



10. Improving medication adherence

Medication adherence is critical to achieving the maximum prevention benefit of pre-exposure prophylaxis (PrEP) and reducing the risk of selecting for a drug-resistant virus in the event of human immunodeficiency virus (HIV) acquisition (1, 2). In randomised, blinded, placebo-controlled trials of PrEP, adherence varied (1) and was lower among cis-gender women in some studies (3, 4), in transgender women (5) and young PrEP users (6-8). PrEP adherence has generally been higher in more recent trials, open-label extensions and demonstration projects, particularly among men who have sex with men (MSM). These better adherence rates have been due to increasing knowledge about PrEP's efficacy and differing motivations for taking PrEP (1, 9-12).

Common reasons for non-adherence include a perceived low risk of acquiring HIV (3, 4, 13), start-up symptoms (3, 14-16) and concerns regarding long-term side-effects (13, 17), factors of daily life such as memory (forgetting and being unsure whether the dose was taken) and medication management (18, 19), perceived and enacted stigma due to being eligible for PrEP (19-22) and lack of social support from partners, family and friends (19). Common challenges to PrEP adherence, particularly for MSM, are party drug and alcohol use (18). Party drug use (at the event level) is known to increase the likelihood of missing a dose on the same as well as the next day, thus potentially impacting on the efficacy of event-driven PrEP (23). People with mental health disorders are also more likely to self-discontinue the use of PrEP (24). For some patients, the cost of medical appointments (where not bulk billed) and dispensing fees are a big deterrent to PrEP adherence. Studies of adolescent MSM using PrEP have shown that approximately 55% of participants have evidence of high adherence at week 4, but adherence declines markedly after the first month (7, 8).

Patient education and adherence counselling focused on medication self-management are needed to support ongoing daily PrEP use (Box 10.1).

Box 10.1 Key components of medication-adherence counselling

Establish trust and bidirectional communication

Provide simple explanations and education on the following issues:

- Relationship of adherence to the efficacy of PrEP
- Medication dosage and schedule
- Management of common side-effects
- Signs and symptoms of acute HIV infection and recommended actions.

Support adherence:

- Tailor daily dose taking to patient's daily routine (a fixed time for dosing, e.g. in the morning, with tooth brushing, before bed)
- Identify reminders and devices (e.g. beepers, alarms widely available over the counter) to minimise forgotten doses
- Identify solutions for patients unable to attend three-monthly clinical visits
- Identify back-up mechanisms (e.g., pill stashing and pocket doses) for those times when a dose is forgotten.
- Identify and address potential barriers to adherence.

Monitor medication adherence in a non-judgmental manner:

- Normalise occasional missed doses while ensuring patient understands importance of daily dosing for optimal protection
- Reinforce success
- Identify factors interfering with adherence and plan with patient to address these factors
- Assess side-effects and provide advice on how to manage them.

Various approaches can be used to effectively support medication adherence (25). These include:

- educating patients (including population groups other than MSM particularly women who may be considering PrEP) about the medications
- helping patients anticipate and manage side-effects
- helping patients establish dosing routines that fit with their work and social schedules
- providing reminder systems and tools such as pill boxes and electronic reminders
- addressing substance abuse or mental-health needs that may impede adherence
- arranging more frequent clinic visits for adolescents to enhance their adherence
- facilitating social and peer support, especially for women.

When initiating a PrEP regimen, clinicians need to educate patients about medication schedules (for daily or on-demand PrEP, that is, the use of PrEP before and after potential HIV exposures), how to commence taking PrEP and how to cease taking PrEP and what to do if they experience problems such as side-effects or missed doses. See section [Providing PrEP](#) regarding specific recommendations about dealing with missed doses.

Medication adherence should be discussed at each visit when the PrEP script is provided to identify barriers to optimal PrEP adherence and develop appropriate management plans. Real-time, bi-directional mobile phone contact/access to clinic staff (commonly by SMS) can be useful for patients experiencing side-effects, missing doses and those with complex needs.

Emerging evidence that different dosing strategies can be effective provides an opportunity to offer flexibility, choice and convenience to patients who are benefiting from PrEP. On-demand PrEP is now an option for cis-gender MSM in these revised ASHM PrEP guidelines and was recently endorsed in guidance

from the World Health Organization (26) (see [Providing PrEP](#)). If patients choose to take on-demand PrEP, their behaviour and PrEP pill use patterns should be discussed at each visit, to help determine if they should perhaps switch to daily PrEP.

Side-effects can lead to non-adherence. Clinicians should inform patients about the most common side-effects and should work with patients to develop a specific plan for handling them, including the use of specific over-the-counter medications that can mitigate symptoms.

In the context of discussing PrEP adherence, patients should be reminded about the need to be tested for HIV and sexually transmissible infections (STIs) every 3 months or earlier if required, due to perceived risks or symptoms.

The importance of using condoms to prevent STIs, or to help prevent HIV if PrEP adherence has been sub-optimal should be discussed with patients. To improve adherence and effectiveness of PrEP, patients should also be informed about, how to stop taking PrEP and re-start it, so that they are prepared to these changes in advance See section [providing PrEP regarding specific recommendations on starting and ceasing PrEP](#).

Clinicians may wish to explore and address other potential barriers to optimised PrEP use such as misconceptions about PrEP, behavioural factors (e.g. substance use), depression, partner violence and unstable housing. To improve adherence to their PrEP medication, some patients may need referral to mental health or social services, or peer-based support services provided by various organisations (e.g. services provided by Living Positive Victoria and Positive Women Victoria, or similar groups in other Australian jurisdictions to support families and serodiscordant couples).

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