

Prevention Approaches for Syphilis

Summary

Syphilis rates continue to rise in Australia despite the availability of effective prevention tools. While condoms remain a low-cost and accessible prevention method, their use has declined in some populations, particularly following the widespread uptake of HIV pre-exposure prophylaxis (PrEP). Doxycycline post-exposure prophylaxis (doxy-PEP) has emerged as a highly effective new prevention option, reducing syphilis diagnoses by around 80% in populations where it has been studied. Improving access to prevention tools, investing in community-led health promotion, and addressing gaps in awareness and uptake will be critical to strengthening Australia's syphilis response.

Background

Rising syphilis notifications in Australia reflect ongoing transmission across multiple populations, alongside persistent inequities in access to prevention, testing, and care. Despite being largely preventable, syphilis persists.

Changes in sexual health practices, particularly the widespread uptake of HIV PrEP, have altered perceptions of risk. At the same time, new biomedical interventions such as doxy-PEP are emerging, offering additional opportunities for prevention. Ensuring these tools are accessible, acceptable and effectively promoted to the populations most likely to benefit from them is critical.

Prevention tools

Condoms

Condoms are a highly effective barrier method for preventing syphilis and other sexually transmitted infections. They are low cost, widely available, and offer protection across a range of infections. However, they provide less protection against syphilis transmission via skin-to-skin contact outside covered areas.

Condom use has declined in some populations. In particular, PrEP has become the preferred method of HIV prevention for many gay and bisexual men, contributing to lower condom use in these groups (1). This shift in prevention practices has coincided with increases in bacterial STIs, including syphilis, highlighting the importance of maintaining a combination of prevention strategies. Despite changes in prevention practices and the emergence of new biomedical prevention options such as doxy-PEP, condoms remain a core prevention tool.

Doxy-PEP

Doxy-PEP involves taking doxycycline after sexual activity to prevent bacterial STIs. Evidence from clinical trials and real-world data indicates that doxy-PEP can reduce syphilis diagnoses by approximately 70-80% in populations where it has been studied, particularly among gay and bisexual men and other men who have sex with men (GBMSM) (2).

Doxy-PEP is:

- A highly effective biomedical prevention option
- Typically used by individuals at higher risk of STI exposure
- Most often delivered through sexual health services and GP-led care

However, there are important limitations:

- Evidence is currently limited for some populations, including cisgender women, and it is not routinely recommended for these groups
- Access depends on provider awareness and willingness to prescribe
- Awareness among communities remains uneven

Current expert consensus suggests that, for some populations at high risk of infection, the benefits of doxy-PEP outweigh concerns about antimicrobial resistance, though continued monitoring is essential (2).

Prevention uptake and community engagement

Effective prevention depends not only on the availability of tools such as condoms and doxy-PEP, but also on awareness, accessibility and acceptability within communities. Community-led organisations play a critical role in translating prevention tools into real-world uptake through trusted communication, peer education and culturally appropriate engagement.

Examples such as the Emen8 "Do it, after you do it" campaign demonstrate how prevention information can be communicated through community-informed and sex-positive messaging that supports informed decision-making and increases awareness of emerging prevention options.

Despite growing awareness of doxy-PEP in some communities, awareness and access remain uneven. Prevention initiatives have largely focused on gay, bisexual and other men who have sex with men, reflecting the populations in which doxy-PEP has been studied and is currently recommended. However, syphilis increasingly affects a broader range of populations, including Aboriginal and Torres Strait Islander peoples, people who use drugs, migrants and international students.

More investment in community-led organisations is needed to ensure these populations are reached through prevention initiatives and have equitable access to prevention information and tools. Community-led organisations have established trust, community connections and a demonstrated track record of engaging priority populations through culturally appropriate and community-informed approaches. As Australia's syphilis epidemiology continues to evolve, strengthening the capacity of these organisations to deliver prevention messaging, education and outreach may help improve awareness, increase uptake of prevention tools and reduce inequities in access.

Future prevention opportunities

Doxy-PEP represents a significant advancement in syphilis prevention. However, important evidence gaps remain for populations not currently covered by existing recommendations, particularly women and other groups that have not been well represented in clinical trials.

Further research is needed to better understand the effectiveness, safety and acceptability of doxy-PEP across different populations, while continuing to monitor antimicrobial stewardship considerations and the potential impacts of long-term antibiotic use (1, 2).

Looking further ahead, vaccines remain the ultimate goal for syphilis prevention. While progress has been made in vaccine research, no effective vaccine is currently available. Continued investment in prevention research and innovation may create additional opportunities to strengthen Australia's long-term syphilis response.

Recommendations

1. Strengthen syphilis prevention campaigns

Support sustained investment in condom and doxy-PEP promotion, including tailored and community-led approaches for priority populations.

2. Expand access to doxy-PEP

Improve access to doxy-PEP through primary care, sexual health services, outreach programs and community-based models, while ensuring affordability for Medicare-ineligible populations.

3. Invest in community-led prevention and health promotion

Leverage the expertise, trust and infrastructure of HIV, LGBTIQ+, drug user, sex worker and Aboriginal and Torres Strait Islander community organisations to improve awareness, access and uptake of prevention tools.

4. Continue surveillance, research and innovation

Monitor uptake and effectiveness of prevention tools, address evidence gaps in populations not currently covered by doxy-PEP recommendations, evaluate antimicrobial stewardship considerations, and support future prevention innovations including vaccines.

References

1. Aung ET, Chow EP. Testing and capturing difficult-to-access populations for syphilis control in Australia. *Microbiology Australia*. 2024 Aug 27;45(3):142-6.
2. Cornelisse VJ, Riley B, Medland NA. Australian consensus statement on doxycycline post-exposure prophylaxis (doxy-PEP) for the prevention of syphilis, chlamydia and gonorrhoea among gay, bisexual and other men who have sex with men. *Medical Journal of Australia*. 2024 Apr 15;220(7):381-6.