancy, as treatment of the mother effectively treats the fetus in utero.

The Missed Opportunities in Screening

The primary drivers behind the increase in congenital syphilis cases are not failures of penicillin, but rather failures in the healthcare system's ability to implement existing guidelines. A significant proportion of mothers who deliver infants

with congenital syphilis either receive no prenatal care at all or are not tested for syphilis during their pregnancy. This represents a fundamental breakdown in access to care and adherence to established screening protocols. For some, late entry into prenatal care means the initial screening window is missed, delaying diagnosis and treatment until later in pregnancy, or even after delivery, when fetal damage may already be irreversible.

Even when screening occurs, there are often missed opportunities for repeat testing. Women who test negative early in pregnancy but engage in high-risk behaviors, such as having multiple sexual partners or partners with confirmed syphilis, are particularly vulnerable to acquiring syphilis later in pregnancy. Without a repeat test in the third trimester, these new infections can go undetected, leading to congenital syphilis. The challenges in diagnosing other infectious diseases early highlight the broader systemic issues in timely pathogen detection.

Inadequate Treatment and Follow-Up

Beyond missed testing, inadequate or incomplete treatment of maternal syphilis is another critical factor. This can occur for several reasons. Some pregnant individuals diagnosed with syphilis may not receive the full course of penicillin G, or they may receive non-penicillin regimens that are not effective for preventing congenital syphilis. For instance, doxycycline is effective for non-pregnant adults but is contraindicated in pregnancy due to potential fetal harm and does not reliably treat fetal infection. The specific penicillin regimen depends on the stage of maternal syphilis, requiring careful staging and adherence to treatment guidelines. A single dose of benzathine penicillin G is sufficient for early syphilis, but multiple doses are needed for late latent syphilis.

Patient adherence to multi-dose regimens can be a challenge, particularly in populations facing socioeconomic barriers, housing instability, or substance use disorders. These populations are often disproportionately affected by syphilis and face significant hurdles in accessing and completing care. The lack of robust patient navigation and support services can exacerbate these issues, leading to treatment interruptions or non-completion. Re-infection during pregnancy, even after successful treatment, can occur if the mother's sexual partners are not also treated, creating a cycle of transmission. Partner notification and treatment are therefore essential components of a comprehensive prevention strategy.

The Broader Public Health Context

The rise in congenital syphilis is inextricably linked to the broader increase in syphilis rates among adults, particularly among women of reproductive age. This increase reflects changes in sexual health behaviors, reduced condom use, and a decline in public health infrastructure for sexually transmitted infection (STI) prevention and control. Funding cuts to public health programs have diminished the capacity for contact tracing, partner services, and targeted outreach to high-risk communities. These services are vital for breaking chains of transmission and preventing the spread of syphilis.

Social determinants of health play a profound role in this epidemic. Poverty, lack of health insurance, homelessness, and substance use disorders are all associated with higher rates of syphilis and poorer access to prenatal care. Women experiencing these challenges are less likely to receive timely screening and treatment, placing their unborn children at greater risk. Addressing these underlying social inequities is not merely a social justice issue; it is a critical public health intervention for preventing congenital syphilis. Clinicians must be aware of these broader factors when managing patients, and consider the environmental and social determinants of other infectious diseases as well.

Clinical Implications and Prevention Strategies

For clinicians, the message is clear: vigilance is paramount. Universal syphilis screening at the first prenatal visit is non-negotiable. For women living in areas with high syphilis prevalence, those with a history of STIs, or those with new or multiple sexual partners during pregnancy, repeat testing in the third trimester and at delivery should be standard practice. Rapid syphilis tests, which can provide results within minutes, can facilitate immediate diagnosis and treatment, particularly in settings where laboratory turnaround times are long or patient follow-up is uncertain. These point-of-care tests can bridge critical gaps in care, especially for patients presenting in labor with unknown syphilis status.

But testing alone is insufficient. Ensuring that every pregnant individual diagnosed with syphilis receives the appropriate penicillin G regimen, administered correctly and completely, is equally vital. This requires clear communication, patient education, and, where necessary, direct observation of therapy. For patients with penicillin allergy, desensitization protocols should be initiated to allow for penicillin treatment, as alternative antibiotics are not reliably effective for preventing congenital syphilis. The importance of adherence to established protocols extends across all areas of medicine, from critical care to prenatal management.

Beyond individual patient care, broader public health interventions are desperately needed. This includes strengthening STI prevention programs, increasing access to comprehensive sexual health services, and addressing the social determinants of health that disproportionately affect vulnerable populations. Enhanced surveillance systems are also necessary to track cases, identify hotspots, and target interventions effectively. The data consistently show that the majority of congenital syphilis cases are preventable with existing tools. The failure lies in the consistent application of these tools within a fragmented healthcare system.

The open-label nature of real-world public health data is the obvious caveat; we are observing outcomes, not conducting controlled trials. Still, the consistent pattern of missed screening and inadequate treatment across diverse populations points to systemic rather than individual failures. The data do not suggest a new, more virulent strain of *T. pallidum* or a failure of penicillin. They point to a failure of public health infrastructure and clinical vigilance. Clinicians must integrate these lessons into daily practice, ensuring that every pregnant patient receives the syphilis screening and treatment they need. The need for robust testing strategies is not unique to syphilis, but the consequences of failure are particularly stark here.

The long-term health and economic burden of congenital syphilis is substantial, affecting not only the child and family but also healthcare systems and society as a whole. Investing in prevention is far more cost-effective and humane than managing the lifelong complications of this preventable disease. The current trajectory is unsustainable, demanding a renewed commitment from clinicians, public health officials, and policymakers to eliminate congenital syphilis once and for all. The tools are available; the will to implement them consistently is what remains to be seen. For a comprehensive overview of infectious diseases, the Oxford Handbook of Infectious Diseases and Microbiology (3rd ed) offers practical guidance.

CLINICAL IMPLICATIONS

The rising tide of congenital syphilis cases is not a mystery; it is a direct consequence of systemic failures in basic public health and clinical practice. We have a highly effective, inexpensive treatment in penicillin, yet children are still being born with preventable, devastating conditions. This is not a call for new drugs, but for better execution of existing guidelines.

Clinicians, particularly those in primary care and obstetrics, must internalize the necessity of universal syphilis screening at the first prenatal visit. But that is not enough. For patients in high-prevalence areas or with risk factors, repeat testing in the third trimester and at delivery is non-negotiable. Missing these opportunities is a clinical oversight with profound, lifelong consequences for the child.

The public health infrastructure, decimated by years of underfunding, needs urgent reinvestment. Contact tracing, partner notification, and targeted outreach to vulnerable populations are not luxuries; they are essential for breaking the chain of transmission. Without these foundational services, clinicians are left to manage the downstream effects of a preventable epidemic.

The onus is on the entire healthcare system to prioritize this issue. The cost of preventing congenital syphilis is negligible compared to the societal burden of managing its severe sequelae. This is a solvable problem, but it requires consistent vigilance and a commitment to equitable access to care, not just for the mother, but for the health of the next generation.

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