

Why syphilis rates keep climbing in high-income countries

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Syphilis, a disease once thought to be largely controlled in many parts of the world, has stubbornly re-emerged as a significant public health concern. Despite readily available and effective treatment, its incidence continues to climb across high-income countries, challenging established public health strategies and clinical practice. Understanding the underlying drivers of this resurgence is important for clinicians facing an increasing caseload of this ancient infection.

KEY TAKEAWAYS

- ° The Pivot: Syphilis incidence is rising globally, particularly in high-income countries, despite effective treatment options.
- ° The Data: Specific numeric results are not available for this general topic, but the trend is a consistent increase in reported cases.
- ° The Action: Clinicians should maintain a high index of suspicion for syphilis, particularly in at-risk populations, and ensure timely diagnosis and treatment.

Syphilis, caused by the bacterium *Treponema pallidum*, presents a complex clinical picture, often earning it the moniker 'the great imitator.' Its stages, from the primary chancre to the systemic manifestations of secondary and tertiary syphilis, can mimic numerous other conditions, making diagnosis challenging without a high index of suspicion. The disease can affect nearly any organ system, leading to severe neurological, cardiovascular, and ocular complications if left untreated. Congenital syphilis, transmitted from mother to child, remains a devastating outcome, causing stillbirth, neonatal death, and lifelong disabilities.

The infection typically spreads through direct contact with a syphilitic sore during sexual activity. Less commonly, it can be transmitted through blood transfusions or from mother to child during pregnancy. The incubation period for primary syphilis averages 21 days, but can range from 10 to 90 days, during which time a painless chancre develops at the site of infection. This lesion often goes unnoticed, particularly if located internally, allowing the infection to progress silently.

The Shifting Epidemiology

The resurgence of syphilis in high-income countries is not a uniform phenomenon but reflects a confluence of epidemiological shifts. Historically, syphilis rates declined sharply following the introduction of penicillin in the mid-20th century. But, beginning in the late 1990s and early 2000s, many European nations and North America began reporting a steady increase in cases, predominantly among men who have sex with men (MSM). This demographic initially bore the brunt of the rising incidence, but more recently, heterosexual transmission and congenital syphilis cases

have also seen concerning increases.

Several factors contribute to this evolving epidemiology. Changes in sexual behavior, including an increase in unprotected sex and a greater number of sexual partners, are frequently cited. The widespread availability of pre-exposure prophylaxis (PrEP) for HIV, while a triumph in HIV prevention, has also been associated with a reduction in condom use among some populations, potentially facilitating the spread of other sexually transmitted infections (STIs), including syphilis. This is not to diminish the profound benefits of PrEP, but rather to acknowledge an observed epidemiological correlation that requires careful consideration in public health messaging.

Challenges in Public Health and Clinical Practice

Public health infrastructure, once robust in its capacity for STI surveillance and contact tracing, has faced significant strain. Funding cuts, workforce shortages, and the diversion of resources to other health crises have eroded the ability of many systems to effectively monitor and control syphilis outbreaks. The complexity of contact tracing for a disease with a long incubation period and often asymptomatic early stages presents a formidable challenge. Identifying and notifying all sexual partners of an infected individual is essential for breaking chains of transmission, but this process is labor-intensive and requires dedicated resources.

From a clinical perspective, the infrequent encounter with syphilis in routine practice for many years has led to a decline in diagnostic familiarity among some clinicians. The classic presentations, once well-recognized, may now be missed or misdiagnosed, particularly in primary care settings where the initial chancre or the rash of secondary syphilis might be attributed to other, more common conditions. This diagnostic delay allows the infection to progress and increases the likelihood of onward transmission. A comprehensive Oxford Handbook of Infectious Diseases and Microbiology can be a valuable resource for clinicians needing a quick reference on less common presentations.

The Role of Testing and Treatment

Diagnosis of syphilis relies on a combination of serological tests. Non-treponemal tests, such as the RPR (Rapid Plasma Reagin) or VDRL (Venereal Disease Research Laboratory) tests, are used for screening and monitoring treatment response. Treponemal tests, like the TPPA (Treponema pallidum Particle Agglutination) or EIA (Enzyme Immunoassay), confirm the presence of specific antibodies to *T. pallidum*. Interpreting these tests requires careful consideration of the patient's clinical history and prior exposure, as treponemal antibodies can remain positive for life even after successful treatment.

Treatment for syphilis remains remarkably effective with penicillin. A single intramuscular dose of benzathine penicillin G is curative for primary, secondary, and early latent syphilis. For late latent syphilis or neurosyphilis, longer courses of penicillin are required. The continued efficacy of penicillin against *T. pallidum* is a significant advantage, as resistance has not emerged as a widespread problem, unlike with many other bacterial infections. But, ensuring adherence to treatment and follow-up is essential, particularly for patients with complex social circumstances or those who are difficult to reach.

Preventative Strategies and Education

Prevention efforts must extend beyond individual patient management to broader public health campaigns.

Comprehensive sexual health education, promoting safer sex practices, and increasing access to condoms remain foundational. Regular STI screening, particularly for individuals with multiple partners or those in high-risk groups, is paramount for early detection and intervention. This includes routine screening for syphilis, HIV, gonorrhoea, and

chlamydia. The rise in cases also highlights the need for renewed public awareness campaigns, reminding individuals that syphilis is still a threat and that symptoms, however subtle, warrant medical attention.

The integration of STI services within primary care and other healthcare settings is also important. Many patients may not seek care at specialized sexual health clinics, making it imperative that GPs and other frontline clinicians are equipped to offer testing, diagnosis, and treatment. This requires ongoing education and support for healthcare providers. For example, understanding emerging infectious diseases or outbreaks of parasitic infections can help contextualize the broader challenges in infectious disease control.

The open-label nature of real-world epidemiology is the obvious caveat here. We are observing trends, not controlled interventions. The data points to a complex relationship of individual behavior, societal factors, and public health capacity. The challenge is not a lack of effective treatment, but rather the failure of systems to consistently apply it and prevent transmission.

Still, the increasing rates of congenital syphilis are particularly alarming, highlighting systemic failures in maternal screening and care. Routine antenatal screening for syphilis is a cornerstone of preventing congenital infection, yet cases continue to occur, often due to missed screening opportunities, late presentation for antenatal care, or inadequate treatment of infected mothers. This points to broader inequities in healthcare access and utilization that must be addressed.

CLINICAL IMPLICATIONS

The persistent rise in syphilis cases demands a recalibration of clinical vigilance. GPs and specialists alike must maintain a high index of suspicion, particularly when faced with dermatological lesions, neurological symptoms, or unexplained systemic illness, even in populations not traditionally considered high-risk. The 'great imitator' label is not hyperbole; it is a warning to consider syphilis in a broader differential diagnosis. For public health, the erosion of contact tracing capacity is a critical vulnerability. Reinvesting in and modernizing these services is not merely an administrative task; it is fundamental to controlling outbreaks and preventing further spread. The current trajectory suggests that without concerted effort, syphilis will continue its upward climb, increasing the burden on healthcare systems and leading to preventable severe outcomes. The correlation between PrEP uptake and increased STI rates, while complex, requires clear communication. Clinicians should continue to advocate for PrEP as a vital HIV prevention tool, but this must be coupled with reinforced messaging on comprehensive sexual health, including regular STI screening and condom use for other infections. It is not an either/or proposition; it is a call for holistic sexual health management. The ongoing syphilis epidemic is a stark reminder that even treatable infections can resurge when public health infrastructure weakens and clinical awareness wanes. The tools to control syphilis exist; the challenge lies in their consistent and equitable application across populations.

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