## HIV prevention with post-exposure prophylaxis-in-pocket

HIV continues to be a major global heath threat and pharmacological prevention measures are important components of the multipronged approach focused on eliminating the disease by 2030.[1] HIV pre-exposure prophylaxis (PrEP)[2] and post-exposure prophylaxis (PEP) are two effective pharmacological prevention tools available, and are best integrated with non-pharmacological prevention strategies such as safe-sex counselling and addressing other syndemic health issues. Although these preventative interventions can reduce transmission at individual and community levels,[2] gaps in HIV prevention still exist, especially for those who have a low frequency of HIV exposures. For such individuals, daily PrEP with co-formulated tenofovir disoproxil fumarate and emtricitabine might be highly effective[2] but the large pill burden and expense might be disproportionate to a very low HIV exposure frequency. On-demand PrEP might be of benefit as well, but the only data demonstrating efficacy with infrequent use of this approach is with 15 tablets of tenofovir disoproxil fumarate and emtricitabine per month, and it is unclear how effective on-demand PrEP would be for individuals with lower usage because of less frequent HIV exposures.[3] On-demand PrEP is also not helpful for people who do not proactively anticipate a potential HIV exposure. PEP is a retroactive approach to HIV prevention and is helpful if accessed within a 72-h window, but there are substantial issues with timely access to medications, adherence to clinic appointments, and adherence to the 28-day course of medication.[4]

So, how can these gaps in HIV prevention be narrowed and care be improved for individuals who have a lower frequency (eg, up to four) of HIV exposures per year? A PEP-in-pocket (PIP) approach might be helpful in these situations.[5] This approach involves providing selected patients with a 28-day prescription for PEP before an exposure occurs. Patients are counselled to obtain the medications and keep them accessible in case of an exposure. Should there be an exposure, patients are advised to initiate medications as soon as possible (and within a 72-h window) and to come to the clinic within the first week of initiating medications for clinical assessment and baseline HIV screening. Patients are typically followed at 6-month intervals for routine screening for HIV and sexually transmitted infections, or sooner based on their exposure history.

PIP enables immediate access to antiretroviral medications and might reduce the need for time-sensitive emergency department or clinic visits. PIP empowers patients by providing a degree of autonomy over their care and might also alleviate anxiety associated with potential HIV exposures. Although daily or on-demand PrEP might be appropriate for those with more frequent HIV exposures, PIP is a valuable HIV prevention modality for those who have infrequent exposures. As public health units increasingly provide HIV prevention services, PIP may be integrated into the prevention modalities offered to deliver more targeted care to those at risk of HIV infection.

We declare no competing interests.

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1 UNAIDS. 90-90-90: an ambitious treatment target to help end the AIDS epidemic. 2014. http://www.unaids.org/sites/default/files/media_asset/90-90-90_en.pdf (accessed Sept 18, 2018).

2 Grulich AE, Guy R, Amin J, et al. Population-level effectiveness of rapid, targeted, high-coverage roll-out of HIV pre-exposure prophylaxis in men who have sex with men: the EPIC-NSW prospective cohort study. *Lancet HIV* 2018; **5:** e629–37.

3 Antoni G, Tremblay C, Charreau I, et al. On-demand PrEP with TDF/FTC remains highly effective among MSM with infrequent sexual intercourse: a sub-study of the ANRS IPERGAY trial. 9th International AIDS Society Conference on HIV Science; Paris, France; July 25, 2017 (abstr 3629).

4 Bogoch II, Scully EP, Zachary KC, et al. Patient attrition between the emergency department and clinic among individuals presenting for HIV nonoccupational postexposure prophylaxis. *Clin Infect Dis* 2014; **58:** 1618–24.

5 Tumarkin E, Heendeniya A, Murphy P, Placido T, Tan DHS, Bogoch II. HIV post-exposure prophylaxis-in-pocket ("PIP") for individuals with low frequency, high risk, HIV exposures. *J Acquir Immune Defic Syndr* 2018; **78:** 20–22.