

Pre-exposure Prophylaxis (PrEP) is an effective tool for preventing the transmission of HIV. It has an important role to play as part of a combination HIV prevention approach to end new HIV transmissions in New Zealand by 2025. To achieve the most benefit, we need to ensure equitable and rapid scale-up of PrEP for those who need an alternative or additional primary prevention intervention to condoms.

The New Zealand AIDS Foundation recommends:

- All gay, bisexual, other men who have sex with men (cis or trans) and transgender women, who are not consistently using condoms with casual and new partners, consider daily PrEP as an HIV prevention strategy.
- For cisgender men who have sex with men, when taking daily medication is not acceptable, sex is infrequent, and/or a person feels like they can plan their sexual activity, then Event-Driven (ED) PrEP could be considered for this population only.
- Other communities most affected by HIV, who are not consistently using condoms with casual and new partners, consider daily PrEP as an HIV prevention strategy.
- Any person with an HIV positive partner who does not have an undetectable viral load, consider daily PrEP as an HIV prevention strategy.

+ Strengths

- PrEP prevents the acquisition of HIV when taken as prescribed
- PrEP is an acceptable HIV prevention intervention
- PrEP engages individuals into a programme of regular sexual health screening, leading to prompt diagnosis and treatment of HIV and STIs when required
- PrEP can be used in combination with other prevention methods (condoms and UVL)

- Limitations

- PrEP doesn't protect against STIs
- PrEP should be taken as prescribed to ensure drug levels remain high to protect against HIV. This is particularly important for ED-PrEP
- PrEP is a sexual health programme, not just a prescription. PrEP requires commitment from both the patient and doctor to maintain regular sexual health check-ups
- PrEP is publicly funded for those at high risk of HIV. However, there may be costs associated with accessing PrEP such as GP consultation fees and prescription costs. People who do not meet PHARMAC's eligibility criteria will need to purchase PrEP through a pharmacy at market price or import PrEP from overseas
- PrEP is not verifiable in the moment. Unlike condoms it is not possible to see if someone has been taking PrEP consistently and correctly

PrEP prevents HIV acquisition

PrEP is an oral pill made up of the antiretroviral medications used to treat HIV. When taken by HIV-negative people as prescribed, PrEP virtually eliminates the risk of acquiring HIV through sex. PrEP is most effective when taken every day.

PrEP may not be effective against strains of HIV that are resistant to the drugs in PrEP. This is a very rare occurrence and to date there have been a limited number of documented cases where a person taking PrEP has acquired a resistant strain of HIV.^{(1) (2) (3)}

Daily PrEP

The safety and effectiveness of daily PrEP to prevent HIV has been shown across a number of major studies.^{(4) (5) (3)}

Daily PrEP has been evaluated for use in HIV negative gay, bisexual and other cisgender men who have sex with men, transgender women and transgender men and heterosexual men and women. One study has evaluated daily PrEP for use in preventing HIV in people who inject drugs.⁽⁶⁾

Non-Daily or Event-Driven PrEP (ED-PrEP)

Event-Driven PrEP (ED-PrEP) involves taking PrEP around episodes of sex instead of daily. It is also known as PrEP on-demand, PrEP 2+1+1, or PrEP 211.

Evidence from available research shows that ED-PrEP is safe and effective in reducing the risk of HIV acquisition for cisgender MSM when taken as prescribed.⁽⁷⁾ It is an alternative to daily PrEP for cisgender MSM who are having infrequent sex (less than twice per week), and who are able to predict, plan or delay their sexual activity for at least two hours. The timing of pills is extremely important to ensure drug levels are sufficient to prevent HIV.⁽⁸⁾

PrEP and combination HIV prevention

The World Health Organisation (WHO) recommend that PrEP is made available to populations at substantial risk of HIV infection as part of a combination HIV prevention approach.⁽⁸⁾

Education and support for both daily and ED-PrEP are necessary to assist people to understand and maintain the requirements to protect against HIV. MSM will experience different periods of risk throughout their lives and combination HIV prevention offers a range of tools to prevent HIV. MSM may move between the different tools, condoms, daily and/or ED PrEP and UVL as they navigate through periods of risk.

Acceptability and adherence

PrEP is a highly effective and acceptable HIV prevention method for people at risk of HIV who are not consistently using condoms.

