

# Eliminating congenital syphilis from Aotearoa New Zealand

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We all recognise the “aha” moment in the congenital syphilis case reported in this issue of the *New Zealand Medical Journal*, when “a subtle desquamating rash on the soles was noted and urgent treponemal serology requested,” which led to a successful clinical outcome for this whānau.<sup>1</sup> We also all know how easily this infant’s illness could have had a very different and heart-breaking outcome. Congenital syphilis has previously been rare in Aotearoa New Zealand, with one stillbirth reported in 2011–12 and no further reported cases until 2016. However, there has since been a rapid resurgence, with 23 congenital syphilis cases reported nationally from 2016 to 2020, including eight fetal and one perinatal death (ESR, personal communication). A recent study by the New Zealand Paediatric Surveillance Unit estimated an incidence of 9.4 cases per 100,000 live births during April 2018 to May 2020.<sup>2</sup> In comparison, Australia’s non-Indigenous notification rate was 1.4 cases per 100,000 live births in 2018, although the rate among the Aboriginal and/or Torres Strait Islander population was considerably higher, at 19.6 notifications per 100,000 live births.<sup>3</sup> The United Kingdom similarly had 1.4 cases per 100,000 live births in 2019, with recent increases there linked to social issues and other inequalities.<sup>4</sup> The true incidence in Aotearoa New Zealand is likely higher given that diagnosing early congenital syphilis infection can be challenging and fetal loss is not always investigated. Tragically, infections over the last five years have been inequitably concentrated in areas of higher socioeconomic disadvantage in the North Island, affecting a disproportionate number of Māori and Pacific Island whānau.<sup>5</sup> This marked increase reflects the parallel rise in reported cases of infectious syphilis among women of repro-

ductive age in the North Island since 2016, again with an over-representation of Māori and Pacific Island women.

Maternal–fetal syphilis transmission can occur at any stage of pregnancy and any stage of infection, although it is most likely with early infection. Untreated maternal syphilis infection is associated with adverse outcomes for an estimated 66% of pregnancies.<sup>6</sup> Left untreated, congenital syphilis can cause deafness, blindness, skeletal abnormalities and liver problems, and it is also associated with a significant risk of miscarriage, premature birth or stillbirth. Newborn babies can be successfully treated with antibiotics, but a diagnosis of syphilis may not be considered, especially if the baby is asymptomatic at birth.<sup>1</sup> Ensuring that clinicians are aware of the resurgence of congenital syphilis and having a lower threshold for appropriate testing to ensure early identification of cases will help. But, more importantly, all cases of congenital syphilis are potentially preventable if the mother’s infection is diagnosed during pregnancy and treated promptly and effectively. Hence the main requirement to prevent congenital syphilis is adequate healthcare infrastructure that ensures universal access to early antenatal care and screening with subsequent linkage to services for maternal treatment and partner notification.<sup>7</sup>

Each and every congenital syphilis infection represents a failure in our healthcare system and reminds us that too many people in Aotearoa New Zealand still lack access to adequate healthcare. The right to health is fundamental and, as we have ratified the International Covenant on Economic, Social and Cultural Rights, New Zealand is required to make provision “for the reduction of the stillbirth-rate and of infant mortality and for the healthy devel-

opment of the child” and the “prevention, treatment and control of epidemic, endemic, occupational and other diseases.”<sup>8</sup> The right to health also requires that health goods, services and facilities are available in adequate numbers; accessible on a financial, geographical and non-discriminatory basis; acceptable, including being culturally appropriate and respectful of gender and medical ethics; and of good quality. The Government also has an obligation under Te Tiriti o Waitangi to protect the rights of Māori and, to the fullest extent practicable, achieve equitable health outcomes.

Clinicians have highlighted the increasing rates of infectious syphilis in adults over recent years and urged action to avoid the deplorable situation in which we now find ourselves.<sup>9</sup> In 2019, the Ministry of Health drafted a national syphilis action plan, which encouraged district health boards (DHBs) to develop local management and referral pathways. Clinicians led the development of a national antenatal and congenital syphilis guideline to promote standardisation and consistency of testing recommendations and to improve diagnosis and management of syphilis in pregnancy and in infants.<sup>10</sup> However, not surprisingly, the development of a national action plan and a national guideline without resourced implementation or structural change has had little if any impact. There is much we can learn from Aotearoa New Zealand’s COVID-19 pandemic response, in particular that we need strong public health policy and pro-equity action. The actions to eliminate congenital syphilis again are similar: early diagnosis by improving test coverage, prevention of onward transmission (in the case of syphilis by treatment with a cheap effective antibiotic) and comprehensive timely contact tracing—arguably easier than eliminating the delta variant of COVID-19.

We must:

- Ensure access to high quality antenatal care for all women and promote high uptake of testing early in pregnancy.
- Implement repeat testing later in pregnancy particularly for those living in parts of the country with the highest rates of syphilis among people of reproductive age.

- Ensure maternal syphilis status is known at birth for all women.
- Quickly and correctly treat adult infections when they are diagnosed.
- Ensure partners of those diagnosed with syphilis are treated to avoid reinfection and stop further spread.
- Reduce the rates of infectious syphilis in general population through clear public health messaging, widespread free testing, treatment of cases and effective contact tracing.

