

The resurgence of congenital syphilis in Australia: novel approaches and sustained, effective public health efforts are required

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In this issue of the *MJA*, Hengel and colleagues¹ report that the syphilis rate among women of reproductive age is rising in Australia. Their analysis of national notifications data indicate that 5011 cases of infectious syphilis in women aged 15–44 years were notified during 2011–2021, the annual number increasing from 141 in 2011 to 902 in 2021. During the same period, 74 cases of congenital syphilis were notified: 40 in Aboriginal and Torres Strait Islander infants, 32 in non-Indigenous infants, and two in infants of unknown Indigenous status. Seventeen of the infants were stillborn; the mothers of 41 infants with congenital syphilis resided in major cities, and 32 had not received antenatal care.¹

Until recently, syphilis cases in Australia were highly concentrated among men who have sex with men and in remote Aboriginal and Torres Strait Islander communities. During the past decade, however, this has changed. The number of notifications among women living in urban areas has risen, leading to a worrying resurgence of congenital syphilis.² Meanwhile, rates among Aboriginal and Torres Strait Islander people have continued to climb in several states and territories.¹ Increased rates of congenital syphilis have also been reported in other high income countries, including the United States, where the number of cases increased by 755% during 2012–2022.³

The resurgence of congenital syphilis indicates a breakdown in syphilis control, and should be seen as an urgent call to action. In the past, syphilis outbreaks have occurred where there is socio-economic disadvantage and health services are unable to provide adequate testing, treatment, and sexual partner management.⁴ Reversing the increase in congenital syphilis numbers is achievable only if syphilis control measures are sufficiently targeted and intense to reduce syphilis rates among women of reproductive age.

A recent Australian study found that syphilis is probably most transmissible during the second stage of infection, when asymptomatic shedding of *Treponema pallidum* from mucosal sites, including the mouth and saliva, peaks.⁵ To prevent *T. pallidum* dissemination and mucosal shedding, a paradigm shift in strategy is needed, to improve detection of primary and very early latent syphilis. This requires ready access to polymerase chain reaction (PCR) testing for *T. pallidum* in primary lesions, and frequent serological screening of people at particular risk of infection to detect very early asymptomatic syphilis.

If syphilis is detected in a woman early in pregnancy, congenital syphilis is almost certainly preventable.⁶ Infections during later pregnancy, including repeat infections from untreated sexual partners, increase the risk of mother-to-child transmission and the devastating consequences of congenital syphilis. Syphilis

screening at the first antenatal visit is usual in Australia, but repeat screening during later pregnancy should also be routine. Australian pregnancy care guidelines recommend syphilis testing at the first antenatal contact, and repeat testing in the third trimester and at the time of birth for women at high risk of infection or re-infection; in the case of a current local syphilis outbreak, testing at five timepoints during the course of the pregnancy and the birth and post partum periods is recommended.⁷ The many limitations of risk-based screening include incomplete risk assessments of some women, time constraints in the clinic, and poor awareness of syphilis risk among both clinicians and the public. The American College of Obstetricians and Gynaecologists now advises universal re-screening during the third trimester and at birth rather than a risk-based approach to testing.⁸

Gaps in syphilis-related care during pregnancy in Australia include insufficient testing, incorrect treatment, inadequate engagement with care as the pregnancy progresses, and not testing and treating the sexual partners of pregnant women.⁹ These problems are often exacerbated by factors such as housing instability, drug and alcohol use, and family violence. Babies at high risk of syphilis should also be followed up,⁹ and completion of treatment ensured when infection is confirmed.

Doing more of the same will not reverse the persistent rise in syphilis rates in Australia. The basic tools of syphilis control — testing and repeat testing, treatment, sexual partner management — need to be targeted effectively. This is particularly important for people and groups who are socio-economically disadvantaged or marginalised. Effective control requires adequate funding and resources to support action across the health services used by people with syphilis, including general practices, sexual health clinics, Aboriginal and Torres Strait Islander health services, and antenatal services.

New methods of syphilis testing should be evaluated, including highly sensitive PCR testing; extending the use of multiplex PCR testing of oral, anal and genital ulcers to distinguish syphilis from herpes simplex infections, together with education about the available test options; universal repeat screening during later pregnancy; and introducing self-testing and improving point-of-care-testing, including assays that reliably distinguish current from past syphilis infections. Several clinical trials have found that post-exposure prophylaxis with doxycycline can be effective in reducing the incidence of syphilis among people at risk of sexually transmitted diseases.¹⁰ This approach could be part of a broader strategy for controlling syphilis among people other than pregnant women, but there are some concerns, given the risk of antimicrobial resistance. Advances in genomic sequencing of *T. pallidum* open the prospect of real time tracking

of syphilis epidemics and improved targeting of effective public health responses.¹¹

Targeted efforts to reduce the stigma attached to sexual health testing and treatment would encourage people to seek care without fear of discrimination. Coordinated policies in both antenatal and sexual health care, clear guidelines, and broad education programs are needed to reduce the rate of congenital syphilis in Australia. Congenital syphilis has been eliminated in several countries in the Americas.¹² This shows that novel approaches and sustained, effective public health efforts can control this devastating infection.

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