In New Zealand, the NZ PrEP Demonstration Project has shown that gay and bisexual men are interested in, and motivated to use, PrEP as an HIV prevention method, and that high levels of adherence can be maintained.⁽⁹⁾

There is also evidence that ED-PrEP is an acceptable form of HIV prevention amongst high risk cisgender MSM.⁽⁷⁾ The WHO emphasises that some MSM may move between daily and ED-PrEP depending on their circumstances.⁽⁸⁾

PrEP does not prevent against other STIs

While PrEP is extremely effective at preventing HIV, it does not protect against other sexually transmitted infections (STIs). Condoms protect against most STIs including HIV. Regular STI screening is recommended to enable early diagnosis and treatment for STIs.

Connecting to regular health care

PrEP is also an opportunity to engage people at risk of HIV into regular sexual health care, increasing frequency of HIV testing, STI screening, and interrupting chains of transmission.

Three-monthly sexual health check-ups and monitoring are recommended for both daily and ED-PrEP users.

Research in New Zealand found that around a quarter of gay and bisexual men report using condoms infrequently with casual sexual partners.⁽¹⁰⁾ It is important to engage this group in HIV prevention and regular sexual health care, as they play a disproportionate role in facilitating or reducing HIV and STI transmission across sexual networks.

Identifying undiagnosed HIV infection

Before PrEP is prescribed, an individual must undergo an HIV test to confirm they are not living with HIV. Community studies in Auckland suggest one-in-five HIV positive gay and bisexual men are unaware of their HIV-positive status.⁽¹¹⁾ Regular HIV testing as part of PrEP care will help to identify people with undiagnosed HIV early, and promptly connect them to treatment and care.

Negotiating PrEP with sexual partners

NZAF is committed to providing PrEP education and support to ensure our communities understand how PrEP works as an HIV prevention method, whether they choose to use PrEP or not.

When negotiating HIV prevention with a potential sexual partner, unlike condoms, there is no way to verify that someone is using PrEP, or has been taking it correctly. It's important to respect a partner's choice to use condoms. This is especially important with new and casual partners.

Increasing PrEP uptake to reduce HIV transmissions

New South Wales and London have seen reductions in HIV transmissions following PrEP implementation alongside existing condom promotion, increased HIV testing and prompt treatment for people diagnosed with HIV.^{(12) (13)}

However, Australia continue to see HIV rates increase amongst indigenous communities and Asian-born MSM.⁽¹⁴⁾

It is critical that barriers to accessing PrEP are addressed to enable equitable PrEP uptake by all those who require an alternative primary prevention intervention to condoms.

Modelling across several OECD countries indicates that PrEP could prevent a large number of new HIV infections if implemented at a large scale, in combination with other available HIV prevention strategies including condoms, testing, and undetectable viral load.^{(15) (16)}

Equitable uptake of PrEP in New Zealand will support our goal to end HIV transmission in New Zealand by 2025.

The New Zealand AIDS Foundation will:

- Educate key impacted communities around the role that PrEP plays in a combination HIV prevention approach in New Zealand
- Continue to monitor advances in PrEP guidelines and implementation and advocate for changes to the PrEP eligibility criteria, as required
- Continue to support the safe personal importation of PrEP, for people who are not eligible for publicly funded PrEP, and provide education and support services to PrEP users and GPs
- Advocate for adequate funding and resourcing to ensure GPs and sexual health services receive the training and support required to provide high level sexual health care to PrEP users
- Monitor and evaluate PrEP uptake and impact in New Zealand to ensure a targeted public health response that addresses equity of access
- Advocate for PrEP to be an integral part of a combination HIV prevention approach

A combination HIV prevention approach includes:

- Maximising condom use for the prevention of HIV and STIs
- Equitable PrEP uptake among those who need an alternative primary prevention intervention to condoms
- Reducing undiagnosed HIV infection through more timely and widespread testing
- Prompt treatment access and adherence support for PLHIV to maximise their health and maximise the chance of sustained viral suppression, subsequently halting the onward sexual transmission of HIV