In 2007, the World Health Organization set a goal of eliminating mother-to-child transmission of syphilis, with targets of (i) at least 95% coverage of antenatal care, (ii) 95% testing coverage of pregnant women for HIV and syphilis and (iii) 95% treatment coverage for those pregnant women testing positive for HIV or syphilis.<sup>11</sup> Among women giving birth in Aotearoa New Zealand in 2018, 95.5% registered for antenatal care.<sup>12</sup> However, a considerable number register later in pregnancy and hence do not receive early antenatal testing or adequate antenatal care, representing missed opportunities for early intervention. Reasons for late registration are well-known, with structural issues and social determinants creating barriers, as well as the complex realities of involvement with other agencies such as Oranga Tamariki, all of which contribute to persistent maternal health inequities for Māori and Pacific women.<sup>13–15</sup> Ensuring every pregnant person is sufficiently supported to access early and ongoing antenatal care is essential to reversing inequitable maternal and infant health outcomes. It is also imperative that there are policies and procedures in place to ensure those presenting late in pregnancy or in labour are offered routine screening generally done at first antenatal contact including syphilis testing.

Overseas reviews highlight that provider and systemic factors also contribute significantly to avoidable congenital syphilis cases, particularly around linkage to appropriate care, adequate treatment and follow-up.<sup>4,16,17</sup> There have been similar failures in Aotearoa New Zealand already. All antenatal care providers need comprehensive training in sexually transmitted infection (STI) screening and management

and gaps in referral pathways to specialist services, especially in smaller DHBs, need to be addressed. Sexual health funding has been an easy target for fiscal cuts for many years and a significant number of DHBs do not employ sexual health or infectious disease expertise or do not have adequately resourced specialist services. In addition, inadequate partner notification is a longstanding issue in the management of syphilis, HIV and other STIs in Aotearoa New Zealand.<sup>18</sup> Ideally, there would be a dedicated trained workforce to help provide contact tracing and linkage to care; an obvious solution would be to utilise the newly created resource of the COVID-19 contact tracing workforce.

The resurgence of syphilis requires greater awareness among antenatal care providers of the need to offer repeat antenatal testing. Repeat testing during pregnancy has long been recommended in international guidelines for those at high risk of syphilis because serological tests may be falsely negative in early infection or infection may be acquired later in pregnancy.<sup>19</sup> In 2018, the New Zealand College of Midwives proactively issued a syphilis advisory statement that highlighted the need to recommend testing or re-testing for syphilis at any gestation for anyone with clinical indicators and to offer re-screening between 28 and 32 weeks for women with risk factors. The 2020 national guideline suggests that a woman at higher risk of acquiring syphilis infection during pregnancy will likely have one of the following characteristics: no or inconsistent antenatal care; more than one sexual partner during the pregnancy; an STI diagnosed during the past year; current recreational drug use; incarceration in the past year; currently experiencing homelessness or unstable housing; or a sexual partner who has similar risk factors. The guideline also encourages providers to have a low threshold for repeat testing given that women may not have overt risks. There are also additional recommendations of further testing at birth for high-risk women and for anyone delivering a stillborn at 20 weeks gestation or later.

Relying on a behavioural risk-assessment process is fraught with issues, however,

which is why we changed from risk-based to universal antenatal HIV testing 15 years ago. A recent review of United States case reports during 2012–16 highlighted this further, in that 49% of 9,883 pregnant women with any stage of syphilis and 37% of those with early syphilis did not report any recent high-risk behaviours.<sup>20</sup> There is increasing support to introduce a universal offer of a second syphilis test in the third trimester in Aotearoa New Zealand, at least in the areas of higher prevalence in the North Island, and the authors recommend this approach too. Overseas economic evaluations, using US and UK data, suggest universal repeat testing would likely be cost-effective at a prevalence of 3.5–5 per 100,000 pregnant women.<sup>21–23</sup> Repeat testing has already been implemented in other settings experiencing rises in congenital syphilis, including some US states and parts of Australia. Going forward, we need a policy change to formalise antenatal infectious disease screening under the National Screening Unit to provide clear guidance for clinicians working in all settings, including a consensus on repeat testing, and to facilitate a process for audit of first antenatal testing coverage and test positivity rates, monitoring and evaluation of any repeat testing, and quality improvement at a national level.

To conclude, pregnant women in Aotearoa New Zealand have the right to expect equitable access to high-quality maternal healthcare and the right to avoid serious preventable illness in their babies and whānau. We have undoubtedly failed in our obligations under Te Tiriti o Waitangi to protect Māori and their rights to achieve equitable health outcomes. Eliminating congenital syphilis is very achievable. We have all the available tools, but to make it happen we need political will, effective leadership, strong partnerships based on collective ownership and adequate resourcing. We wholeheartedly agree with Prime Minister Jacinda Ardern who said in a recent 1 pm press conference: “I don’t want a situation in New Zealand where we simply shrug our shoulders and accept that we have an infectious disease that takes lives when that can be prevented.”

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