References

1. Markowitz M, Grossman H, Anderson PL, Grant R, Gandhi M, Horng H, et al. Newly Acquired Infection With Multidrug-Resistant HIV-1 in a Patient Adherent to Preexposure Prophylaxis. *JAIDS Journal of Acquired Immune Deficiency Syndromes*. 2017;76(4):e104-e6.
2. Hoornenborg E, Prins M, Achterbergh RC, Woittiez LR, Cornelissen M, Jurriaans S, et al. Acquisition of wild-type HIV-1 infection in a patient on pre-exposure prophylaxis with high intracellular concentrations of tenofovir diphosphate: a case report. *The Lancet HIV*. 2017;4(11):e522-e8.
3. Molina J-M, Capitant C, Spire B, Pialoux G, Cotte L, Charreau I, et al. On-demand preexposure prophylaxis in men at high risk for HIV-1 infection. *New England Journal of Medicine*. 2015;373(23):2237-46.
4. Grant RM, Anderson PL, McMahan V, Liu A, Amico KR, Mehrotra M, et al. Uptake of pre-exposure prophylaxis, sexual practices, and HIV incidence in men and transgender women who have sex with men: a cohort study. *The Lancet infectious diseases*. 2014;14(9):820-9.
5. McCormack S, Dunn DT, Desai M, Dolling DI, Gafos M, Gilson R, et al. Pre-exposure prophylaxis to prevent the acquisition of HIV-1 infection (PROUD): effectiveness results from the pilot phase of a pragmatic open-label randomised trial. *The Lancet*. 2016;387(10013):53-60.
6. Choopanya K, Martin M, Suntharasamai P, Sangkum U, Mock PA, Leethochawalit M, et al. Antiretroviral prophylaxis for HIV infection in injecting drug users in Bangkok, Thailand (the Bangkok Tenofovir Study): a randomised, double-blind, placebo-controlled phase 3 trial. *The Lancet*. 2013;381(9883):2083-90.
7. Molina J-M, Ghosn J, Algarte-Genin M, Castro DR, Beniguel L, Pialoux G, et al., editors. Incidence of HIV-infection with daily or on-demand PrEP with TDF/FTC in Paris area. Update from the ANRS Prevenir Study. *JOURNAL OF THE INTERNATIONAL AIDS SOCIETY*; 2019: JOHN WILEY & SONS LTD THE ATRIUM, SOUTHERN GATE, CHICHESTER PO19 8SQ, W
8. Organization WH. Technical brief: what's the 2+ 1+ 1? Event-driven oral pre-exposure prophylaxis to prevent HIV for men who have sex with men: update to WHO's recommendation on oral PrEP. Technical brief: what's the 2+ 1+ 1? Event-driven oral pre-exposure prophylaxis to prevent HIV for men who have sex with men: update to WHO's recommendation on oral PrEP2019.
9. Saxton P, Giola M, Coughlan E, Rich J, Azariah S, Ludlam A, et al. Implementing HIV pre-exposure prophylaxis (PrEP): let's not get caught with our pants down. *NZ Med J*. 2018;131:64-73.
10. Saxton PJ, Dickson NP, Hughes AJ, Ludlam AH. Infrequent condom use with casual partners among New Zealand gay and bisexual men. *Age*. 2015;16(29):819.
11. Saxton PJ, Dickson NP, Griffiths R, Hughes AJ, Rowden J. Actual and undiagnosed HIV prevalence in a community sample of men who have sex with men in Auckland, New Zealand. *BMC Public Health*. 2012;12(1):92.
12. Brown AE, Mohammed H, Ogaz D, Kirwan PD, Yung M, Nash SG, et al. Fall in new HIV diagnoses among men who have sex with men (MSM) at selected London sexual health clinics since early 2015: testing or treatment or pre-exposure prophylaxis (PrEP)? *Eurosurveillance*. 2017;22(25).
13. Grulich A, Guy R, Amin J, Schmidt H, Selvey C, Holden J, editors. Rapid reduction in HIV diagnoses after targeted PrEP implementation in NSW, Australia. IN: Abstracts of the 25th Conference on Retroviruses and Opportunistic Infections (CROI); 2018.
14. Institute K. Bloodborne viral and sexually transmissible infections in Aboriginal and Torres Strait Islander people: annual surveillance report 2018. Sydney; 2018.
15. Zablotska IB. Likely impact of pre-exposure prophylaxis on HIV epidemics among men who have sex with men. *Sexual health*. 2017;14(1):97-105.
16. Punyacharoensin N, Edmunds WJ, De Angelis D, Delpech V, Hart G, Elford J, et al. Effect of pre-exposure prophylaxis and combination HIV prevention for men who have sex with men in the UK: a mathematical modelling study. *The lancet HIV*. 2016;3(2):e94-e104.